Suruhanjaya Tenaga
Energy Commission

Registration No : GP/ST/NO.34/2023

GUIDELINES

ON ELECTRICITY TARIFF DETERMINATION UNDER INCENTIVE BASED REGULATION (IBR) FOR SABAH AND FEDREAL TERRITORY OF LABUAN 2023

Established pursuant to section 26 and 50C of Act 447

[ELECTRICITY SUPPLY ACT 1990 (ACT447)]

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Suruhanjaya Tenaga
Energy Commission

ELECTRICITY SUPPLY ACT 1990

[*Act 447*]

GUIDELINES ON ELECTRICITY TARIFF DETERMINATION UNDER INCENTIVE BASED REGULATION (IBR) FOR SABAH AND FEDERAL TERRITORY OF LABUAN 2023

GP/ST/NO.34/2023

IN exercise of the powers conferred by sections 26 and 50C of the Electricity Supply Act 1990 [*Act 447*], the Commission issues the following guidelines:

Purposes

1. The purposes of these Guidelines are as follows:

   (i) to establish the IBR framework that is employed by the Commission in approving revenues , subsidies and tariffs for the Regulated Services of the Regulated Business Entities in Sabah and Federal Territory of Labuan;

   (ii) to specify the objectives of the IBR framework that guide the Commission in reviewing and approving revenue, subsidy and tariff proposals submitted by the Regulated Business Entities; and

   (iii) to define the entities and services that are subject to revenue, subsidy and tariff regulation by the Commission under the IBR framework and the requirements of these Guidelines.

Citation and commencement

2. These Guidelines may be cited as the **Guidelines on Electricity Tariff Determination under Incentive Based Regulation (IBR) for Sabah and Federal Territory of Labuan 2023**.

Interpretation

3. The terms and expressions used shall, unless defined in these Guidelines or the context otherwise requires, have the same meaning as in the Electricity Supply Act 1990 [*Act 447*] and any subsidiary legislation made there under.

Revocation

4. The Guidelines on Electricity Tariff Determination under IBR which was issued to Sabah Electricity Sdn. Bhd. with registration numbers of **GP/ST/NO.3/2016** is revoked.

Application

5. These Guidelines shall apply to the Regulated Services of the Regulated Business Entities in Sabah and Federal Territory of Labuan under the IBR framework such as Single Buyer (Operations), Transmission, Grid System Operator and Consumer Services.

Notice by the Commission

6. The Commission may issue written notices from time to time in relation to these Guidelines.

Amendment and Variation

7. The Commission may at any time amend, modify, vary or revoke these Guidelines or any part thereof, which may include, but not limited to, any of the following circumstances:

(i) to effect changes in the electricity supply industry;
(ii) where it is expedient to ensure reliability of the electricity supply system;
(iii) to rectify any inconsistency or unintentional errors giving rise to grave consequences; and
(iv) any other justifiable reason as the Commission deems necessary.

Dated: 31 July 2023

DATO' IR. TS. ABDUL RAZIB BIN DAWOOD
Chief Executive Officer
for Energy Commission

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1. Basis and Purpose

1.1. These Guidelines:

(a) Establish the Incentive-Based Regulation (IBR) framework that is employed by the Commission in approving revenues, subsidies and tariffs for the Regulated Services of the Regulated Business Entities (RBE) in Sabah and Federal Territory of Labuan.

(b) Specify the objectives of the IBR framework that guide the Commission in reviewing and approving revenue, subsidies and tariff proposals submitted by the RBE.

(c) Define the entities and services that are subject to revenue, subsidies and tariff regulation by the Commission under the IBR framework and the requirements of these Guidelines.

1.2. Consistent with section 26 of Act 447, the purpose of these Guidelines is also to describe the methodology, principles, procedures and requirements that must be complied by SESB or RBE in submitting electricity tariff and Subsidies proposals.

END OF SECTION

2. Incentive-Based Regulation Framework

Objectives of the IBR framework

2.1. The objectives of the IBR framework are:

(a) to protect consumer from any potential misuse of monopoly or market power;

(b) to provide reasonable assurance that the Licensee will receive revenues for the tariffs and charges and subsidies from the Government to cover the costs, including a reasonable return on capital in providing the Regulated Services, provided that the Licensee is efficient, well managed and appropriately financed;

(c) to facilitate the financing of required and efficient investments in electricity infrastructure and supply;

(d) to provide incentives for the Licensee-to deliver outcomes consistent with consumer needs and priorities, including efficient operation and quality of service;

(e) to provide for an efficient and evolving allocations of risk between the Licensee and the consumer;

(f) to design electricity tariff structures that maximise the efficiency of electricity supply and consumption for the approval of the Commission;

(g) to ensure that the revenue, Subsidies and tariff regulation are transparent that it follows principles consistently, and that regulatory proposals from the Licensee and the Commission determinations are evidence-based; and

(h) to safeguard that the Commission reviews and approves revenue, Subsidies, and tariff proposals are in compliance with its functions and duties under the Act 447 and the Energy Commission Act 2001 [*Act 610*].

Description of IBR framework

2.2. For the purposes of regulating the revenues, Subsidies, and tariffs of the Licensee responsible for electricity supply in Sabah and Federal Territory of Labuan, the Commission has established the IBR framework as embodied in these Guidelines.

2.3. Under the IBR framework, the Base Average Tariff is charged for the provision of Regulated Services.

2.4. The Base Average Tariff is capped at a level that allows a Licensee to recover an Allowed Revenue from consumers. The Base Average Tariff represents the average electricity tariff paid by the consumer.

2.5. The Allowed Revenue and Required Revenue are determined for the Regulatory Periods. The Base Average Tariff and the Required Average Tariff are calculated for each Regulatory Period which will allow a Licensee to recover its Allowed Revenue and Required Revenue for that period.

2.6. The Required Average Tariff in each year is calculated as the sum of the Base Average Tariff, Tariff Support Subsidy, Fuel Subsidy, LSS Subsidy and any applicable adjustments or additional subsidy, such as those related to the Revenue-Cap and Price-Cap mechanisms as provided under these Guidelines. The Required Average Tariff does not equal to the Base Average Tariff.

2.7. Subject to the decision by the Commission, the Licensee may also apply a surcharge or rebate for changes in fuel and other generation costs from those originally forecast and included in the Allowed Revenue, under the Imbalance Cost Pass-Through (ICPT) Adjustment. The ICPT Adjustment is a surcharge or rebate that does not form part of the Base Average Tariff, Fuel Subsidy, LSS Subsidy and TSS Subsidy, and will be calculated and applied separately.

Incentives on Licensees

2.8. If a Licensee is able to reduce its actual costs below the estimated efficient costs embedded in the Required Revenue, then it is able to retain the resulting savings and increased profits. Conversely, if a Licensee's costs exceed the estimated efficient costs, then the Licensee will bear the difference and its profits will be correspondingly reduced. This provides the incentives for a Licensee to improve efficiency above and beyond the expected improvements included in the Required Revenue estimation.

2.9. The estimation of Allowed Revenue and Required Revenue for each Regulatory Period will take account of a Licensee's actual costs and subsidies achieved in preceding periods. This provides the mechanism by which cost reductions resulting from better than expected efficiency performance by a Licensee are returned to the Government.

2.10. In order to provide incentives for a Licensee to maintain and, where economically efficient, improve the quality of Regulated Services, incentives and penalties shall be applied to the Allowed Revenue reflecting the Licensee's performance against the quality of service benchmarks. For the first Regulatory Period, no incentive and penalty amount shall be implemented. The Commission may consider implementing the incentive and penalty in the subsequent Regulatory Period.

Length of the Regulatory Period

2.11. The Commission may determine the length of each Regulatory Period no later than twelve months prior to the start of the next period.

Application to Sabah Electricity Sdn. Bhd.

2.12. Sabah Electricity Sdn. Bhd. (SESB) is organised into multiple RBEs. At present, the following process is applied in estimating Allowed Revenues and determining the Base Average Tariff and Required Average Tariff for each Regulatory Period:

(a) The Allowed Revenues and Required Revenue for each RBE are separately estimated in accordance with these Guidelines. From these, a Base Average Tariff and Required Average Tariff are calculated for each RBE.

(b) The Minister approves the Bundled Base Average Tariff and the Bundled Required Average Tariff applicable to SESB as a whole. This approved

Bundled Base Average Tariff may or may not be equal to the sum of the estimated Base Average Tariff. Additionally, the Bundled Required Average Tariff may or may not be equal to the sum of the Required Average Tariff for each RBE and the Average Generation Cost.

(c) Where a difference exists between the Bundled Base Average Tariff and the Bundled Required Average Tariff, a Tariff Support Subsidy, Fuel Subsidy and LSS Subsidy shall be applied in the case where there is a shortfall in order to compensate such shortfall.

(d) Similarly, where a difference exists between the Bundled Base Average Tariff and the sum of Base Average Tariff (after annual regulatory adjustment) for each RBE and the Average Generation Cost then SESB shall, for the purposes of internally allocating revenues and costs between each RBE, allocate all such differences to the Consumer Services RBE.

2.13. In the event the Minister approves an individual Base Average Tariff and Required Average Tariff for each RBE, the existing Bundled Base Average Tariff and Bundled Required Average Tariff are no longer applicable. Instead, an Unbundled Base Average Tariff and Unbundled Required Average Tariff shall be calculated respectively as the sum of the approved Base Average Tariff and Required Average Tariff for each RBE and the Average Generation Cost. In this event, these Guidelines shall be further updated to include guidelines for Unbundled Base Average Tariff and Unbundled Required Average Tariff.

2.14. In these Guidelines, the calculation of the Bundled Required Average Tariff, which comprises of the Bundled Base Average Tariff approved by the Minister, Tariff Support Subsidy, Fuel Subsidy, LSS Subsidy and adjustments is specified in section 5 of these Guidelines. Section 5 shall apply so long as the Minister continues to approve a Bundled Base Average Tariff applicable to SESB as a whole.

END OF SECTION

3. Application of the IBR framework

Regulated Services

3.1. The IBR framework applies to Regulated Services which include, but not limited to:

(a) the operation, maintenance and investment in the electricity transmission system;

(b) the operation, maintenance and investment in the electricity distribution system;

(c) the wholesale purchase and sale of electricity to Licensees and authorised suppliers; and

(d) the consumer service sale of electricity to consumers.

3.2. The costs of generation of electricity are not subject to the IBR framework and are separately regulated through an approved PPA in the case of independently-owned generators, and through an approved SLA and non-SLA in the case of generators sharing common ownership with a Licensee providing Regulated Services and an approved PEA in the case of other power utility company with a Licensee providing Regulated Services. These generation costs are treated as a pass-through item, comprising the sum of the fuel cost, LSS cost, other generation cost and the ICPT Adjustment.

3.3. The costs of providing Regulated Services are recovered from the Base Average Tariff, Subsidies and adjustments.

3.4. Other Income which is earned from services not directly related to electricity supply, but which are provided using the assets and/or staff of a Licensee is deducted from the revenues to be earned from the Base Average Tariff as part of the calculation of adjustments.

3.5. The amortised amount of consumer contributions and government development grants are considered to represent a deferred income used to support the revenues needed to recover the costs of Licensees in providing Regulated Services. These contributions are used to reduce the Base Average Tariff as part of the calculation of adjustments.

RBE under SESB

3.6. SESB is organised into a number of RBEs, each representing one of the functions involved in the supply of electricity. These RBE currently comprise the following:

(a) **Single Buyer** is the RBE responsible for managing the procurement of electricity and related services, including long-term planning, scheduling, procuring and settling electricity supply in accordance with the Guidelines for Single Buyer (Sabah and FT. Labuan) 2023 and Grid Code for Sabah and Labuan (Amendment) 2017.

(b) **Transmission** is the RBE responsible for planning, investing in, operating and maintaining the electricity transmission network which is the system of lines, substations and related equipment at 66kV and above.

~~(c)~~ **Grid System Operator** is the RBE responsible for system security, operational planning, the dispatch of generating units, real-time operation and control of the power system, and coordinating all parties connected to the Grid System in accordance with the Grid Code for Sabah and Labuan (Amendment) 2017.

(d) **Consumer Services** is the RBE responsible for planning, investing in, maintaining, and undertaking the real time operation and control of the electricity distribution system (below 66kV) and supplying and selling electricity to, and managing the interface with final consumers of electricity, including the Distribution Network.

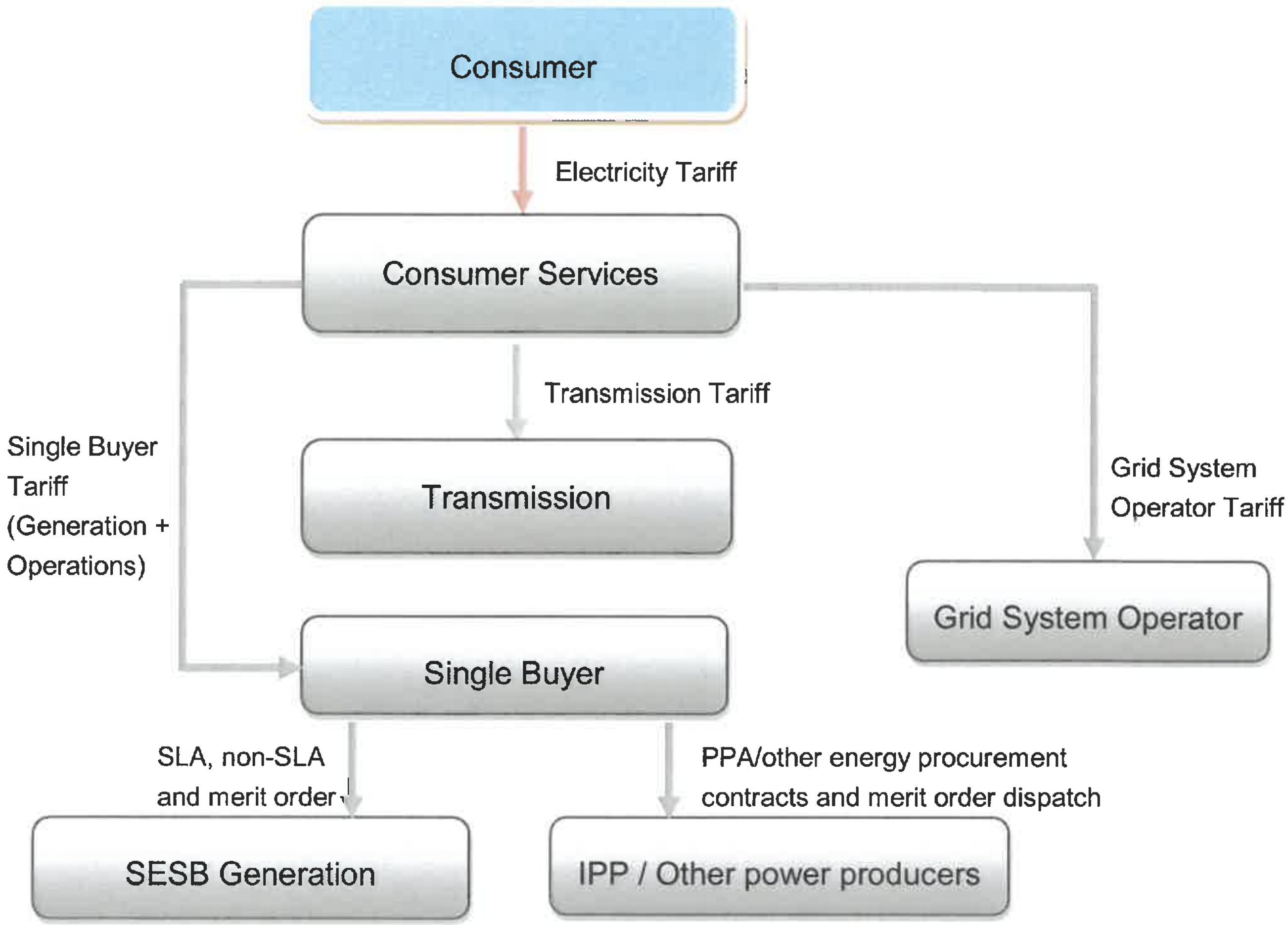
3.7. In the event the Commission requires SESB to separate the Distribution Network RBE from the Consumer Services RBE, these Guidelines will be updated accordingly.

3.8. In these Guidelines, the power purchase costs of the Single Buyer shall be referred to as the Single Buyer Generation, whereas the costs for the Single Buyer's own operations shall be referred to as the Single Buyer Operations.

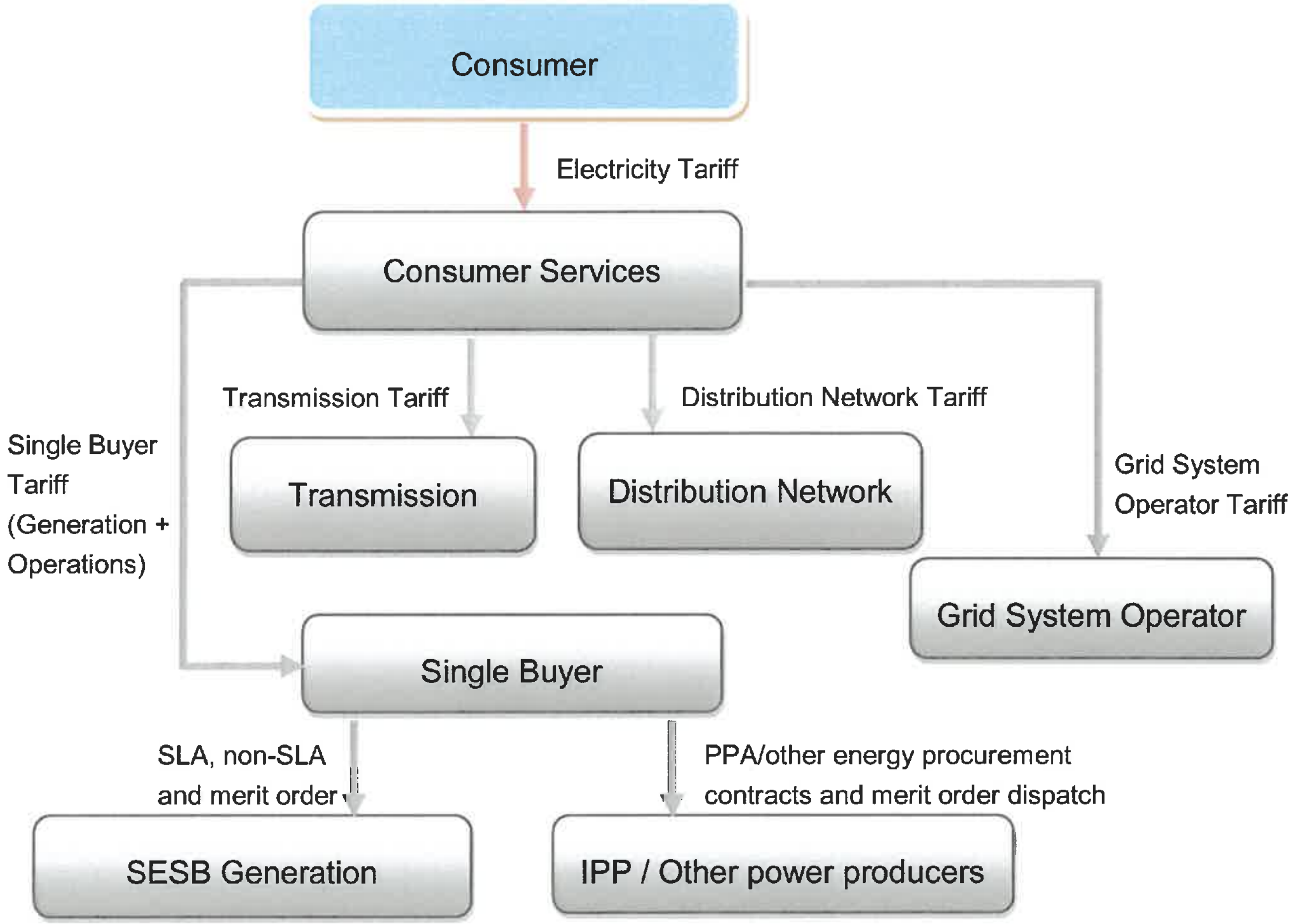
3.9. The Consumer Services business entity charges the consumers a tariff for their consumption of electricity. This tariff is a bundled tariff and incorporates a charge for all Generation (Independent Power Producers - IPPs, SESB Generation, other power producers) and cost of Single Buyer Operations, Transmission, Grid System Operator and Consumer Services). Consumer Services receives all the tariff revenue from the consumers and subsequently pays the Single Buyer, Transmission and Grid System Operator business entities their share of revenue based on the approved tariffs for each individual business entity.

3.10. The Single Buyer charges a Single Buyer Tariff to the Consumer Services business entity, comprising a Generation component (based on forecasts costs of generation determined under the PPA, SLA, Non-SLA, PEA and various other fuel and energy procurement contracts) and an operation component (based on the operating costs of managing the operations of the Single Buyer). The Single Buyer receives the generation revenue and pays SESB Generation, the IPP and other power producers.

3.11. The flow of funds between the four RBE is shown as the following diagram:



3.12. Given a successful separation of Distribution Network from Consumer Services RBE as an individual RBE, the flow of funds between the five RBE is shown as the following diagram:



3.13. An Allowed Revenue, Base Average Tariff, Required Revenue and Required Average Tariff are calculated for each RBE in accordance with these Guidelines.

3.14. Where an individual RBE is a unit within SESB, the Base Average Tariff and Required Average Tariff shall be notional in nature as no actual payment and cash transfer will take place between RBE, as these form part of the same legal entity. This shall not prevent SESB managing each RBE as an internal cost or profit centre, if desired.

Formation of an Independent Single Buyer and Independent Grid System Operator

3.15. The Single Buyer and Grid System Operator are currently ring-fenced business entities under SESB.

3.16. Where the Single Buyer and the Grid System Operator are not forming part of a licensee and there is a formation of an independent Single Buyer (ISB) and an independent Grid System Operator (IGSO), the ISB and IGSO are still be subjected to and shall comply to these Guidelines.

3.17. Upon completion of the formation of the ISB and ISGO, the proposed enhancement related to these Guidelines under the IBR framework are as follows:

(a) The terms of Single Buyer and Grid System Operator shall be deemed to be changed as ISB and IGSO in these Guidelines;

(b) ISB and IGSO shall be treated as regulated business entities;

(c) Consumer Services business entity receives the tariff revenue from the consumer and subsequently pays the other RBE based on the approved individual tariff as mentioned in section 3.9; Thus, the Consumer Services is responsible for payment of tariff revenue to ISB and IGSO once they are converted as an independent entity;

(d) Establishment of key performance indicators that will be linked to incentives and penalties;

(e) Determination of an Allowed Revenue Requirement, Base Average Tariff and Required Average Tariff for ISB and IGSO shall be calculated in accordance with sections 7 to 17 in these Guidelines.

Forms of control

3.18. There are three different forms of IBR control applicable under these Guidelines, which are:

(a) **Price-Cap**. A Price-Cap means that the actual revenue of a Licensee differs from its Allowed Revenue where actual sales volumes differ from the forecast sales volumes used to calculate the Allowed Revenue and the Price-Cap. The average allowed revenue (expressed in sen/kWh) is fixed for the duration of the Regulatory Period. The Licensee may not charge tariffs that lead to an Actual Average Tariff in excess of the Price-Cap. Where it does so, the excess is returned to consumers through an annual Price-Cap Adjustment. A Price-Cap means that the actual revenue of a Licensee will differ from its Allowed Revenue where actual sales volumes differ from the forecast sales volumes used to calculate the Allowed Revenue and the Price-Cap.

(b) **Revenue-Cap**. A Revenue-Cap means that the actual revenue of a Licensee will equal its Allowed Revenue even where actual sales volumes differ from the forecast sales volumes used to calculate the Allowed Revenue. The total allowed revenue (expressed in RM) is fixed for the duration of the Regulatory Period. The Licensee may not earn more or less than the required revenue based on the Required Tariff. Where it does so, the under or over-recovery will be adjusted through the Revenue-Cap Adjustment as stated in section 5.5. A Revenue-cap means that the actual revenue of a Licensee will equal its Required Revenue even where actual sales volumes differ from the forecast sales volumes used to calculate the Required Revenue.

(c) **Actual Cost**. The total allowed revenue (expressed in sen/kWh) in an actual cost recovery model is adjusted to reflect changes in actual costs incurred to ensure the Licensee only recovers the actual cost of providing services. The Licensee may not earn more or less than the actual cost.

Revenue-Cap RBE

3.19. A Revenue-Cap is applied to the following RBE, which are collectively designated as the "Revenue-Cap RBE":

(a) Single Buyer Operations;

(b) Grid System Operator; and

(c) Transmission.

Where the Commission decides to separate the Distribution Network from the Consumer Service RBE or allocate appropriate percentage to the Distribution Network prior to the separation from Consumer Services RBE, the Revenue-Cap shall be applied to the Distribution Network RBE.

3.20. For each of the Revenue-Cap RBE, a Revenue-Cap Adjustment will be annually calculated based on the Required Tariff.

Price-Cap RBE

3.21. A Price-Cap is applied to the Consumer Service RBE, which includes Distribution Network as well as Consumer Services functions however subject to Section 3.19 on the separation or percentage allocation of Distribution Network RBE, if applicable.

Price-Cap Adjustment with bundled tariff

3.22. The Price-Cap shall apply to the Consumer Services upon the approval of the Bundled Base Average Tariff and the Bundled Required Average Tariff by the Minister. The Price-Cap Adjustment shall be calculated annually as the difference between the Bundled Actual Average Tariff and the Bundled Base Average Tariff.

3.23. The Bundled Base Average Tariff is calculated as shown in sections 5.2 and 5.3, whereas the Bundled Required Average Tariff is calculated as the sum of the Bundled Base Average Tariff, Tariff Support Subsidy, Fuel Subsidy, LSS Subsidy, and of the individual Revenue-Cap Adjustments for Revenue-Cap RBE, and of the Bundled Price-Cap Adjustment for Price-Cap RBE applied to the bundled tariff.

3.24. The Base Average Tariff and the Required Average Tariff applicable to those RBE not regulated under a Revenue-Cap are calculated as the Bundled Base Average Tariff and Bundled Required Average Tariff less the sum of the Average Generation Cost and of the Base Average Tariffs and Required Average Tariffs respectively for each individual Revenue-Cap RBE.

Price-Cap Adjustment in cases of under-recovery

3.25. A limited Price-Cap Adjustment shall be made for under-recovery where the Bundled Actual Average Tariff is below the Bundled Base Average Tariff. This under-recovery adjustment will be subjected to a floor set at 2.5% of the Base Average Tariff.

3.26. The Commission may determine when the conditions for allowing such under-recovery is not applicable. Following such a determination, no adjustment for under-recovery will be permitted.

3.27. Where allowed, under-recovery can be adjusted with the ICPT mechanism subject to approval from the Commission.

3.28. For the avoidance of doubt, a Price-Cap Adjustment will apply at all times where there is over-recovery where the Bundled Actual Average Tariff is above the Bundled Base Average Tariff. This adjustment shall not be subject to any ceiling.

END OF SECTION

4. Consumer tariff

Consumer tariff

4.1. The tariff charged by SESB to its consumers for the provision of Regulated Services will comprise the sum of the:

(a) Base Tariff Table, which will be determined with the objective of recovering through Forecast Sales, revenue equivalent to application of the Base Average Tariff, as approved for the Regulatory Period by the Minister, and

(b) The following components (to the extent that they apply to eligible consumers as specified in section 4.9):

(i) Price-cap and Revenue-cap Adjustments, as calculated annually.

(ii) ICPT Adjustment, as calculated every six-months.

Base Tariff Table

4.2. The Base Tariff Table lists individual electricity charges by consumer category and by type of electricity charge, whereas the Base Average Tariff are defined as the overall average tariff and not calculated separately based on the consumer category or type of Regulated Service.

4.3. The Base Tariff Table meets the principle of cost recovery by ensuring that the Consumer Services is expected to recover across the Regulatory Period the sum of the Base Average Tariff from consumers.

4.4. The Base Tariff table must be consistent with the following principles:

(a) **Cost-reflective**. The tariffs must be broadly reflective of the different costs of services to different consumers. Gradual adjustments to cost-reflective tariffs may be justified if it would otherwise result in large tariff increases for a particular consumer category or categories.

(b) **Non-discrimination**. The tariffs for an individual Regulated Service may only differ between consumers where there are significant differences in the costs of service to these different consumers.

4.5. The types of electricity charges include, but not limited to, a fixed consumer service charge (RM/month), an energy charge or multiple energy charges for metered electricity consumption (sen/kWh), and a demand charge (RM/kWh/month). They may also include other charges such as power factor penalties, temporary supply charges, and individual street lighting charges.

4.6. The Base Tariff Table may be the same for each year of a Regulatory Period, or it may vary from year to year.

4.7. SESB will propose a Base Tariff Table as part of its Regulatory Proposal.

4.8. The Base Tariff table for each Regulatory Period will be determined by the Commission and with SESB's assistance to calculate expected revenues if requested, no later than 15 days following the approval of Base Average Tariff by the Minister.

Applying adjustments to consumer tariffs

4.9. The Price-Cap, Revenue-Cap Adjustments and the ICPT Adjustment will be applied as surcharges or rebates (calculated as negative) added to the per kWh energy charges of those consumers eligible for the adjustments. These eligible consumers may be determined by the Minister and may differ by type of adjustment.

Publishing consumer tariffs

4.10. The Base Tariff table, Price-Cap, Revenue-Cap Adjustments and ICPT Adjustment shall be published by SESB on its website and by such other means as it considers appropriate to bring it to the attention of existing and prospective consumers.

END OF SECTION

5. Calculation of the Bundled Base Average Tariff and the Bundled Required Average Tariff

Application

5.1. This section is for the calculation of the Bundled Base Average Tariff and the Bundled Required Average Tariff based on the Minister's approval of the Bundled Base Average Tariff for SESB.

Components of the Bundled Base Average Tariff and the Bundled Required Average Tariff

5.2. The Bundled Base Average Tariff is targeted to be the sum of the Base Average Tariff for each RBE for the Regulatory Period as approved by the Minister.

5.3. Section 5.2 is not applicable in a situation as follows:

(a) A Bundled Base Average Tariff is approved by the Minister; and

(b) The Base Average Tariff of each RBE is arrived from the Bundled Base Average Tariff via a percentage proportion based on an average forecast breakdown between the business entities during the trial and the Regulatory Period.

5.4. The Bundled Required Average Tariff is the sum of:

(a) the Bundled Base Average Tariff for SESB for the Regulatory Period, as approved by the Minister;

(b) the TSS;

(c) the Fuel Subsidy;

(d) the LSS Subsidy;

(e) the sum of Revenue-Cap Adjustments for each Revenue-Cap RBE, calculated annually; and

(f) the Price-Cap Adjustment applied to SESB, as a whole, calculated annually.

The Revenue-Cap Adjustments and Price-Cap Adjustment as mentioned above are treated as the Annual Regulatory Adjustment.

5.5. The calculation of the Bundled Required Average Tariff is made according to the following formula:

$$bREAT_t = bREQT_P + bRCAP_t + PCAP_t$$

Where:

'*P*' is a Regulatory Period

'*t*' is a single year (1 January to 31 December) in Regulatory Period '*P*'

'$bREAT_t$' is the Bundled Required Average Tariff for the year '*t*' (expressed in sen/kWh)

'$bREQT_P$' is the sum of the Bundled Base Average Tariff, Tariff Support Subsidy, Fuel Subsidy and LSS Subsidy for Period '*P*' (expressed in sen/kWh)

'$bRCAP_t$' is the Bundled Revenue-Cap Adjustment in year '*t*' (expressed in sen/kWh)

'$PCAP_t$' is the Price-Cap Adjustment in year '*t*' (expressed in sen/kWh)

$$bREQT_t = bBASE_P + bTSS_P + FSS_P$$

Where:

'$bBASE_P$' is the Bundled Base Average Tariff for Period '*P*' (expressed in sen/kWh)

'$bTSS_P$' is the Bundled Tariff Support Subsidy rate for Period '*P*' (expressed in sen/kWh)

'FSS_P' is the Fuel Subsidy and LSS Subsidy for Period '*P*' (expressed in sen/kWh)

5.6. The Required Average Tariff for the Consumer Services RBE shall be calculated as follows:

$$REAT_{t,cs} = bREAT_t - \left(\sum_{rc=1}^{RC} BASE_{P,rc} + TSS_{P,rc} + AGEN_p + bRCAP_t \right)$$

Where:

'*cs*' is the Consumer Services RBE

'*rc*' is an individual Revenue-Cap RBE

'$BASE_{P,rc}$' is the portioned Base Average Tariff for Revenue-Cap RBE '*rc*' from the Base Average Tariff rate for Regulatory Period '*P*'(expressed in sen/kWh)

'$AGEN_P$' is the Average Generation Cost which includes the Fuel Subsidy and LSS Subsidy for Regulatory Period '*P*' (expressed in sen/kWh)

'$REAT_{t,cs}$' is the Required Average Tariff for the Consumer Services RBE in year '*t*' (expressed in sen/kWh)

Calculation of the Bundled Base Average Tariff

5.7. The Bundled Base Average Tariff for each Regulatory Period may or may not be equal to the sum of the Required Average Tariffs for each RBE and the Average Generation Cost, calculated as below. The Bundled Base Average Tariff is without the inclusion of Fuel Subsidy, LSS Subsidy, TSS Subsidy and adjustments.

Calculation of the Required Average Tariff for individual RBE

5.8. A Required Average Tariff shall be calculated for each RBE prior to each Regulatory Period as the present value of Annual Revenue Requirement over the Regulatory Period, divided by the present value of forecasted electricity sales, in accordance with the following formula:

$$REQT_{P,e} = \left[\sum_{t=1}^{T} \frac{RREQ_{t,e}}{(1 + WACC_P)^t}\right] \Bigg/ \left[\sum_{t=1}^{T} \frac{FSAL_t}{(1 + WACC_P)^t}\right]$$

Where:

'*e*' is an individual RBE

'*T*' is the length of Regulatory Period '*P*' in years

'$REQT_{p,e}$' is the Required Tariff of RBE for Period 'P' (expressed in sen/kWh)

'$RREQ_{t,e}$' is the Annual Revenue Requirement of RBE '*e*' in year '*t*' (expressed in RM)

'$FSAL_t$' is the forecasted total electricity sales in year '*t*' as made at the time of setting the Required Average Tariff (expressed in kWh)

'$WACC_P$' is the allowed Weighted Average Cost of Capital of the Licensee for Regulatory Period '*P*' (expressed as a percentage)

Calculation of the Average Generation Cost

5.9. The Average Generation Cost shall be calculated prior to each Regulatory Period as the present value of forecast fuel costs and forecast other generation-specific costs as specified in PPA, SLA, non-SLA, PEA and other energy purchase over the Regulatory Period, divided by the present value of forecasted electricity sales, in accordance with the following formula:

$$AGEN_P = AFUL_P + AGSC_P$$

$$AFUL_P = \left[\sum_{s=1}^{S} \frac{FFUL_s}{(1 + WACC_P)^s}\right] \Bigg/ \left[\sum_{t=1}^{T} \frac{FSAL_t}{(1 + WACC_P)^t}\right]$$

$$AGSC_P = \left[\sum_{s=1}^{S} \frac{FGSC_s}{(1 + WACC_P)^s}\right] \Bigg/ \left[\sum_{t=1}^{T} \frac{FSAL_t}{(1 + WACC_P)^t}\right]$$

Where:

'*S*' is the length of Regulatory Period '*P*' in six-month intervals

'$AFUL_P$' is the Average Unsubsidised Fuel Cost and LSS cost for Regulatory Period '*P*' (expressed in sen/kWh)

'$AGSC_P$' is the Average Other Generation Cost for Regulatory Period 'P' (expressed in sen/kWh)

'$FFUL_s$' is the Forecast Unsubsidised Fuel Cost and LSS cost for six-month period 's' (expressed in RM)

'$FGSC_s$' is the Forecast Other Generation Cost, excluding fuel costs, for six-month period 's' (expressed in RM)

5.10. Forecast fuel costs, forecast LSS cost and forecast other generation costs shall be calculated using appropriate power system models and shall be based on the most recent approved planting (generation investment) programme, approved electricity demand forecast, and approved level of efficient system losses as decided by the Planning and Implementation Committee for Electricity Supply and Tariff (JPPPET).

Calculation of the Bundled Revenue-Cap Adjustment

5.11. The Revenue-Cap Adjustment is calculated annually for each Revenue-Cap RBE based on Required Tariff and is then summed to give the Bundled Revenue-Cap Adjustment applicable, according to the following formula:

$$bRCAP_t = \sum_{rc=1}^{RC} RCAP_{t,rc}$$

Where:

'$RCAP_{t,rc}$' is the Revenue-Cap Adjustment for Revenue-Cap RBE 'rc' in year 't'

5.12. The Revenue-Cap Adjustment for each Revenue-Cap RBE shall be calculated in accordance with the following formula:

$$RCAP_{t,rc} = \frac{RSLS_{t,rc} + OTHR_{t,e} + UPOX_{t,e} + INTR_{t,e}}{USAL_t}$$

Where:

'$RSLS_{t,rc}$' is the Revenue-Cap sales adjustment for Revenue-Cap RBE '*rc*' in year '*t*' (expressed in RM)

'$OTHR_{t,e}$' is the Other Income adjustment for RBE '*e*' in in year '*t*' (expressed in RM)

'$UPOX_{t,e}$' is the Unpredictable OPEX adjustment for RBE '*e*' in year '*t*' (expressed in RM)

'$INTR_{t,e}$' is the Interim Review Adjustment (if any), resulting from any interim review determinations by the Commission, for RBE '*e*' in in year '*t*' (expressed in RM)

'$USAL_t$' is the updated forecast of total actual electricity sales in year '*t*' prepared at the time of the calculation of the adjustment (expressed in kWh)

5.13. The Revenue-Cap sales adjustment adjusts for the annual difference in revenue earned by the individual revenue-cap RBE arising from differences between forecasted and actual sales volumes. The adjustment is calculated according to the following formula:

$$RSLS_{t,rc} = REQT_{P,rc} \times (FSAL_{t-1} - ESAL_{t-1}) \times (1 + WACC_{t-1})$$

Where:

'$ESAL_{t-1}$' is the actual total electricity sales in year '*t-1*' (expressed in kWh). If actual values are not available at the time of the calculation and estimate should be used.

If year '*t-1*' falls into the preceding Regulatory Period '*P-1*' then the Required Average Tariff for Revenue-Cap RBE '*rc*' and WACC for the Licensee in the preceding Regulatory Period shall apply in the calculation

5.14. The Other Income adjustment deducts annual income from sources other than electricity sales and consumer contributions. The adjustment is calculated according to the following formula:

$$OTHR_{t,e} = -\left(\sum_{m=-12}^{m=-4} OTHA_{m,e} + \sum_{m=-3}^{m=-1} OTHE_{m,e}\right)$$

Where:

'$OTHA_{m,e}$' is the actual other income excluding revenues from electricity sales and consumer contributions, as allocated to RBE '*e*', in month '*m*' (expressed in RM)

'$OTHE_{m,e}$' is the estimated other income excluding revenues from electricity sales and consumer contributions, as allocated to RBE '*e*', in month '*m*' (expressed in RM)

5.15. The Unpredictable OPEX adjustment adjusts for the annual difference between the estimated unpredictable OPEX included in the RBE's annual revenue requirement and actual unpredictable OPEX. The adjustment is calculated according to the following formula:

$$UPOX_{t,e} = \left(UPXE_{t-1,e} - UPXF_{t-1,e}\right) \times (1 + WACC_{t-1})$$

Where:

'$UPXE_{t-1,e}$' is Estimated Unpredictable OPEX for RBE '*e*' in year '*t-1*':

$$UPXE_{t-1,e} = -\left(\sum_{m=-12}^{m=-4} UPXA_{m,e} + \sum_{m=-3}^{m=-1} UPXE_{m,e}\right)$$

Where:

'$UPXA_{m,e}$' is actual unpredictable OPEX of RBE '*e*' in month '*m*' (expressed in RM)

'$UPXF_{t-1,rc}$' is the forecast of unpredictable OPEX included in the annual revenue requirement of RBE '*e*' in year '*t-1*' (expressed in RM). For the avoidance of doubt, the forecast of unpredictable OPEX may be set to zero.

Calculation of the Bundled Price-Cap Adjustment

5.16. Where the Commission has determined that the under-recovery is no longer applicable in accordance with sections 3.26 and 3.26, then the Price-Cap

Adjustment shall be calculated based on Base Average Tariff in accordance with the following formula:

$$PCAP_t = \frac{PSLS_t + OTHR_{t,cs} + UPOX_{t,cs} + INTR_{t,cs}}{USAL_t}$$

Where:

'$PSLS_{t,rc}$' is the Price-Cap Sales Adjustment in year 't' (expressed in RM)

5.17. The Price-Cap Sales Adjustment adjusts for the annual difference between actual and allowed bundled revenues due to non-compliance with the Price-Cap. The adjustment is calculated according to the following formula:

$$PSLS_t = min(0, RDIF_t) \times (1 + WACC_{t-1})$$

Where:

'$RDIF_t$' is the Price-Cap Revenue Difference in year 't' (expressed in RM):

$$RDIF_t = (bBASE_{t-1} - bAAT_{t-1}) \times ESAL_{t-1}$$

Where:

'$bAAT_{t-1}$' is the Bundled Actual Average Tariff for year 't-1' (expressed in sen/kWh):

$$bAAT_{t-1} = bEREV\ _{t-1}/ESAL_{t-1}$$

Where:

'$bEREV_{t-1}$' is the Estimated Total Bundled Revenues earned from the provision of Regulated Services in year 't-1' (expressed in RM):

$$bEREV_{t-1} = \left(\sum_{m=-12}^{m=-4} bAREV_m + \sum_{m=-3}^{m=-1} bEREV_m \right)$$

Where:

'$bAREV_m$' is the actual total bundled revenues earned from the provision of Regulated Services in month 'm' (expressed in RM)

5.18. Where the Commission has determined that the under-recovery is applicable in accordance with section 3.27, then the following formula shall apply:

$$If\ RDIF_t \leq 0, then\ PSLS_t = min(0, RDIF_t) \times (1 + WACC_{t-1})$$

$$If\ RDIF_t > 0, then\colon\ PSLS_t = min(0.025 \times\ bBASE_P \times ESAL_{t-1}, RDIF_t) \times (1 + WACC_{t-1})$$

Subsidies

5.19. SESB receives three forms of Subsidies from the Government subject to any shortfalls between the Allowed Revenue and the Required Revenue. The Subsidies received by SESB are as follows:

(a) Fuel Subsidy

(i) the difference in fuel payment between the subsidised and unsubsidised diesel and medium fuel oil fuel price and the predetermined subsidised diesel fuel and medium fuel oil price claimed by the IPP and SESB Generation under the PPA, SLA, Non-SLA and any power purchase contract claimable on a monthly basis.

(ii) The Fuel Subsidy is claimable under the Single Buyer Generation.

(b) LSS Subsidy

(i) The LSS Subsidy is derived from the difference between energy rate and displaced cost rate, added with the spinning reserve rate cost based on the stipulated spinning reserve cost rate as predetermined by the Commission claimable on a monthly basis based on the actual energy output that is claimable on a monthly basis.

(ii) For the avoidance of doubt, the LSS Subsidy is claimable under the Single Buyer Generation.

(c) Tariff Support Subsidy

(i) This subsidy compensates for any shortfall between the Base Average Tariff and the Required Average Tariff claimable on monthly basis based on actual units sold multiply TSS rate as predetermined by the Commission.

(ii) The TSS will be allocated to all RBEs based on each RBE's requirements to cover the shortfall between the Base Average Tariff and Required Average Tariff subject to discussion with the Commission.

(iii) The TSS may be set by the Commission at its discretion to reduce fluctuations, either positive or negative, in consumer tariffs that would otherwise arise due to the Price-Cap, Revenue-Cap Adjustments and ICPT Adjustment.

END OF SECTION

6. ICPT Adjustment

Application of the ICPT Adjustment

6.1. The ICPT Adjustment compensates for the differences between the actual and forecast generation costs used in determining the Average Generation Cost including the Subsidies in each Regulatory Period. Therefore, it is intended to enable the recovery of actual fuel costs and other generation specific costs.

6.2. The ICPT Adjustment is applied as a surcharge or rebate (calculated as a negative surcharge) added to the energy charges applied for electricity sales to those consumers liable for the ICPT Adjustment. These liable consumers may be determined by the Minister. In the event the surcharge is not passed through to the consumer, the Commission may advise the Government on additional Subsidies to compensate the Licensee. This surcharge or rebate is an additional to the Base Average Tariff and the Required Average Tariffs and the ICPT Adjustment and is not included in the calculation of the Base Average Tariff and Required Average Tariff.

6.3. The ICPT Adjustment is calculated and submitted on six months interval. The first adjustment in each year applies from January to June, submitted in April and the second from July to December submitted in October.

Calculation of the ICPT Adjustment

6.4. The ICPT Adjustment comprises of a Generation Cost Adjustment and a Fund Contribution.

6.5. The Generation Cost Adjustment adjusts for differences between the actual and forecast costs for each of fuel costs and other generation-specific costs over the six months period. The adjustment for each type of cost is split into two parts:

(a) The first part uses the actual data for the most recent two months for which this is available and estimated data for the following four months.

(b) The second part corrects for differences between actual outcomes and the estimated data used to calculate the first adjustment.

6.6. The Fund Contribution is the net contribution from the Electricity Industry Fund over the six-month period, applied by the Commission to offset generation cost increases. When the Generation Cost Adjustment for a six-month period is greater than zero, the Commission may authorise payment of amounts during the six months period from the Electricity Industry Fund to the Single Buyer, in which case the Fund Contribution will have a negative value. When the Generation Cost Adjustment for six months period is less than zero, the Commission may require the Single Buyer to pay amounts during the six months period into the Electricity Industry Fund, in which case the Fund Contribution will have a positive value.

6.7. The ICPT adjustment is calculated according to the following formula:

$$ICPT_s = GCAJ_s + FUND_s$$

Where:

'$GCAJ_s$' is the Generation Cost Adjustment in the six-month period 's' (expressed in Sen/kWh):

$$GCAJ_s = (FCPT1_s + GCPT1_s) \times (1 + IARR_{s-1})^7 + (FCPT2_s + GCPT2_s) \times (1 + IARR_{s-2})^{13}$$

Where:

'$FCPT1_s$' is the first fuel cost pass-through adjustment in the six-month period 's' (expressed in Sen/kWh):

$$FCPT1_s = IFUC_s - AFUL_P$$

Where:

'$IFUC_s$' is the Interim Fuel Cost Pass-Through Adjustment (Fuel cost incurred at market price less fuel cost incurred at SESB's applicable subsidised rates) calculated for the six-month period 's' (expressed in Sen/kWh):

$$IFUC_s = \left(\sum_{m=-4}^{M=-1} EFUC_m + \sum_{m=-6}^{M=-5} AFUC_m\right) \Big/ \left(\sum_{m=-4}^{M=-1} EQUS_m + \sum_{m=-6}^{M=-5} AQUS_m\right)$$

Where:

'm' is a calendar month and is expressed in relation to the month in which the ICPT Adjustment takes effect. For example, if the ICPT Adjustment is to take effect in January 2019 then '$m = -4$' means the month four months before this or September 2018.

'$EFUC_m$' is the estimated total fuel cost for month 'm' (expressed in RM)

'$AFUC_m$' is the actual total fuel cost for month 'm' (expressed in RM)

'$EQUS_m$' is the estimated total qualifying sales to which the ICPT adjustment is applied for month 'm' (expressed in kWh). Qualifying sales are the sales to those tariff categories who are liable for the ICPT Adjustment, as determined by the Minister.

'$AQUS_m$' is the audited total qualifying sales to which the ICPT adjustment is applied for month 'm' (expressed in kWh)

'$IARR_P$' is the ICPT Adjustment Remuneration Rate for the for the six-month period 's' (expressed as a percentage)

'$GCPT1_s$' is the First Other Generation Cost Pass-Through Adjustment in the six-month period 's' (expressed in Sen/kWh):

$$GCPT1_s = IGSC_s - AGSC_P$$

Where:

'$IGSC_s$' is the Interim Other Generation Cost Pass-Through Adjustment calculated for the six-month period 's' (expressed in Sen/kWh):

$$IGSC_s = \left(\sum_{m=-4}^{M=-1} TEGS_m + \sum_{m=-6}^{M=-5} TAGS_m\right) \Big/ \left(\sum_{m=-4}^{M=-1} EQUS_m + \sum_{m=-6}^{M=-5} AQUS_m\right)$$

Where:

'$TEGS_m$' is the estimated total other generation cost for month 'm' (expressed in RM)

'$TAGS_m$' is the actual total other generation cost for month 'm' (expressed in RM)

'$FCPT2_s$' is the Second fuel cost pass-through adjustment in the six-month period 's' (expressed in Sen/kWh):

$$FCPT2_s = \left\{\left[IFUC_{s-1} \times \left(\sum_{m=-10}^{M=-7} EQUS_m + \sum_{m=-12}^{M=-11} AQUS_m\right)\right] - \sum_{m=-12}^{M=-7} AFUC_m\right\} \Big/ AQUS_{s-1}$$

'$GCPT2_s$' is the Second Other Generation Cost Pass-Through Adjustment in the six-month period 's' (expressed in Sen/kWh):

$$GCPT2_s = \left\{\left[IGSC_{s-1} \times \left(\sum_{m=-10}^{M=-7} EQUS_m + \sum_{m=-12}^{M=-11} AQUS_m\right)\right] - \sum_{m=-12}^{M=-7} TAGS_m\right\} \Big/ AQUS_{s-1}$$

'$FUND_s$' is the Fund Contribution for the six-month period 's' (expressed in Sen/kWh):

$$FUND_s = \sum_{m=-0}^{M=5} (FUNP_m - FUNT_m) \Big/ \sum_{m=0}^{M=5} EQUS_m$$

Where:

'$FUNT_m$' is the approved payment from the Electricity Industry Fund to the Single Buyer, relating to the ICPT Adjustment, for month 'm' (expressed in RM)

'$FUNP_m$' is the payment by the Single Buyer into the Electricity Industry Fund, relating to the ICPT Adjustment, for month 'm' (expressed in RM)

6.8. If applicable, the ICPT Adjustment Remuneration Rate is equal to the most recent One-Month Interbank Rate reported by Bank Negara Malaysia plus 1.5 percentage points, converted to a monthly rate.

Process for applying the ICPT Adjustment

6.9. The proposed ICPT Adjustment report shall be submitted to the Commission by either the Single Buyer or, on its behalf, by SESB on the following dates:

(a) For an ICPT Adjustment taking effect from January, no later than 10 weeks before the expiry of the relevant six months period of the preceding year.

(b) For an ICPT Adjustment taking effect from July, no later than 10 weeks before the expiry of the relevant six months period of the same year.

6.10. In terms of the ICPT **Adjustment** reporting, the Single Buyer and/or SESB shall fulfill the following requirements:

(a) submit a detailed estimated generation cost report that present calculation of the Estimated Actual Generation Cost and Other Generation Cost that incurred by the Single Buyer under the PPA, SLA, Non-SLA, PEA and other energy purchase contract for the relevant six months period of the Regulatory Period based on actual cost data for the first 2 months and estimates for the remaining 4 months.

(b) provide a detailed generation cost report on actual Fuel Cost, Other Generation Costs, Unit Sold and Revenue collected based on the Single Buyer tariff for the preceding six months period. This is to ascertain the amount of over or under recovery of changes in fuel and generation specific costs.

(c) the report shall include a detailed explanation of the variances between the actual costs of electricity procurement and generation revenue based on the Single Buyer tariff.

(d) the Estimated Actual Fuel Cost and Other Generation Cost report and the application of the Fuel Cost Adjustment and Other Generation Cost Adjustment prepared by the Single Buyer and/ or SESB to be certified as correct by a reputable audit company.

(e) together with the proposed ICPT submission and detailed generation cost report submission, Single Buyer and/or SESB is also required to submit the audited actual revenue for the preceding six months period which based on the Single Buyer tariff and actual sales of electricity to consumers. The actual generation specific revenue for the Single Buyer should reflect the generation specific revenue received from Consumer Services over the relevant six months.

6.11. The value of the proposed ICPT adjustment may also incorporate the calculation of Revenue-Cap Adjustment and Price-Cap Adjustment by each RBE and shall be determined by the Commission.

6.12. The Commission may verify the proposed ICPT adjustment report and accompanying the proposed Base Average Tariff within 15 working days of receipt.

6.13. Where the Commission has identified an error in the calculations submitted, the Single Buyer or SESB shall be required to revise and resubmit their proposed ICPT Adjustment and the Commission may accept or reject the revised proposal from the date of receipt of the revised calculations.

6.14. The value of any over-recovery of Allowed Revenues which results from a delay in the approval of the ICPT Adjustment due to errors in its calculation by the Single Buyer or SESB shall be determined by the Commission and returned to the Government in the form of a reduction in Subsidies for the following year. Any under-recovery due to errors in the calculation by Single Buyer or SESB shall not be compensated.

6.15. In the event the proposed ICPT Adjustment differs from the sum of the Average Generation Cost, Subsidies and Required Average Tariffs for each individual RBE, the Commission may, with the approval of the Minister, determine whether to approve or reject the proposed tariff adjustment.

6.16. Where an approval by the Minister is delayed beyond the start of the following year then the following shall apply:

(a) With the approval of the Minister, the existing ICPT adjustment and subsidies shall remain in effect until an approval of a new ICPT decision is issued.

(b) The present value of any over-recovery or under-recovery of the ICPT Adjustment and Subsidies which results from such delay shall be determined by the Commission.

(c) This difference shall be returned to the Government, if it is an over-recovery, or paid to the Single Buyer, if it is an under-recovery, in the form of a deduction from or an addition to the ICPT Adjustment and Subsidies to be applied for the following six-month period.

6.17. If the delay occurs in the last six months of the current Regulatory Period, then the adjustment is carried over to the next Regulatory Period.

END OF SECTION

7. Annual Revenue Requirement

Principles of the Annual Revenue Requirement

7.1. The Annual Revenue Requirement represents the maximum allowed revenues (before adjustments) that a RBE can charge to the consumers and further recover the reasonable and efficient costs (including a fair return on capital) through Government Subsidies for providing the Regulated Services in each year of a Regulatory Period.

7.2. The Annual Revenue Requirement is calculated individually for each RBE and for each year within each Regulatory Period. The sum of the Annual Revenue Requirement by RBE is then levelised to obtain the Base Average Tariff and Required Average Tariff for the individual RBE in the Regulatory Period. The sum of these individual RBE Base Average Tariffs and Required Average Tariffs are then used to obtain the SESB Base Average Tariff and Required Average Tariff for the Regulatory Period. For the avoidance of doubt, SESB Required Average Tariff is not equivalent to the Base Average Tariff charged to consumers.

7.3. The Annual Revenue Requirement is calculated using a 'building-block' methodology, whereby the total revenue is calculated as the sum of operating costs, depreciation, a return on capital and a tax allowance, plus adjustments.

7.4. All calculations are conducted in nominal terms.

Application of the Annual Revenue Requirement

7.5. The revenue limits set by the Annual Revenue Requirement apply to the sum of revenues received from both electricity tariffs other consumer charges and Subsidies:

(a) Revenues from electricity tariffs paid by consumers for the supply of electricity typically (although not necessarily) consist of some or all the following - a fixed consumer service charge (RM/month), an energy charge (or multiple energy charges) for metered electricity consumption (sen/kWh), and a demand charge (RM/kW).

(b) Revenues from other consumer charges include, without limitation, connected load charges, power factor penalties, welding penalties, temporary supply charges, and individual street lighting charges. Revenues from such other charges must be netted off when designing the end-use consumer electricity tariffs.

(c) Revenues from Fuel Subsidy, LSS Subsidy and TSS Subsidy as provided by the Government to compensate the difference between the Base Average Tariffs and Required Average Tariff

7.6. For the avoidance of doubt, the Annual Revenue Requirement applies to the Single Buyer Operations and all other RBEs, namely, Transmission, Grid System Operator and Consumer Service. In the event of a separation of Distribution Network from Consumer Service, Annual Revenue Requirement will also be applicable to Distribution Network.

Calculating the Annual Revenue Requirement

7.7. The Annual Revenue Requirement for all RBEs, except for the Consumer Services RBE, shall be calculated according to the following formula:

$$RREQ_{e,t} = OPEX_{e,t} + JOIN_{e,t} + RTOC_{e,t} + DEPN_{e,t} + max\left(0, TAXZ_{e,t}\right) + ECSO_{e,t} + ECSX_{e,t} + SERV_{e,t}$$

Where:

'*e*' is an individual RBE

'*t*' is the Regulatory Year

'$RREQ_{e,t}$' is the Annual Revenue Requirement of RBE '*e*' (expressed in RM)

'$OPEX_{e,t}$' is the allowed operating expenditures of the RBE in year '*t*' and which may include an estimate of Unpredictable OPEX

'$JOIN_{e,t}$' are allocated Joint and Common Costs for OPEX in year '*t*' associated with corporate services provided by SESB to the RBE forming part of SESB

'$RTOC_{e,t}$' is the allowed return on capital of the RBE in year '*t*':

$$RTOC_{e,t} = \left(RAB_{e,t-1} + 0.5 \times \left(CAPEX_{e,t} - DISP_{e,t}\right)\right) \times WACC_t$$

Where:

'$RAB_{e,t-1}$' is the closing allowed Regulated Asset Base of the RBE at the end of year 't-1' (which is equivalent to the opening Regulated Asset Base for year '*t*') (Refer to Section 12)

'$CAPEX_{e,t}$' represents forecast prudent and efficient capital expenditure that is incurred by the RBE in year '*t*', as set out in the approved investment plan

'$DISP_{e,t}$' represents the net value of fixed assets of the RBE disposed of during year '*t*'

'*WACC*' is the allowed Weighted Average Cost of Capital of the Licensee

'$DEPN_{e,t}$' is the allowance for depreciation of the RBE in year '*t*'

'$TAXZ_{e,t}$' is the Corporate Tax and Zakat Allowance of the RBE in year '*t*' and cannot be negative

'$ECSO_{e,t}$' is the allowed operating expenditures Efficiency Carry-Over Scheme adjustment of the RBE in year '*t*'

'$ECSX_{e,t}$' is the allowed capital expenditures Efficiency Carry-Over Scheme adjustment of the RBE in year '*t*'

'$SERV_{e,t}$' is the Quality of Service Incentives adjustment (or penalty if negative) of the RBE applied in year '*t*' which results from performance against quality of service targets in the preceding Regulatory Period

7.8. The Annual Revenue Requirement for the Consumer Services RBE shall be calculated according to the following formula:

$$RREQ_{cs,t} = OPEX_{cs,t} + JOIN_{cs,t} + MRGN_{cs,t} + ECSO_{cs,t} + ECSX_{cs,t} + SERV_{cs,t}$$

Where:

'*cs*' is the Consumer Services RBE

'$RREQ_{cs,t}$' is the Annual Revenue Requirement for the Consumer Services RBE

'$OPEX_{cs,t}$' is the allowed operating expenditures of the Consumer Services RBE in year '*t*' and which may include an estimate of Unpredictable OPEX

'$JOIN_{cs,t}$' are allocated Joint and Common Costs in year '*t*' associated with corporate services provided by SESB to the Consumer Services RBE forming part of SESB

'$MRGN_{cs,t}$' is the Allowed Consumer Service Margin of the Consumer Services RBE in year '*t*':

'$ECSO_{cs,t}$' is the allowed operating expenditures Efficiency Carry-Over Scheme adjustment of the Consumer Services RBE in year '*t*'

'$ECSX_{cs,t}$' is the allowed capital expenditures Efficiency Carry-Over Scheme adjustment of the Consumer Services RBE in year '*t*'

'$SERV_{cs,t}$' is the Quality of Service Incentives adjustment (or penalty if negative) of the Consumer Services RBE applied in year '*t*' which results from performance against quality of service targets in the preceding Regulatory Period

7.9. The Allowed Consumer Service Margin will be set according to the following formula:

$$MRGN_{cs,t} = RTOC_{cs,t} + DEPN_{cs,t} + max\left(0, TAXZ_{cs,t}\right)$$

Where:

'$RTOC_{cs,t}$' is the allowed return on capital of the Consumer Services RBE in year '*t*':

$$RTOC_{cs,t} \ = \left(RAB_{cs,t-1} + 0.5 \times \left(CAPEX_{cs,t} - DISP_{cs,t}\right)\right) \times WACC_t$$

Where:

'$RAB_{cs,t-1}$' is the closing allowed Regulated Asset Base of the Consumer Services RBE at the end of year 't-1' (which is equivalent to the opening Regulated Asset Base for year '*t*')

'$CAPEX_{cs,t}$' represents forecast prudent and efficient capital expenditure that is incurred by the Consumer Services RBE in year '*t*', as set out in the approved investment plan

'$DISP_{cs,t}$' represents the net value of fixed assets of the Consumer Services RBE disposed of during year 't'

'$WACC$' is the allowed Weighted Average Cost of Capital of the Licensee

'$DEPN_{cs,t}$' is the allowance for depreciation of the Consumer Services RBE in year 't'

'$TAXZ_{cs,t}$' is the Corporate Tax and Zakat Allowance of the Consumer Services RBE in year 't' and cannot be negative.

7.10. The determination of the individual components of the Annual Revenue Requirement are specified in sections 9 to 17 of these Guidelines.

7.11. The calculations made by the RBEs must be undertaken using a Revenue Requirement Model that is approved by the Commission and is published on the Commission's website (with confidential information redacted). The RBEs must ensure that all inputs and calculations in the Revenue Requirement Model are verifiable and consistent with the requirements of these Guidelines.

END OF SECTION

8. Regulatory Reviews

Objective of Regulatory Reviews

8.1. The Commission will conduct a Regulatory Review for each RBE in SESB in advance of the start of the next Regulatory Period. The objective of the Regulatory Review is to determine the Required Average Tariff, Base Average Tariff, Allowed Revenue, and Base Tariff Table (if applicable to the RBE) for the next Regulatory Period.

8.2. The Regulatory Reviews of RBEs may be carried out concurrently, or separately if their Regulatory Periods differ.

Regulatory Review process (in sequence)

8.3. In advance of SESB submitting its Regulatory Proposal, the Commission may issue a Revenue Requirement Model, which will be used by SESB to calculate its proposed Required Average Tariff, Base Average Tariff and Allowed Revenue in each year of the next Regulatory Period.

(a) All inputs and calculations in the Revenue Requirement Model will be verifiable and consistent with the requirements of these Guidelines.

(b) In submitting its Regulatory Proposal, any changes made by SESB to the Revenue Requirement Model must be clearly stated and justified.

8.4. In advance of SESB submitting its Regulatory Proposal, the Commission may also issue specific information requests to SESB, which specify information and the format of that information that the Commission requests be included in the SESB's Regulatory Proposal.

8.5. SESB will submit to the Commission a Regulatory Proposal for the provision of Regulated Services for the next Regulatory Period, in accordance with these Guidelines.

8.6. The Commission will review the SESB's Regulatory Proposal. The Commission may require SESB to provide additional explanations and evidence in written form. Any further information provided by SESB should not modify its proposed Required Average Tariff, Base Average Tariff and Allowed Revenue, unless to correct for an identified error.

8.7. The Commission will submit to SESB its Draft Determination of SESB's Required Average Tariff, Base Average Tariff, Allowed Revenue, and Base Tariff Table (if applicable). The Draft Determination will explain the reasons for any differences between SESB's Regulatory Proposal and the Commission's Draft Determination.

8.8. SESB will submit to the Commission its Revised Regulatory Proposal. There are no requirements on SESB regarding the content of the Revised Regulatory Proposal, however to the extent that it does not contain updated information on any matter, then the Commission may rely on the Regulatory Proposal in making its Final Determination.

8.9. The Commission may submit to the Minister for approval its recommended Final Determination of the Required Average Tariff, Base Average Tariff, Allowed Revenue, and Base Tariff Table (if applicable). The Final Determination will include:

(a) a summary of comments received from SESB and from stakeholders, if applicable, on the Draft Determination and the Commission's responses to these comments;

(b) an explanation of the reasons for differences between the SESB's Revised Regulatory Proposal and the Commission's Final Determination; and

(c) an explanation of the reasons for differences between the Commission's Draft Determination and Final Determination.

8.10. Prior to the commencement of the next Regulatory Period, the Minister will approve SESB's Required Average Tariff, Base Average Tariff and Allowed Revenue for the Regulatory Period, either individually for each RBE or as a bundled tariff. The approved tariffs may or may not differ from those recommended by the Commission.

8.11. If the Minister approves a bundled average tariff that differs from the sum of the RBE Base Average Tariff recommended by the Commission, the Commission will revise its determination to ensure that it equals the bundled average tariff approved by the Minister.

8.12. Following the Minister's approval of the Final Determination, the Commission will submit the approved Final Determination to SESB.

Regulatory Review timetable

8.13. The Commission will publish the timetable and process for conducting a Regulatory Review in accordance with these Guidelines no later than 20 months prior to the start of the next Regulatory Period.

8.14. The timetable of each Regulatory Review will conform with the following timeframes:

(a) If the Commission issues a Revenue Requirement Model and/or specific information requests to SESB, it will do so no later than 18 months prior to the start of the next Regulatory Period.

(b) SESB will submit its Regulatory Proposal to the Commission no later than 15 months prior to the start of the next Regulatory Period.

(c) The Commission will submit its Draft Determination to SESB no later than 6 months prior to the start of the next Regulatory Period.

(d) SESB will submit its Revised Regulatory Proposal to the Commission no later than 5 months prior to the start of the next Regulatory Period.

(e) The Commission may submit its Final Determination to the Minister for approval no later than 2 months prior to the start of the next Regulatory Period.

Stakeholder consultation during a Regulatory Review

8.15. When the Commission publishes its timetable and process for conducting a Regulatory Review, it will notify SESB whether the Regulatory Review will include consultation with stakeholders, and if so, will notify SESB of the protocol for doing so.

8.16. The stakeholder consultation protocol may include, but is not limited to, specification of:

(a) the format and extent of SESB's Regulatory Proposal to be published;

(b) the format and extent of the Commission's Draft and Final Determinations to be published; and

(c) the time frames, formats, and processes that will be made available to stakeholders to provide comments on information that is published as part of the Regulatory Review.

8.17. Any submission received by the Commission from stakeholders will be provided to SESB, unless the submitter identifies it as confidential, and may also be published on the Commission's website.

8.18. If the Regulatory Review includes consultation with stakeholders, then when SESB submits its Regulatory Proposal to the Commission, it must be accompanied by a version of the Regulatory Proposal that SESB clearly identifies as being suitable for the Commission to publish.

8.19. At a minimum, the published version of the Regulatory Proposal will include:

(a) a summary of the Regulatory Proposal, the purpose of which is to explain it in reasonably plain language to electricity consumers and other stakeholders;

(b) SESB's proposed Required Average Tariff, Base Average Tariff and Allowed Revenue for the next Regulatory Period, comparing it with the current SESB Required Average Tariff, Base Average Tariff and Allowed Revenue;

(c) SESB's proposed Allowed Revenue for the next Regulatory Period, comparing it with the current Allowed Revenue and an explanation of any material differences between them;

(d) a description of how, in preparing the Regulatory Proposal, SESB has sought to understand and take account of the needs and preferences of consumers and other stakeholders;

(e) a description of the key risks and benefits of the SESB's Regulatory Proposal for the consumers;

(f) in the case of Single Buyer, its proposed Generation Base Tariff for the next Regulatory Period, comparing it with the current Generation Base Tariff and an explanation of any material differences between them; and

(g) in the case of Consumer Service, its proposed Base Tariff Table for the next Regulatory Period, comparing it with the current Base Tariff Table, an explanation of any material differences between them, and an assessment of affordability impacts on domestic consumers.

8.20. At a minimum, the published version of the Draft Determination will include a comparison between the tariffs proposed by SESB and the tariffs that the Commission determines, together with a transparent summary of the reasons for any differences.

8.21. The Final Determination, or a version of it, will only be published following the Minister's approval. At a minimum, the published version of the Final Determination will include a comparison between the tariffs proposed by SESB in its Regulatory Proposal and in its Revised Regulatory Proposal, the tariffs that the Commission determined in its Draft Determination and in its Final Determination, together with a transparent summary of the reasons for its Final Determination.

8.22. For the avoidance of doubt, the Commission's transparent summary may differentiate between its recommendations to the Minister and the final tariffs approved by the Minister. The Commission is not obliged to justify the tariffs approved by the Minister, to the extent that they differ from those recommended by the Commission.

Stakeholder consultation prior to a submission of a Regulatory Proposal

8.23. SESB will establish and implement a fit-for-purpose process for obtaining stakeholder input on matters relevant to the provision of the Regulated Services, which is carried out during each Regulatory Period and used to inform the preparation of the SESB's Regulatory Proposal.

8.24. For the avoidance of doubt, SESB will establish and implement this process regardless of whether the next Regulatory Review will include consultation with stakeholders.

8.25. The process for obtaining stakeholder input prior to a submission of a Regulatory Proposal will include:

(a) identifying matters that are likely to be of interest to stakeholders, including those matters that affect the nature, quality, and price of Regulated Services.

(b) establishing pro-active processes for obtaining input from stakeholders on such matters throughout each Regulatory Period and to provide a vehicle for stakeholders to provide input on any other matters that stakeholders consider relevant. Without limitation, the mechanisms for obtaining such input may involve:

(i) stakeholder forums.

(ii) establishing and facilitating consumer reference / advocacy groups.

(iii) publication of 'issues papers' on specific topics.

(iv) published open requests for stakeholders to provide submissions.

(c) Publishing the substance of stakeholder views including through direct publication of public submissions provided to SESB and/or through publication of summaries, minutes or other records that provide an accessible, reasonable, and balanced representation of such stakeholder input, and through inclusion of relevant input in the published version of the Regulatory Proposal, if applicable.

8.26. To the extent that such matters involve several RBEs within SESB, processes for obtaining stakeholder inputs may be managed jointly by RBEs.

Contents of a Regulatory Proposal

8.27. The Regulatory Proposal of SESB will include SESB's proposed Required Average Tariff, Base Average Tariff and Allowed Revenue for each year of the next Regulatory Period. Subsidies may also be included as a part of the Regulatory Proposal for the Commission's review.

8.28. The Regulatory Proposal of SESB will:

(a) comply with the requirements of and demonstrate conformance with these Guidelines;

(b) include detailed calculations of the proposed Required Average Tariff, Base Average Tariff, Allowed Revenue, and Base Tariff Table and must include a detailed description, including relevant explanatory material, of how SESB has calculated its proposed revenues and tariffs.

(c) include detailed workings of how SESB has calculated its proposed Subsidies (if applicable).

(d) describe input received from consumers and other stakeholders on matters relevant to the proposal.

(e) include a business plan, or a document or material providing similar content to that of a business plan, of a duration at least equal to that of the next Regulatory Period, from which SESB Allowed Revenues are derived. This is in accordance with the obligations of licensees under the Act 447.

8.29. The Regulatory Proposal of Single Buyer will include its proposed Generation Base Tariff and justification of its proposed Forecast Generation Costs.

8.30. The Regulatory Proposal of Consumer Service will include its proposed Base Tariff Table and the following supporting information:

(a) the estimated cost of service based on voltage level and classified into demand, consumer and energy related costs and an explanation of the estimates including data used and methodologies applied. These methodologies may follow any individual or combination of internationally accepted approaches including, but not limited to, the use of long-run marginal cost estimates and of embedded cost estimates. The chosen methodology will be clearly justified and include an explanation of the implications of choosing that methodology over alternatives.

(b) an assessment of the impact of changes to the Base Tariff Table on consumer bills, including an assessment of affordability impacts on domestic consumers.

(c) justification of the proposed Base Tariff Table showing that it meets the principles set out in these Guidelines. The accompanying justification must also explain any changes from the current Base Tariff Table.

8.31. Even if not explicitly requested by the Commission, the Regulatory Proposal of SESB may contain any such further information which might assist the Commission with its determination. This may include:

(a) expenditure trend information and information on expenditure drivers.

(b) expenditure variance information.

(c) benchmarking and productivity assessments.

(d) KPI Performance trend information.

(e) references, to the extent that they are relevant, to forecast parameters or methods used by comparable business entities under IBR regimes in Malaysia or in other jurisdictions.

(f) evidence to support demand forecasts.

(g) evidence of existing compliance obligations or changes to such obligations of SESB.

(h) evidence to support parameters used in deriving the proposed Allowed Rate of Return.

Submission of proposed RBE tariffs to Consumer Service

8.32. For the purpose of Consumer Service proposing the Base Tariff Table as part of its Regulatory Proposal and Revised Regulatory Proposal, all RBEs will submit to Consumer Service their proposed Base Tariffs and Allowed Revenues, or close estimates thereof, for Consumer Service's next Regulatory Period. The RBEs will also submit proposed values for each of the components of their Allowed Revenue, as set out in these Guidelines. Consumer Service will treat all such submissions as confidential.

8.33. RBEs will make their submissions to Consumer Service no later than 30 days prior to the date on which Consumer Service must submit its Regulatory Proposal and Revised Regulatory Proposals to the Commission.

Criteria for the Commission making its determination

8.34. In making its Draft Determination and Final Determination for SESB, the Commission may have regard to the following:

(a) these Guidelines, including the objectives of the IBR framework;

(b) the information included in or accompanying the Regulatory Proposal and Revised Regulatory Proposal;

(c) any further information that SESB may provide at its discretion or in response to written requests from the Commission;

(d) written submissions from stakeholders received by the Commission in response to invitations for comment;

(e) any analysis undertaken by or for the Commission that is published prior to the making of the determination or as part of the determination.

8.35. When making a Draft Determination, or Final Determination, the Commission may determine whether a Regulatory Proposal or Revised Regulatory Proposal meets the objectives of the IBR framework and the requirements set out in the Guidelines.

Reasons for the Commission's determination

8.36. The Commission may provide and publish reasons for the Draft Determination and Final Determination. The Commission may include the following:

(a) reasons for finding that the determination should be made as proposed.

(b) constituent decisions that relate to each of the components of SESB Allowed Revenue, on which the determination is predicated.

8.37. On making a Draft Determination, the Commission may use its best endeavours to make available to SESB any analysis undertaken by or for it on which it has relied as reasons for its determination.

8.38. The reasons given by the Commission for a Draft Determination or Final Determination may set out the basis and rationale of the determination, including:

(a) details of the qualitative and quantitative methods applied in any calculation and formula made or used by the Commission, including whether the Commission has substantially adopted the methods proposed by SESB and the Commission's rationale for adopting any alternative methods;

(b) The values adopted by the Commission for each of the input variables in any calculation and formula, including:

(i) whether those values have been taken or derived from the SESB's Regulatory Proposal or Revised Regulatory Proposal.

(ii) if not, the Commission's rationale for the adoption of alternative values;

(c) Details of any assumption made by the Commission in undertaking any material qualitative and quantitative analyses; and

(d) Reasons for the making of any determination, the giving or withholding of any approval, and the exercise of any discretion as referred to in these Guidelines, for the purposes of the determination, such reasons being expressed by reference to the requirements relating to such determinations, approvals, or discretions as are contained in these Guidelines and consistent with the objectives of the IBR framework.

Delays in ministerial approval of base tariffs

8.39. Where the Minister's approval of Required Average Tariff and Base Average Tariffs is delayed beyond the start of a Regulatory Period then the following will apply:

(a) with the approval of the Minister, the existing Required Average Tariff and Base Average Tariff will remain in effect until an approval of a new Required Average Tariff and Base Average Tariff is issued.

(b) the value of any over-recovery or under-recovery of SESB Allowed Revenues which results from such delay may be returned to consumers, if an over-recovery, or paid to SESB, if an under-recovery, through the Revenue-Cap Adjustments and Price-Cap Adjustment mechanisms described in these Guidelines.

(c) alternatively, the value of any over-recovery or under-recovery of SESB Allowed Revenues may be returned to consumers or paid to SESB through any other mechanism as determined by the Commission. For the avoidance of doubt, any such mechanism will account for the time value of money at the Allowed Rate of Return applicable to the new Regulatory Period.

Process for approving Bundled Base Average Tariff

8.40. No later than 30 October of each year, SESB shall submit to the Commission the proposed Revenue-Cap Adjustment and Price-Cap Adjustment and the resulting proposed Bundled Base Average Tariff and Required Average Tariff to apply for the period from 1 January to 31 December of the following year.

8.41. The submission shall include the estimated resulting Bundled Actual Average Tariff and a comparison of this with the proposed Base Average Tariff and Required Average Tariff for the following year.

8.42. The Commission may verify the calculated adjustments and accompanying the proposed Base Average Tariff within 15 working days of receipt from SESB.

8.43. In case of over recovery of the calculated adjustment, the amount may be transferred to Electricity Industry Fund (EIF). Electricity Industry Fund is a fund administered and controlled by the Commission to manage the impact of the electricity tariff on consumers.

8.44. Where the Commission has identified an error in the calculations submitted by SESB, then SESB shall be required to revise and resubmit their proposed adjustments and proposed Bundled Base Average Tariff and Required Average Tariff and the Commission may have a further 15 working days from receipt of the revised calculations to accept or reject these.

8.45. The value of any over-recovery of Allowed Revenues which results from a delay in the approval of the Bundled Base Average Tariff and Required Average Tariff due to errors in their calculation by SESB shall be determined by the Commission and returned to the Government. Any under-recovery due to errors in the calculation by SESB shall not be compensated.

8.46. For the purpose of any tariff adjustments, if the proposed Bundled Base Average Tariff and Bundled Required Average Tariff differs from the Bundled Base Average Tariff and Bundled Required Average Tariff, such adjustment shall be determined by the Commission with the approval of the Minister.

8.47. The Minister may approve a Bundled Base Average Tariff and Bundled Required Average Tariff that are different from those recommended by the Commission. In the event the Regulated Tariff approved by the Minister is different from the Commission's recommendation, the Commission may recommend necessary action to be taken to adjust the Bundled Base Average Tariff and Bundled Required Average Tariff in accordance with the Minister's approval.

END OF SECTION

9. Determining operating expenditures

Forecasting and assessing operating expenditures

9.1. Each RBE and (where corporate costs are shared with a parent, holding or other related entity) each related corporate entity shall forecast its efficient operating and maintenance expenditure that is attributable to the Regulated Services of the individual RBE in each year of the Regulatory Period, excluding any financing costs or taxation on profits or any unreasonable or inflated margin earned by a related entity.

9.2. In determining whether forecast operating and maintenance expenditure is efficient, the Commission may consider, among other things, the scope for reasonable productivity improvements having regard to:

(a) the historical rates of productivity improvement achieved by the RBE.

(b) assessments made for other RBE and for other regulated infrastructure providers in Malaysia.

(c) assessments made by other regulatory authorities for similar businesses in countries with similar incentive-based regulatory regimes

9.3. In reviewing and evaluating the cost submissions of the RBE, the Commission may consider and employ the available assessment or analytical methods commonly employed by regulators elsewhere to assess the reasonableness and efficiency of operating and maintenance expenditure, including without limitation:

(a) **Trend Analysis**: the use of trends in historical time series data for specific cost items of the RBE to detect general patterns and the relationship between associated factors or drivers.

(b) **Methodology Assessment**: an assessment of the robustness of the RBE models used and the related inputs, assumptions and methodologies, for developing expenditure forecasts.

(c) **Predictive Modelling**: the use of statistical and econometric modelling and analytical techniques to determine the expected pattern of efficient costs over the forthcoming Regulatory Period for specific categories of expenditure.

(d) **Technical or Engineering Reviews**: reviews usually undertaken with the assistance of specialised technical consultants or experts.

(e) **Benchmarking**: econometric and statistical techniques that relates to allowed costs to benchmark with established relevant utilities.

9.4. In determining whether RBE related entity costs are reasonable and efficient, the Commission may have regard to whether:

(a) related party transactions are entered on an arm's length basis through competitive tendering.

(b) related party costs reflect the direct cost of providing the services, inclusive of a commercially reasonable return or margin.

(c) it can be demonstrated that the related party costs are comparable to market benchmarks (if there are several market service providers for the relevant services).

Unexpected operating expenditures

9.5. Unexpected OPEX are operating expenditures that arise from an event or circumstance that was not foreseen at the time of setting the Annual Revenue Requirement. These will include but not limited to changes outside of the control of the Licensee and changes in Licensee obligations that are legally binding on the RBE.

9.6. A Licensee or an RBE may request in writing for the Commission to undertake an interim review within a Regulatory Period and that the Commission make an Interim Review Adjustment to the Bundled Base Average Tariff and the Bundled Required Average Tariff, if the Licensee or the RBE can demonstrate that the financial impact of Unexpected

OPEX on the relevant RBE during the Regulatory Period exceeds the materiality threshold.

9.7. The justification for why operating expenditures could not reasonably be foreseen or could not be prudently insured against or otherwise anticipated will be assessed as part of the review of an application for an Interim Review Adjustment.

9.8. The materiality threshold relating to Unexpected OPEX differences is the greater of 1% of the forecast annual allowed cash operating expenditures or RM1 million per RBE, and/or that the spend exceeds 5% of annual allowed cash operating expenditure in the case of SESB Corporate.

9.9. The scope of the interim review shall be limited to the matters relating to the specific expenditure requirements and circumstances and will be subject to the standard review processes employed by the Commission.

Unpredictable operating expenditures

9.10. Unpredictable OPEX are operating expenditures that arise from an event or circumstance that was foreseen at the time of setting the Annual Revenue Requirement, but the level of expenditure associated with that event or circumstance was uncertain, reflecting that the RBE does not have control over the costs to any material extent. The nature and impact of the event or circumstance and the associated costs are the result of actions and decisions made by others, external to the RBE and to SESB.

9.11. Unpredictable OPEX may include, but not limited to, an Allowance for Doubtful Debts which are deemed by the Commission to be non-controllable after considering:

(a) the scale and duration of outstanding bills;

(b) the evidence of efforts made by SESB to recover these debts, which may include litigation actions, including obtaining and/or enforcing court orders; and

(c) whether legal restrictions or government directives, exist prohibiting disconnection.

9.12. Unpredictable OPEX may also include, but not limited to, costs arising from:

(a) a change to, or introduction of government direction or instruction; and

(b) a change to, or introduction of a tax or licence fee or similar charge.

9.13. The Commission may include an estimate of Unpredictable OPEX in the RBE's Annual Revenue Requirement. For the avoidance of doubt, the inclusion of an estimate (if any) would generally apply by exception and do not supplant the primary requirement that RBE accurately forecast expenditure and that the Commission sets allowances on an ex-ante basis.

END OF SECTION

10. Determining the Working Capital Requirement

10.1. The Annual Revenue Requirement shall include the cost of Working Capital Requirement for all RBEs except Single Buyer.

10.2. The starting asset value includes the net projected cost of Working Capital Requirement for all RBEs except Single Buyer which will be calculated as follows:

$$WORK_{e,t} = ACRC_{e,t} - ACPY_{e,t}$$

Where:

'$WORK_{e,t}$' is the Working Capital Requirement of the RBE in year 't'

'*$ACRC_{e,t}$*' is the Account Receivables for each RBE *'e'* based on 60-days of electricity sales including Tariff Support Subsidy, Fuel Subsidy and LSS Subsidy for year *'t'* (expressed in RM)

'*$ACPY_{e,t}$*' is the Account Payable for each RBE *'e'* based on 30-days of power purchase cost (i.e. IPP Cost, RE Generators, SLA and non-SLA) and operating cost (excluding depreciation and finance expense) for year *'t'* (expressed in RM)

10.3. For the avoidance of doubt, the Working Capital Requirement is equal to zero for Single Buyer.

END OF SECTION

11. Determining the Allowed Rate of Return (WACC)

Principles

11.1. An Allowed Rate of Return for each RBE for each applicable regulatory period during the Regulatory Review process is determined by the Commission.

11.2. The Allowed Rate of Return may be referred to as the weighted average cost of capital (WACC). The RBE WACC shall represent the commercially fair and reasonable return to debt and equity investors on the Regulated Asset Base of SESB having regard to the cash flow risks associated with the management of the assets of SESB in comparable operating environment (e.g. tariff control, weather, geographical location, security etc).

11.3. In setting the WACC for SESB, the Commission will ensure that:

(a) the WACC is based on an efficient and optimal capital structure as decided by the Commission from time to time.

(b) the WACC reflects market-based returns on debt and equity taking into account SESB's operating environment.

(c) the WACC adequately reflects regulatory and market risk in relation to SESB's regulated activities.

(d) there is consistency between all the WACC parameters and the underlying cash flows calculated in determining the Annual Revenue Requirement for SESB.

(e) it is transparent on the calculation of the final WACC to be applied by SESB.

11.4. A common WACC may be set for all RBE forming part of SESB.

11.5. Determination on Allowed Rate of Return shall be made available to relevant stakeholders (including SESB) with justifications as detailed in sections 11.20 and 11.21 of these Guidelines.

Calculation of WACC

11.6. The WACC for each Regulatory Period is determined on a nominal, post-tax basis and is calculated using the following formula:

$$WACC_{P,e} = [GEAR_{P,e} \times DRTN_{P,e} \times (1 - RATE_P)] + [(1 - GEAR_{P,e}) \times ERTN_{P,e}]$$

Where:

'$WACC_{P,e}$' is the weighted average cost of capital in nominal, post-tax terms for SESB 'e' in Regulatory Period 'P'

'$GEAR_{P,e}$' is gearing, that is, the share of net debt in the sum of net debt and equity

'$DRTN_{P,e}$' is the nominal post-tax cost of debt

'$ERTN_{P,e}$' is the nominal (after-tax) return on equity

'$RATE_P$' is the statutory corporation tax rate

Gearing

11.7. The level of gearing to be used in the WACC calculation will be determined by the Commission prior to each Regulatory Period. The level of gearing is set based on the Commission's assessment of an efficient financing structure and need not be equal to the actual level of gearing of SESB.

11.8. In setting the level of gearing, the Commission may have regard to the following:

(a) Setting a gearing level that is generally consistent with an investment grade rating for SESB RBEs separately or jointly, as applicable.

(b) If applicable, the gearing will consider the investor community (private or public), both local and foreign.

(c) Setting a gearing level that does not lead nor is reasonably likely to lead to financing difficulties for SESB or to costs of financing that create an unfair burden on electricity consumers considering the entities' forward investment programme.

(d) The level of gearing applied to other regulated infrastructure providers in Malaysia.

(e) International practice by regulatory authorities in jurisdictions that have similar incentive-based regulation and economic environments.

11.9. In the absence of a decision by the Commission, a default optimal gearing level of 55% will be applied.

Cost of debt

11.10. The forecast cost of debt is equal to the Risk-Free Rate plus the Debt Premium, plus efficient debt issuance costs.

11.11. The Debt Premium is the estimated premium over the Risk-Free Rate that SESB must pay to finance their debt, new debt and embedded cost of debt and reflects the additional risks of these companies or entities, having regard to their credit rating (if so rated) and their set or notional gearing levels.

11.12. In calculating the Debt Premium, the Commission may have regard to the following:

(a) The weighted average of the cost of debt, new debt and embedded cost of debt and allowance for cost of debt issuance of SESB.

(b) The historical (10 years) average yield on medium to long dated corporate bonds issued by investment-grade companies in Malaysia with an AA2 credit rating by Malaysian credit rating agencies RAM or MARC as measured by the Bank Negara Malaysia that face similar business and regulatory environments and have similar credit ratings.

(c) Assessments made for other regulated infrastructure providers in Malaysia.

Cost of equity

11.13. In setting the cost of equity for SESB, the Commission may have regard to:

(a) the Capital Asset Pricing Model or other theoretical models as applied under IBR regimes in Malaysia and internationally.

(b) the cost of equity assessments made for other regulated infrastructure providers in Malaysia.

(c) the assessments made by regulatory authorities in countries with similar IBR regimes of generic cost of equity components and of the required risk-related returns for equity investors of utility businesses, provided that such assessments are adjusted to exclude the effect of any country-specific risk.

Capital Asset Pricing Model estimation

11.14. Where the Capital Asset Pricing Model is employed for estimating the cost of equity, the following standard formula shall be used:

$$ERTN_{P,e} = RFR_P + (MRP_P \text{ x } \beta_{equity\ P,e})$$

Where:

'RFR_P' is the Risk-Free Rate, the rate of return that would be available from a risk-free investment in Malaysia

'MRP_P' is the Market Risk Premium, the additional return (over the Risk-Free Rate) that can be expected from a balanced portfolio of investments

'$\beta_{equity\ P,e}$' (the Equity Beta) is the exposure to market risk of SESB, measured by the level of covariance of returns on an investment in SESB and the returns from the market portfolio divided by the variance of returns on the market portfolio

11.15. The Risk-Free Rate shall be calculated as the historical 10 years average yield, based on daily spot rates, on 10 years Malaysian Government Securities.

11.16. In setting the Market Risk Premium, the Commission may use evidence from the Malaysian stock market (KLSE) and from international estimates and precedents set by regulatory authorities in countries with similar regulatory arrangements. In general, greater weight should be given to the most recent price and revenue determinations made by such regulators.

11.17. In setting the Equity Beta, the Commission may have regard to:

(a) the Correlation Coefficient historical data for SESB or listed utility companies in KLSE or, where this is not a stand-alone listed entity, its parent entity, and the KLSE Composite Index, over at least the past five years.

(i) Where parent entity data is used, the estimated beta must be adjusted to reflect the systematic risk associated with the SESB. This can be done by estimating, from comparators, the beta that would apply to SESB and to other businesses undertaken by the parent entity if a separate entity.

(ii) The directly estimated beta must be adjusted to reflect the regulated gearing level.

(b) the Assessments made for other regulated infrastructure providers in Malaysia.

(c) the Equity Beta estimates established by regulatory authorities in countries with similar IBR regimes and business risks, with preference given to countries where at least some of the regulated companies are listed on a liquid stock exchange.

Input data to Allowed Rate of Return

11.18. SESB's Regulatory Proposal and the Commission's Draft Determinations shall be based on data with a cut-off date of 18 months prior to the start date of the next Regulatory Period.

11.19. SESB's Revised Regulatory Submission and the Commission's Final Determination shall be based on data with a cut-off date of 9 months prior to the start date of the next Regulatory Period.

Reasons for the Commission's determination

11.20. The Commission may provide and publish reasons for the Draft Determination and the Final Determination. The Commission may include the following:

(a) reasons for finding that the determination should be made as proposed; and

(b) constituent decisions that relate to each of the components of SESB Allowed Revenue, on which the determination is predicated.

11.21. On making a Draft Determination, the Commission may make available to SESB any analysis undertaken by or for it on which it has relied as reasons for its determination.

11.22. The reason given by the Commission for a Draft Determination or Final Determination may set out the basis and rationale of the determination, including:

(a) details of the qualitative and quantitative methods applied in any calculations and formulae made or used by the Commission, including whether the Commission has substantially adopted the methods proposed by SESB and the Commission's rationale for adopting any alternative methods.

(b) the values adopted by the Commission for each of the input variables in any calculations and formula, including:

(i) whether those values have been taken or derived from the SESB's Regulatory Proposal or Revised Regulatory Proposal.

(ii) if not, the Commission's rationale for the adoption of alternative values.

(iii) details of any assumptions made by the Commission in undertaking any material qualitative and quantitative analyses; and

(iv) reasons for the making of any determinations, the giving or withholding of any approvals, and the exercise of any discretions as referred to in these Guidelines, for the purposes of the determination, such reasons being expressed by reference to the requirements relating to such determinations, approvals, or discretions as are contained in these Guidelines and consistent with the objectives of the IBR framework.

END OF SECTION

12. Determining the Regulated Asset Base

Principles of the Regulated Asset Base

12.1. The Regulated Asset Base represents net investment by the RBE which is remunerated through Base Average Tariff, TSS Subsidy, adjustments and charges. The general principles applied are as follows:

(a) the Regulated Asset Base allows the recovery of the actual costs of efficient investments, excluding any part of these costs that is funded by consumer contributions (inclusion or exclusion of assets funded during International Financial Reporting Standards Interpretations Committee 18 (IFRS IC 18) period to be determined once such assets have been clearly identified by SESB) and government development grant.

(b) the assets included in the Regulated Asset Base are valued at the historical cost of purchase or construction. No revaluation is applied.

(c) The inclusion or exclusion of capital work in progress from the Regulated Asset Base is subject to the discretion of the Commission.

(d) the Commission may exclude part of the costs of assets from the Regulated Asset Base where it considers these costs to be inefficient.

(e) the Commission may exclude the full costs of assets from the Regulated Asset Base where it considers these assets to be imprudent investments or otherwise not to be required to deliver the Regulated Services.

Calculation of the Regulated Asset Base

12.2. Within each Regulatory Period, the Regulated Asset Base at the end of a year *'t'* of a Regulatory Period is designated RAB_t and shall be calculated according to the following formula:

$$RAB_{t,e} = RAB_{t-1,e} + CAPEX_{t,e} - DISP_{t,e} - DEPN_{t,e} + UNPX_{t,e} + WORK_{t,e}$$

Where:

'$CAPEX_{t,e}$' represents forecast prudent and efficient capital expenditure that is incurred by the RBE '*e*' in year '*t*', as set out in the approved investment plan

'$DISP_{t,e}$' represents the net value of fixed assets of the RBE disposed of during year *'t'*

'$DEPN_{t,e}$' is an allowance for depreciation in year *'t'*

'$UNPX_{t,e}$' represents adjustments for unpredictable capital expenditures calculated in accordance with an *ex-ante* mechanism as specified for the Regulatory Period

'$WORK_{t,e}$' is the Working Capital Requirement of the RBE in year 't' (Refer to Section 10)

Approved investment plan

12.3. As part of its business plan submitted prior to each Regulatory Period, each RBE shall submit a proposed investment plan for the next Regulatory Period.

12.4. At a minimum, this investment plan shall include:

(a) a list of all projects and programmes (for smaller projects) that the RBE proposes to invest in during the next Regulatory Period;

(b) the estimated investment costs of each project or programme, excluding any consumer contributions and government development grants, subsidies or other contributions from third parties that are of a capital or non-current nature;

(c) the expected commissioning date of each project or programme;

(d) a summary justification for each project or programme explaining the need and the alternatives considered and why these were not adopted; and

(e) the investment plan shall include repair, rehabilitation, replacement and other maintenance works on existing assets that are expected to lead to an increase in the capacity of that asset or an extension of its usable life or both. Such expenditures will be treated as capital expenditures and added to the Regulated Asset Base.

12.5. The Commission may review the investment plan with respect to the need for and proposed costs of each project and programme. Following such review, the Commission may determine an approved investment plan for the purposes of forecasting the Regulated Asset Base in each year of the next Regulated Period.

12.6. In reviewing the investment plan, the Commission may make use of engineering estimates and of benchmarking of the costs of individual projects and programmes and of the investment plan as a whole or by component. For example, the Commission may assess the reasonableness of proposed costs of meeting growth in demand or consumption by comparison with the historical average costs of investments to meet consumption and demand growth.

Updating the Regulated Asset Base

12.7. The Regulated Asset Base will be updated by the RBE at the start of each Regulatory Period. The process for updating are as follows:

(a) the opening Regulated Asset Base for the preceding Regulatory Period is rolled-forward to the close of that Regulatory Period. This closing value represents the opening Regulated Asset Base for the next Regulatory Period;

(b) the roll-forward involves the calculation of the closing Regulated Asset Base in each year of the preceding Regulatory Period using the same formula as in paragraph 12.2 but substituting the approved forecast values ($CAPEX_{t,e}$, $DISP_{t,e}$ and $DEPN_{t,e}$) plus any adjustments for approved unpredictable capital expenditures ($UNPX_{t,e}$) with approved actual investment costs and asset disposals in each year. Asset disposals shall be set at an amount that is the lower between the proceeds arising from the sale or transfer of assets by the RBE to other parties, and the fair value;

(c) the depreciation allowance in each year shall then be recalculated accordingly; and

(d) for the final year of the preceding Regulatory Period, estimated values will be used.

12.8. For the purposes of this roll-forward, the Commission may disallow some part of the actual investment costs or the inclusion of some expenditure where it considers, following an *ex-post* prudency review, that these costs or assets are inefficient or that they include an unreasonable or inflated margin earned by a RBE-related party.

Ex-post prudency reviews of capital expenditure

12.9. In determining the capital expenditure to be included in the asset base and rolled forward between Regulatory Periods, the Commission may undertake an ex-post review of historical capital expenditure to assess its prudency and efficiency.

12.10. An ex-post assessment of capital expenditure shall generally be limited to where there is material overspending by any of the RBE or at the corporate level of SESB. The materiality threshold will be considered to have been met where the overspend (excluding Unpredictable CAPEX, other than that subject to a budget ceiling with a prudency review trigger) exceeds 1% of the annual capital expenditure or RM1 million per RBE and 5% of annual capital expenditure spend for related corporate-level expenditure, whichever is greater.

12.11. Subject to the materiality thresholds, the scope of the ex-post review shall be generally determined by whether the overspend relates to investment projects previously identified and approved in an IBR review and included in an approved investment plan.

(a) For material overspends on investment projects that were in the approved investment plan, the review shall entail a cost assessment. This review must consider any procurement procedures employed by the RBE in delivering the investment projects, it must examine the causes of the cost overruns, and it must determine whether these causes can be ascribed to the actions of the RBE (or corporate entities) or external factors outside their control.

(b) For projects that were not included in the approved investment plan, the ex-post assessment may focus on both the need and cost of the investment.

(i) In determining the prudency or efficiency of such investments, the Commission may have regard to the circumstances prevailing at the time of the investment decision, and the factors that could reasonably be expected to have been considered at the time the relevant capital expenditure was undertaken.

(ii) The relevant RBE must also demonstrate why the realised expenditure could not have been predicted at the time of developing the capital expenditure programme and setting the Annual Revenue Requirement.

12.12. Without limiting the factors that must be considered by the Commission in assessing prudency and efficiency, the Commission may also have regard to:

(a) whether the expenditure was reasonably related to the requirements set by the Commission and/or under relevant laws, regulations and licence conditions;

(b) whether alternative ways of addressing requirements and needs were considered and justifiably excluded;

(c) whether accepted good industry practice was followed;

(d) whether the relevant RBE acted prudently in procuring goods, works and services at a reasonably low cost, including whether an appropriate competitive tendering process was followed; and

(e) whether the timing of construction was appropriate having regard to current and projected demand and quality of service.

12.13. Before reaching a conclusion on its ex-post review of capital expenditure, the Commission may first convey its analysis to the relevant RBE and provide it with reasonable opportunity to respond and submit comments.

12.14. If, after consulting with the RBE, the Commission is satisfied that certain expenditure in accordance with this section is imprudent or inefficient, the Commission may determine that the amount of the capital expenditure that would otherwise be added to the Regulated Asset Base should be reduced by such amount as the Commission is satisfied corresponds to capital expenditure incurred that is not prudent or efficient.

Unpredictable capital expenditure

12.15. In determining capital expenditure for the forthcoming Regulatory Period and where there is material uncertainty regarding the timing and/or size of an individual project or programme, a RBE may propose to the Commission an appropriate ex-ante mechanism for handling the inclusion of such investments ("Unpredictable CAPEX") in the Regulated Asset Base and the Annual Revenue Requirement.

12.16. For the avoidance of doubt, these mechanisms (if any) would generally apply by exception and do not supplant the primary requirement that RBE accurately forecast investment needs and costs, and the Commission sets ex-ante allowances and Allowed Revenues.

12.17. Without pre-empting, limiting or prescribing any such mechanisms that may be developed, these may include:

(a) **Logging-up.** This is where a RBE would be entitled to incorporate in the next Regulatory Period unanticipated capital expenditure, recognised by the Commission after an ex-post prudency review, as though it was undertaken at the beginning of the new Regulatory Period with the financial carrying costs of the capital expenditure (calculated using the allowed WACC for the relevant Regulatory Period(s)) included in the Regulated Asset Base.

(i) The logging up process aims to put entities in the same financial position as if the obligation had been included in the revenue requirement at a periodic review, but the RBE must bear the financing charges until the investment can be incorporated into the Regulated Asset Base.

(ii) Logging up generally applies to relatively small scale and difficult to predict investments, such as telecoms infrastructure or distributed generation-related costs.

(b) **Fixed volume with price pass-through**. This is where the quantity of investment would be set with an assumed ex-ante unit allowance applied, but with the latter updated for actual unit costs incurred (subject to any prudency test) when rolling forward the Regulated Asset Base. This approach could apply when the quantity of investment is known but there is too much uncertainty around costs to set an ex-ante allowance e.g. site clearance costs.

(c) **Fixed unit cost with volume pass-through**. This is where the unit cost of investment would be set with an assumed ex-ante volume applied, but with the latter updated for actual investment volumes undertaken (subject to any prudency test) when rolling forward the Regulated Asset Base. This could apply where the unit cost of the investment is known (or predictable) but the volume is uncertain. An example is power line replacement, where the average cost per kilometre might be known but volume (the total number of kilometres) for the duration of the Regulatory Period might be uncertain.

(d) **Budget ceiling**. This is where a maximum budget would be set for a specific capital expenditure programme. This could either be treated as a firm limit or one that would then trigger a prudency review. Under this approach a maximum budget could be set for a specific CAPEX programme or project to avoid over-investment and exceeding expected benefits that were used to justify the investment, such as smart metering roll-outs.

(e) **Contingent projects**. This could apply where there are unique investment drivers – such as a major discrete load or expected power station – as opposed to general investment drivers (e.g. expectation of load or peak load growth affecting a broader region), and where it is not sufficiently certain that the event or condition giving rise to the investment need will occur during the forthcoming regulatory period. For projects characterised as being contingent, a RBE could request a change to its Annual Revenue Requirement provided a pre-specified trigger event (that gives rise to the need for the project) has occurred and subject to the materiality thresholds of paragraph 12.19.

12.18. Following any RBE proposal under 12.15 and 12.17, the Commission may determine whether to accept that such investment is Unpredictable CAPEX and, if so, whether the proposed treatment is appropriate or whether another mode should be applied.

12.19. For investments that are likely to have a material impact on capital expenditure (and the Regulated Asset Base) that were not foreseen at the time of setting the Annual Revenue Requirement and cannot be subject to an ex-ante mechanism in accordance with 12.15 to 12.18 above, a RBE can request that the Commission review within a Regulatory Period the specific proposal and make a separate determination.

(a) Before undertaking such an interim review, the RBE must demonstrate that the investment project or programme could not have reasonably been foreseen at the time of setting the Annual Revenue Requirement, and that in the absence of the review, the financial impact on the relevant RBE would exceeds 1% of the Annual Revenue Requirement or RM1 million per RBE and 5% of annual capital expenditure spend for related corporate-level expenditure, whichever is greater.

(b) exceed the greater of 1% of the Annual Revenue Requirement or RM1 million per RBE, and/or that the spend exceeds 5% of annual capital expenditure in the case of corporate entities.

(c) The scope of the review shall be limited to the matters relating to the specific investment project or programme and will be subject to the standard review processes employed by the Commission.

END OF SECTION

13. Depreciation allowance

13.1. The depreciation allowance is calculated for each year of the Regulatory Period by the RBE, applying the following principles:

(a) the Regulated Asset Base should be recovered in full by the RBE, through the depreciation allowance, over the expected service (economic) lives of the relevant regulated assets. The depreciation arrived from the Regulated Asset Base shall exclude depreciation of assets funded by Consumers Contribution and Government Development Grants.

(b) the RBE shall propose depreciation rates or asset lives by major asset groupings, which are appropriate depreciation policy adopted by the RBE.

(c) depreciation shall be calculated by assuming that, in the year that an asset is added to the Regulated Asset Base, half of it is added at the beginning of the year and half of it is added at the end of the year.

13.2. Subject to the remaining provisions of this section, the RBE shall calculate depreciation based on the depreciation schedules maintained for accounting purposes and for preparing their audited financial statements.

13.3. The RBE must also calculate depreciation on capital expenditure incurred in previous Regulatory Periods by using an average remaining asset life for each asset category, rather than according to annual depreciation schedules related to historical capital expenditure.

13.4. In calculating the average remaining asset life for each asset category, the RBE and/or SESB on behalf shall ensure that the sum of calculated depreciation over the current Regulatory Period is unchanged.

13.5. For the avoidance of doubt, the RBE and/or SESB on behalf shall use annual depreciation schedules to calculate depreciation on capital expenditure incurred in the current Regulatory Period.

13.6. If the calculation of depreciation employing the two respective methods described in paragraphs 13.2 and 13.3 differs by more than 5%, the Commission may investigate the causes of the deviation and decide the appropriate depreciation allowance.

13.7. In all circumstances, the depreciation rates or asset lives employed by each major asset grouping must be verifiable; this includes that they be explicitly captured within the Revenue Requirement Model.

END OF SECTION

14. Tax and Zakat allowance

14.1. The Tax and Zakat Allowance represents an allowance each year for corporate tax payments calculated based on forecasts of taxable income and the applicable corporate tax rate and for zakat payments.

14.2. The allowance shall be calculated having regard to taxable revenues, which are equivalent to the Annual Revenue Requirement before the tax and zakat allowance less operating expenditures and capital allowances as follows:

$$TAXZ_{t,e} = RATE_t \times \left(RREQ_{t,e} - OPEX_{t,e} - DEPN_{t,e}\right)$$

14.3. Capital allowances shall be based on the applicable rates under the current and relevant Malaysian taxation guide. Where a capital allowance is not calculated then the allowed depreciation for that year shall be applied instead.

14.4. Any taxation losses incurred in any year of the Regulatory Period can be carried forward to offset future tax liabilities.

END OF SECTION

15. OPEX Efficiency Carry-Over Scheme adjustment

Principles of the Allowed OPEX Efficiency Carry-Over

15.1. At each Regulatory Review, the Commission may determines each RBE's Allowed OPEX Efficiency Carry-Over for each year of the next Regulatory Period. The Allowed OPEX Efficiency Carry-Over is an input to Required Revenue and subsequently the Required Tariff.

15.2. The Allowed OPEX Efficiency Carry-Over is calculated to meet the objectives of the OPEX Efficiency Carry-Over Scheme (ECS), which are as follows:

(a) the OPEX ECS will enhance the incentive of the RBE to achieve prudent and efficient expenditures.

(b) the OPEX ECS will assist with providing clear and consistent incentives, with an incentive power that does not materially vary of time either within or between Regulatory Periods.

(c) taken together, the OPEX and CAPEX ECS mechanisms will assist with and not unduly distort expenditure decision-making between CAPEX and OPEX, to the extent that such options exist.

Application of the OPEX ECS

15.3. The OPEX ECS will apply only to Transmission, Distribution, and Consumer Service. For the avoidance of doubt, the Allowed OPEX Efficiency Carry-Over will equal zero for Single Buyer and Grid System Operator.

15.4. The OPEX ECS will not apply to Unpredictable OPEX, which will be excluded from the Allowed OPEX Efficiency Carry-Over.

15.5. The Commission may also determine that other specific categories of Allowed OPEX be excluded from the OPEX ECS, on the basis that they are largely outside of the RBE's control. Such exclusions will generally apply by exception and do not supplant the primary requirement that RBEs be incentivised to improve the efficiency of all its operating expenditure.

15.6. For the avoidance of doubt, for any expenditure categories that are excluded from the OPEX ECS, both the Actual OPEX and Allowed OPEX relating to those categories will be excluded from the calculation of the Allowed OPEX Efficiency Carry-Over.

Calculation of the Allowed OPEX Efficiency Carry-Over

15.7. The Allowed OPEX Efficiency Carry-Over will be calculated as follows:

(a) For each year of the current (soon to be completed) Regulatory Period, the OPEX Underspend (or overspend, if negative) will be calculated as the difference between Allowed OPEX and Actual OPEX. In the last year of the current Regulatory Period an estimate of Actual OPEX will be used that assumes the same OPEX Underspend (in RM) as in the penultimate year.

(b) For each year of the current Regulatory Period, the Incremental Efficiency Gain (or loss, if negative) will be calculated as the difference between the OPEX Underspend in that year and the OPEX Underspend in the preceding year. The exception is in the first year of the current Regulatory Period, where the Incremental Efficiency Gain will be set equal to the OPEX Underspend in that year less the Incremental Efficiency Gain in the last year of the previous Regulatory Period (which is calculated based on audited values of Actual OPEX) and will be adjusted for any non-recurrent expenditures included in those years.

(c) The Allowed OPEX Efficiency Carry-Over will be set such that the Incremental Efficiency Gain in each year of the current Regulatory Period is retained (or incurred, if negative) for a period equal to the number of years in the next Regulatory Period, by being carried forward for that number of years. For example, an Incremental Efficiency Gain incurred in the penultimate year of the current Regulatory Period will be carried forward for three years (the length of the next Regulatory Period), which means from the last year of the Current Regulatory period through till year two of the next Regulatory Period.

(d) No subsequent adjustment will be made to account for any difference between the estimated and actual values of Actual OPEX in the last year of each Regulatory Period (once those audited values are known). The forecast OPEX will be set based on Allowed OPEX for the next Regulatory Period, where efficient base year OPEX is set based on actual OPEX in the penultimate year of the current Regulatory Period, and therefore any Incremental Efficiency Gain in the final year of a Regulatory Period will already be retained (or incurred, if negative) by the RBE for the length of the next Regulatory Period.

15.8. The above description of the calculation of the Allowed OPEX Efficiency Carry-Over will be applied according to the following formula:

$$OPXE_{e,t} = \sum_{n=t}^{N-1} GAIN_{e,n}$$

Where:

'*t*' is the year of the next Regulatory Period '*P*'

'*n*' is the year of the current Regulatory Period '*P-1*'

'*N*' is the total number of years in the current Regulatory Period '*P-1*'

'$GAIN_{e,n}$' is the Incremental Efficiency Gain for RBE '*e*' in year '*n*' (expressed in RM)

15.9. The above calculation of the Incremental Efficiency Gain will be applied according to the following formula:

If $n = 1$ (the first year of the current Regulatory Period) then:

$$GAIN_{e,n} = \left(OPEX_{e,n} - aOPEX_{e,n}\right) - GAIN_{e,n-1}$$

If $n > 1$ (not the first year of the current Regulatory Period) then:

$$GAIN_{e,n} = \left(OPEX_{e,n} - aOPEX_{e,n}\right) - \left(OPEX_{e,n-1} - aOPEX_{e,n-1}\right)$$

Where:

'$OPEX_{e,n}$' is the Allowed OPEX for RBE *'e'* in year *'n'* (expressed in RM)

'$aOPEX_{,e,n}$' is the Actual OPEX for RBE *'e'* in year *'n'* (expressed in RM)

'$GAIN_{,e,n-1}$' is the Incremental Efficiency Gain for RBE 'e' in the last year of the previous Regulatory Period which is calculated based on audited values of Actual OPEX in that year (expressed in RM)

END OF SECTION

16. CAPEX Efficiency Carry-Over Scheme adjustment

Principles of the Allowed CAPEX Efficiency Carry-Over

16.1. At each Regulatory Review, the Commission may determines each RBE's Allowed CAPEX Efficiency Carry-Over for each year of the next Regulatory Period. The Allowed CAPEX Efficiency Carry-Over is an input to Required Revenue and subsequently the Required Tariff.

16.2. The Allowed CAPEX Efficiency Carry-Over is calculated to meet the objectives of the CAPEX ECS, which are as follows:

(a) the CAPEX ECS will enhance the incentive of the RBE to achieve prudent and efficient expenditures.

(b) the CAPEX ECS will assist with providing clear and consistent incentives, with an incentive power that does not materially vary of time either within or between Regulatory Periods.

(c) taken together, the OPEX and CAPEX ECS mechanisms will assist with and not unduly distort expenditure decision-making between CAPEX and OPEX, to the extent that such options exist.

Application of the CAPEX ECS

16.3. The CAPEX ECS will apply only to the Transmission, Distribution, and Consumer Service. For avoidance of doubt, the Allowed CAPEX Efficiency Carry-Over will equal zero for Single Buyer and Grid System Operator.

16.4. The CAPEX ECS is not applicable to Unpredictable CAPEX, which will be excluded from the Allowed CAPEX Efficiency Carry-Over.

16.5. The Commission may also determine that specific projects or programmes of Allowed Executed CAPEX be excluded from the CAPEX ECS. Such exclusions will generally apply by exception and do not supplant the primary requirement that RBEs be incentivised to improve the efficiency of all its capital expenditure.

(a) For the avoidance of doubt, for any specific projects or programmes that are excluded from the CAPEX ECS, both the Actual Executed CAPEX and Allowed Executed CAPEX relating to those projects or programmes will be excluded from the calculation of the Allowed CAPEX Efficiency Carry-Over.

16.6. The reasons for excluding specific projects or programmes from the CAPEX ECS may include but are not limited to, the following:

(a) the primary driver of the project or programmes is an obligation imposed by government or by the Commission and which is not directly related to the CAPEX objectives described in these Guidelines.

(b) there is a strong relationship between the level of expenditure on the project or programme and the level of achievement of an outcome (such as volume-deployments of an item of technology), such that underspend alone cannot be assumed to be an indicator of efficiency.

16.7. Where the Commission determines that specific projects or programmes of Allowed Executed CAPEX be excluded from the CAPEX ECS, the Commission may nevertheless define an alternative incentive scheme to apply to that project or programme.

16.8. The CAPEX ECS will apply to each RBE as follows:

(a) if the RBE's total Actual Executed CAPEX across the relevant period is materially lower than its total Allowed Executed CAPEX across the period, then the Allowed CAPEX Efficiency Carry-Over shares the underspend between the RBE and electricity consumers.

(b) this sharing is intended to provide an incentive to the RBE for efficiency improvements in CAPEX while, at the same time, recognising that some savings may be due to circumstances outside of the RBE's control (for example, a large number of consumer deferring a connection) which do not result from efficiency improvements. Because it is generally difficult to attribute a saving to one cause or another, the adjustment shares any underspends based on a percentage that is pre-determined by the Commission.

(c) if the RBE's total Actual Executed CAPEX across the period is greater than total Allowed Executed CAPEX across the period, there will be no sharing between the RBE and electricity consumers. For the avoidance of doubt, the Allowed CAPEX Efficiency Carry-Over will equal zero unless the RBE's total Actual Executed CAPEX across the relevant period is materially lower than its total Allowed Executed CAPEX across the period.

(d) The relevant period over which Actual Executed CAPEX and Allowed Executed CAPEX will be compared is from the last year of the previous Regulatory Period through to, and including, the penultimate year of the current Regulatory Period. The last year of the current Regulatory Period is excluded from the comparison because audited values of Actual Executed CAPEX will not be known at the time of each Regulatory Review.

16.9. Total Actual Executed CAPEX across the Regulatory Period will be considered to be materially lower than total Allowed Executed CAPEX across the period if the difference exceeds the greater of:

(a) 1% of total RBE Required Revenue across the relevant period.

(b) 5% of average annual Actual Executed CAPEX across the relevant period.

16.10. The Commission may adjust the values of CAPEX Underspend used in the calculation of the Allowed CAPEX Efficiency Carry-Over to ensure that the benefits of an RBE deferring CAPEX from one regulatory period to the next are shared with consumers. Any adjustment may only be applied if the total Allowed Executed CAPEX in the next Regulatory Period is materially higher than it would have been had the CAPEX not been deferred.

Sharing Factor for CAPEX ECS

16.11. A CAPEX Sharing Factor is determined by the Commission at each Regulatory Review and it shall be applicable to the CAPEX Underspends incurred during the next Regulatory Period.

16.12. The CAPEX Sharing Factor will be expressed as a percentage and will represent the share of the CAPEX Underspend that will be returned to consumers through the Allowed CAPEX Efficiency Carry-Over, with the balance (ie. 100% minus the CAPEX Sharing Factor) retained by the RBE.

16.13. The CAPEX Sharing Factor is set by the Commission, such that the incentive power faced by the RBE to improve CAPEX efficiency is broadly similar to the incentive power faced by the RBE to improve OPEX efficiency under the OPEX ECS.

16.14. Unless otherwise determined by the Commission, the CAPEX Sharing Factor shall equal to 100%, which means that 100% of the CAPEX Underspend shall be returned to consumers through the Allowed CAPEX Efficiency Carry-Over.

Calculation of the Allowed CAPEX Efficiency Carry-Over

16.15. Allowed Executed CAPEX refers to the approved expenditure of CAPEX projects that have started. Actual Executed CAPEX refers to the actual expenditure incurred for CAPEX projects that have started.

16.16. The Allowed CAPEX Efficiency Carry-Over will be calculated as follows:

(a) For the last year of the previous Regulatory Period and for each year of the current (soon to be completed) Regulatory Period, excluding the last year of the current Regulatory period, the CAPEX Underspend will be calculated as the difference between Actual Executed CAPEX and Allowed Executed CAPEX. For avoidance of doubt, the CAPEX Underspend may be positive or negative in any given year.

(b) For the last year of the previous Regulatory Period and for each year of the current Regulatory Period, the Earned Underspend Benefit will be calculated as the difference between RBE Allowed Revenue earned from using Allowed Executed CAPEX and RBE Required Revenue that would have been earned had Actual Executed CAPEX been used in the calculation instead. For avoidance of doubt:

(i) the components of RBE Required Revenue that will change if using Allowed Executed CAPEX rather than Actual Executed CAPEX include Allowed Return on Capital, Allowed Depreciation, and Allowed Tax and Zakat.

(ii) the Earned Underspend Benefit may be positive (if Actual Executed CAPEX was lower than Allowed Executed CAPEX) or negative (if Actual Executed CAPEX was higher than Allowed Executed CAPEX) in any given year.

(c) The Total Shared Underspend, which is a total value rather than an annual value, will be calculated as the sum of:

(i) the CAPEX Underspend, multiplied by one minus the applicable CAPEX Sharing Factors, summed across the period and adjusted for the time value of money at the applicable Allowed Rates of Return.

(ii) the Earned Underspend Benefit, summed across the period and adjusted for the time value of money at the applicable Allowed Rates of Return, multiplied by minus one.

(d) Provided the Total Shared Underspend is a positive value, then for each year of the next Regulatory Period, the Allowed CAPEX Efficiency Carry-Over will be calculated as the Total Shared Underspend converted to an annual amount, taking account of time value of money at the Allowed Rate of Return for the next Regulatory Period.

(e) In calculating the Allowed CAPEX Efficiency Carry-Over, the Commission will by default allow recovery within the next Regulatory Period. Where this would result in an unacceptable impact on consumer tariffs that cannot be rectified by other means, the Commission may adjust it to spread the recovery of the Total Shared Underspend across multiple Regulatory Periods.

16.17. The above description of the calculation of the Allowed CAPEX Efficiency Carry-Over will be applied according to the following formula, provided that the Total Shared Underspend is greater than 0, and provided the Total Actual Executed CAPEX is materially lower than the Total Allowed Executed CAPEX, as defined in clause 16.9. Otherwise, the Total Shared Underspend is defined as 0:

$$CPXE_{e,t} = \frac{TSUS_{e,P-1}}{ANNF_{e,P}}$$

Where:

'P' is the next Regulatory Period

'P-1' is the current Regulatory Period

'*t*' is the year of the next Regulatory Period '*P*'

'$TSUS_{e,P-1}$' is the Total Shared Underspend for RBE *'e'* in the relevant period, being the last year of the previous Regulatory Period (P-2) and all except the last year of the current Regulatory Period *'P-1'* (expressed in RM)

'$ANNF_{e,P}$' is the Annuity Factor for RBE *'e'* in the next Regulatory Period *'P'* (expressed as a factor)

16.18. The above description of the calculation of the Total Shared Underspend will be applied according to the following formula:

$$TSUS_{e,P-1} = \sum_{n=-1}^{\mathrm{N}-1} \left[\left(CXUS_{e,n} \times \left(1 - CXSF_{e,n}\right) - EUSB_{e,n} \right) \times \left(1 + RATE_{e,n}\right)^{(\mathrm{N}-\mathrm{n}\ +1)} \right]$$

Where:

'*n*' is the year of the current Regulatory Period '*P-1*' 'n=-*1*' is the last year of the previous Regulatory Period '*P-2*'

'*N*' is the final year of the current Regulatory Period '*P-1*'

'$CXUS_{e,n}$' is the CAPEX Underspend for RBE '*e*' in year '*n*' (expressed in RM)

'$CXSF_{e,n}$' is the CAPEX Sharing Factor for RBE '*e*' in year '*n*' (expressed as a percentage)

'$EUSB_{e,n}$' is the Earned Underspend Benefit for RBE '*e*' in year '*n*' (expressed in RM)

'$RATE_{e,n}$' is the Allowed Rate of Return RBE '*e*' in year '*n*' (expressed as a percentage)

16.19. The above description of the calculation of the CAPEX Underspend will be applied according to the following formula:

If $-1 < n < \mathrm{N}$ (i.e. for each year n from the last year of the previous Regulatory Period to the penultimate year of the current Regulatory Period) then:

$$CXUS_{e,n} = CPEX_{e,n} - aCPEX_{e,n}$$

If $n = \mathrm{N}$ (the last year of the current Regulatory Period) then:

$$CXUS_{e,n} = 0$$

16.20. The Annuity Factor, which is a component of the Allowed CAPEX Efficiency Carry-Over, will be calculated according to the following formula:

$$ANNF_{e,P} = \frac{1 - (1 + RATE_{e,P})^{-T}}{RATE_{e,P}}$$

Where:

'*T*' is the total number of years in the next Regulatory Period '*P*'

END OF SECTION

17. Quality of Service Incentives adjustment

17.1. The Quality-of-Service Incentives adjustment provides an incentive or penalty to RBE for their performance relative to the key performance indicators ("KPIs") as explained in the Standards of Performance issued by the Commission.

17.2. For some of the KPIs, the Commission may stipulate a target level of performance to be met by the relevant RBE and an incentive and penalty range and value for exceeding or failing to achieve this target. The incentive and penalty values will be expressed as a percentage of Annual Revenue Requirement in each year. These targets and incentives and penalties will be specified prior to the start of each Regulatory Period.

17.3. Prior to the start of each Regulatory Period, each RBE will calculate the monetary sum of the incentives and penalties for the preceding Regulatory Period, according to the following formula:

$$SERV_{P-1,e} = \left[\sum_{q,n}^{Q,N}\left(PERF_{e,q,n} \times RREQ_{e,n}\right)\right] + CORR_{P-2,e}$$

Where:

'$SERV_{P-1,e}$' is the total monetary incentive or penalty payable to RBE *'e'* for performance against quality of service KPIs in the preceding Regulatory Period *'P-1'* (expressed in RM)

'$PERF_{e,q,n}$' is the incentive or penalty payable RBE *'e'* for performance against KPI *'q'* in year 'n' of the preceding Regulatory Period (expressed as a percentage, where a penalty is a negative value). This value will be actual for the first to penultimate years of the preceding Regulatory Period *'P-1'* and estimated for the last year

'*q*' is an individual quality of service KPI

'*Q*' is the total number of quality of service KPIs in the preceding Regulatory Period

'$CORR_{P-2,e}$' is a correction factor which represents the difference between the estimated value of incentives and penalties in the last year of the preceding Regulatory Period *'P-2'* (as used in the calculation of the incentive to apply in Regulatory Period *'P-1'*) and the actual value of incentives and penalties in that year

17.4. The correction factor is required as the incentives and penalties payable for the final year of the preceding Regulatory Period will be an estimated value. A correction for the difference between this estimated value and the value calculated when actual performance is known is added to the monetary sum of incentives and penalties applied in the following Regulatory Period.

17.5. This sum will be divided by the number of years in the next Regulatory Period to obtain an annual average value, according to the following formula:

$$SERV_{t,e} = SERV_{P-1,e}/T_P$$

17.6. This annual average value shall be included in the Annual Revenue Requirement as the Quality-of-Service Incentives adjustment term.

END OF SECTION

18. Joint and common costs

Approval of allocation methodologies

18.1. SESB shall notify the Commission of the cost allocation methodologies that they propose to use, no later than ten months prior to each Regulatory Period.

18.2. In their description of calculations and assumptions used to prepare the RRS, SESB shall detail the allocation methodology applied to each significant allocated item. For this purpose, a significant allocated item is defined as one with a value exceeding 1% of the forecast revenues of SESB in that year.

Cost allocation principles

18.3. In reporting costs, revenues and assets in the RRS, and for the period that they remain within SESB, SESB shall allocate costs based on the following steps:

(a) firstly, the total costs of corporate services in each year of the Regulatory Period shall first be calculated following the same methodology as for the calculation of Annual Revenue Requirement for the RBE.

(b) secondly, the costs, revenues and assets attributable to the generation of electricity and Excluded Services (if relevant) shall then be separated from those related to the RBE.

(c) thirdly, the costs, revenues and assets of SESB shall be separated between the individual RBE.

18.4. All allocations applied by the RBE shall conform to the following principles:

(a) **Causality**. The allocation base should be the share of or use made by the entity of the activities which cause the costs or liabilities concerned to be incurred, the revenues to be earned or the assets to be acquired.

(b) **Objectivity**. The basis of allocation should not unduly favour the RBE or any other company or organisation.

(c) **Consistency**. Where practicable, the basis of allocation should be consistent from year to year.

(d) **Non-duplication**. A certain joint cost can only be allocated once.

(e) **Transparency**. The basis of allocation should be clear and understandable.

END OF SECTION

19. Long-Term Sustainability

19.1. Before deciding on the Annual Revenue Requirement, the Commission may assess that the proposed Annual Revenue Requirement is consistent with the RBE maintaining its long-term sustainability.

19.2. For each RBE, the assessment will be done based on legally independent entity without the benefit of a government subsidy until achievement of sustainability.

19.3. For the purposes of this assessment, the Commission may have regard to the criteria applied by going concern utility. In particular, the Commission may review whether:

(a) the return on regulated asset base as stipulated in Section 12.3;

(b) the forecast of total net debt to total capital (gearing ratio) as stipulated in Section 12.7;

(c) there is an application of government subsidy; and

(d) tariff is sufficient.

The above ratios should fall within the level required to maintain its long-term sustainability.

19.4. Where this is not the case, the Commission may assess whether this is a transitory concern with ratios returning to the necessary levels later in the Regulatory Period or whether this is a longer-term concern.

19.5. If a longer-term concern, the Commission may identify appropriate adjustments to the calculation of the Annual Revenue Requirement that can address this concern.

END OF SECTION

20. Regulatory Reporting Statements

Purpose of Regulatory Reporting Statements

20.1. The purposes of the Regulatory Reporting Statements (RRS) are to allow the Commission to:

(a) identify how the RBE are performing relative to forecast outcomes, particularly with regards to regulatory returns on assets and the reasons for any differences;

(b) make consistent assessments over time of the RBE cost efficiency and productivity, which will inform future regulatory decisions; and

(c) calculate the applicable adjustments to allowed revenues in the following Regulatory Period which arise from differences between actual and forecast outcomes in the current Regulatory Period.

Content of the Regulatory Reporting Statements

20.2. The regulatory Reporting Statements for each RBE shall comprise of the following:

(a) **Regulatory Financial Statements (RFS):** These will comprise of pro-forma financial statements in the same format as Audited Financial Statements (AFS);

(b) **Financial Returns:** These will provide detailed information on actual relative to forecast costs and revenues, in a format determined by the Commission;

(c) **Physical Returns:** These will provide information on physical outputs and indicators in a format specified by the Commission; and

(d) **Explanatory document:** A description of the underlying calculations and assumptions used to prepare the RRS, including an explanation of significant variances between actual and forecast outcomes, and an explanation of where the RRS differs from the AFS and the implications of these differences.

20.3. The RFS may comprise the following financial statements and supporting documents:

(a) a profit and loss account;

(b) a balance sheet;

(c) a statement of changes in equity;

(d) a cashflow statement;

(e) a corporate governance statement;

(f) a directors' report;

(g) an Auditor's Regulatory Report, as mentioned in sections 20.4 until 20.3;

(h) a detailed commentary about the operational performance of the RBE, encompassing (where relevant) network performance and performance against consumer service standards. This commentary should be in the form of a review by management highlighting key areas of concern for the business and provide details of any programmes or revisions to processes to be implemented by the RBE to address these concerns; and

(i) the appropriate notes to clarify the above points.

RRS submission timing and formats

20.4. The RRS shall be submitted annually to the Commission on or by 30 June.

20.5. The RBE shall submit the RFS in MS-Excel and MS-Word as appropriate, or in any other format as advised by the Commission.

20.6. The Financial Returns and Physical Returns shall be submitted using a template that is issued and updated from time to time by the Commission, in consultation with the RBE. This template shall be broadly consistent with the inputs to the Revenue Requirement Model.

Verification and auditing of the RFS

20.7. The information provided in the RFS shall be adequately and independently audited by an auditor acceptable to and approved by the Commission. It shall be the responsibility of the RBE to ensure that such approval is obtained prior to the submission of the RFS. For the avoidance of doubt, the other items in the RRS, namely Financial Returns and Physical Returns, do not need to be independently audited. However, the RBE shall use their best endeavours to ensure the Financial Returns and Physical Returns are consistent with the RFS.

20.8. The RBE shall maintain accounting and reporting arrangements which:

(a) enable the RFS to be prepared; and

(b) allow information in the RFS to be verified by reference to the audited financial statements.

20.9. The RBE should endeavour to propose an accredited auditor for approval by the Commission. However, where a RBE can demonstrate that an accredited auditor is unwilling or unable to conduct the audit, the entity may propose an independent consultant that specialises in regulatory matters and is approved by the Commission.

20.10. The approved auditor shall prepare an Auditor's Regulatory Report to be submitted to the Commission with the RFS. This report shall include the auditor's opinion as to whether the input data and underlying calculations and assumptions are consistent with these Guidelines issued by the Commission. The report shall inform the Commission of the following, in particular:

(a) any deficiencies in accounting records that may make the information contained in the RFS of uncertain reliability.

(b) any significant deviations applied in the preparation of the RFS from the provisions of this Section 20.

(c) a description of how expenditures and revenues for Regulated Services have been separated from expenditures and revenues for services provided by the RBE that are not subject to regulation (Excluded Services). This should highlight:

    (i) any differences between the cost allocation methodology used in the preparation of the RFS and any other cost allocation methodology used by the RBE for the audited financial statements or other purposes;

    (ii) any inconsistencies found by the auditors between the RFS and the agreed cost allocation methodology together with the reasons for non-compliance, signed off by senior management of the RBE; and

    (iii) any other matter that may mean that the RFS do not provide a true and fair view of the costs, revenues, and assets of the RBE.

20.11. The provision of the Auditor's Regulatory Report does not remove the responsibility of the RBE for the preparation and submission of RFS, nor does it require the auditor rather than the RBE to assume liability in any form for any errors or omissions in the RFS, other than where such errors or omissions might reasonably have been expected to be identified during an audit conducted to the same standards as for the audit of audited financial statements. For the avoidance of doubt, the Auditor's Regulatory Report is in addition to any report or opinion required to be submitted with the audited financial statements of the RBE.

20.12. The RBE shall make appropriate provision for the Commission to require from the Auditor further explanation or clarification of the Auditor's Regulatory Report and further information on the matters covered by the

Auditor's Regulatory Report. Such requirements are subject to the requirement that they must not impose unreasonable obligations on the auditor.

Publication of the RRS

20.13. The RRS may be published by the Commission on its official website, except for:

(a) A description of the underlying calculations and assumptions used to prepare the RRS.

(b) Other material identified as being confidential by the RBE and accepted as such by the Commission.

20.14. The RBE must employ best endeavours to draw the attention of consumers to the availability of the published RRS in a manner appropriate to ensure awareness.

Principles for preparing the RRS

20.15. The RRS shall be prepared in a manner that is consistent with these Guidelines and the Revenue Requirement Model. This includes applying the same principles and methodologies on revenue adjustments, cost and asset allocation, and cost calculation. Any inconsistencies between these Guidelines and the preparation of the RRS should be clearly documented and explained, including detailing the implications of the inconsistencies.

20.16. The RRS shall be prepared in accordance with the accounting principles and policies used to prepare the audited financial statements, adjusted for the differences where the accounting principles and policies used to prepare the audited statements differ from these Guidelines. Any such differences shall be clearly documented and explained, including detailing the implications of the differences.

20.17. In preparing the RRS, the RBE shall report the substance of transactions, rather than the legal form, if these differ. In determining the substance, the RBE shall consider the expectation of and motivation for a transaction. Individual transactions that achieve or are designed to achieve a common commercial effect shall be treated in aggregate.

20.18. Where possible, the RRS should be prepared using a consistent methodology over time. This particularly applies to the:

(a) methodology used to allocate costs;

(b) capitalisation policy; and

(c) measurement of physical outputs.

Reporting of operating expenditure

20.19. In preparing and submitting information on operating expenditure in the Financial Returns, the RBE shall:

(a) distinguish between categories of expenditure advised by the Commission; and

(b) show operating expenditure both including and excluding Contracted-Out Services, by category of operating expenditure.

20.20. No expenses based on the provisions for impairment of fixed assets shall be included as operating expenditure. Any impairment should be treated as disposals in the Regulated Asset Base.

20.21. The RBE shall explain any significant variances between actual and allowed operating expenditure in their accompanying notes to the RRS. The Commission may determine the level of significance and inform the RBE sufficiently in advance of the relevant reporting year or period. Such explanations should include, but not be limited to, descriptions of any efficiency gains or losses.

Reporting of capital expenditure

20.22. In preparing and submitting information on capital expenditure in the Financial Returns, the RBE shall report capital expenditure in the following different formats:

(a) **By each significant capital expenditure project**. Significant projects are defined as projects on which aggregate capital expenditure exceeds 5% of the RBE's total capital expenditure in the Regulatory Period. If a project is not deemed to be a significant project, then it should be reported as part of a programme of work.

(b) **By asset category**, as approved by the Commission, which shall each have a different asset life and be used to calculate depreciation of the Regulated Asset Base.

(c) **By cost driver category**, as advised by the Commission and where applicable to the RBE. These categories shall broadly differentiate between, but not be limited to:

(i) investment in new system assets to accommodate new generation and consumer connections;

(ii) the upgrade of existing system assets to accommodate load growth and improve performance; and

(iii) the repair of defects in existing system assets.

(d) **By physical output category**, as advised by the Commission and where applicable to the RBE. These categories shall be consistent with those in the Physical Returns submission.

20.23. The RBE shall clearly document and explain the allocation of capital expenditure between each category, where applicable.

20.24. The RBE shall explain any significant variances between actual and allowed capital expenditure, for each significant capital expenditure project, in their accompanying notes to the RRS. The Commission may determine the level of significance and inform the RBE sufficiently in advance of the relevant reporting year or period. Such explanations should include, but not be limited to, descriptions of any efficiency gains or losses.

20.25. Where actual capital expenditure is significantly below allowed capital expenditure, SESB's explanation of the variance shall include an estimate of the share of this negative variance attributable to the main potential causes. The main potential causes shall include, but not be limited to:

(a) deferral by the RBE;

(b) deferral, non-payment of charges or cancellation by the consumer;

(c) Delays in obtaining access to consumer sites;

(d) delays in obtaining wayleaves or contractor failure;

(e) delays due to the RBE;

(f) delays in approval by relevant authorities or land owners, including but not limited to road concessionaires and rail services; and

(g) delays due to circumstances beyond the RBE's control (noting the relevant specific circumstances).

Reporting of revenues

20.26. In preparing and submitting information on revenues in the Financial Returns, Consumer Service shall report on:

(a) the forecast and actual sales by consumer group;

(b) the total and average revenue by consumer group; and

(c) the resulting average sales price.

20.27. Average revenues should be shown with and without the application of the ICPT Adjustment, Subsidies and government development grants.

20.28. The reported revenues shall include all income derived from Regulated Services. As well as the sale of electricity, this may include, but is not limited to:

(a) connection fees, disconnection and reconnection charges; and

(b) charges levied for providing stand-by or back-up power.

20.29. Consumer Service shall explain any significant variances between actual and allowed revenues and between the actual and base average sales price, as applicable, in its accompanying notes to the RRS. Such explanations should include, but not be limited to:

(a) forecasting errors with respect to electricity sales; and

(b) changes in share of sales by consumer category.

Reporting of the Regulated Asset Base

20.30. In preparing and submitting information on the Regulated Asset Base in the Financial Returns, the RBE shall:

(a) roll forward the Regulated Asset Base in a manner that is consistent with Section 12 of these Guidelines and the Revenue Requirement Model; and

(b) roll forward the Regulated Asset Base separately for each asset category described in paragraph 20.22(b) above.

Reporting of related party transactions

20.31. The RBE shall detail all significant related party transactions included in the RRS. For this purpose, a significant related party transaction is defined as one where the annual value of payments for the supply of goods or services exceeds 1% of the total forecast revenues of each RBE in that year.

20.32. Where a RBE purchases or sells goods or services from a related party, it must demonstrate that:

(a) the prices paid or received for these goods or services are reasonable and at fair market value.

(b) the goods or services are provided at no extra cost than if they were provided from within the RBE's business.

(c) no cross-subsidy exists between the RBE and other parts of the related entity's business.

20.33. At a minimum, this requires:

(a) the contract for the supply of goods or services to be awarded through a fair and non-discriminatory competitive tendering process in which three or more bids were received; or

(b) the price paid for the supply of goods and services should be based on actual costs of supply plus an appropriate rate of return on the capital employed.

20.34. Asset transfers between RBE and related parties shall be at the depreciated value implied in the Regulated Asset Base of the relevant entity, calculated based on:

(a) the year the asset was brought into service; and

(b) the applicable asset life used for depreciation of the applicable asset category in the Regulated Asset Base of the relevant entity.

Joint and common costs

20.35. Joint and common costs associated with the provision of corporate services shall be separately recorded in total and as allocated between the RBE. The reporting of the total costs of the corporate entity/ies shall be consistent with the requirements for reporting for individual RBE.

20.36. In the event that any changes are made to the cost allocation methodology within a Regulatory Period from those applied at the time of calculating Annual Revenue Requirement, the RRS shall clearly identify and describe the changes made, the justification for the changes and the impacts of the changes on the cost allocation to and between RBE.

20.37. As for the remainder of the Regulatory Period, the RFS shall be presented using both the allocation methodology applied for calculating Annual Revenue Requirement and with the changed methodology, in order to allow consistent comparisons of costs and revenues over the Regulatory Period.

20.38. The Commission may determine on the applicability of the changed methodology in the cost allocation for the subsequent Regulatory Period.

END OF SECTION

21. Definitions

21.1. Unless expressly indicated to the contrary or unless the context otherwise requires, terms adopted and used in these Guidelines shall bear the same meaning as they are defined in the Act 447 including any subsidiary legislation made there under.

21.2. In these Guidelines, the following words shall have the following meaning ascribed to them:

(i) "Bundled" refers to the tariff regime in effect during the period when the responsible Minister approves an average tariff for SESB as a whole;

(ii) "Unbundled" refers to the tariff regime in effect during the period when the responsible Minister approves an average tariff for each individual RBE and the average tariff for SESB as a whole is calculated as the sum of these individual approved tariffs and the Average Generation Cost;

(iii) "Actual Average Tariff" means the actual revenue (expressed in RM) divided by actual units sold (expressed in kWh);

(iv) "Actual Cost" means the actual generation cost which comprises of fuel cost, LSS cost and other generation cost;

(v) "Allowance for Doubtful Debts" means the provision for uncollectable account receivable when debtors are unable to pay their outstanding debt due to unforeseen circumstances;

(vi) "Allowed Revenue" means the average revenues in a Regulatory Period required to recover the efficient costs of a RBE including a reasonable return on its investments;

(vii) "Annual Regulatory Adjustment" means the adjustments in any one year that comprises Revenue-Cap and Price-Cap Adjustment;

(viii) “Annual Revenue Requirement” means the revenues in any one year required to recover the efficient costs of a RBE including applicable subsidies and a reasonable return on its investments;

(ix) “Auditor's Regulatory Report” means auditors' opinion as to whether the input data and underlying calculations and assumptions are consistent with the Guidelines issued by the Commission.

(x) “Average Generation Cost” means the approved forecast average cost of power purchases during a Regulatory Period

(xi) “Base Average Tariff” means bundled predetermined tariff by the Commission charged to electricity consumers;

(xii) “Base Tariff Table” means the list of individual tariffs for Regulated Services as published by the Licensee for every regulatory period;

(xiii) “Commission” means the Energy Commission established under Act 610

(xiv) “Consumer Services” means the RBE responsible for supplying and selling electricity to, and managing the interface with, final consumers of electricity

(xv) “Contracted-Out Services” means a contract entered into by SESB with a third party to perform the Regulated Services;

(xvi) “Distribution Network” means the RBE responsible for planning, investing in, maintaining, and undertaking the real-time operation and control of the electricity distribution system, that is, the system of lines, substations, and related equipment and buildings below 66kV;

(xvii) “Excluded Services” means expenditures and revenues for services provided by a RBE other than services provided under Regulated Services;

(xviii) “Fuel Subsidy” means the subsidy claimable by SESB on the difference in fuel payment between the unsubsidised diesel and medium fuel oil fuel price and predetermined subsidised diesel and medium fuel oil fuel price from respective Independent Power Producers and SESB Generation;

(xix) "Generation Base Tariff" refers to the tariff that recovers the generation costs coming from Power Purchase Agreements, Service-Level Agreements, non-SLA and Power Exchange Agreement and other energy purchase over the Regulatory Period;

(xx) "Government" means the Federal Government of Malaysia;

(xxi) "Grid System Operator" means the RBE responsible for system security, operational planning, the dispatch of generating units, real-time operation and control of the power system, and coordinating all parties connected to the Grid System in accordance with the Sabah and Labuan Grid Code;

(xxii) "IBR" means Incentive Based Regulation, a form of regulation where regulated entities are able to earn additional profits if they out-perform relative to the expected costs of delivering a given quality of service and, conversely, where under-performance results in reduced profits;

(xxiii) "ICPT Adjustment" means the Imbalance Cost Pass-Through Adjustment, the adjustment calculated at six-month intervals and applied as a surcharge or rebate (calculated as a negative surcharge) to pass through the differences between actual fuel and other generation-specific costs and those forecast at the time of approving the Average Generation Cost;

(xxiv) "Interim Review Adjustment" means any adjustments which are considered during the Regulatory Period;

(xxv) "IPP" means Independent Power Producers;

(xxvi) "Licensee" means a person licensed under Section 9 of the Act 447;

(xxvii) "LSS" means Large Scale Solar;

(xxviii) "LSS Subsidy" means the large scale solar subsidy claimable by SESB on displaced cost and spinning reserve;

(xxix) "Other Income" means income not directly related to electricity supply but which derives from the use of assets and/or staff of a Licensee engaged in electricity supply activities;

(xxx) "PEA" mean Power Exchange Agreement;

(xxxi) "PPA" mean Power Purchase Agreements;

(xxxii) "Price-Cap" means a form of regulation where the average revenue earned by SESB under a bundled tariff regime;

(xxxiii) "Price-Cap Adjustment" means an annual adjustment to ensure that, under a bundled tariff regime, SESB complies with its Price-Cap;

(xxxiv) "Regulated Asset Base" means the value of fixed assets invested in by a RBE and on which it is permitted to earn a return;

(xxxv) "Regulated Business Entity" or "RBE" means an entity whose revenues, Subsidies and tariffs are regulated under these Guidelines;

(xxxvi) "Regulated Services" means the services related to electricity sales which are provided by a RBE under the Base Average Tariff;

(xxxvii) "Regulatory Period" means the period for which a Base Average Tariff and Required Average Tariff is determined;

(xxxviii) "Regulatory Proposal" means SESB's proposed Required Average Tariff, Base Average Tariff and Allowed Revenue for each year of the next Regulatory Period;

(xxxix) "Regulatory Review" is a means to determine the Required Average Tariff, Base Average Tariff and Allowed Revenue for the next Regulatory Period;

(xl) "Required Average Tariff" means the maximum average revenue that a RBE may earn from tariffs charged for Regulated Services. It is the sum of the bundled Required Tariff, Tariff Support

Subsidy, Fuel Subsidy, LSS Subsidy, the individual Revenue-Cap Adjustments for Revenue-Cap RBE and the bundled Price-Cap Adjustment for Price-Cap RBE;

(xli) "Required Revenue" means the Annual Revenue Requirement used to calculate the Required Tariff;

(xlii) "Required Tariff" means the calculated average revenue that a RBE may earn from tariffs charged for Regulated Services, before adjustments. It is the sum of Base Average Tariff, Tariff Support Subsidy, Fuel Subsidy and LSS Subsidy;

(xliii) "Revenue-Cap" means a form of regulation where a RBE earns its Required Revenue in each year and where its Base Average Tariff may be adjusted to ensure compliance with this requirement if actual sales volumes differ from the forecast used to calculate the Required Average Tariff;

(xliv) "Revenue-Cap Adjustment" means an annual adjustment to ensure that a Revenue-Cap RBE complies with its Revenue-Cap;

(xlv) "Revenue-Cap RBE" means an RBE regulated under a Revenue-Cap;

(xlvi) "Revenue Requirement Model" means the approved calculation model to calculate the required revenue for the RBEs in accordance with the Guideline;

(xlvii) "SESB" means Sabah Electricity Sdn. Bhd.

(xlviii) "SESB Generation" means SESB's wholly owned generation plants in which Single Buyer enters into SLAs or non-SLAs;

(xlix) "Single Buyer" means the RBE responsible for managing the procurement of electricity and related services, including long-term planning, scheduling, procuring and settling electricity supply in accordance with the Single Buyer Market Rules and the Sabah and Labuan Grid Code;

(l) "Single Buyer Generation" means the costs of the Single Buyer related to power purchases;

(li) “SLA” means Service Level Agreements;

(lii) “Subsidies” means the sum of the Tariff Support Subsidy, Fuel Subsidy and LSS Subsidy;

(liii) “Transmission” means the RBE responsible for planning, investing in, operating, and maintaining the electricity transmission network, that is, the system of lines, substations, and related equipment at 66kV and above;

(liv) “TSS or Tariff Support Subsidy” means tariff support subsidy claimable by SESB that compensates any shortfall between the Base Average Tariff charged to electricity consumers and the Required Average Tariff, Fuel Subsidy and LSS Subsidy and adjustments;

(lv) “Weighted Average Cost of Capital” means the estimated efficient cost of financing of the Licensee, and which represents its allowed reasonable return by the Commission.

END OF SECTION

Annex: Formula terms and notations

This annex lists the terms and notations used in the various formula contained in these Guidelines for ease of reference.

Terms

β_{equity}	Equity Beta
AAT	Actual Average Tariff
ACRC	Account Receivables
AFUC	Actual Total Fuel cost
AGEN	Average Generation Cost
AGSC	Average Other Generation Cost
BASE	Base Average Tariff
CAPEX	Forecast Capital Expenditure that is operationally commissioned, excluding Capital Work In-Progress
CORR	Correction Factor
DEPN	Allowed Depreciation
DISP	Net Value of Fixed Assets Disposed
ECS	Efficiency Carry-Over Scheme
EFUC	Estimated total fuel cost
EQUS	Estimated total qualifying sales to which the ICPT Adjustment is applied
EREV	Estimated Total Bundled Revenues
ERTN	Nominal (after-tax) Return on Equity
ESAL	Actual Total Electricity Sales
FCPT1	First Fuel Cost Pass-Through Adjustment
FCPT2	Second Fuel Cost Pass-Through Adjustment
FFUL	Forecast Fuel Cost
FGSC	Forecast Other Generation Cost
FSAL	Forecasted total electricity sales
FSS	Fuel and LSS Subsidy
FUND	Fund Contribution relating to the ICPT Adjustment
FUNT	Approved payment from the Electricity Industry Fund to the Single Buyer, relating to the ICPT Adjustment

FUNP	Payment by the Single Buyer into the Electricity Industry Fund, relating to the ICPT Adjustment
GAIN	Incremental Efficiency Gain/Loss
GCPT1	First Other Generation Cost Pass-Through Adjustment
GCPT2	Second Other Generation Cost Pass-Through Adjustment
GEAR	Gearing (share of net debt in the sum of net debt and equity)
IARR	ICPT Adjustment Remuneration Rate
ICPT	Imbalance Cost Pass-Through
IFUC	Interim Fuel Cost Pass-Through Adjustment
IGSC	Interim Other Generation Cost Pass-Through Adjustment
JOIN	Allocated Joint and Common Costs
MRP	Market Risk Premium
OPEX	Allowed Operating Expenditures
OTHA	Actual Other income
OTHE	Estimated Other income
OTHR	Other Income Adjustment
PCAP	Price-Cap Adjustment
PERF	Incentive/Penalty for performance against individual quality of service KPI
PSLS	Price-Cap Sales Adjustment
RAB	Allowed Closing Regulated Asset Base at the end of the year
RATE	Corporation Tax Rate
RCAP	Revenue-Cap Adjustment
RDIF	Price-Cap Revenue Difference
REAT	Required Average Tariff
REQT	Required Tariff
RFR	Risk-Free Rate
RSLS	Revenue-Cap Sales Adjustment
RREQ	Annual Revenue Requirement
SERV	Quality of Service Incentives Adjustment (incentive or penalty)
TAGS	Actual total other generation cost
TEGS	estimated total other generation cost
TAXZ	Allowed Corporate Tax and Zakat

TSS	Tariff Support Subsidy
UNPX	Unpredictable Capital Expenditures
UPOX	Unpredictable OPEX Adjustment
UPXA	Actual unpredictable OPEX
UPXF	Forecast of unpredictable OPEX included in the annual revenue requirement
WACC	Weighted Average Cost of Capital
WORK	Working Capital Requirement

Notation

b	(as modifier ahead of term) Bundled
e	RBE
P	Regulatory Period
m	Calendar month, expressed in relation to the month in which an adjustment takes effect
n	Year (1 January to 31 December) in the previous Regulatory Period
N	Total number of years in the previous Regulatory Period
q	Individual quality of service KPI
Q	Total number of quality of service KPIs in the previous Regulatory Period.
s	Six-month period (either 1 January to 30 June or 1 July to 31 December) in year '*t*'
t	Year (1 January to 31 December) in the current Regulatory Period
T	Total number of years in the current Regulatory Period
u	(as modifier ahead of term) Unbundled

ATTACHMENTS

The following attachments are provided for explanatory purposes only. They do not form part of these Guidelines. In the chase of any discrepancy between these Guidelines and these attachments, these Guidelines prevail.

Attachment to Section 1

Relationship to 4 May 2016 Guidelines

The table below shows the contents of these Guidelines relate to the sections contained in the Regulatory Implementation Guidelines as issued by the Commission on 4 May 2016 (GP/ST/No. 3/2016).

Guidelines as issued 4 May 2016		**Current Guidelines**
RIG	**Title**	**Section**
1	SESB Business Entities	3
2	Tariff-Setting Framework	4
3	Revenue Requirement Principles	5, 6, 8
4	Weighted Average Cost of Capital of SESB (Allowed Rate of Return)	11
5	Operating Cost, Capital Cost, Asset and Consumption Templates	9, 10, 12, 13, 14, 20
6	Incentive Framework for Operational Performance	15,16, 18
7	Cost Allocation Principles	18
8	Imbalance Cost Pass-Through Mechanism	7
9	Tariff Design Principles	4
10	Regulatory Accounts Process	20
11	Process for Determining the Revenue Requirement and Tariff	7

Attachment to Section 2

Type of Tariffs

The table below shows the application of the type of tariffs and the interchangeable terms (where applicable) contained in these Guidelines.

No.	Type of Tariffs	Similar Term	Definition	(sen/kWh)
1.	Required Average Tariff (REAT)	• N/A	• Maximum average revenue that a RBE may earn from tariffs charged for Regulated Services. • It is the sum of the bundled Required Tariff, the individual Revenue-Cap Adjustments for Revenue-Cap RBE and the bundled Price-Cap Adjustment for Price-Cap RBE.	43.83 + adjustments
2.	Required Tariff (REQT)	• N/A	• The calculated average revenue that a RBE may earn from tariffs charged for Regulated Services, before adjustments. • It is the sum of Base Average Tariff, Tariff Support Subsidy, Fuel Subsidy and LSS Subsidy.	43.83
3.	Base Average Tariff (BASE)	• Base Tariff Table • Regulated Tariff	• Bundled predetermined tariff by the Commission charged to electricity consumers.	34.52
4.	Actual Average Tariff (AAT)	• N/A	• Actual revenue (expressed in RM) divided by actual units sold.	34.31 (as of 2021)

Note: The Required Average Tariff (REAT) and Base Average Tariff (BASE) are based on IBR RP1 electricity tariff determination

Attachment to Section 5

Example of Revenue-Cap Sales Adjustment

<u>Example of Under-recovery</u>

Required Revenue > Actual Revenue	**Units**		**Transmission**	**GSO**	**SBO**
Required Tariff, *REQT*	sen/kWh	a	3.20	2.10	0.50
Forecasted Total Electricity Sales, *FSAL*	kWh	b	3,000,000	3,000,000	3,000,000
Required Revenue	RM	c = (a * b)/100	96,000	63,000	15,000
Actual Total Electricity Sales, *ESAL*	kWh	d	2,950,000	2,950,000	2,950,000
Actual Revenue	RM	e = (a * d)/100	94,400	61,950	14,750
Difference	RM	f = c - e	1,600	1,050	250
WACC		g	1.04	1.04	1.04
Revenue-Cap Sales Adjustment, *RSLS*	**RM**	**h = f * g**	**1,664**	**1,092**	**260**
Total	**RM**				**3,016**

<u>Example of Over-recovery</u>

Required Revenue < Actual Revenue	**Units**		**Transmission**	**GSO**	**SBO**
Required Tariff, *REQT*	sen/kWh	a	3.20	2.10	0.50
Forecasted Total Electricity Sales, *FSAL*	kWh	b	3,000,000	3,000,000	3,000,000
Required Revenue	RM	c = (a * b)/100	96,000	63,000	15,000
Actual Total Electricity Sales, *ESAL*	kWh	d	3,100,000	3,100,000	3,100,000
Actual Revenue	RM	e = (a * d)/100	99,200	65,100	15,500
Difference	RM	f = c - e	(3,200)	(2,100)	(500)
WACC		g	1.04	1.04	1.04
Revenue-Cap Sales Adjustment, *RSLS*	**RM**	**h = f * g**	**(3,328)**	**(2,184)**	**(520)**
Total	**RM**				**(6,032)**

Attachment to Section 5

Example of Price-Cap with and without under-recovery

<u>Without under-recovery allowance</u>

sen/kWh	**Over-recovery**		**Under-recovery**	
	Base average tariff < Actual average tariff		Base average tariff > Actual average tariff	
	PCAP = BASE – AAT		PCAP = 0	
Base average tariff (year t-1), BASE	34.52	34.52	34.52	34.52
Actual average tariff (year t-1), AAT	35.21	35.90	33.83	33.14
Difference	+0.69 +2%	+1.38 +4%	-0.69 -2%	-1.38 -4%
Price-cap adjustment (year t), PCAP	34.52 – 35.21 = -0.69	34.52 – 35.90 = -1.38	0	0

For clarity, adjustments for time value of money and revenue-cap adjustments are ignored

<u>With under-recovery allowance</u>

sen/kWh	**Over-recovery**		**Under-recovery**	
	Base average tariff < Actual average tariff		Base average tariff > Actual average tariff	
	PCAP = BASE – AAT		PCAP = min(2.5% * BASE, BASE – AAT)	
Base average tariff (year t-1), BASE	34.52	34.52	34.52	34.52
Actual average tariff (year t-1), AAT	35.21	35.90	33.83	33.14
Difference	+0.69 +2%	+1.38 +4%	-0.69 -2%	-1.38 -4%
Price-cap adjustment (year t), PCAP	34.52 – 35.21 = -0.69	34.52 – 35.90 = -1.38	34.52 – 33.83 = +0.69	2.5% * 34.52 = +0.86

Attachment to Section 15

Example of OPEX Efficiency Carry-Over Scheme adjustment calculation

This annex presents an illustrative example of the calculation of adjustments under the OPEX Efficiency Carry-Over scheme. This example is to be viewed at the time RP2 has been completed and the Actual OPEX figures are known, hence Actual OPEX figures for RP3 are still unknown.

Calculation of Allowed OPEX Efficiency Carry-Over			Previous Regulatory Period (RP1)				Current Regulatory Period (RP2)				Next Regulatory Period (RP3)		
			Year			Actual	Year (n)			Actual	Year (t)		
			1	**2**	**3**	**3**	**1**	**2**	**3**	**3**	**1**	**2**	**3**
Allowed OPEX		a	100	100	100	100	100	100	100	100	110	110	110
Actual OPEX		b	90	90	80	80	90	80	90	70	-	-	-
Allowed Unpredictable OPEX	$UPOX_n$	c	10	5	10	10	5	5	5	5	10	10	10
Actual Unpredictable OPEX	$aUPOX_n$	d	5	10	5	10	10	5	5	5	-	-	-
Allowed other OPEX exclusions		e	5	5	5	5	5	5	5	5	5	5	5
Actual other OPEX exclusions		f	5	5	-	5	5	5	5	-	-	-	-
Allowed OPEX less exclusions	$OPEX_{e,n}$	g = a - c - e	85	90	85	85	90	90	90	90	95	95	95
Actual OPEX less exclusions	$aOPEX_{e,n}$	h = b - d - f	80	75	**75[a]**	65	75	70	**70[a]**	65	-	-	-
OPEX Underspend	$(OPEX_{e,n} - aOPEX_{e,n})$	i = g - h	5	15	**15[a]**	20	**15[b]**	20	**20[a]**	25	**95[b]**	95	**95**
Incremental Efficiency Gain / (Loss)	$GAIN_{e,n}$		5	10	-	**5[b]**	**10[b]**	5	-	**5[b]**	**90[b]**	0	-

Notes:

[a] Assumed to be equal as the year before

[b] Incremental Efficiency Gain in Year n=1 or t=1, is calculated as below:

OPEX Underspend of the Year – Incremental Efficiency Gain in last year of previous RP (calculated based on Audited Values of Actual OPEX)

n=1,
= 15 - 5
= 10

t=1,
= 95 – 90
= 5

Carry-forward of incremental efficiency gains		Previous Regulatory Period (RP1)			Current Regulatory Period (RP2)		
		Year			Year (n)		
		1	2	3	1	2	3
Incremental Gain in year n=1	$GAIN_1$		5	5	5		
Incremental Gain in year n=2	$GAIN_2$			10	10	10	
Incremental Gain in year n=3	$GAIN_3$				-	-	-
Total gains carried-forward by year	$\sum GAIN_{e,n}$				15	10	-
Allowed OPEX Efficiency Carry-Over	$OPXE_t$				**15**	**10**	**-**