Suruhanjaya Tenaga
Energy Commission

Registration Number: GP/ST/No.19/2018(Pin.2022)

GUIDELINES

ON DETERMINATION OF GAS DISTRIBUTION FACILITY TARIFF UNDER INCENTIVE-BASED REGULATION (IBR)

Established pursuant to section 13 of Act 501

[GAS SUPPLY ACT 1993 (ACT 501)]

Document Control				
Version	**Registration Number**	**Reg. Date**	**Effective Date**	**Amendments**
0	GP/ST/No.19/2018	30 Aug 2018	30 Aug 2018	-
1	GP/ST/No.19/2018 (Pin.2019)	24 Dec 2019	24 Dec 2019	1. Amendment to allows licensee or the Commission to propose additional components for revenue adjustment if required. Amendment in section 4.6, 4.9 and 4.10. 2. Amendment to allows the Commission to specify the pilot Regulatory Period, to considers new distribution licensees which licensed after 31 December 2018, to allows distribution licensee to apply for the exemption other than specified date and to allows the Commission to approve for the application other than specified date. Amendment in section 18.1, 18.2, 18.5, 18.8,18.10, 18.11 and 18.12.
2	GP/ST/No.19/2018 (Pin.2021)	27 Aug 2021	27 Aug 2021	1. Amendment to improve the submission timeline and level of approval of proposed regulated tariffs. Amendment in section 3.13 to 3.23. 2. Amendment to allows Commission specify period of data to be used in calculation of revenue adjustment. Amendment in section 4.7 to 4.10A.
3	GP/ST/No.19/2018 (Pin.2022)	18 Apr 2022	18 Apr 2022	1. Amendment to allows asset owned by the Government of Malaysia that are operated and maintained by the distribution licensee to be included in the Regulated Asset Base. Amendment in section 2.2A and 8.1(e)

Contents

1. Basis and Purpose of the Guidelines

1.1. These Guidelines are issued by the Commission in compliance with the Gas Supply Act 1993.

1.2. Consistent with the Gas Supply Act 1993, the purpose of these Guidelines is to:

(a) Define the calculation of Allowed Revenues which distribution licensees may recover from Users of Regulated Services provided by the facility.

(b) Define the principles and process for setting Regulated Tariffs in order to recover these Allowed Revenues.

END OF SECTION

2. Scope of the Guidelines

Application to distribution licensees

2.1. These Guidelines set out the methodology and process for determining the Allowed Revenues to be recovered by a distribution licensee for the provision of Regulated Services to Users of its facility and the principles and process to be applied in setting the Regulated Tariffs to recover these Allowed Revenues.

Allowed Revenues and Regulated Tariffs set by distribution licence

2.2. For the purposes of these Guidelines, a separate Allowed Revenue and separate Regulated Tariffs are established for each distribution licensee. For the avoidance of doubt, where a distribution licensee owns one or more physically-separated facilities which are operated and maintained under the same licence, then the same Allowed Revenues and the same Regulated Tariffs apply to all such facilities. Where the same legal entity owns one or more physically-separated facilities which are operated and maintained under separate licences, then a separate Allowed Revenue and separate Regulated Tariffs apply to each such facility.

2.2A Notwithstanding section 2.2 and for the purpose of establishing the Allowed Revenues and Regulated Tariff for a distribution licensee, a distribution licensee may submit an application in writing to the Commission to include a facility owned by the Government of Malaysia that are operated and maintained by the distribution licensee. The application shall be submitted with supporting documents which include the letter of appointment by the Government and other relevant documents required by the Commission.

Regulated Services

2.3. For the purposes of these Guidelines, Regulated Services are defined as the minimum set of services that the distribution licensee is required to provide under the applicable Third Party Access Code for Malaysian Distribution Pipelines, as issued by the Commission:

2.4. The Regulated Services are initially defined as:

(a) the provision of firm entry capacity to the facility,

(b) the provision of firm exit capacity from the facility, and

(c) the distribution of gas between entry and exit points, up to the volumes permitted under reserved firm entry and exit capacity.

2.5. The Commission may amend this list of Regulated Services from time-to-time but shall not do so part-way through a period for which Allowed Revenues have already been determined.

Excluded Services

2.6. Services that are provided using the facility but are not included in the list of Regulated Services as specified in section 2.4 are considered to be Excluded Services. The tariffs applied for these services are not regulated by the Commission and are determined by negotiation or through competitive market processes.

END OF SECTION

3. Setting Regulated Tariffs

Allowed Average Tariff

3.1. In any given year of a Regulatory Period, a distribution licensee shall set its Regulated Tariffs such that it expects to earn no more than the Allowed Average Tariff.

3.2. The Allowed Average Tariff is calculated as an average and does not prohibit the adoption of differential tariffs and tariff structures for different categories of User.

Principles of Regulated Tariffs

3.3. The Regulated Tariffs must be consistent with the following principles:

(a) ***Cost-reflective***. The tariffs must be broadly reflective of the different costs of services to different Users.

(b) ***Cost-recovery***. The tariffs must at least recover the incremental costs of providing but must not recover more than the stand-alone costs of providing each individual Regulated Service.

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

Structure of Regulated Tariffs

3.4. Distribution licensees operating a gas distribution facility must, at a minimum, apply a capacity tariff.

3.5. The distribution licensee may choose to apply separate capacity and commodity tariffs. Where a commodity tariff is applied, the proportion of the revenue requirement recovered through this tariff should reflect the share of variable or short-term volume-driven costs in total costs.

3.6. The distribution licensee may also choose to apply standing or other fixed charges to recover the costs of services, such as metering, that are provided irrespective of whether any capacity is booked or any volumes of gas flowed in any one period.

3.7. Unless and until otherwise notified by the Commission, Regulated Tariffs shall be applied on a postage-stamp basis with no locational element.

3.8. Regulated Tariffs may be applied to reserved entry capacity to the facility or to reserved exit capacity from the facility or to a combination of entry and exit capacity.

Tariff Table

3.9. The individual Regulated Tariffs shall be set out in a Tariff Table which lists tariffs by but not limited to type, User and time period. The Tariff Table shall be published by the distribution licensee on its website and by such other means as it considers appropriate to bring the Tariff Table to the attention of existing and prospective Users of its facility.

3.10. Prior to the commencement of each Regulatory Period, the distribution licensee will be required to prepare and submit to the Commission a proposed Base Tariff Table for the next Regulatory Period. Alongside its submission, the distribution licensee must provide a justification of the proposed individual Regulated Tariffs showing that these meet the principles set out in this section. The accompanying justification must also explain any changes from the existing Tariff Table. The tariffs set out in the proposed Base Tariff Table must be consistent with the proposed Base Average Tariff proposed by the distribution licensee for the next Regulatory Period.

3.11. The Base Tariff Table will be reviewed and approved alongside the distribution licensee's submission of its proposed Annual Revenue Requirements and proposed Base Average Tariff, and will follow the same process and timetable as set out in section 5.

3.12. Once approved, the Base Tariff Table will be updated annually within the Regulatory Period to ensure that the expected average revenues earned remain within the Allowed Average Tariff, following the process set out below.

Annual approval of Regulated Tariffs

3.13. Each year, the distribution licensee must submit its proposed Regulated Tariffs, in the form of its proposed Tariff Table for the following year, to the Commission for review. The distribution licensee shall make such submissions no later than four months before the start of the following year.

3.14. In making its submission, the distribution licensee shall demonstrate that the expected average revenue to be earned from the provision of Regulated Services in the following year is less than or equal to the Allowed Average Tariff for that year.

3.15. The proposed Regulated Tariffs for the following year shall be calculated by applying a uniformed percentage adjustment to all individual Regulated Tariffs listed in the Base Tariff Table, to ensure that this requirement is met.

3.16. The Commission may accept or reject the proposed Regulated Tariffs within 10 working days of receipt from the distribution licensee.

3.17. The Commission may reject any proposed Regulated Tariffs wherever there are errors in the calculations submitted by the distribution licensee.

3.18. In such cases, the distribution licensee shall be required to revise and resubmit their proposed Regulated Tariffs and the Commission may further evaluate the same.

3.19. *[Deleted]*

3.20. The value of any over-recovery of Allowed Revenues which resulted from a delay in the approval of the Regulated Tariffs due to errors in their calculation by the distribution licensee shall be determined by the Commission and returned to Users of the facility in the form of a deduction in the Annual Revenue Requirement for the following year. Any under-recovery shall not be compensated.

Approval by Minister

3.21. The proposed Regulated Tariffs reviewed by the Commission shall be submitted to the Minister for further approval or revision.

3.22. In making its submission, the Commission may provide any recommendation(s) as it deems fit to the Minister.

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

(a) Existing Regulated Tariffs shall remain in effect until an approval is issued.

(b) The present value of any over-recovery or under-recovery of Allowed Revenues which results from such delay shall be determined by the Commission. This shall be calculated as the revenue earned from existing Regulated Tariffs and that would have been earned under the approved Regulated Tariffs for the period of the delay.

(c) This difference shall be returned to Users of the facility, in the case of an over-recovery, or paid to the distribution licensee, in the case of an under-recovery, in the form of a deduction from or an addition to the Base Average Tariff to be applied for the remainder of the Regulatory Period.

(d) If the delay occurs in the final year of the prevailing Regulatory Period then the adjustment may be carried-over to the next Regulatory Period.

Excluded Services tariffs

3.24. Tariffs applied for the provision of Excluded Services will not be subject to the review and approval process. These tariffs will be directly negotiated between the distribution licensee and Users or may be established through a competitive process.

3.25. The Access Arrangement issued by each distribution licensee will define the principles underlying these Excluded Services tariffs and the process for negotiating or otherwise establishing the structure and level of these tariffs. The Access Arrangement will also specify the process for resolving disputes related to Excluded Services tariffs.

3.26. The specific Excluded Services tariffs applicable to each User of the facility will be contained in the individual Gas Distribution Agreement.

END OF SECTION

4. Calculation of the Allowed Average Tariff

Components of the Allowed Average Tariff

4.1. The Allowed Average Tariff in each year of a Regulatory Period is the sum of the Base Average Tariff and the Revenue Adjustment.

(a) The Base Average Tariff for each distribution licensee is set prior to each Regulatory Period and is calculated based on the Annual Revenue Requirement and forecasted Reserved Firm Capacity.

(b) The Revenue Adjustment is calculated annually.

4.2. The Allowed Average Tariff shall be calculated annually in each year of the Regulatory Period as the sum of the Base Average Tariff and the Revenue Adjustment, in accordance with the following formula:

$$ALLW_t = BASE_t + RADJ_t$$

Where:

'*t*' is a single year in the Regulatory Period.

'$ALLW_t$' is the Allowed Average Tariff in year '*t*' of the Regulatory Period (expressed in [RM/GJ/day]).

'$BASE_t$' is the Base Average Tariff in year '*t*' of the Regulatory Period (expressed in [RM/GJ/day]).

'$RADJ_t$' is the Revenue Adjustment in year '*t*' of the Regulatory Period (expressed in [RM/GJ/day]).

Length of the Regulatory Period

4.3. Each Regulatory Period will be for three years:

(a) The Commission shall define the starting date of the first Regulatory Period for each distribution licensee.

(b) A distribution licensee may apply to the Commission to approve a Regulatory Period of more than three years.

Calculation of the Base Average Tariff

4.4. The Base Average Tariff for each Regulatory Period for each distribution licensee shall be calculated prior to each Regulatory Period as the present value of Annual Revenue Requirements over the Regulatory Period, divided by the present value of forecasted Reserved Firm Capacity, in accordance with the following formula:

$$BASE_P = \sum_{t=1}^{T} \frac{REQT_t}{(1 + WACC)^t} \Bigg/ \sum_{t=1}^{T} \frac{FCAP_t}{(1 + WACC)^t}$$

Where:

'*P*' is a Regulatory Period.

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

'$BASE_P$' is the Base Average Tariff of the distribution licensee in the Regulatory Period (expressed in [RM/GJ/day]).

'$REQT_t$' is the Annual Revenue Requirement of the distribution licensee in year '*t*' of the Regulatory Period determined in accordance with section 5 of these Guidelines (expressed in RM).

'$FCAP_t$' is the total forecasted Reserved Firm Capacity (expressed in GJ/day) in year '*t*' of the Regulatory Period.

'*WACC*' is the allowed Weighted Average Cost of Capital of the distribution licensee for the Regulatory Period.

4.5. The Base Average Tariff shall be the same in each year of the Regulatory Period.

Calculation of the Revenue Adjustment

4.6. The Revenue Adjustment shall contain components to be notified by the Commission prior to submission of the calculation of the Revenue Adjustment for year 't' pursuant to section 4.7. and may include but not be limited to the following components:

(a) ***Revenue-cap adjustment***. Sharing the difference in revenues resulting from differences between actual and forecast firm capacity reservations between the distribution licensee and the Users of the facility. The sharing factor shall be specified by the Commission prior to each Regulatory Period.

(b) ***Excluded Services adjustment***. Sharing the revenues from Excluded Services between the distribution licensee and the Users of the facility. The sharing factor shall be specified by the Commission prior to each Regulatory Period. The Commission may, in setting the sharing factor, distinguish between those Excluded Services that are considered to be mature and those that are considered to be immature, where the distribution licensee receives a higher share of the revenues to provide incentives to expand these services. The revenues from Excluded Services shall be allocated between these categories accordingly. As the Base Average Tariff calculation already includes an allowance for forecast revenue from Excluded Services, the adjustment relates to the difference between actual and forecast revenues.

(c) ***Tariff-cap adjustment***. Returning any excess of actual regulated revenues over allowed levels as a result of Actual Average Tariff exceeding the allowed average tariff to the Users of the facility.

4.7. The calculation of the Revenue Adjustment for year *'t'* shall be submitted to the Commission by the distribution licensee no later than four months prior to the end of the preceding year *'t-1'* (ie, by the end of month 8 of year *'t-1'*). The calculation shall use actual values for the preceding 12-month period for which quarterly data is available (from month 7 of year *'t-2'* to month 6 of year *'t-1'*, inclusive).

4.8. The Revenue Adjustment for the first year of a Regulatory Period shall be calculated using the values for the preceding 12-month period for which quarterly data is available ending in month 6 of the final year of the previous Regulatory Period.

4.9. *[Deleted]*

4.10. The Revenue Adjustment shall be calculated in accordance with a formula specified by the Commission pursuant to section 4.6. and may include but not limited to the following formula:

$$RADJ_t = \Bigg\{S \times \sum_{m}^{M}[ALLW_m \times (FCAP_m - ACAP_m) \times DAYS_m] - \left[F \times \sum_{m}^{M}(AEXC_m - FEXC_m)\right] - max\left[0, \sum_{m}^{M}[(AVGE_m - ALLW_m) \times ACAP_m \times DAYS_m]\right]\Bigg\} / (FCAP_t \times DAYS_t)$$

Where:

'*m*' is a single month with the first month being month 7 of year *'t-2'* and the last month being month 6 of year *'t-1'*.

'M' is the sum of months 'm', totalling 12 months.

'*S*' is the sharing factor applicable to the revenue-cap component and is set at a value determined by the Commission prior to each Regulatory Period. The value remains constant for the duration of each Regulatory Period.

'*F*' is the sharing factor applicable to the Excluded Services component and is set at a value determined by the Commission prior to each Regulatory Period. The value remains constant for the duration of each Regulatory Period. Separate values may be set for mature and immature Excluded Services.

'$DAYS_m$' are the number of calendar days in month '*m*'

'$ACAP_m$' is the actual Reserved Firm Capacity (expressed in GJ/day) in month '*m*'.

'$AEXC_m$' is the actual revenue earned by the distribution licensee from Excluded Services in month *m* (expressed in [RM]).

'$FEXC_m$' is the forecast revenue earned by the distribution licensee from Excluded Services in month *m* (expressed in [RM]).

'$AVGE_m$' is the Actual Average Tariff in month '*m*'.

4.10A. Notwithstanding section 4.7., 4.8. and 4.10., the Commission may accept requests from distribution licensee to change the indicated month in the section 4.7., 4.8. and 4.10., provided reasonable and sufficient justifications are given to the satisfaction of the Commission.

Calculation of the Actual Average Tariff

4.11. The Actual Average Tariff used in the Revenue Adjustment shall be calculated as the total revenues from Regulated Services earned by the distribution licensee in each month of the preceding 12-month period, calculated in accordance with the following formula:

$$AVGE_m = \frac{AREV_m}{(ACAP_m \times DAYS_m)}$$

Where:

'$AREV_m$' is the total revenues earned from the provision of Regulated Services by the distribution licensee in month 'm'.

END OF SECTION

5. Annual Revenue Requirement

Principles of the Annual Revenue Requirement

5.1. The Annual Revenue Requirement represents the maximum Allowed Revenues (before adjustments) that a distribution licensee can receive to pay for the reasonable and efficient costs (including a fair return on capital) of providing Regulated Services in each year of a Regulatory Period. The Annual Revenue Requirement may differ from year-to-year within each Regulatory Period.

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

5.3. All calculations are conducted in nominal terms (ie, using historical costs).

Process for determining the Annual Revenue Requirement

5.4. The Annual Revenue Requirement for each year in a Regulatory Period is determined by the Commission in advance of the start of the Regulatory Period.

5.5. The timetable and process for calculating the Annual Revenue Requirements for the next Regulatory Period shall be specified by the Commission prior to each calculation commencing. Where not specified, the following default timetable and process shall apply:

(a) No later than nine months prior to the start of the next Regulatory Period, the distribution licensee shall submit to the Commission its proposed Annual Revenue Requirement for each year of the next Regulatory Period. The submission shall contain the calculated Annual Revenue Requirement by year along with adequate justifications and supporting evidence. The distribution licensee shall also submit its proposed Base

Average Tariff consistent with its proposed Annual Revenue Requirements and its proposed Base Tariff Table.

(b) The proposed Annual Revenue Requirements shall be derived from a business plan, of a duration of at least equal to that of the next Regulatory Period, in accordance with the obligations of distribution licensees under section 13A of the Gas Supply Act 1993. The business plan shall be submitted along with the proposed Annual Revenue Requirements.

(c) The Commission will review the proposed Annual Revenue Requirements, Base Average Tariff and Base Tariff Table. In undertaking this review, the Commission may require the distribution licensee to provide additional explanations and evidence in written form or in either private or public hearings.

(d) No later than six months prior to the start of the next Regulatory Period, the Commission may issue a draft determination which contains:

(i) Its proposed Annual Revenue Requirements for the next Regulatory Period.

(ii) Its proposed Base Average Tariff consistent with its proposals on Annual Revenue Requirements.

(iii) Its proposed Base Tariff Table consistent with its proposals on the Base Average Tariff and any other changes required to ensure conformity with the principles for Regulated Tariffs.

(iv) An explanation of the revisions made to the original proposals by the distribution licensee and the reasons for these revisions.

(e) The Commission will issue a draft determination to the distribution licensee. At its own discretion, the Commission may publish part of all of the draft determination for review and comment by stakeholders. These comments may be requested in written form or in a public hearing or both.

(f) In response to a draft determination, the distribution licensee may submit a revised proposed Annual Revenue Requirement for each year of the next Regulatory Period. The revised submission shall contain the calculated Annual Revenue Requirement by year along with an explanation of the changes from the original submission. The distribution licensee shall also submit its revised proposed Base Average Tariff consistent with its revised proposed Annual Revenue Requirements and any revisions made to the proposed Base Tariff Table.

(g) No later than three months prior to the start of the next Regulatory Period, the Commission shall issue a final determination which contains:

(i) A summary comments received from the distribution licensee and from stakeholders on the draft determination and the Commission's responses to these comments.

(ii) Its determined Annual Revenue Requirements for the next Regulatory Period.

(iii) Its determined Base Average Tariff consistent with its determined Annual Revenue Requirements.

(iv) Its determined Base Tariff Table consistent with its determined Base Average Tariff and any other changes required to ensure conformity with the principles for Regulated Tariffs.

(v) An explanation of the revisions made to the draft determination and the reasons for these revisions.

(h) The Commission will issue a final determination to the distribution licensee. At its own discretion, the Commission may publish part or all of the final determination for the information of stakeholders.

(i) A final determination shall be submitted by the Commission to the Minister for review and approval.

(j) Where the Commission has not issued a final determination, it shall submit the most recent proposal received from the distribution licensee to the Minister, along with its comments on this proposal and its alternative proposals where applicable.

(k) In issuing their approval, the Minister may revise the Annual Revenues Requirements, Base Average Tariff and/or Base Tariff Table from those contained in the submission by the Commission. An explanation of any such revisions and the reasons for these revisions will be provided to the Commission. The Commission then will provide the explanation to the distribution licensee.

5.6. Where approval by the Minister is delayed beyond the start of the next Regulatory Period then the following shall apply:

(a) Existing Regulated Tariffs shall remain in effect until an approval is issued.

(b) The present value of any over-recovery or under-recovery of Allowed Revenues which results from such delay shall be determined by the Commission. This shall be calculated as the revenue earned from existing Regulated Tariffs and that would have been earned under the approved Regulated Tariffs for the period of the delay.

(c) This difference shall be returned to Users of the facility, if an over-recovery, or paid to the distribution licensee, if an under-recovery, in the form of a deduction from or an addition to the Base Average Tariff to be applied for the remainder of the Regulatory Period.

Calculating the Annual Revenue Requirement

5.7. The Annual Revenue Requirement shall be calculated according to the following formula:

$$REQT_t = OPEX_t + WORK_t + (WACC \times RAB_{t-1}) + DEPN_t + max(0, TAXZ_t) + ECSO_t + SERV_t - F \times FEXC_t$$

Where:

'$OPEX_t$' is the allowed operating expenditures of the distribution licensee in year '*t*'.

'$WORK_t$' is the working capital allowance of the distribution licensee in year '*t*'.

'*WACC*' is the allowed Weighted Average Cost of Capital of the distribution licensee.

'RAB_{t-1}' is the closing allowed Regulated Asset Base of the distribution licensee at the end of year '*t-1*' (which is equivalent to the opening Regulated Asset Base for year '*t*').

'$DEPN_t$' is the allowed depreciation of the allowed Regulated Asset Base in year '*t*'.

'$TAXZ_t$' is the tax and zakat allowance for the distribution licensee in year '*t*' and cannot be negative.

'$ECSO_t$' is the allowed operating expenditures Efficiency Carry-Over Scheme adjustment of the distribution licensee in year '*t*'.

'$SERV_t$' is the Quality of Service Incentives adjustment bonus (or penalty if negative) applied in year '*t*' which results from performance against quality of service targets in the preceding Regulatory Period.

5.8. The determination of the individual components of the Annual Revenue Requirement are described in sections 6 to 14 of these Guidelines.

5.9. The calculations made by the distribution licensee must be undertaken using a Revenue Requirements Model that is approved by the Commission and may, if appropriate, be published at the Commission's discretion on the Commission's website (with confidential information redacted). The distribution licensee must ensure that all inputs and calculations in the Revenue Requirements Model are verifiable and consistent with the requirements of these Guidelines.

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END OF SECTION

6. Determining operating expenditures

Calculating operating expenditures

6.1. The forecast operating expenditures in each year of the Regulatory Period are calculated as the sum of:

(a) the actual operating expenditures in the last year of the preceding Regulatory Period for which actual audited data is available, adjusted for any change in legal obligations on the distribution licensee between the two Regulatory Periods and rolled-forward using a Cost Change Index, and

(b) the costs of internal gas losses by the distribution licensee.

6.2. The Cost Change Index is calculated as the product of the forecast change in Consumer Price Inflation, of the forecast real change in employee costs, of the forecast capacity-driven change in costs and of the forecast rate of productivity improvement.

6.3. The calculation is made according to the following formula:

$$
\begin{aligned}
OPEX_t = {} & (BOPX_0 + OBLG_P) \\
& \times \Big\{(1 + CPI_t) \times [1 + EMPL_P \times ((1 + REAL_P)^t - 1)] \\
& \times (1 + PROD_P)^t \times \Big[1 + CAPY_P \times \Big({}^{FCAP_t}\!/_{FCAP_o} - 1\Big)\Big]\Big\} \\
& + IGAS_t
\end{aligned}
$$

Where:

'*BOPX$_0$*' is the base operating expenditure of the distribution licensee for the Regulatory Period, representing the estimated operating expenditure at the end of the preceding Regulatory Period.

'*OBLG$_P$*' is the cost of additional legal obligations imposed on the distribution licensee relative to the preceding Regulatory Period.

'*CPI*' is the all-items Consumer Price Index for Malaysia, where "*0*" means the index value at the start of the Regulatory Period.

'*EMPL$_P$*' is the share of employee costs in total operating expenditures excluding the costs of internal gas losses and is fixed at the same value for each year of the Regulatory Period.

'$REAL_P$' is the forecast annual average change in real employee costs and is fixed at the same value for each year of the Regulatory Period.

'$PROD_P$' is the forecast annual average real rate of productivity growth and is fixed at the same value for each year of the Regulatory Period.

'$CAPY_P$' is the forecast increase in operating expenditures excluding internal gas losses in percentage terms that results from a 1% increase in facility capacity and is fixed at the same value for each year of the Regulatory Period.

'$IGAS_t$' is the forecast costs of procuring gas for internal losses (excluding line-pack gas requirements) in year *'t'*.

Base operating expenditures

6.4. The base operating expenditures in the last year of the preceding Regulatory Period are determined using the rolled-forward actual expenditures in the penultimate year of the preceding Regulatory Period. The actual expenditures in the last year will not be known at the time of the calculation. For simplicity, no adjustment is made for differences between this base operating expenditure and actual expenditures in the last year of the preceding Regulatory Period when these are known.

6.5. The base operating expenditure is calculated according to the following formula:

$$
\begin{aligned}
BOPX_0 = AOPX_{y-2} & \\
& \times \Big\{ (1 + CPI_{y-1}) \\
& \times \left[1 + EMPL_{P-1} \times \left((1 + REAL_{P-1}) - 1\right)\right] \\
& \times (1 + PROD_{P-1}) \\
& \times \left[1 + CAPY_{P-1} \times \left({FCAP_{y-1}}/{ACAP_{y-2}} - 1\right)\right]\Big\}
\end{aligned}
$$

Where:

'y' represents the first year of the Regulatory Period and "*y-1*" the final year of the preceding Regulatory Period

"$AOPX_{y-2}$" is the actual operating expenditures excluding the costs of internal gas losses in the penultimate year of the preceding Regulatory Period

Actual values are used for CPI and ACAP in year "*y-2*" and estimated values in year "*y-1*"

Changes in obligations

6.6. The costs of changes in obligations are estimated based on changes in legal or other obligations imposed on the distribution licensee between one Regulatory Period and the next. The distribution licensee may propose additional adjustments to be included in this term to reflect other step changes in that are not otherwise captured in the calculation of operating expenditures. The inclusion of any such additional adjustments is subject to the approval of the Commission.

6.7. The distribution licensee must provide evidence showing:

(a) A change in obligations has either occurred or can reasonably be expected to occur in the next Regulatory Period.

(b) The legal basis for imposing this change. Where the change results from a Government policy decision, the distribution licensee must demonstrate that they are legally obliged to implement this policy.

(c) The forecast change in efficient operating expenditures resulting from the change in obligations.

Consumer Price Inflation

6.8. By default, operating expenditures are expected to increase in line with the annual change in the Consumer Price Index. The distribution licensee must provide a forecast of the Consumer Price Index in each year of the Regulatory Period and the resulting annual average change. This forecast should be derived from official and independent sources which are publicly available.

Real employee cost effects

6.9. The real price effects component of the calculation represents the expected impact of increases in employee costs (including, but not limited to, salaries, social charges, guaranteed bonuses, pension contributions) in excess of the general rate of inflation.

6.10. The value of this component is calculated as the product of the share of employee costs in operating expenditures and the forecast average annual real change in employee costs over the Regulatory Period (both expressed as a percentage).

Capacity driver

6.11. The capacity driver component represents the forecast real rate of change in operating expenditures resulting from changes in the facility size over the Regulatory Period.

6.12. The value of this component is calculated as the product of the forecast change in available firm capacity of the facility over the Regulatory Period and the elasticity of operating expenditures, excluding internal gas losses, with respect to change in facility capacity (both expressed as a percentage).

Productivity rate

6.13. The productivity component represents the forecast real rate of change in operating expenditures resulting from productivity improvements over the Regulatory Period.

6.14. In determining the productivity rate, the distribution licensee and the Commission shall have regard to:

(a) The historical rates of productivity improvement achieved by the distribution licensee.

(b) Assessments made for other distribution licensees and for other regulated infrastructure providers in Malaysia.

(c) Assessments made by regulatory authorities in countries with similar incentive-based regulatory regimes.

Internal gas losses

6.15. The costs of purchasing gas to cover internal gas losses. These costs are calculated using the marginal cost of gas supply.

6.16. The marginal cost of gas supply is defined as the price determined on a competitive gas exchange or, in the absence of such an exchange in Malaysia, the estimated price of purchasing liquefied natural gas including, where applicable, associated regasification terminal and transportation charges.

END OF SECTION

7. Determining the working capital allowance

Calculation of the working capital allowance

7.1. The working capital allowance included in the Annual Revenue Requirement is calculated as the product of the value of cash working capital and the short-term borrowing interest rate. It represents the financing costs to the distribution licensee of maintaining such capital. The allowance is calculated according to the following formula:

$$WORK_t = SHRT_P \times CASH_t$$

Where:

'$SHRT_P$' is the forecast average cost of short-term (<1 year) loans for the Regulatory Period.

'$CASH_t$' is the value of cash working capital.

7.2. The value of cash working capital is calculated on a 'lead-lag' basis, according to the following formula:

$$CASH_t = max[0, (OPEX_t/365) \times (RBLE - PBLE)]$$

Where:

'*RBLE*' is the average number of days of accounts receivable in the preceding three years for which actual audited data is available.

'*PBLE*' is the average number of days of accounts payable in the preceding three years for which actual audited data is available.

END OF SECTION

8. Determining the Regulated Asset Base

Principles of the Regulated Asset Base

8.1. The Regulated Asset Base represents net investment by the distribution licensee which is remunerated through Regulated Tariffs. The general principles applied are that:

(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 customer contributions.

(b) Assets included in the Regulated Asset Base are valued at the historical cost of purchase less customer contributions. No revaluation is applied.

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

(d) 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.

(e) The Commission may include assets owned by the Government of Malaysia that are operated and maintained by the distribution licensee to be included in the Regulated Asset Base of the distribution licensee. The cost of such assets will be valued at the net book value.

Calculation of the Regulated Asset Base

8.2. Within each Regulatory Period, the Regulatory 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:

$$RAB_t = RAB_{t-1} + CPEX_t - CONT_t - DISP_t - DEPN_t$$

Where:

'$CPEX_t$' represents the approved purchase cost of assets expected to be commissioned in year *'t'*, including capitalised interest during construction, as set out in the approved investment plan.

'$CONT_t$' represents the value of customer contributions received during year *'t'*.

'$DISP_t$' represents the net value of fixed assets disposed of during year 't'.

Approved investment plan

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

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

(a) A list of all projects and programmes (for smaller projects) that the distribution licensee proposes to invest in during the next Regulatory Period.

(b) The estimated investment costs of each project or programme, including an allowance for capitalised interest during construction.

(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.

(e) For very large projects, the distribution licensee may propose in its investment plan that the associated capital expenditures are added to the Regulated Asset Base in phases in order to facilitate the financing of such projects.

(f) 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.

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

8.6. 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 volumes by comparison with the historical average costs of investments to meet volume growth.

Updating of the Regulated Asset Base

8.7. The Regulated Asset Base will be updated at the start of each Regulatory Period. The process for updating is 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 above but substituting approved actual purchase costs of commissioned assets, capital contributions and asset disposals in each year for the approved forecast values.

(c) The depreciation allowance in each year shall then be recalculated accordingly.

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

8.8. Where assets belonging to a third party are transferred to the distribution licensee during a Regulatory Period, then these will be included in the roll-forward of the Regulated Asset Base:

(a) Such transferred assets will be valued at their purchase price.

(b) The exception to this is where such assets are transferred for free or a nominal sum. In such instances, the transferred assets will be valued at their net book value as of the date of transfer, as recorded in the audited financial statements of the third party.

8.9. For the purposes of this roll-forward, the Commission may disallow some part of the actual purchase costs of commissioned assets or the inclusion of some commissioned assets where it considers, following an ex-post prudency review, that these costs or assets are inefficient.

Ex-post prudency reviews of capital expenditure

8.10. Prior to the updating of the Regulated Asset Base, the Commission shall conduct an ex-post prudency review of the actual purchase costs to be included in the updated Regulated Asset Base where either:

(a) The project or programme was not included in either the approved investment plan or in a plan prepared and approved under the Open Season provisions in the relevant Third Party Access Code for Malaysian Distribution Pipelines.

(b) The project or programme was included in the approved investment plan, but its actual purchase costs exceed the approved estimated costs included in the plan by more than the prudency review threshold. This threshold is initially set at 10% above the approved estimated costs and may be adjusted by the Commission from time to time.

8.11. Notwithstanding the above, no such review shall be required where the aggregate of actual purchase costs of all projects or programmes does not exceed the aggregate of approved estimated costs of all projects or programmes included in the plan by more than a threshold. This threshold shall be set equal to half of the prudency review threshold as determined above.

8.12. Following such a review, the Commission may determine that:

(a) A project or programme that was not included in an approved investment plan or in a plan prepared and approved under the Open Season provisions may not be included in the updated Regulated Asset Base on the grounds that the investment was not required or sufficiently justified.

(b) Part or all of the difference between the actual purchase costs of a project or programme and the estimated costs in an approved investment plan may not be included in the updated Regulated Asset Base on the grounds that these costs were excessive or otherwise inefficient.

8.13. No review will be conducted of the actual purchase costs for projects and programmes where these were included in the approved investment plan and where the purchase costs do not exceed the prudency review threshold.

8.14. In assessing the need for a project or programme that was not included in the approved investment plan, the Commission shall have regard to:

(a) The circumstances prevailing at the time of the investment decision.

(b) The factors that could reasonably be expected to have been considered at the time the relevant capital expenditure was undertaken.

(c) The distribution licensee must also demonstrate why the need for the project or programme could not have been predicted at the time of developing the investment plan.

8.15. In assessing the reasonableness of the costs of a project or programme included in the approved investment plan but where these costs exceed the prudency review threshold, the Commission shall have regard to:

(a) Whether the distribution licensee has followed accepted good industry practice in planning investments and in procuring goods and works.

(b) Whether an appropriate competitive tendering process was followed.

(c) The track record of the distribution licensee in accurately estimating capital expenditures (so as not to reward consistent under-estimation).

(d) Whether the cost overruns can be ascribed to external factors outside the control of the distribution licensee.

Line-pack

8.16. The cost of procuring line-pack is included in the Regulated Asset Base as a non-depreciating asset, allowing a return to be earned on this cost.

8.17. The volumes of line-pack required for each facility shall be estimated based on engineering judgement and updated ahead of each Regulatory Period. The forecast volumes for each Regulatory Period shall take account of any expansion to the facility within that period where this forms part of an investment plan approved by the Commission.

8.18. The cost of line-pack existing at the start of each Regulatory Period and forming part of the opening Regulated Asset Base for that Regulatory Period is calculated using actual costs of purchase. Where line-pack has been provided for free or in-kind, a cost of zero is applied.

8.19. The cost of procuring line-pack forecast to be added during the Regulatory Period is calculated using the marginal cost of gas supply, as defined in section 6. This is included in the Regulated

Asset Base in the same manner as for capital expenditures and is subject to the same ex-post prudency review requirements.

END OF SECTION

9. Determining the Weighted Average Cost of Capital

Principles

9.1. The Weighted Average Cost of Capital (WACC) represents the commercially fair and reasonable return to debt and equity investors on the Regulatory Asset Base of distribution licensee having regard to the cash flow risks associated with the management of the assets of distribution licensee.

9.2. In determining the WACC, the Commission must ensure that:

(a) the WACC is based on an efficient and prudent capital structure

(b) the WACC reflects market-based returns on debt and equity

(c) the WACC adequately reflects regulatory and market risk

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

Calculation of WACC

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

$$WACC = GEAR \times DRTN \times (1 - RATE) + (1 - GEAR) \times ERTN$$

Where:

'DRTN' is the nominal cost of debt.

'ERTN' is the nominal (after-tax) return on equity.

'GEAR' is gearing, that is, the share of net debt (long-term debt less cash and cash equivalents) in the sum of net debt and equity.

'RATE' is the sum of the statutory corporation tax rate and zakat rate.

Gearing

9.4. 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 the distribution licensee.

9.5. In setting the level of gearing, the Commission will have regard to the following:

(a) Setting a gearing level that is generally consistent with an investment grade rating for the distribution licensee, if assessed on a stand-alone basis.

(b) Setting a gearing level that does not lead nor is reasonably likely to lead to financing difficulties for the distribution licensee or to costs of financing that create an unfair burden on Users.

(c) The level of gearing applied to other distribution licensees and to other regulated infrastructure providers in Malaysia.

(d) International practice by regulatory authorities in countries that have similar incentive-based regulation.

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

Cost of equity

9.7. In setting the cost of equity, the Commission will have regard to:

(a) The Capital Asset Pricing Model or other theoretical models as applied under incentive-based regulatory regimes in Malaysia and internationally.

(b) Assessments made for other distribution licensees and for other regulated infrastructure providers in Malaysia.

(c) Assessments made by regulatory authorities in countries with similar incentive-based regulatory regimes.

Capital Asset Pricing Model estimation

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

$$ERTN = RFR + (MRP \times \beta_{equity})$$

Where:

'RFR' is the Risk-Free Rate, the rate of return that would be available from a risk-free investment (proxied by the yield on a sovereign government bond)

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

'β_{equity}' (the Equity Beta) is the exposure to market risk of the distribution licensee, measured by the level of covariance of returns on an investment in the distribution licensee and the returns from the market portfolio divided by the variance of the returns on the market portfolio

9.9. In setting the Risk-Free Rate, the Commission will primarily rely on the historical and current average yields on long-term Malaysian Government Securities but will consider whether any temporary or unique circumstances (for example, and without limitation, the actions of the monetary authorities, such as quantitative easing and other unconventional monetary policies) are impacting the calculated Risk-Free Rate.

9.10. In setting the Market Risk Premium, the Commission will use evidence from the Malaysian stock market (KLSE) and from international estimates and precedents set by regulatory authorities in countries with similar regulatory arrangements.

9.11. In setting the Equity Beta, the Commission will use:

(a) Historical data for the distribution licensee or, where this is not a stand-alone listed entity, its parent entity.

(b) Assessments made for other distribution licensees and for other regulated infrastructure providers in Malaysia.

(c) Assessments made by regulatory authorities in countries with similar incentive-based regulatory regimes.

Cost of debt

9.12. The cost of debt is calculated as a weighted average of the average interest rate on existing debt (“embedded debt”) and of the forecast cost of new debt to be raised during the Regulatory Period.

9.13. The weightings used are the average shares of embedded debt and new debt in total debt over the next Regulatory Period, taking into account:

(a) The reduction in the balance of embedded debt from principal repayments over the Regulatory Period.

(b) The expected need for new debt to finance the proposed investment plan, assuming the same notional gearing as is applied in the WACC calculation.

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

9.15. The Debt Premium is the estimated premium over the Risk-Free Rate that the distribution licensee must pay to finance their debt and reflects the additional risk inherent in these companies. In calculating the Debt Premium, the Commission will have regard to the following:

(a) The historical cost of debt of the distribution licensee.

(b) The historical (5-10 year) average yield on medium to long dated corporate bonds issued by investment-grade companies in Malaysia and elsewhere that face similar business and regulatory environments. An investment-grade company is considered to be one whose corporate bonds have a credit rating equivalent to or better than BBB- from Standard & Poors or Baa3 from Moody’s.

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

END OF SECTION

10. Determining the depreciation allowance

10.1. The proposed depreciation allowance is calculated for each year of the Regulatory Period by the distribution licensee, applying the following principles:

(a) The Regulatory Asset Base should be recovered in full by the distribution licensee, through the depreciation allowance, over the expected service (economic) lives of the relevant regulated assets.

(b) For the avoidance of doubt, the asset values used for this calculation shall be those approved by the Commission rather than those in the audited financial statements where these differ from each other.

(c) The distribution licensee shall propose depreciation rates or asset lives by major asset groupings, which are subject to Commission approval.

(d) Unless otherwise approved by the Commission, depreciation will be calculated using the straight-line method.

(e) No depreciation is charged in the year in which an asset is commissioned and enters the Regulated Asset Base (ie, depreciation begins to be charged in the first full year following the commissioning of the asset).

10.2. The distribution licensee shall periodically review the remaining usable life of individual assets. Where this exceeds the remaining life as calculated using the depreciation rate or asset life applied to the applicable asset grouping, the distribution licensee shall separate the individual asset and apply a new asset life for depreciation purposes, consistent with its remaining usable life.

10.3. For the avoidance of doubt, where an asset is fully-depreciated but continues in service, then no revaluation will be permitted and the asset will remain in the Regulated Asset Base with a value of zero.

10.4. In exceptional circumstances, the Commission may decide to approve accelerated depreciation of one or more asset categories in order to meet financeability requirements, as established in section 15.

END OF SECTION

11. Determining the tax and zakat allowance

11.1. 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.

11.2. 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 below:

$$TAXZ_t = RATE_t \times (REQT_t - OPEX_t - DEPN_t)$$

11.3. 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.

END OF SECTION

12. Determining the Efficiency Carry-Over Scheme adjustment

12.1. The operating expenditure Efficiency Carry-Over Scheme adjustment is intended to ensure that the distribution licensee retains the same benefit or incurs the same cost of outperforming or underperforming, respectively, against forecast operating expenditures in any given year of the Regulatory Period. This ensures that the distribution licensee is indifferent as to the timing of making improvements in the efficiency of operating expenditures.

12.2. The operating expenditure Efficiency Carry-Over Scheme shall apply from the second full Regulatory Period onwards.

12.3. The operating expenditure Efficiency Carry-Over Scheme operates as follows:

(a) For each year of the previous Regulatory Period, actual operating expenditure (except for the last year of the previous Regulatory Period where estimates based on year-to-date expenditures may be used), is compared with the forecast operating expenditure for the corresponding year that was included in the approved Annual Revenue Requirement.

(b) The difference (positive or negative) between actual and forecasted operating expenditure is quantified for each year of the previous Regulatory Period.

(c) For each year of the previous Regulatory Period, the incremental efficiency gain or loss is calculated as this difference relative to the difference in the preceding year.

(d) The incremental efficiency gain/loss in each year of the previous Regulatory Period is retained/incurred for three years (or, where a different Regulatory Period is used, the length of the Regulatory Period), by being carried forward as necessary into the current Regulatory Period until it has been retained/incurred for three years.

12.4. The operating expenditure Efficiency Carry-Over Scheme adjustment is calculated according to the following formula:

$$ECSO_t = \left(\sum_{n}^{N} GAIN_n\right) \Big/ T_P$$

Where:

'*n*' is a year in the previous Regulatory Period and '*N*' is the total number of years in the previous period

'$GAIN_n$' is the carried-forward incremental efficiency gain/loss from year *'n'* of the previous Regulatory Period.

'T_p' is equal to the total number of years in Regulatory Period '*P*'

12.5. The incremental efficiency gain/loss (*'$GAIN_n$'*) is calculated according to the following formula:

If $t + N \leq n + N$ then $GAIN_n = (AOPX_n - OPEX_n) - (AOPX_{n-1} - OPEX_{n-1})$

If $t + N > n + N$ then $GAIN_n = 0$

For example, if an incremental efficiency gain is made in Year 2 (n = 2) of the previous Regulatory Period and that previous Regulatory Period has a total of three years (N = 3) then the incremental efficiency gain has a positive value for Years 1 and 2 (t = 1, t = 2) of the current Regulatory Period. For Year 3 (t = 3) of the current Regulatory Period, this incremental efficiency gain is set at zero (as t + N is greater than n + N). The distribution licensee will, therefore, retain the incremental efficiency gain for a total of three years following the year in which it is made (Year 3 of the pervious Regulatory Period and Years 1-2 of the current Regulatory Period).

12.6. Examples of the application of the operating expenditure Efficiency Carry-Over Scheme are provided as an Annex to these Guidelines.

END OF SECTION

13. Determining the expansion projects adjustment

Principles

13.1. Where a distribution licensee undertakes a major expansion of capacity or system coverage or both, with initially low levels of utilisation, then this section provides for deferral of part of the recovery of the costs of the expansion. This is to avoid such expansions leading to large increases in Regulated Tariffs for all Users, whether or not they are Users of the expansion, and to provide incentives for distribution licensees to only undertake expansions that are commercially viable.

Definition of a major expansion

13.2. For the purposes of this section, a major expansion is defined as being a project the investment costs of which represents 5% or more of the existing Regulated Asset Base of the distribution licensee.

Deferral of cost recovery for a major expansion

13.3. As part of the submission of a major expansion for approval, whether as part of an investment plan or under the Open Season provisions in the relevant Third Party Access Code for Malaysian Distribution Pipelines or for ex-post approval for inclusion in the Regulated Asset Base, the distribution licensee must provide the following information:

(a) The forecast utilisation of the asset/s comprising the major expansion over its lifetime and an explanation of this forecast.

(b) The resulting expected incremental revenues from the major expansion, assuming a continuation of current Regulated Tariffs and allowing for any reductions in utilisation of existing assets resulting from the expansion.

(c) The estimated incremental costs of the major expansion calculated as the sum of estimated increases in operating expenditures, working capital, return on capital and depreciation resulting from the expansion less any reductions in operating expenditures for the existing system resulting from the expansion.

13.4. Where the incremental revenues from the major expansion are insufficient to recover the incremental increase in operating expenditures and working capital, then the Commission shall not approve the expansion.

13.5. Where the incremental revenues from the major expansion are sufficient to recover the incremental increase in operating expenditures and working capital but not to also recover the return on capital and depreciation allowance associated with the expansion ("capital costs"), then the Commission may approve the expansion but require part or all of the recovery of these capital costs is deferred.

13.6. In general, a deferral will be required where the Commission considers that the increase in capital resulting from the inclusion of investment costs of the major expansion into the Regulated Asset Base will result in an increase in Regulated Tariffs for Users that is unacceptable. In assessing acceptability, the Commission shall have particular regard to the impacts on Users who are not expected to be Users of the major expansion and so do not benefit from it.

Impacts of a deferral

13.7. Where a deferral is required, this will be applied as follows:

(a) The expansion assets will not be included in the Regulated Asset Base for the period of deferral.

(b) During the period of deferral, the distribution licensee will maintain separate records of:

(i) the depreciated historical cost of the expansion assets;

(ii) the capital costs (depreciation and return) associated with the expansion; and

(iii) the incremental revenues generated by the expansion (calculated using the current Base Average Tariff).

(c) Where the annual capital costs exceed the annual incremental revenues, the difference will be accrued in a notional Deferred Recovery Account. The distribution licensee will be allowed to earn a return on this notional account, calculated at WACC.

13.8. The calculation of the Deferred Recovery Account will be according to the following formula:

$$DEFA_t = [DEFA_{t-1} \times (1 + WACC)] + CAPT_{t-1}$$

Where:

'$DEFA_t$' is the Deferred Recovery Account opening balance in year *'t'*.

'$CAPT_{t-1}$' is the capital costs of the major expansion (sum of return on capital and depreciation of the value of the asset/s included in the expansion) in year *'t-1'*.

13.9. A separate Deferred Recovery Account will be calculated for each individual major expansion.

Inclusion in the Regulated Asset Base

13.10. When the annual incremental revenues exceed the annual capital costs of the expansion, then:

(a) At the start of the immediately following Regulatory Period, the expansion assets will be added to the opening Regulated Asset Base at their depreciated historical cost. From this date, a depreciation allowance and a return on the expansion assets will be included in the calculation of the Annual Revenue Requirement.

(b) At the start of the immediately following Regulatory Period, the Deferred Recovery Account balance will be added to the opening Regulated Asset Base as a separate asset. From this date, a depreciation allowance and a return on this balance will be included in the calculation of the Annual Revenue Requirement. The balance will be depreciated over the remaining life of the associated expansion assets at the time these are added to the Regulated Asset Base.

(c) The requirement to maintain separate records of annual capital costs and incremental revenues associated with the expansion assets will cease.

13.11. Where an expansion project appears unlikely to generate sufficient incremental revenues to recover its capital costs then the Commission may, at its own discretion, direct that the associated assets and the Deferred Recovery Account balance are to be added to the Regulated Asset Base at the start of the next Regulatory Period. However, no such addition shall take place until a minimum of two full Regulatory Periods have passed since the date of commissioning of the assets, unless otherwise agreed by the Commission and the distribution licensee.

Expansions under Open Season arrangements

13.12. Where a major expansion has been prepared under the Open Season provisions in the relevant Third Party Access Code for Malaysian Distribution Pipelines then the distribution licensee may adopt either of the following approaches to financing the major expansion:

(a) A Capacity Expansion Charge may be levied on all Users using the expansion to recover the difference between its costs and the expected revenues from Regulated Tariffs. The calculation of the Capacity Expansion Charge is subject to review and approval by the Commission as part of the distribution licensee's submission on the Open Season expansion.

(b) Regulated Tariffs may be applied to Users using the expansion and the difference between costs and expected revenues will be deferred in accordance with the provisions of this section.

13.13. If a Capacity Expansion Charge is applied then this shall be treated as a customer contribution which is deducted from the Regulated Asset Base. This reduces the asset value of the major expansion which enters into the Regulated Asset Base by the difference between its total investment cost and the share of this cost that is expected to be recovered from Regulated Tariffs.

13.14. The deemed customer contribution representing the Capacity Expansion Charge shall be applied on a one-time basis in the same year as the associated asset enters the Regulated Asset Base. The deemed customer contribution shall be calculated as the expected present value of revenues from the Capacity Expansion Charge (discounted at WACC) over the lifetime of the asset.

END OF SECTION

14. Determining the Quality of Service Incentives adjustment

14.1. The Quality of Service Incentives adjustment provides a bonus or penalty to the distribution licensee for its performance relative to but not limited to the standard of performances required in section 13B of the Gas Supply Act 1993.

14.2. For some of the standard of performances or key performance indicators (KPIs), the Commission will stipulate a target level of performance to be met by the distribution licensee and a bonus and penalty range and value for exceeding or failing to achieve this target. The bonus and penalty values will be expressed as a percentage of Annual Revenue Requirements in each year. These targets and bonuses and penalties will be specified prior to the start of each Regulatory Period.

14.3. Prior to the start of each Regulatory Period, the distribution licensee will calculate the monetary sum of the bonuses and penalties for the preceding Regulatory Period, according to the following formula:

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

Where:

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

'$PERF_{q,n}$' is the bonus or penalty payable 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.

'$CORR_{P-2}$' is a correction factor which represents the difference between the estimated value of bonuses 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 bonuses and penalties in that year.

14.4. The correction factor is required as the bonuses 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 bonuses and penalties applied in the following Regulatory Period.

14.5. 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:

$$SERV_t = SERV_{P-1}/T_P$$

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

END OF SECTION

15. Financeability

15.1. Before making a determination on the Annual Revenue Requirement, the Commission shall check that the proposed Annual Revenue Requirement is consistent with the distribution licensee maintaining an investment-grade credit rating.

15.2. For the purposes of this check, the Commission shall have regard to the criteria applied by ratings agencies. In particular, the Commission shall review whether the forecast Debt Service Coverage Ratio or equivalent ratios falls within the levels required to maintain an investment-grade credit rating.

15.3. Where this is not the case, the Commission shall 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. If a longer-term concern, the Commission shall identify appropriate adjustments to the calculation of the Annual Revenue Requirement that can address this concern, including but not limited to the application of accelerated depreciation allowances and the deferral of capital expenditures.

END OF SECTION

16. Interim reviews

16.1. A distribution licensee may, at any time during a Regulatory Period, request an interim review where there are one or more material changes in circumstances that is expected to result in an increase in its revenue requirements that is greater than 5% of the average Annual Revenue Requirement for the remainder of the Regulatory Period.

16.2. The calculation of the increase shall be made on a cumulative basis so that a single change increasing revenue requirements by 4% shall not trigger an interim review but two changes, each increasing revenue requirements by 3%, may do so. In calculating such a cumulative change, the distribution licensee shall sum the absolute changes in revenue requirements in preceding years and divide by the average Annual Revenue Requirement for the remainder of the Regulatory Period.

16.3. Such changes in circumstances include, but are not limited to:

(a) A change in law.

(b) Natural disasters, including but not limited to: earthquakes, tsunamis, typhoons, floods, wildfires.

(c) Additional capital or operating expenditure obligations that are imposed by or approved by the Minister and which could not be reasonably foreseen at the time that the Annual Revenue Requirement was determined.

16.4. Under an interim review, the distribution licensee will submit its estimates of the additional efficient costs and the resulting change to the Annual Revenue Requirement for each remaining year of the Regulatory Period and to the Base Average Tariff. The Commission will review these estimates and provide recommendation on whether an adjustment is required and, if so, the level of the adjustment to the Minister for approval.

16.5. In making its recommendation, the Commission shall have regard to whether:

(a) the nature or type of event causing the adjustment can be clearly identified

(b) a prudent distribution licensee could reasonably be expected to prevent the event from occurring or to substantially mitigate the cost impacts of such an event; and

(c) a prudent distribution licensee could reasonably be expected to insure against such an event, having regard to the availability and costs of such insurance.

16.6. Following approval, the Annual Revenue Requirement and the Base Average Tariff shall be amended accordingly.

16.7. The proposed adjustments and the review of these by the Commission shall be limited to the impacts of the change in circumstances.

END OF SECTION

17. Exemptions

Grounds for exemption

17.1. These Guidelines are applicable to all distribution licensees. However, the Commission may, at its sole discretion, exempt distribution licensees from the full requirements set out in these Guidelines in instances including, but not limited to, the following:

(a) The costs of complying with the full requirements are excessive relative to the size of the market served by the distribution pipeline or facility.

(b) The distribution licensees and Users share common ownership and:

(i) no third parties require access to the facility; and

(ii) the distribution licensees and Users do not have control over the level of final gas prices charged to consumers.

(c) Other circumstances where there is no compelling public interest requiring the application of the full requirements in these Guidelines.

17.2. A distribution licensee whose facility supplies less than 2.11 GJ/day (equivalent to 2.0 MMSCFD), measured as a daily average over the previous 24 months, may apply for an exemption on the grounds of small size. For newly-constructed facilities, distribution licensees may apply for an exemption using evidence of forecast supply from the facility.

17.3. A distribution licensee which shares common ownership with all Users using a facility may apply for an exemption. For this purpose, common ownership between two entities is defined as existing where:

(a) The first entity controls the second entity, or

(b) The second entity controls the first entity, or

(c) The second entity is controlled by an entity that also controls the first entity.

(d) "Control" is defined as being able to determine financial and operating policies. This might, for example, be through holding the majority of voting rights or through having the right to appoint a majority of the Board of Directors or through having requirements in an entity's articles of association requiring approval of major decisions by another entity.

17.4. A distribution licensee applying for an exemption on the grounds of shared common ownership must demonstrate that Users of its facility with common ownership are unable to control prices to downstream consumers of products or services which make use of gas supplied by the facility. This would include where downstream products or services are delivered in a competitive market or where downstream products or services are separately regulated or where the prices of gas supplied by the facility are otherwise controlled by regulation or contract.

Impacts of an exemption

17.5. Where an exemption is granted, the distribution licensee may set tariffs for Regulated Services without the requirement to have an Annual Revenue Requirement and the individual tariffs approved by the Minister.

17.6. The tariffs set by the distribution licensee under this exemption must conform to the principles set out in section 3 of these Guidelines and also to the following principles:

(a) ***Reasonableness***. The revenues to be recovered from the facility tariffs must not be excessive relative to costs and, in particular, must only allow a reasonable return on capital to be earned.

(b) ***Efficiency***. The revenues to be recovered from the facility tariffs must be consistent with efficient operation and capital investments.

17.7. A distribution licensee who is granted an exemption shall inform the Commission within 30 days if the grounds for the exemption become invalid.

Review of exemptions

17.8. At any time, a User who is either using or proposes to use an exempted facility may request the Commission to investigate whether the existing facility tariffs comply with these requirements. If the Commission concludes that they do not do so, then the Commission will:

(a) remove the exemption and require the distribution licensee to fully comply with all parts of these Guidelines, including the immediate submission of a compliant set of facility tariffs; or

(b) allow the distribution licensee to retain the exemption but impose conditions relating to the amendment or replacement of the existing facility tariffs to ensure these comply with the requirements set out in this section.

17.9. The conclusions of any such investigation, the supporting analysis and the resulting decision of the Commission will be published on the Commission's website.

17.10. In the interests of reducing frivolous or unsubstantiated requests for investigations, the Commission may, at its discretion, require the party requesting the investigation to pay a deposit to the Commission to cover part or all of the estimated incremental costs of the investigation:

(a) This deposit may be required prior to the investigation commencing or may be paid in installments over the period of the investigation.

(b) If the investigation concludes that that the distribution licensee has failed to comply with the requirements set out in this section, then the deposit will be returned in full, including any accrued interest, to the party requesting the investigation.

(c) If the investigation concludes that that the distribution licensee has complied with the requirements set out in this section, then part or all of the deposit may be retained by the Commission to offset the incremental costs of the investigation.

END OF SECTION

18. Transitional provisions

Pilot Regulatory Period

18.1. For all distribution licensees a pilot Regulatory Period shall apply. This pilot Regulatory Period shall run for one year, and shall commence from a date as shall be notified by the Commission.

18.2. A shortened approvals process shall apply for the pilot Regulatory Period unless otherwise specified by the Commission, as follows:

(a) The distribution licensee shall submit its proposed Annual Revenue Requirement, accompanying documentation, proposed Base Average Tariff and proposed Base Tariff Table no later than four months prior to the start of the pilot Regulatory Period. These submissions will only need to cover one year forward (the duration of the pilot Regulatory Period).

(b) The Commission may issue its draft determination no later than three months prior to the start of the pilot Regulatory Period.

(c) The Commission may issue its final determination no later than two months prior to the start of the pilot Regulatory Period and shall submit this to the Minister.

18.3. The Efficiency Carry-Over Scheme adjustment, the expansion projects adjustment and the Quality of Service Incentives adjustment shall not apply in the pilot Regulatory Period.

Not applicable to Gas Malaysia Distribution Sdn Bhd

18.4. The pilot Regulatory Period shall not apply to the entity holding a distribution licensee and owned by Gas Malaysia Distribution Sdn Bhd, which already operates under Regulated Tariffs subject to review by the Commission. The existing Regulated Tariffs applied by Gas Malaysia Distribution Sdn Bhd shall remain in effect until the end of the current Regulatory Period on 31 December 2019. New

Regulated Tariffs, calculated and approved according to these Guidelines, shall take effect from 1 January 2020.

First full Regulatory Period

18.5. The first full Regulatory Period shall start:

(a) for Gas Malaysia Distribution Sdn. Bhd. (Company No.: 1256744-A), from 1 January 2020; and

(b) for all other distribution licensees, from a date to be notified by the Commission.

The approvals process for the first Regulatory Period shall follow the timings set out in section 5 of these Guidelines.

18.6. This first full Regulatory Period shall last for three years for all distribution licensees unless amended by the Commission in accordance with section 4 of these Guidelines.

18.7. No Revenue Adjustment shall apply in the first year of the first full Regulatory Period.

Applications for exemption

18.8. A distribution licensee who wishes to be exempted from the full requirements of these Guidelines on the grounds provided in section 17 for the pilot Regulatory Period must submit a provisional application for such exemption:

(a) for a distribution licensee whose distribution licence was granted by the Commission on or before 30 June of any particular year, before 1 September of such year, and

(b) for a distribution licensee whose distribution licence was granted by the Commission after 30 June of any particular year, before 1 March of the year following such year.

The Commission shall issue an interim approval or rejection of such an application based on the information contained in the provisional application.

18.8A. Without prejudice to section 18.8., the Commission may consider an application for exemption which is submitted on or before 31 December 2019.

18.9. An interim approval of an exemption is only valid for the pilot Regulatory Period.

18.10. A distribution licensee who wishes to be exempted from the full requirements of these Guidelines on the grounds provided in section 17 for the any full Regulatory Period must submit a provisional application for such exemption eleven months prior to the commencement of such Regulatory Periods. The Commission may request additional information to be provided by the distribution licensee in order to make a full consideration of the application and shall issue an approval or rejection of such an application based on the information contained in the application as supplemented by any additional information provided.

18.11. Notwithstanding section 18.10., the Commission may approve an exemption for a full Regulatory Period or any portion thereof and on such terms and conditions as it may specify.

18.12. *[Deleted]*

18.13. For the avoidance of doubt, nothing in this section prevents a distribution licensee reapplying for an exemption where it previous application/s were rejected.

END OF SECTION

19. Definitions

19.1. 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 Gas Supply Act 1993, the Gas Supply Regulations 1997 and the Third Party Access Code for Malaysian Distribution Pipelines, in the order of priority of it first appearing.

19.2. In this Guidelines, the following words shall have the following meanings ascribed to them:

(a) "Access Arrangement" means the document established by a distribution licensee and approved by the Commission containing the standard principles of arrangement between such distribution licensee and the parties who wish to access the relevant distribution pipeline.

(b) "Allowed Average Tariff" means the maximum average revenue that a distribution licensee may earn from tariffs charged for Regulated Services, and is the sum of the Base Average Tariff and the Revenue Adjustment;

(c) "Allowed Revenue" means the revenues that can be received by a distribution licensee to recover the reasonable and efficient costs of providing Regulated Services;

(d) "Annual Revenue Requirement" means the maximum Allowed Revenues required to recover the reasonable and efficient costs of a distribution licensee including a reasonable return on its investments for each year of a Regulatory Period;

(e) "Base Average Tariff" means the approved average tariff for a Regulatory Period and is constant in all years of that period;

(f) "Base Tariff Table" means the set of individual Regulated Tariffs that, combined, yield the Base Average Tariff;

(g) "Capacity Expansion Charge" means the charge levied on Users of an expansion under Open Season provisions for the purposes of recovering the differences between the costs of the expansion and the expected revenues from Regulated Tariffs paid by Users for Regulated Services provided by the expansion;

(h) "Deferred Recovery Account" means the notional account representing the difference between the capital costs and the annual incremental revenues associated with an expansion, where recovery of the full costs has been deferred;

(i) "Efficiency Carry-Over Scheme" means the adjustment included in the Annual Revenue Requirement to ensure that the distribution licensee is indifferent as to the timing of making improvements in the efficiency of operating expenditures;

(j) "Excluded Services" means services other than Regulated Services that are provided using the same facility;

(k) "Gas Distribution Agreement" means the agreement entered into between a distribution licensee and a User pursuant to the Third Party Access Code for Malaysian Distribution Pipelines;

(l) "Guidelines" means these Guidelines on Determination of Gas Distribution Facility Tariff Under Incentive-Based Regulation (IBR);

(m) "Quality of Service Incentive" means a bonus or penalty payable to or by a distribution licensee for its performance relative to a standard of performance or key performance indicator as stated in section 14;

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

(o) “Regulated Services” is the receipt, distribution and delivery of gas through any part of the facility at a quantity equal to or less than the Reserved Firm Capacity without interruption, except as is expressly permitted under the Access Arrangement;

(p) “Regulated Tariffs” means the tariffs and charges applied for the provision of the Regulated Services;

(q) “Regulatory Period” means the period for which a Base Average Tariff is determined;

(r) “Reserved Firm Capacity” means the capacity in the facility, expressed as a daily quantity in GJ/day, that is reserved to a User to flow gas into and from an entry point to the facility to an exit point from the facility without interruption, except as is expressly permitted under the Access Arrangement;

(s) “Revenue Adjustment” means the annual adjustment added to the Base Average Tariff to give the Allowed Average Tariff in each year;

(t) “Revenue Requirements Model” means a spreadsheet or equivalent financial model prepared by a distribution licensee and approved by the Commission for the purposes of calculating the Annual Revenue Requirement;

(u) “Tariff Table” means the list of individual tariffs for Regulated Services as published by the distribution licensee for each year;

(v) “User” means an entity that is making use of the facility to unload, store and/or regasify liquefied natural gas and/or flow gas or to provide other related services; and

(w) “Weighted Average Cost of Capital” means the estimated efficient cost of financing of the distribution licensee and which represents its allowed reasonable return.

19.3. For the purposes of the following provisions of these Guidelines, any reference to the Gas Supply Act 1993 shall mean a reference to such Act, as amended, varied or modified by the Amendment Act and any reference to the Gas Supply Regulations 1997 shall mean a reference to such Regulations, as similarly amended, varied or modified.

19.4. Where any examples are provided in these Guidelines, such examples are for illustrative purposes only. They are not exhaustive and do not set a limit on the investigation and enforcement activities of the Commission. It will be necessary to consider the circumstances of each case on an individual basis, with reference to these Guidelines in order to come out with a final conclusion and verdict by the Commission.

19.5. These Guidelines are not the substitute for the Gas Supply Act 1993 nor for any Regulations made thereunder. Anyone in doubt about how they may be affected by the Gas Supply Act 1993 should obtain independent legal advice in respect thereof.

END OF SECTION

Dated: 18 APRIL 2022

Ts. ABDUL RAZIB BIN DAWOOD
Chief Executive Officer
for Energy Commission

Annex to section 12: Example of Efficiency Carry-Over Scheme adjustment calculation

This annex presents an illustrative example of the calculation of adjustments under the operating expenditure Efficiency Carry-Over scheme.

Calculation of incremental efficiency gain in previous Regulatory Period		**Year (n)**		
		1	**2**	**3**
Allowed Opex	$OPEX_n$	100	95	90
Actual Opex	$AOPX_n$	96	92	85
Diffference	$(OPEX_n - AOPX_n)$	4	3	5
Incremental Efficiency Gain / Loss	$GAIN_n$	4	(1)	2

Carry-forward of incremental efficiency gains		**Previous Regulatory Period (P-1)**			**Current Regulatory Period (P)**		
		Year (n)			**Year (t)**		
		1	**2**	**3**	**1**	**2**	**3**
Incremental Gain in year n = 1	$GAIN_1$		4	4	4		
Incremental Gain in year n = 2	$GAIN_2$			(1)	(1)	(1)	
Incremental Gain in year n = 3	$GAIN_3$				2	2	2
Total gains carried-forward by year	$\sum GAIN_n$				**5**	**1**	**2**

Calculation of annual ECS adjustment		**Total**		
Total carry-forward in Regulatory Period P	$\sum GAIN_{n,t}$	8		
Number of years	T_P	3		
Annual ECS adjustment	$ECSO_t$	**2.7**	**2.7**	**2.7**

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

ACAP	Actual Reserved Firm Capacity
AEXC	Actual revenue earned by the distribution licensee from Excluded Services
ALLW	Allowed Average Tariff
AOPX	Actual operating expenditures excluding the costs of internal gas losses
AREV	Total revenues earned from the provision of Regulated Services
AVGE	Actual Average Tariff
BASE	Base Average Tariff
β_{equity}	Equity Beta, measured by the level of covariance of returns on an investment in the distribution licensee and the returns from the market portfolio divided by the variance of the returns on the market portfolio
BOPX	Base operating expenditure
CAPT	Capital costs of the major expansion (sum of return on capital and depreciation of the value of the assets included in the expansion)
CAPY	Forecast increase in operating expenditures excluding internal gas losses in percentage terms that results from a 1% increase in facility capacity
CASH	Value of cash working capital
CONT	Value of customer contributions
CPEX	Approved purchase cost of assets including capitalised interest during construction
CPI	All-items Consumer Price Index for Malaysia
DAYS	Number of calendar days
DEFA	Deferred Recovery Account balance
DEPN	Depreciation
DISP	Net value of fixed assets disposed
DRTN	Nominal cost of debt
ECSO	Operating expenditures Efficiency Carry-Over Scheme adjustment
EMPL	Share of employee costs in total operating expenditures excluding the costs of internal gas losses
ERTN	Nominal (after-tax) return on equity

FCAP	Forecast Reserved Firm Capacity
FEXC	Forecast revenue earned by the distribution licensee from Excluded Services
GAIN	Carried-forward incremental efficiency gain/loss
GEAR	Gearing, the share of net debt (long-term debt less cash and cash equivalents) in the sum of net debt and equity
IGAS	Forecast costs of procuring gas for internal losses (excluding line-pack gas requirements)
MRP	Market Risk Premium, the additional return (over the Risk-Free Rate) that can be expected from a balanced market portfolio of investments
OBLG	Cost of additional legal obligations imposed on the distribution licensee
OPEX	Allowed operating expenditures
PBLE	Average number of days of accounts payable in the preceding three years for which actual audited data is available
PROD	Forecast annual average real rate of productivity growth
RAB	Closing allowed Regulated Asset Base
RADJ	Revenue Adjustment
RATE	Sum of the statutory corporation tax rate and zakat rate
RBLE	Average number of days of accounts receivable in the preceding three years for which actual audited data is available
REAL	Forecast annual average change in real employee costs
REQT	Annual Revenue Requirement
RFR	Risk-Free Rate, the rate of return that would be available from a risk-free investment (proxied by the yield on a sovereign government bond)
S	Sharing factor applicable to the revenue-cap component
SERV	Quality of Service Incentives adjustment bonus (or penalty if negative)
SHRT	Forecast average cost of short-term (<1 year) loans
TAXZ	Tax and zakat allowance
WACC	Weighted Average Cost of Capital
WORK	Working capital allowance
Y	Sharing factor applicable to the Excluded Services component

Notation

m	is a single month with the first month being month 11 of year *'t-2'* and the last month being month 10 of year *'t-1'*
M	is the sum of months '*m*', totalling 12 months

n	first year of the previous Regulatory Period with the second year being *n+1* and so forth
N	total number of years in the previous period
0	base value at the start of the Regulatory Period
P	a Regulatory Period
q	an individual quality of service KPI
Q	total number of quality of service KPIs in the preceding Regulatory Period
t	a single year in the Regulatory Period
T	length of Regulatory Period '*P*' in years
y	first year of the Regulatory Period with the second year being *y+1* and so forth
y-1	final year of the preceding Regulatory Period