

BELIZE:

ELECTRICITY (DETERMINATION OF TARIFFS, CHARGES AND

FEES) BYELAWS, 2023

S.I. NO. xx OF 2023

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BELIZE:

STATUTORY INSTRUMENT

No. **xx** of 2023

BYELAWS made by the Public Utilities Commission pursuant to the powers conferred upon it by Section 7 of the Electricity Act, Chapter 221 of the Laws of Belize, Revised Edition 2020, and all other powers thereunto it enabling, and with the approval of the Minister.

(Gazetted 2023)

PART I

INTERPRETATION AND APPLICATION

Short title.

1. These Byelaws may be cited as the

ELECTRICITY (DETERMINATION OF TARIFFS, CHARGES AND FEES) BYELAWS, 2023.

Interpretation.

2. In these Byelaws, unless the context otherwise requires:

“ARP” means Annual Review Proceeding;

“ATP” means Annual Tariff Period;

CAP. 223 “Commission” means the Public Utilities Commission established under the Public Utilities Commission Act;

“Cost of Power” means the total input costs for electricity services, being the sum of electricity services delivered in accordance with the terms and conditions of any power purchase agreement approved by the Commission, electricity services exchanged in power pools subject to the approval of the Commission, electricity services provisioned from distributed energy resources, together with the fixed and variable operating costs of electricity production facilities operated by the Licensee subject to the approval of the Commission;

“customer” means any person served or entitled to be served by a Licensee;

“Demand-side resources” or “DSR” means resources behind customers’ meters that serve Resource Adequacy needs by reducing load, which reduces the need for additional generation and supply infrastructure. Collectively, these resources result from one of two methods: energy efficiency (*technologies and practices that reduce energy use while delivering the same service*) or load management (*technologies and practices that reduce energy use when supplies are constrained by shifting or limiting service*).

“Distributed Energy Resources” or “DERs” means small-scale electricity supply or demand-side resources that are interconnected to the electric grid. These are energy resources located close to load centers that can be used individually or in aggregate to provide value to the grid.

“Force Majeure” means any unforeseeable, external, and unavoidable event or circumstance or combination of events or circumstances or both that partially or fully prevents the Licensee from carrying out its license obligations, including but not limited to war, acts of warfare, hostilities, invasion, incursion by armed forces, acts of a hostile army, nation, or enemy, riot, civil commotion, insurrection, flood, fire, storm, lightning, and other Acts of God and only if such event or circumstance was not within the control of the Licensee and could not have been avoided had the Licensee taken reasonable care or complied with prudent utility practices.

“FTP” means full tariff period;

“FTRP” means full tariff review proceeding;

“Power System Operations and Planning” means the process of decision-making on the timescale described in the Second Schedule, employed by a Licensee to meet the anticipated demand for electricity services.

“Interested Party” means any person or entity that may be materially affected by the decision of the Commission;

“Least Cost Expansion Plan” or “LCEP” means a plan filed by a Public Utilities Commission approved independent consultant for review, amendment, and approval by the Commission to show how Belize intends to meet future energy needs, inclusive of supply-side

and demand-side resources; and how a Licensee shall secure the associated network and business infrastructure.

CAP. 221 “Licensee” means any legal person or entity licensed to produce, generate, store, transmit, sell, deliver, or supply electricity to or for the public under section 14 of the Act;

“Planning Proceedings” means any legal proceedings initiated by the Commission or a Licensee for the review and approval the Commission for (i) Least Cost Expansion Plans; (ii) supporting network and business activities/investments by a Licensee in support of an Approved LCEP; (iii) documentation and modeling prepared by a Licensee in the conduct of its Power System Operations and Planning function.

KPIs proposed in RSM “Proposed Values” means those values proposed and submitted by the Licensee during a FTRP or an ARP as the Regulated Values for the Regulated Parameters set out in the First Schedule including forecast values for the Cost of Power, recovery of charges in the Cost of Power and costs related to power delivery;

“Prudence Check” means the scrutiny by the Commission on the reasonableness of expenditure incurred or proposed to be incurred, in terms of financing plan, use of efficient technology, cost control, and such other factors as may be considered appropriate by the Commission, with a view to ensuring that the Licensee has exercised economy, efficiency and effectiveness and has been vigilant in its decisions while incurring expenditure.

"Reference Cost of Power" is the forecast Cost of Power for each tariff year as determined by the Commission in a FTRP or an ARP after reviewing any submissions made by the Licensee;

“Regulated Parameters” means the key performance indicators, described in the First Schedule, that collectively make resources available from ratepayers to a Licensee, to enable the said Licensee to meet the levels of service agreed to in related Planning Proceedings. These Regulated Parameters are used in the mathematical expressions in the methodology for determining the mean electricity rate, electricity tariffs, rates, charges, and fees whose values determine the specific form or characteristic of the expression;

KPIs approved in RSM. “Regulated Values” means those values determined by the Commission to be the approved values for the Regulated Parameters

set out in the Schedules and as determined by the Commission from time to time in related Planning Proceedings, including forecast values for the Cost of Power, recovery of expenses in the Cost of Power and costs related to power delivery;

“Resource Adequacy” is the ability of an electricity system’s capacity (*energy supply resources*) to reliably meet the customers’ energy requirements and system loads (*energy demanded*) at all hours within the study period.

“Schedule” means a Schedule to these Byelaws and any reference to Schedules shall be construed as referring collectively to all Schedules;

CAP. 221. “the Act” means the Electricity Act as amended from time to time;

“the Acts” means both the PUC Act and the Act;

CAP. 223. “the PUC Act” means the Public Utilities Commission Act as amended from time to time;

“Threshold Event” the occurrence of any of (i) climate-induced changes in the electricity supply matrix that results in Cost of Power being materially higher than expected, and/or (ii) inflationary pressures in energy markets, which in the deliberate judgement of the Commission the prudent response is an immediate adjustment in electricity rates.

“Value-added of Delivery” or “VAD” means the portion of the electric retail rate that compensates the Licensee for the provision of electricity services to its customers, minus the cost of goods (unput costs for electricity purchased or produced).

Application
and scope.

3. (1) These Byelaws shall prescribe the tariffs, charges, and fees to retail customers for the generation, transmission, and supply of electricity and for provision of existing and new services to be charged by a Licensee in Belize and the mechanisms, formulas, and procedures whereby such tariffs, rates, charges and fees shall be calculated and determined for all purposes.

(2) These regulations do not apply where wholesale market participants tariff, charges, and fees are determined through the transparent process of bidding (*esp. Power Purchase Agreements*) in accordance with Regulations issued by the Commission.

(3) These regulations do not apply in respect of cost recovery for network connectivity to nodes or premises located in an area outside of the Licensee's existing delivery infrastructure (*esp. Infrastructure Charges*) between Licensees or between a Licensee and its customers, as prescribed by the Commission.

PART II

RATEMAKING PRINCIPLES AND PROCEDURES

Ratemaking principles.

4. (1) Rates shall be determined by the long-term revenue requirements for capital, depreciation, operating expenses, and statutory charges for an efficiently operated utility provider. The methodology developed and used by the Commission for determining electricity tariffs, rates, charges, fees, and mean electricity rates makes provisions for these Regulated Values:

- (a) **RCOP** - a fee for the timely recovery of the full Cost of Power;
- (b) **Corrections** - a fee for the timely recovery of the amounts resulting from variances between *ex-ante* approved revenue requirements and *ex-post* actual realized revenues in the period under study;
- (c) **VAD** - a fee for power delivery services to compensate the Licensee for planning and other supporting business functions necessary for carrying out its core undertakings, for the conduct of system and market operations, for the transport of electricity from power sources to customers, and for customer administration associated with the supply of electricity including, without limitation, a reasonable return on investment when operating in a manner compatible with international standards of an efficiently operated power system of similar characteristics to that of Belize; and
- (d) **DSR** - a fee for recovery of co-investments by the Licensee in respect of Demand-side resources that have been both reasonably incurred and approved by the Commission.

Determination of Regulated Values

(2) The Commission shall set mean electricity rates, tariffs, rates, fees and charges for the FTP using the methodology developed by and the Regulated Values determined by the Commission in a FTRP for the Regulated Parameters determined in a related Planning Proceeding (*pursuant to Byelaw 38*).

(3) The mean electricity rate, tariffs, rates, fees, and charges fixed in accordance with Byelaw 4-(1) and -(2) herein, and the Regulated Values determined thereby shall be adjusted at a FTRP as provided for in Part III; or between each ARP in an FTP and such other rate proceedings as provided for in Part IV of these Byelaws.

Determination
of Tariff
Schedules

(4) Tariffs shall be allocated to different customer classes, as determined by the Commission, to produce rates for such customer classes that are based on the cost of serving such classes, except where the Commission determines that a different allocation between customer classes is required to provide affordable rates to a disadvantaged population.

(5) Retail rates shall be designed so that the Licensee will recover on average the mean electricity rate resulting from application of the methodology and the Regulated Values determined by the Commission for the Regulated Parameters set out in the First Schedule,

(6) Subject to these Byelaws, a Licensee shall not charge a customer less than the applicable rates or charges determined in accordance with these Byelaws, except where the prior approval of the Commission has been given and the Commission shall not fix customer tariffs that are less than the Reference Cost of Power.

Procedure
for filing

(7) The Licensee shall provide documentation and rationale, along with the formal submission (hereinafter referred to as the Submission) to the Commission, in such forms as specified in the Schedules. The Commission may, from time to time, stipulate additional/supplementary/alternative formats for the submission of details by the Licensee that may be reasonably required for the determination of tariffs, charges and fees.

Burden on
Licensee to
meet sound
utility practice

(8) In making its Submission, the Licensee must demonstrate that:

(a) in carrying out its Power System Operations and Planning function, it did so in accordance with sound utility practice, resulting in business results for COP that are least cost, least risk; and

(b) its planned investments are prudent; and its core utility operations and maintenance, capital programme execution and supporting business functions meet the standards of an efficiently-operated utility provider; and therefore, rates charged for electricity services are fair and reasonable.

(c) Where the Licensee conducts both regulated and unregulated activities, the common expenses relating to such businesses shall be apportioned among the businesses on the appropriate basis and full justification shall be given in writing.

(9) The Commission shall examine the contents of any filing made by a Licensee to satisfy itself of the conformity thereof with the provisions of sub-rule 4(7), and

Submissions to
be complete

(a) shall return the filing to the Licensee with directions to amend and re-file in accordance with the provisions of sub-rule 4(7) if it is found by the Commission not to be in conformity of sub-rule 4(7); or

(b) where the filing is found to be in conformity with the requirements of sub-rule 4(7), shall accept the filing acknowledge the filing by giving notice of such filing to the public and the Licensee.

(10) The Commission shall conduct due Prudence Check, which shall form the basis for determining the Tariffs, Charges and Fees of a generation, transmission and supply Licensee.

(11) All Submission shall be deemed to be filed on the date received by the Commission and when re-filed in accordance with the provision of sub-rule 4(9), on the date the Commission accepts the re-filing.

Filing of
documents by
Licensee or an
Interested
Party.

(13) Where a Licensee or an Interested Party files comments or information with the Commission, to the extent such comments or information include statements or information purported to be factual, such comments or information shall be accompanied by a sworn affidavit by the person making the submission or, if an entity makes the submission, by the most qualified officer authorized by that entity.

(14) During a rate proceeding, three copies of all applications, reports, comments, or information provided by a Licensee or an Interested Party to the Commission shall be filed in the Commission's office.

(15) A copy of all documents submitted by an Interested Party which are intended to be relied upon shall be provided to the Licensee at his principal office of business on the same day.

(16) On the date of issuance, the Commission shall provide and serve on the Licensee at his principal business office a copy of any proposal, report or decision issued by the Commission.

Publication
and Service of
Notices by the
Commission

(17) The service of any report, decision, notice or other document required by these Byelaws may be effected by hand delivery through a courier, by registered post addressed to the last known place of abode or business of the person or entity to be served or by publication in a national

newspaper in a case where the Commission is satisfied that it is not reasonably practicable to serve said documents in any other manner.

(18) No later than one working day after receipt or issuance by the Commission, a copy of the official Submission by the Licensee, or an Interested Party, or issued by the Commission, shall be made available to the public at the office of the Commission and at the principal office of the Licensee, and members of the public shall be allowed to obtain copies of the documents at either of these locations at their own expense.

Provided that this paragraph shall not apply to such documents as are governed by Byelaw 9 of these Byelaws.

(19) For the purposes of these Byelaws, where a Licensee is required to provide public notice, the Licensee shall -

Requirement of public notice by the Licensee

- (a) place a copy of the notice in a publicly accessible part of its principal office of business in such manner and in such place that it is readily available for inspection, free of charge by members of the general public during normal business hours;
- (b) publish the notice or, with the consent of the Commission, a summary thereof, in two newspapers published and circulated in Belize; and
- (c) send a copy of the notice or such part or parts thereof as are appropriate to any person who may request such a copy, provided that the Licensee may assess a reasonable charge to cover the cost of such provision.

Conduct of Proceedings by the Commission

5. (1) During all rate proceedings and public hearings, the Commission shall have the right and responsibility to manage such proceedings and hearings to ensure that they are effective, efficient and provide participants, as far as possible, a fair opportunity to be heard.

(2) The Commission shall have full power and authority to take cognizance of, accept as fact, rely and act upon any statement contained in any affidavit or documentation filed or submitted by a Licensee in respect of the proceedings insofar as such statement is not disputed by any relevant party to the proceedings.

(3) At the time of accepting a Submission, the Commission shall also determine whether a hearing is required to arrive at a just and informed

decision. For the purpose of making such a determination, the Commission may:

- (a) require any person to produce such document or other information as the Commission may consider necessary for the purpose or enabling it to conduct a fair hearing and to arrive at a just and informed decision;
- (b) prepare written questions for which the answers are sought by the Commission and which are relevant to the Submission; or
- (c) require the appearance of any person.

Schedule of proceeding.

6. Throughout a FTRP and an ARP, the Commission and the Licensee shall maintain an up- to-date schedule of the proceeding to be kept in

- (a) a publicly accessible part of their respective office and principal business office in such manner and in such place that is readily available for inspection free of charge by members of the general public during normal business hours.
- (b) on digital platforms in popular use by Interested Parties and the Public.

Cost of independent experts.

7. The costs of independent experts retained by the Commission in the course of a FTRP or an ARP, in accordance with Byelaws 20 and 30, shall be borne by the Licensee, subject to reimbursement through the tariffs and rates established in the FTRP or ARP.

Cost of Licensee and interested party.

8. A Licensee and any Interested Party participating in a rate proceeding before the Commission shall bear their own respective costs of such participation, unless the Commission issues an order to the contrary.

Confidential Information.

9. (1) The Licensee and interested parties may request confidential treatment for any commercially sensitive information submitted in a FTRP or an ARP.

(2) When filing information, it deemed to be confidential, the Licensee or an Interested Party shall submit a petition for confidential treatment that sets forth the justification for confidential treatment and shall clearly mark the information it deems to be confidential.

(3) Only such information as is commercially sensitive should be marked as confidential and, where only a portion of a document includes confidential information, an expurgated copy shall be filed with the full document.

(4) Confidential information shall be treated confidentially unless, within five days of receipt of the petition and the information marked as confidential, the Commission finds that the information is not commercially sensitive and so notifies the person who submitted the information in writing in which case, the person who submitted the information may withdraw the information by written notice to the Commission within two days of the Commission's findings, instead of having it disclosed; and information so withdrawn shall not be considered by the Commission in making a determination or decision.

(5) No inference may be drawn from the decision of the petitioner to withdraw such information from the consideration of the Commission.

Offences

10. Where the Licensee fails to comply with a directive or an Order of the Commission under these Regulations, the provisions of sections 42 thru to 46 of the PUC Act shall apply.

PART III

FULL TARIFF REVIEW PROCEEDINGS

Determination
of regulated
values.

11. (1) During a FTRP, the Regulated Values, mean electricity rates, tariffs, rates, charges and fees to be applied over the next four-year tariff period (the Full Tariff Period) shall be determined by the Commission.

(2) The next FTRP done under this Byelaw shall determine the Regulated Values for the Full Tariff Period commencing on July 1, 2024 and terminating on June 30, 2028.

(3) Subsequent Full Tariff Periods shall commence and terminate, respectively, on the fourth anniversary of the commencement and termination of the previous FTP.

Basis for
regulated
values.

12. (1) The proposed RCOP and CAPEX, shall provide for the implementation of the LCEP Order, including *inter alia*, new capacity additions on terms and conditions as specified, new and upgraded transmission circuits as required to fulfill the approved LCEP, and distribution infrastructure expansion and upgrades intended to fulfill customers energy requirements and integrate DERs.

(2) Regulated values for the FTP including the proposed COP, VAD and DSR shall be supported by forecasts of operating costs (OPEX), depreciation tables and capital expenditures (CAPEX) deemed fair and reasonable for executing the approved LCEP and associated utility business activities.

(3) The Regulated Values shall also provide for rate adjustments so that any variances between the previously approved and the business results (*pursuant to Byelaw 35*) as of the commencement of the FTP shall be reduced to zero as of the termination of the FTP.

(4) The Regulated Values shall also provide for the collection of regulatory fees by the Licensee and for reimbursement to the Licensee of any statutory charges.

Notice of
FTRP.

13. (1) At least 160 days prior to the commencement of a FTP, a Licensee, in coordination with the Commission, shall provide public notice, in accordance with Byelaw 4-(19) above, of the commencement of a FTRP.

(2) Such notice shall describe the following:

(i) the purpose and nature of a FTRP;

- (ii) a summary of the issues to be addressed;
- (iii) the process for the FTRP and the opportunities available for public comment and participation;
- (iv) indication of the time, date and place for the public hearing;
- (v) the fact that members of the public can obtain up-to-date information on the schedule of the proceeding at the office of the Commission and at the Licensee's principal business office.

Publication of notice. 14. On the date of publication of the public notice described in Byelaw 13 above, the Licensee shall submit proposed values for Regulated Values, mean electricity rates, tariffs, rates, charges and fees for the next full tariff period accompanied by relevant historical data and forecasts of future costs in the form specified by the Commission, and any other pertinent information as may be required by the Commission and shall set out in detail the data and calculations supporting the Licensee's proposed values, tariffs, rates, charges and fees.

FTRP Public hearing. 15. (1) No later than twenty days after the date of publication of the notice described in Byelaw 13, the Commission shall hold, at the time and at the place set out in the notice, a public hearing in which the Licensee shall present its submission;

(2) The Staff of the Commission may make presentations for the purpose of sharing their initial findings in order to advance public understanding and generate a more informed dialogue;

(3) The Commission may, if so requested by Interested Parties, allow persons to participate at the hearing for the purpose of ventilating important issues and perspectives;

Comments of interested parties. 16. Within thirty days of the date of the Licensee's submission, interested parties may submit to the Commission written comments and information on the Licensee's proposals.

Initial Decision of Commission. 17. No earlier than thirty-one days and no later than forty-five days after the date of the Licensee's submission, the Commission shall issue an initial written decision setting out the Regulated Values, mean electricity rates,

tariffs, rates, charges and fees for the next full tariff period along with reasons explaining the decision.

Comments on Commission's initial decision.

18. Within fifteen days after the Initial Decision of the PUC above, the Licensee and any Interested Party may submit written comments on the decision.

Final Decision of Commission.

19. (1) Where there is no objection to the PUC's Initial Decision by the Licensee or an Interested Party representing users of at least 5% of the annual amount of energy supplied by the Licensee in the preceding year, the PUC shall deliver a Final Decision adopting its Initial Decision.

(2) Where a Licensee or an Interested Party without objecting to the Initial Decision files information that in the judgement of the Commission is material to the FTRP, the Commission may amend its Initial Decision where changes in material facts, or the Commission's understanding of those facts, would lead to an outcome adverse to what was intended in the Initial Decision.

Objections to Commission's decision.

20. (1) Where the Licensee or an Interested Party representing users of at least 5% of the annual energy supplied by the Licensee in the preceding calendar year, objects in writing to the Initial Decision of the Commission, the Commission shall appoint an independent expert to review the Regulated Values, mean electricity rates, tariffs, rates, charges and fees no earlier than sixteen days and no later than thirty days after the date of issuance of the Initial Decision of the Commission.

(2) The Commission shall direct the review conducted by the independent expert. The expert's review shall not include questions of law or the administrative process of the Commission and shall be confined to the facts of the rate proceeding under review.

(3) Such independent expert shall have adequate qualifications and shall have no financial stake in the outcome of the proceedings.

(4) For the purposes of this Byelaw, an expert shall not be deemed to have a financial stake in the outcome of the proceeding merely on account of the fact that he is a customer of the Licensee, or has a financial stake in an entity that is a customer of the Licensee, unless electricity constitutes more than 5% of the annual expenses of such entity.

(5) (a) The Commission shall, in consultation with the Licensee develop the terms of reference for the independent expert, and conduct a

screening of qualified persons making a preliminary choice of not less than three candidates.

(b) The Licensee shall thereafter select the independent expert from those candidates so screened,

(c) In doing so the PUC shall appoint an independent expert as advised by the Licensee within 15 days of the receipt of an objection as qualified under subsection (1) herein.

Report of expert.

21. (1) Within thirty days of the date of his appointment, the independent expert shall issue a written report documenting his review and containing his recommendations on the Regulated Values, mean electricity rates, tariffs, rates, charges and fees for the next full tariff period.

(2) The independent expert shall give full and fair consideration to the Initial Decision of the Commission and the objections, comments and information submitted by the Licensee and interested parties and such report shall be submitted to the Commission and the Licensee and shall be made available to the public in accordance with Byelaw 4-(18) of these Byelaws.

Comments on report.

22. Within twenty days of the date of issuance of the report under Byelaw 21 above, the Licensee and any interested parties may submit to the Commission comments on the report, and if the Commission receives comments challenging the conclusions of the report or any material aspect therein, the Commission shall afford the Licensee and the aforesaid interested parties an opportunity to be heard no earlier than twenty one days and no later than thirty five days after the date of issuance of the independent expert's report.

Commission's Final Decision on objections

23. No later than fifty days after the date of issuance of the independent expert's report above, the Commission shall issue a Final Decision setting out the Regulated Values, mean electricity rate, tariffs, rates, charges and fees that will be in effect for the next FTP.

Regulated values to remain in effect.

24. (1) The Regulated Values, mean electricity rate, tariffs, rates, charges and fees in effect during the previous FTP shall remain in effect pending the Final Decision of the Commission in accordance with Byelaw 23 above.

(2) The Regulated Values, mean electricity rate, tariffs, rates, charges and fees determined by the Commission in the Final Decision shall

become effective on the first day of the FTP regardless of the date upon which the Commission's Final Decision is issued.

(3) The Licensee shall, in accordance with the directions of the Commission, rebate to or recover from consumers any excess or shortfall in revenues arising as a result of the Commission's Final Decision being issued after the first day of the FTP in subsequent customer bills.

PART IV

ANNUAL REVIEW PROCEEDINGS

Procedure during ARP

25. (1) During an ARP the Regulated Values, mean electricity rate, tariffs, rates, charges and fees to be applied over the remainder of the FTP shall be determined by the Commission.

(2) Subject to subsection (3) below, the Regulated Values shall provide for rate adjustments so that any Corrections amounts (*pursuant to Byelaw 35*) as of the commencement of the ATP shall be zeroed as of the termination of the FTP.

(3) If in the deliberate judgement of the Commission, the quantum of Corrections would impose a rate shock, the Commission may elect to zero any Corrections amounts (*pursuant to Byelaw 35*) over the current and upcoming FTP, instead of only the current FTP as specified in subsection (2) above.

Submission of proposed values.

26. (1) At least ninety (90) days prior to the commencement of an ATP, the Licensee shall submit proposed values for Regulated Values, mean electricity rate, tariffs, rates, charges and fees for the next ATP and a report describing the Licensee's performance as to the standards of performance and Regulated Values determined by the Commission for the Regulated Parameters as determined in the related planning proceeding (*pursuant to Byelaw 38*)

Third Schedule applicable

(2) For removal of doubt, the Submission shall include an updated COP and CAPEX forecast as prescribed in the Third Schedule 2.

Commission shall specify content and format

27. The Licensee's submission and report shall include all relevant historical data and forecasts of future costs in accordance with the Third Schedule or subsequent refinements by the Commission.

ARP Public hearing.

28. (1) No later than fifteen days after the submission by a Licensee pursuant to Byelaw 26, the Commission shall hold, at the time and at the place set out in the notice, a public hearing in which the Licensee shall present its submission;

(2) The Staff of the Commission may make presentations for the purpose of sharing their initial findings in order to advance public understanding and generate a more informed dialogue;

Determination of Commission.

29. (1) Within thirty days of the date of the Licensee's submission set out in Byelaws 26 and 27 above, the Commission shall issue an initial written decision fixing the Regulated Values, mean electricity rate, tariffs, rates, charges and fees for the next ATP.

(2) Within ten days of the date of issuance of the Initial Decision the Licensee and interested parties may file with the Commission written comments on the Initial Decision.

(3) Where there is no objection to the Commission's Initial Decision by the Licensee or by Interested Parties, the Commission shall issue a Final Decision adopting its Initial Decision.

Appointment of independent expert.

30. (1) Where the Licensee or an Interested Party representing users of at least 5% of the annual energy supplied by the Licensee in the preceding calendar year, objects in writing to the Initial Decision of the Commission in accordance with Byelaw 29-(2), the Commission shall appoint an independent expert to review the Regulated Values, mean electricity rate, tariffs, rates, charges and fees no earlier than eleven days and no later than twenty days after the date of issuance of the Initial Decision of the Commission.

(2) The independent expert shall be subject to the requirements of Byelaw 20-(2), -(3), -(4) and -(5)

(3) Within twenty days of the date of his appointment, the independent expert shall issue a written report to the Commission documenting his review and containing his recommendations on the Regulated Values, mean electricity rate, tariffs, rates, charges and fees for the next ATP.

Final Decision.

31. (1) No later than fifteen days after the date of issuance of the independent expert's report, the Commission shall issue a Final Decision

setting out the Regulated Values, mean electricity rate, tariffs, rates, charges and fees that will be in effect for the next ATP.

(2) The Commission may make determinations and further provisions for the enforcement of the said Final Decision.

Rate
adjustments.

32. (1) The Regulated Values, mean electricity rate, tariffs, rates, charges and fees in effect during the previous ATP shall remain in effect pending the Final Decision of the Commission in accordance with Byelaw 31 above.

(2) The Regulated Values, mean electricity rate, tariffs, rates, charges and fees determined by the Commission in the Final Decision shall become effective on the first day of the ATP regardless of the date upon which the Commission's Final Decision is issued.

(3) The Licensee shall, in accordance with the directions of the Commission, rebate to or recover from consumers any excess or shortfall in revenues arising as a result of the Commission's Final Decision being issued after the first day of the ATP in subsequent customer bills.

Proceedings for
Cost of Power.

33. (1) No later than December 15th in each calendar year, the Licensee shall submit a new forecast for Cost of Power for the said full tariff period; accompanied by relevant historical data and forecasts of demand, net generation & supply, and dispatch by sources in the form specified by the Commission in the Third Schedule 3, thereby clearly narrating assumptions on weather, energy prices and operational philosophy and any other pertinent information as may be required by the Commission and shall set out in worksheets the dispatch and production costs modeling supporting the Licensee's proposed values for RCOP.

(2) Within 10 days of the submission of the new forecast for Cost of Power, the Commission shall make a determination as to whether a Threshold Event has occurred.

(3) If the Commission determines a Threshold Event did not occur:

(a) Within 20 days of the submission of the new forecast for the Reference Cost of Power, the Commission may issue a directive to the Licensee in respect of the management of Belize's wholesale power market and the resulting COP expectations;

Threshold
Event results
in rate
proceeding.

(b) Within 10 days of the issued directive, the Licensee shall detail how it intends to comply with the Commission's directive;

(c) Within 5 days of the receipt of the Licensees' commitment, the Commission may make an Order for the purpose of requiring compliance with its directive.

(4) Otherwise, if a Threshold Event is declared by the Commission:

(a) Within 20 days of the submission of the new forecast for the Reference Cost of Power, the Commission shall issue a final draft of the amendments to the Final Decision;

(b) Within 10 days of the date of issuance of the final draft of the amendments, the licensee and interested parties may file with the Commission written comments on the proposed amendments;

(c) Within 5 days of the deadline for the filing of comments, the Commission shall issue the amendments, if any, taking into consideration the comments filed under 33-(3)(b) above;

(d) The revised tariff schedule shall come into force January 1 of the said tariff period.

(5) Any Orders or directives made under this section shall be read and construed as one with the ARP Final Decision.

34. (1) Subject to Byelaw 38 and the Third Schedule 4, the Licensee shall submit network plans intended to achieve its licence obligations and support implementation of the Approved LCEP (the "CAPEX Programme"), including detailed capital investments descriptors, justification, timelines and budgets (the "CAPEX"), in the content and format as prescribed by the Commission.

Proceedings for
CAPEX
Programme

(2) The Commission shall set the rules of procedures governing these CAPEX Programming proceedings, which the Licensee shall comply with in full.

(3) Once the CAPEX Programme is approved, the Licensee shall execute accordingly. Where the Licensee finds itself having difficulty meeting any technical, timing or budgetary commitments, the onus is on the Licensee to apply for and obtain requisite consent from the Commission.

The discretion is solely with the Commission whether to make any adjustments and thereby waive any penalties that would have been forthcoming.

(4) Where a Licensee executes CAPEX projects or undertakes cost overruns without the Commissions review and consent, the unjustified costs so incurred shall be disallowed in full, at the next rate proceeding.

PART V

ADJUSTMENTS IN RATES FOR VARIANCES (CORRECTIONS)

General
Corrections

35. The Licensee shall establish a Regulated Value, to be known as the General Corrections (the “Corrections”), to regulate the manner in which surplus or deficits in revenue requirements vis-à-vis realized revenues are passed on to customers, as determined by the Commission in a FTRP or an ARP.

Insurance
Reserve

36. (1) The Licensee shall, with the approval of the Commission, pre-fund a reserve account, as is appropriate, for the regulated and orderly pass through of costs resulting from Force Majeure.

(2) A License shall initiate a proceeding and obtain Commissions approval before drawing down on the reserve account.

(3) A License shall file with the Commission any and all supporting documentation in respect of the Force Majeure event and the resulting costs incurred.

(4) The onus is on the Licensees to show a clear link of the physical and economic damage to the works undertaken; and to show that the costs of the works undertaken were fair and reasonable.

(5) Upon review of the documentary evidence and any further inquiry undertaken, the Commission shall determine the quantum the Licensee will draw down on the reserve account for the said Force Majeure event.

(6) At the subsequent FTRP or ARP, the Commission shall include in the RSM, provisions for replenishing the reserve account in amounts and timing it so decides.

Other
Corrections

37. The Licensee may, with the approval of the Commission, provide for such other Corrections as are appropriate to avoid large short-term fluctuations in the prices charged to customers including, without limitation, providing for the regulated and orderly pass through of costs resulting from Force Majeure that exceed the reserve account.

PART VI

MISCELLANEOUS PROVISIONS

Planning
proceedings
direct rate
proceedings.

38. (1) The Commission shall direct a competent person and a Licensee to jointly file a LCEP that adequately details how the country of Belize intends to satisfy anticipated demand in electricity services over a horizon of not less than fifteen years from the date of filing.

(2) The Commission shall direct that the LCEP or any such revisions shall be filed not less than 150 days before the commencement of a FTRP and any related updates not less than 60 days before the commencement of an ARP.

(3) The Commission shall prescribe the format, the subject matter to be considered and the standards of performance applicable to the Licensee's undertaking. That is, the Commission shall circumscribe the content and format for reports, datasets, worksheets and models, the detailing of capital program estimates and schedules, and other information required of the Licensee in the conduct of the related Planning Proceeding.

(4) The Commission may issue an Order or any appropriate subsidiary legislation detailing planning, monitoring and reporting obligations that are to be adhered to by the Licensee in respect of preparation of a LCEP, implementation of an Approved LCEP and periodic updates/revisions.

(5) The Commission may issue an Order or any appropriate subsidiary legislation further detailing planning, monitoring and reporting obligations that are to be adhered to by a Licensee in respect of its Power System Operations and Planning function.

Revisions to
Schedules

39. The Commission may by Order made revisions to the First Schedule in order to harmonize with the outputs of Planning Proceedings.

40. (1) These Byelaws shall take effect from **1st July, 2023**.

Commencement
and repeal of SI
145 of 2005 &
116 of 2009

(2) On the coming into force of these Byelaw, the Electricity Tariffs, Charges and Quality of Service Standards Byelaws, 2005 as amended, shall stand repealed.

(3) Notwithstanding such repeal, any proceedings before the Commission pertaining to the period prior to the commencement of this Regulation shall be governed by the Electricity Tariffs, Charges and Quality Standards Byelaws, 2005, as amended.

MADE by the Public Utilities Commission this _____ day of _____, 2023.

(DEAN E. MOLINA)
Chairman
Public Utilities Commission

APPROVED by the Minister of Public Utilities this _____ day of _____, 2023.

(MICHEL CHEBAT)
Minister of Energy & Public Utilities
having responsible for Electricity

FIRST SCHEDULE**REGULATED PARAMETERS**

The Regulated Parameters for the Full Tariff Period (FTP) whose regulated values may be varied only in a Full Tariff Review Proceeding (FTRP) are listed in TABLE 1 below.

TABLE 1: REGULATED PARAMETERS (FTP)

Parameter	Unit
L_{UL}	%
OPEX	BZ\$
GEC	BZ\$
COP Overheads	BZ\$
I_{UL}	%
ROR_{LL}	%
ROR_{UL}	%
Corrections	BZ\$
$CAPEX_{TOT}$	BZ\$
G	%

Where:

- L_{UL}** –Ceiling on system losses in a given tariff year across the FTP;
- OPEX** – Revenue Expenditures allocated to the Licensee for the provision of retail electricity services;
- GEC** – [General Expenses Capitalized] Revenue Expenditures that the Commission allows the Licensee to allocate to the RAV;
- COP Overheads** – Ceiling on Expenditures incurred to manage purchase agreements, as determined by the Commission, allocated to Cost of Power;
- I_{UL}** - Cost of Debt upper limit applicable to interest during construction;
- ROR_{LL}** - Rate of Return lower limit;
- ROR_{UL}** - Rate of Return upper limit;
- Corrections** – General Corrections from the current FTP is included in rates for the upcoming FTP;
- $CAPEX_{TOT}$** – Ceiling on allowable Capital Expenditures in an FTP;
- G** – Gearing, being the ratio of debt to debt-plus-equity.

2. The Regulated Parameters whose regulated values are forecasted in a FTRP for each ATP of a FTP and the forecasted regulated values may be adjusted in an Annual Review Proceeding (ARP) are listed in TABLE 2 below.

TABLE 2: REGULATED PARAMETERS (FTP and ATP)

<u>Parameters</u>	<u>Unit</u>
<u>ROR</u>	<u>%</u>
<u>I</u>	<u>%</u>
<u>Electricity Sales</u>	<u>MWh</u>
<u>Cost of Power (COP)</u>	<u>BZ\$/kWh</u>
<u>Reference Cost of Power (RCOP)</u>	<u>BZ\$/kWh</u>
<u>Value Added of Delivery (VAD)</u>	<u>BZ\$/kWh</u>
<u>Corrections</u>	<u>BZ\$</u>
<u>Regulated Asset Value (RAV)</u>	<u>BZ\$</u>
<u>Depreciation (DEP)</u>	<u>BZ\$</u>
<u>Other Revenues</u>	<u>BZ\$</u>
<u>Mean Electricity Rate (MER)</u>	<u>BZ\$/kWh</u>

Where:

ROR - Target Rate of Return;

I - Cost of Debt applicable to interest during construction. *Major CAPEX projects shall apply the related financing terms, while general CAPEX projects shall apply the most recent long-term debt terms;*

Electricity Sales – are the historical and forecasted energy sold in the FTP;

Cost of Power – are the costs for energy supplied in the FTP, as validated by the Commission;

Reference Cost of Power – are the forecasted costs for energy yet to be supplied in the FTP, as per dispatch modelling;

Value-Added of Delivery – are the fair and reasonable costs for the delivery of electricity services, as determined by the Commission;

Corrections – General Corrections from the completed ARP is charged to the remaining ATPs in the FTP;

Regulated Asset Value – are the cumulative net value of investments deemed to be prudent and useful, as determined by the Commission (*aka the “rate base”*);

Depreciation – is the annual expensing of the RAV, as determined by the Commission;

Other Revenues – Revenues derived from sources that are not sale of electricity, but employ utility assets;

Mean Electricity Rate – is the [tariff revenues] rate levied for recovery of the fair and reasonable costs in the provision of electricity services by a Licensee, as determined by the Commission;

SECOND SCHEDULE**POWER SYSTEM OPERATIONS AND PLANNING**

<u>Time Frame</u>	<u>Planning Focus</u>
Long term (<i>Years, months</i>)	Resource Adequacy Able to meet demand with sufficient supply-side and demand-side resources
Medium term (<i>One month, days, hours, minutes</i>)	System Balancing Unit Commitment, security constrained dispatch, reserves
Short term (Minutes, seconds)	System Stability Frequency response, voltage control compliance with ANSI C84.1

THIRD SCHEDULE

CONTENT AND FORMAT FOR SUBMISSIONS

Full Tariff Review Proceedings (FTRP)

Scope of an FTRP

1. (1) The purpose of the FTRP is to provide the resources from ratepayers to enable the utility to fund the “*least cost, least risk*” evolution of the electricity system across the prescribed planning horizon (the “LCEP”). The LCEP is by definition a deep dive into determining supply-side and demand-side sources, and related network and business investments that seek to meet Belize’s energy requirements into the future. Consequently, all regulated parameters and performance indicators, both technical and economic, are determined by the Commission in these proceedings.

Reports, information and datasets contained in an FTRP Submission

(2) The content of the FTRP Submission filed with the Commission shall contain at least four calendar years of recent actuals and going forward a planning horizon of not least than five years. The structure of the Submission shall be as follows:

- (a) **Executive Summary:** a brief overview of the proposed Regulated Values and related Schedules to the FTRP Decision, describing key considerations, assumptions and the financial resources being sought from ratepayers to enable industry evolution harmonized to the approved LCEP.
- (b) **Spreadsheet Modeling:** shall contain all assumptions, inputs and outputs made; including *inter alia* planning criteria, load forecast and related network nodes datasets, parameters describing the energy infrastructure (generation facilities, power pools, transmission network, key distribution nodes, DERs, etc.), resource adequacy analysis, CAPEX programming, and detailed utility performance and costs. Specifically,
 - i. financial statements;
 - ii. monthly demand and energy by key load nodes and in aggregate;
 - iii. expected uptake and impact of distributed energy resources;
 - iv. network representation, inclusive of power transfer parameters;
 - v. losses and resulting net generation & supply;
 - vi. electricity supply by sources;
 - vii. characteristics (*min/max capacity, startup time, availability, utilization factor, outage rates, ramp rates, etc.*) and costs

- (*capital costs, fixed and variable O&M, fuel expense, etc.*) for all generation & supply sources,
- viii. assumptions in respect of the weather and related hydro sources, storage properties, fuel & electricity purchases, heat rates of thermal power plants, etc.;
 - ix. dispatch simulation and resultant production costings, consistent with sound utility practice for power system operations;
 - x. Cost of Power details shown monthly and aggregated by ATPs;
 - xi. details of and providing rationale for all operational expenditures, and thereby justify the allocations to OPEX, GEC and COP Overheads;
 - xii. details of and providing rationale for all projects and major expenditures proposed in CAPEX programme, and thereby justify the allocations to CAPEX, GEC and IDC in respect of additions to the RAV;
 - xiii. Asset Register showing starting and ending balances by asset classes, works-in-progress (WIP), depreciation, asset additions & retirements for historical business year;
 - xiv. details on depreciation rates for various asset classes, thereby show expensing of fixed assets being in conformity with industry practice;
 - xv. Capital Contributions showing starting and ending balances, inclusive of amortization expensed;
 - xvi. rationale for proposed financial parameters, in particular, upper and lower bounds for rate of return, and definition of an efficient capital structure;
 - xvii. proposed network efficiency targets and related penalty regime for underperformance;
 - xviii. proposed quality of service standards (QoS) and related penalty regime for underperformance;
 - xix. any other datasets and performance indicators that may be prescribed by the Commission.

- (c) **Proposed Regulated Values and Schedules:** shall contain the licensee's calculations for high-level Regulated values, as prescribed in the First Schedule of these Byelaw, in the formats shown below:
- i. Schedule 1: Corrections;
 - ii. Schedule 2: RAV;
 - iii. Schedule 3: COP;
 - iv. Schedule 4: ROR-OPEX-G;
 - v. Schedule 5: TBR;
 - vi. Schedule 6: Approved Tariffs
 - vii. Schedule 7: Approved Fees and Charges.

Schedule 1

Belize Electricity Limited (BEL)
Annual Corrections - July 1, 2020 to June 30, 2021

General Corrections - July 1, 2020 - June 30, 2021

¹ Approved Tariff Basket Revenue - \$	216,142,105
² Realized Tariff Basket Revenue - \$	222,913,189
Variance (Total Approved less Total Realized) - \$	-6,771,085
³ less: Disallowed Costs - \$	-3,860,611
Approved Corrections for 2020 21 ATP - \$	-10,631,696

Caye Caulker penalty for non-performance:
-1% of RoR

Schedule 2

Belize Electricity Limited (BEL)
Approved Regulated Asset Value (RAV) for Full Tariff Period (FTP) July 1, 2020, to June 30, 2024

Regulated Asset Value (RAV) as at December 31 of each year - \$:

Year	Validated		forecast		forecast	
	2019	2020	2021	2022	2023	2024
Starting RAV	369,640,959	373,256,368	386,061,108	408,890,169	417,905,243	452,447,254
Depreciation	17,458,394	17,492,707	17,492,707	19,422,283	19,850,499	21,491,245
Work In Progress	16,654,000	34,708,449	78,927,751	77,201,286	108,558,627	40,231,733
Additions	53,061,000	22,029,955	0	75,000,000	36,123,466	60,000,000
Net Contributed Capital		856,975	-1,967,216	9,062,643	1,169,223	-1,253,258
Ending RAV	373,256,368	386,061,108	393,890,169	417,905,243	452,447,254	480,271,000

Schedule 3

Belize Electricity Limited (BEL)

Approved Cost of Power (COP) Parameters and Demand for Full Tariff Period (FTP) July 1, 2020, to June 30, 2024

Approved Generation and Purchase of Power and Reference Cost of Power (COP), and Demand for each ATP of the FTP:

Year	2020-2021	2021-2022	2022-2023	2023-2024
¹ KWHrs Purchased and Generated - KWHrs	610,260,601	664,391,800	686,464,373	720,696,133
² Reference Cost of Power - \$	118,067,620	150,081,331	147,538,475	143,447,558
³ Approved Consumption/Demand - KWHrs	534,376,841	585,589,395	603,095,764	634,313,654
⁴ Reference Cost per KwHr Consumed - \$/KWHr	0.2209	0.2563	0.2446	0.2261

Schedule 4

Belize Electricity Limited (BEL)

Approved Rate of Return (ROR), OPEX and Gearing Ratio (G) for Full Tariff Period (FTP) July 1, 2020, to June 30, 2024

Approved Rate of Return (ROR) for each ATP of the FTP - %:

Period	2020-21	2021-22	2022-23	2023-24
ROR Lower Limit	8	8	8	8
ROR Target Value	10	10	8	8.5
ROR Upper Limit	12	12	12	12

Approved OPEX for each ATP of the FTP - \$:

Period	2020-21	2021-22	2022-23	2023-24
OPEX	32,524,967	33,012,258	33,506,842	34,008,830
GEC	2,615,387	2,654,419	2,708,677	2,751,442

Approved Gearing Ratio (G)- FTP:	0.6
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Schedule 5									
Belize Electricity Limited (BEL)									
BEL 2022-ARP Initial Decision Tariff Basket Revenue (TBR) and Components and Mean Electricity Rate (MER) for Full Tariff Period (FTP) July 1, 2020, to June 30, 2024									
Tariff Basket Revenue (TBR) and Revenue Components for each ATP of the FTP and Mean Electricity Rate for the FTP - \$:									
Year	Actual		projection		forecast		Total FTP	Change in FTP	
	2020	2021	2021	2022	2022	2023			
Revenue Components of TBR:									
Value Added of Delivery (VAD)									
OPEX	32,524,967		33,012,258		33,506,842		34,008,830	133,052,897	-
Return	38,606,111		39,389,017		33,432,419		38,458,017	149,885,564	(13,939,631)
Depreciation	17,492,707		17,492,707		19,422,283		19,850,499	74,258,195	390,504
Taxes/Licence Fees	4,863,197		5,619,469		5,959,466		6,624,999	23,067,132	(2,974,414)
Sub-Total (VAD)	93,486,981		95,513,450		92,321,011		98,942,345	380,263,787	(16,523,541)
Reference Cost of Power									
Corrections - FTRP	8,842,163		8,842,163		8,842,163		8,842,163	35,368,653	-
- ARP 21 + IE 2020	-		-338,486		-338,486		-338,486	-1,015,457	-
- ARP 22	-		-		-5,315,848		-5,315,848	-10,631,696	-
- ARP 23	-		-		-		-	0	-
Less: Other Income	-4,254,659		-4,344,277		-4,668,673		-4,668,673	-17,936,284	(2,959,199)
Tariff Basket Revenue	216,142,105		249,754,182		238,378,642		240,909,060	945,183,988	(1,781,318)
Demand [MWhs]	534,377		585,589		603,096		634,314	2,357,376	970
Mean Electricity Rate (MER) - July 1, 2020 - June 30, 2024 - \$:	\$ 0.4045		\$ 0.4415		\$ 0.3920		\$ 0.3732	\$ 0.4009	-\$ 0.0009
Direct Cost of Delivery (COD) - \$:	\$ 0.1658		\$ 0.1535		\$ 0.1432		\$ 0.1455	\$ 0.1515	-\$ 0.0058
Corrections + Taxes - Other Income - \$:	\$ 0.0177		\$ 0.0167		\$ 0.0074		\$ 0.0081	\$ 0.0122	-\$ 0.0070
Cost of Power (COP) - \$:	\$ 0.2209		\$ 0.2563		\$ 0.2446		\$ 0.2261	\$ 0.2372	\$ 0.0119

- (d) **Communication Materials:** visual aids, such as infographics, presentations, charts, graphs, and maps, to communicate the proposed energy transition activities, the associated investments and resulting financial resources being requested, to stakeholders and Interested Parties.

Annual Review Proceedings (ARP)

Scope of an
ARP

2. (1) The purpose of the ARP for the PUC, the Licensee and Interested Parties is to assess the execution of the LCEP and the associated resources approved in the FTRP Decision. The initial assumptions and priorities are now viewed in the context of actual performance to date; while the remainder of the FTP is re-forecasted based on updated projections of business conditions. Consequently, updated projections for RCOP and CAPEX, in addition to revenue expectations have the greatest impact going forward. Of note,

- (a) The ATP concluded in the prior calendar year is closed and any Corrections so determined are recovered in accordance with the rate-setting methodology (RSM);
- (b) The approved investments undertaken by the Licensee in the recently concluded calendar year are used to update the RAV applicable for the current ATP. In addition, the revenue requirements for the current ATP are recalculated using the eight months of actuals and four months of projections, where COP and revenue outturn being the other consequential regulated values subject to reconsideration.
- (c) The revenue requirements for the succeeding ATP's remaining in the FTP are recalculated using best available information; where COP, CAPEX and expected sales/revenues being the most consequential.
- (d) Determinations related to performance based mechanisms in the RSM, the impact of Force Majeure and other unforeseen business conditions for the purpose of fixing rates that are fair and reasonable.

(2) The content of the ARP Submission filed with the Commission shall be identical to the requirements for the FTRP, as prescribed in the Third Schedule 1-(2) of this Byelaw; except

Reports,
information
and datasets
contained in an
ARP
Submission

- (a) The Commission may in its own deliberate judgement advise the Licensee that certain reports, information or datasets already filed with the Commission, would make inclusion in the ARP Submission superfluous.
- (b) The Licensee may request of the Commission to waive or postpone certain data requirements as prescribed not less than thirty days before filing, and if the Commission is agreeable to such a request.

Power System Operations and Planning

Content and
flow of the
resource
adequacy
analysis

3. (1) A Licensee shall conduct, on a periodic basis, Resource Adequacy Analysis as per the Second Schedule, thereby evaluating whether the resources available to a power system over the study period are sufficient to meet the expected electricity demand at all times, including during periods of peak demand and unexpected events. In general, the unit of time is monthly and the tasks undertaken shall include:

- (a) **Forecasting Demand and Consumption:** a forecast of the expected monthly electricity demand over a specified period of time, taking into account factors such as historical demand patterns, expected weather conditions, and economic trends.
- (b) **Forecasting Key Inputs:** being,
 - i. Mercado Eléctrico Mayorista (MEM) prices – in the context of Belize, the prices for electricity imports from Mexico has oversize impacts. The Licensee shall regularly update these projections in order to ensure the most credible dispatch and production cost outcomes going forward,
 - ii. Weather Conditions – 3-month, 6- month and 12-month seasonal forecasts for precipitation are required to provide guidance on the management of hydroelectric resources. As the time horizon lengthens accuracy falls off, which must be borne in mind, and therefore monthly updates are essential.
 - iii. Energy Prices – the acquisition costs for fuel inputs are the most important drivers of the running costs for thermal power plants fired with fossil fuels.
 - iv. Availability of Biomass resources – the availability and seasonally of biomass inputs and the associated performance of co-generation facilities requires quantification
- (c) **Identify Available Resources:** model the sources that are available to meet the expected demand, including both existing and planned sources (as per the Approved LCEP).
- (d) **Assess Resource Adequacy:** evaluate whether the available sources on a monthly basis are sufficient to meet the expected demand, taking into account factors such as the reliability and availability of each generation and supply source, the impact of weather and other environmental conditions, maintenance schedules and the potential for outages or other disruptions.
- (e) **Dispatch and Production Costing Model:** Spreadsheet modeling shall contain all assumptions, inputs and outputs made; including *inter alia* planning criteria, load forecast datasets, expected system losses, parameters describing supply sources (generation facilities and their contractual terms, MEM prices, production from thermal

power plants, etc), forecasted least cost dispatch of all sources to meet net generation and supply.

- (f) **Monitor and Update:** The Licensee shall monitor the performance of the power system over time and making timely updates to the resource adequacy plan in order that the power system remains reliable and meets the needs of its users.

(2) The format of the Power System Operations and Plans filed with the Commission shall include a detailed report that outlines the various activities described in Third Schedule 3-(1) above, along with supporting data and analysis. The report shall also be accompanied by visual aids, such as presentations, charts, graphs, and maps, to help communicate the findings and recommendations to stakeholders and Interested Parties. The structure of the filing shall be:

- (a) **Executive Summary:** provides a brief overview of the Power System Operations and Plan, including its key findings, while also highlighting deviations from the LCEP assumptions and expectations.
- (b) **Sources used to forecast Key Inputs:** provides the basis for MEM prices, hydroelectric production, running costs for domestic thermal power plants, and projected sugarcane processing in respect of biomass power plants, among other things.
- (c) **Dispatch and Production Costing Model:** shall include shall contain all assumptions, inputs and outputs made: Importantly, the Licensee shall show
- i. monthly demand and energy by key load nodes and in aggregate;
 - ii. expected uptake and impact of distributed energy resources;
 - iii. losses and resulting net generation & supply;
 - iv. electricity supply by sources;
 - v. characteristics (*min/max capacity, startup time, availability, utilization factor, outage rates, ramp rates, etc.*) and costs (*capital costs, fixed and variable O&M, fuel expense, etc.*) for all generation & supply sources,
 - vi. assumptions in respect of the weather and related hydro sources, storage properties, fuel & electricity purchases, heat rates of thermal power plants, etc.;
 - vii. dispatch simulation and resultant production costings, consistent with sound utility practice for power system operations;
 - viii. Cost of Power details shown monthly and aggregated by ATPs;
 - ix. Charts and other aids that communicate key findings and recommendations.

(3) The Licensee shall prepare System Balancing Plans, as defined in the Second Schedule of these Byelaws, that are intended to ensure that the supply of

Form and
format of Cost
of Power
forecast

System
Balancing
Plans

electricity matches the demand in hourly increments of times in order to plan for the stability and reliability of the electric power system for the upcoming month. To discharge its obligation to the Commission and stakeholders, the Licensee shall:

(a) **Filing Requirements:** The Licensee shall prepare and file a System Balancing Plan with the Commission having the following contents and format showing how it intends to meet the demand expected for every hour in the upcoming month, and within the timing specified in para (b) below. The filing shall be an *MS Excel* spreadsheet and shall contain all assumptions, inputs and outputs made: Importantly, the Licensee shall show

- i. hourly demand and energy in aggregate;
- ii. expected impact of distributed energy resources;
- iii. losses and resulting net generation & supply;
- iv. electricity supply by sources;
- v. assumptions in respect of the weather and related hydro sources, storage properties, fuel & electricity purchases, heat rates of thermal power plants, etc.;
- vi. dispatch simulation and resultant production costings, consistent with sound utility practice for power system operations;
- vii. Cost of Power details including daily and weekly trends, given hourly dispatch expectations;

(b) **Timing and Reporting Requirements:** The Licensee shall file a System Balancing Plan with the Commission not later than the last day before the commencement of a new month.

Capital Programming: Network & Business

4. (1) The Licensee shall have implemented best practices, utilizing functional Codes of Practice, in carrying out its licence obligations.

- (a) **Asset Management.** The Licensee shall at all times have an updated handbook that sets out how it tracks and manages network and business assets, including *inter alia*, methodology for identifying, evaluating, and prioritizing investments in network systems and components; asset tracking and condition monitoring of such networks and components; and related maintenance and asset replacement strategies.
- (b) **Planning.** The Licensee shall at all times undertake a rigorous capital and network planning process. This requires developing a common understanding and quantification of the most significant opportunities and risks given expected asset condition, capacity, and performance going forward. The Licensee shall thereby create

Required Codes
of Practices

a consistent record of the rationale and scope for each project; this understanding enables them to figure out which projects matter most and to prioritize spending accordingly. An indicative classification being:

- i. Expenditures required to maintain the safety and integrity of existing infrastructure, so as to enable the Licensee to continue deliver quality electricity services to existing customers being served.
 - ii. Expenditures required to expand infrastructure, so as to enable the Licensee to satisfy reasonable demands for electricity services from new customers.
 - iii. Expenditures being proposed to enable the delivery electricity service more efficiently, in the long-run, that the *status quo*.
 - iv. Expenditures being proposed to upgrade and or expand infrastructure to enable, in the long-run, the delivery of reliable and affordable electricity services.
- (c) **Procurement:** The Licensee shall at all times have a procurement handbook that provides a standardized framework for the acquisition of goods, works and services, ensuring that it is transparent, fair, and competitive. The procurement handbook shall detail *inter alia*, procurement methods and procedures; roles and responsibilities of procurement staff and stakeholders; ethics and integrity in procurement, standard templates for procurement documents (e.g., bidding documents, contracts, etc.); guidelines for procurement planning, budgeting, and reporting.
- (d) **Implementation:** The licensee shall seek approval from the Commission to proceed with any project in the CAPEX Programme and shall follow the established procurement and project management processes to ensure that the project is delivered on time and within budget.

(2) The Licensee shall submit network and business plans intended to achieve its licence obligations and fulfill its role and responsibility as dictated by its Asset Management outcomes and the approved LCEP (the “CAPEX Programme”), including detailed capital investments descriptors, justification, timelines and budgets (the “CAPEX”), in the content prescribed by the Commission. In general, the unit of time is monthly and the tasks undertaken shall include:

- (a) **Situational Analysis:** describes the existing electricity supply system and associated transmission and distribution network in the context of expected loads and demand profiles, including *inter alia* capacity, characteristics and utilization of network resources, voltage profiles across the network, and any limitations or

constraints that were identified in the recently concluded operating year.

- (b) **Distributed Energy Resources (DERs) uptake and related Integrated Distribution Planning (IDP) and:** identify and plan for distributed energy resources that will likely be integrated into the distribution system in the upcoming operating year. The IDP is updated to reflect outputs from Asset management, latest expectations of DERs, and expected loads and demand profiles across the numerous nodes of the distribution system.
- (c) **LCEP Network Plan:** to reflect outputs from Asset Management, expected loads and demand profiles across the various nodes of the transmission system for the current FTP, and any updates to the approved LCEP (modified assumptions, timely implementation of projects, etc.).
- (d) **Implementation Plan:** outlines the steps required to implement the updated network and business plans, including timelines, resource requirements, and any other relevant details.

(3) The format of the CAPEX Programme filed with the Commission shall include a detailed report that outlines the various activities described in Third Schedule 4-(2) above, along with supporting data and analysis. The report shall also be accompanied by visual aids, such as presentations, charts, diagrams, and maps, to help communicate the findings and recommendations to stakeholders and Interested Parties. The structure of the filing shall be:

- (c) **Executive Summary:** provides a brief overview of the CAPEX Programme including its purpose, key findings, and recommendations.
- (d) **Introduction:** provides background information on the CAPEX Programme its development process, including an overview of deviations in respect of the approved LCEP, resolution of problems identified by Asset Management process, and the general business and operating environment.
- (e) **Required Activities and related Investment Plans:** Where the Licensee makes a filing in respect of activities and investments circumscribed by the Third Schedule 4-(1)(b): para (i) and (ii); the rationale and justification shall be itemized to provide the Commission with clear asset tracking and costs.
- (f) **Proposed Activities and related Investment Plans:** Where the Licensee makes a filing in respect of activities and investments circumscribed by the Third Schedule 4-(1)(b): para (iii) and (iv); the rationale and justification shall be itemized to provide the Commission with clear measurable public benefits, asset tracking and costs.

Form and
format of
CAPEX filings

- (g) **Project Appendices:** shall include additional technical, economic and environmental information or data used to determine the rationale for the project:
 - i. *Why this project?* describes what underlying problem the Licensee is seeking to fix. Explain the various options that were considered to address the problem and explain why they have chosen the proposed solution over others.
 - ii. *Description of the project:* provide a detailed description of the project, including the scope, size, and location of the project. And technical specifications, schematics, and diagrams to explain the project.
 - iii. *Cost estimates:* provide an estimate of the total cost of the project, including any capital expenditures, and any future operating expenses. A breakdown of the costs by category, such as labor, materials, and equipment are required
 - iv. *Project timeline:* provide an estimated timeline for the project, including the start and end dates, timelines for principal activities to be undertaken and any important milestones or deadlines.
 - v. *Benefits and risks:* The utility will explain the expected benefits of the project, such as increased reliability, improved efficiency, or reduced costs. They will also identify any potential risks or uncertainties associated with the project, such as cost overruns, delays, or technical issues.
 - vi. *Public outreach:* describe any outreach efforts they have undertaken to inform the public and stakeholders about the project, and how they have addressed any concerns or feedback received.
 - vii. *Economic analysis:* provide a detailed economic analysis of the project, including an analysis of the costs and benefits over the project's lifetime, as well as a discussion of any financing mechanisms (*such as IFIs conditions*) that is earmarked for the project.

(4) The Commission shall establish rules and procedures to ensure that the CAPEX Programme are developed and filed in a transparent and rigorous manner, with opportunities for stakeholder oversight and feedback. To discharge its mandate, the Commission shall ensure:

- (a) **Filing Requirements:** The Licensee shall prepare and file a CAPEX Programme with the Commission having the contents [Third Schedule 4-(2) above] and format [Third Schedule 4-(3) above], and within the timing specified in para (b) below.
- (b) **Timing and Reporting Requirements:** The Licensee shall file a CAPEX Programme in accordance with the provisions of Byelaw 34, including reporting on the implementation and performance of the plan.

Rules and procedures for filing CAPEX Programme