[Amendment of Recitals November 24, 2022]

AMENDED AND RESTATED

POWER PURCHASE AGREEMENT

BETWEEN

BELIZE ELECTRICITY LIMITED

AND

SS ENERGY LIMITED

Dated as of December 21, **2022**

Table of Contents

JR

Exhibit 9	Applicable Operating Procedures and Emergency Procedures, as amended from time to time
Exhibit 10	Minimum Annual Production target

This **AMENDED AND RESTATED POWER PURCHASE AGREEMENT** (this "**Agreement**") is made as of the day of 2022.

BETWEEN:

(1) **BELIZE ELECTRICITY LIMITED** (the "**Purchaser**" or "**BEL**", which expression shall be construed so as to include its successors in title and permitted assigns), a limited liability company incorporated under the Companies Act of Belize and having its registered office at 2½ Miles Philip Goldson Highway, Belize City, Belize; and

(2) **SS ENERGY LIMITED** (the "**Seller**", "**SS**" or "**SS Energy**", which expressions shall be construed so as to include its successors in title and permitted assigns), a limited liability company incorporated under the Companies Act of Belize and having its registered office at No. 21 San Vincent Street, North Piscini, Belmopan City, Cayo District, Belize.

BEL and the **Seller** each may be referred to herein individually as a "**Party**" and collectively as the "**Parties**."

WHEREAS:

(a) **BEL** is duly licensed to generate, supply, transmit, and distribute power and Energy throughout Belize, and operates its power system as an independent power grid and must maximize system reliability for its customers by ensuring that sufficient generation is available and its system (including transmission and distribution) meets the requirements for voltage stability, frequency stability and reliability standards;

(b) The Public Utilities Commission of Belize (the **"Regulator"** or **"PUC")** is a statutory corporation established pursuant to the Public Utilities Commission Act (Chapter 223) with the responsibility, inter alia, to license operators and to ensure safe and reliable utility services to consumers of electrical power at reasonable rates while affording licensees an opportunity to recover the reasonable cost of providing service and earn a reasonable rate of return on investments when operating in an efficient manner;

(c) In order to satisfy current and expected demand in Belize for electricity services, in 2013 the **PUC** published a request for proposals for electricity generation titled the RFPEG Belize 2013 **("RFP")** for projects from which to contract additional electricity generation and supply capacity through a competitive bidding process;

JR

(d) In response to the **RFP** the **Seller** submitted a proposal to sell its additional Electrical Energy to **BEL** which proposal was evaluated and shortlisted by the **PUC** and recommended for negotiations with **BEL** leading to an initial Power Purchase Agreement **("PPA")** for the supply of electric capacity and associated energy by interconnection to **BEL's** National Transmission Grid;

(e) During the course of their negotiations, the **Parties** referred certain issues relating to the intended Agreement to the **PUC** for determination and the **PUC** considered the issues and issued a Ruling on the 9th March, 2016 which was binding on the **Parties** (ref. Exhibit 9 in the Original Agreement).

(f) Following on these negotiations, on the 13th December, 2016 ("the Execution Date") the Parties entered into a Power Purchase Agreement (the "Original Agreement") whereby **Seller** agreed to generate, deliver and sell to **BEL**, and **BEL** agreed to purchase and take from the **Seller**, electric capacity and associated energy from the Facility (hereinafter defined) in accordance with the terms and subject to the conditions of the Original Agreement;

(g) The **Seller** has established, owns, manages and operates a sugar factory at the Valley of Peace in the Cayo District and as a by-product of its sugar milling activities produces significant quantities of bagasse;

(h) The **Seller** has invested in and established a Facility for the cogeneration of steam and electrical power at Valley of Peace using bio-mass fuel (being the bagasse) which constitutes an eligible Renewable Energy facility, with rated Capacity of 16.5 MW supplying Electricity Services, of which 8.5 MW is allocated for the operation of the sugar factory and the Facility leaving a balance of 8 MW of electrical power that is intended for sale to **BEL**;

(i) The **Seller** had further proposed that after three years of commercial operations it intended to expand its sugarcane business in a Phase 2, it was the **Seller's** intention to therefore increase capacity by a further 16.5MW to a total Capacity of 33 MW, of which 17 MW would be allocated for the operation of the sugar factory and the Facility leaving the balance of approximately 16 MW or more of electrical power that is intended for sale to **BEL**;

JR

(j) The Original Agreement was constructed on an operating modality of 120 production days per annum and a 90% availability of the facility over that said period. The rate-setting method employed is based on annual expected Net Energy Output (NEO) of some 20,736,000 kWh as originally proposed by the Seller to some 25,187,000 as projected by the PUC;

(k) In the last quarter of 2019, the Seller informed the **Regulator** that commencing 2020 it would make the requisite investments to expand its sugarcane business and will in four years attain an 80% increase in sugarcane throughput. However, the Seller affirmed that the operational modality of its Facility will increase from 120 days per annum to a new utilization threshold wherein Facility production days exceeds 180 days per annum. The practical effect of this shift in operational strategy is that para (i) has been put on hold;

(l) The PUC, on July 6, 2020, made a final recommendation for tariffs to be applied in the negotiation of those amendments to the Original Agreement.

(m) The Purchaser agreed to accept the tariffs recommended by the PUC, PROVIDED (i) the Seller accepted those recommended tariffs and (ii) the Seller provided confirmation of its commitment to an increase in annual expected electricity output and improvements to the plant's reliability and availability.

(n) In the context of the Seller's acceptance of the PUC recommended tariffs and the projected adjustment in operating parameters and increase in the annual expected electricity output the Parties desire to amend and restate the Original Agreement in its entirety.

NOW, THEREFORE, in consideration of the mutual benefits to be derived and the representations and warranties, conditions and promises herein contained, and intending to be legally bound hereby, the **Seller** and the **Purchaser** hereby agree as follows:

1. DEFINITIONS

1.1 Unless otherwise defined herein or in any Exhibit hereto, the following terms, when used herein or in any Exhibit hereto, shall have the meanings set forth below:

"**Act**" means the Electricity Act Chapter 221 of the Laws of Belize Revised Edition 2020, as further amended or re-enacted from time to time.

"**Affiliate**" means, with respect to any Person, any other Person directly or indirectly controlling or controlled by or under direct or indirect common control of such Person. For purposes of this definition, a Person shall be treated as being controlled by another if that other Person is able to direct its affairs and/or to control the composition of its board of directors or equivalent body.

JR

"**Agreement**" has the meaning assigned to such term in the preamble hereto.

"**Available**" means, in relation to the Facility, able to respond to a Dispatch Instruction and to deliver Net Energy Output and "**Availability**" shall be construed accordingly.

"**Average**" means the arithmetic mean.

"**Bagasse**" means the fibre left after the extraction of juice from sugar cane.

"**BEL**" has the meaning assigned to such term in the preamble hereto.

"**BEL's Licence**" means the licence issued to **BEL** under the Act to conduct its business, as amended from time to time.

"**Belize Dollar**" or "**BZ$**" means the lawful currency of Belize.

"**Billing Period**" means (i) the period commencing at 00.00 hrs on the Commercial Operation Date and ending at 24.00 hrs on the last day of the calendar month in which the Commercial Operating Date occurs and (ii) thereafter, each consecutive period of one calendar month, commencing at 00:00 hrs on the first day of each calendar month and ending at 24:00 hrs on the last day of that calendar month.

"**Business Day**" means any day except Saturday, Sunday and or any weekday on which Commercial Banks in Belize City are required or authorised to be closed.

"**Capacity**" means the electrical generating capacity of the Facility net of steam load.

"**Carbon Credit**" means any certified emission reduction unit or similar environmental or greenhouse gas unit applicable as a credit or credited under the Kyoto Clean Development Mechanism or similar environmental protocol.

"**Carbon Credit Ownership**" means the right to the benefit of any Carbon Credit from a Certified Renewable Facility.

"**Certification**" means certification as a Renewable Energy generation facility as defined under the Kyoto Clean Development Mechanism or similar environmental protocol and "**Certified**" shall be construed accordingly.

"**Change in Law**" means any event or circumstance occurring on or after the Execution Date as a result of or in connection with any action or inaction by any Government Authority including:

JR

(a) a change in or repeal of an existing Law;
(b) an enactment or making of a new Law;
(c) a cancellation or non-renewal or change in the conditions to any Government Approval granted to the **Purchaser**, the **Seller** or otherwise relating to the Facility;
(d) a change in the manner in which a Law is applied or the interpretation or application thereof.

"Check Metering Facilities" means the metering equipment owned by the **Seller** for the purpose of checking the accuracy of the Energy Metering Facilities by measuring Net Energy Output at the Delivery Point.

"Claims" means any and all claims, judgments, losses, liabilities, costs, expenses (including reasonable attorneys' fees) and damages of any nature whatsoever (except workers' compensation claims) in relation to personal injury, death or property damage.

"Commercial Operation" means the availability of the Facility for the delivery by the **Seller** of the Electrical Energy to be supplied hereunder as from each annual Commercial Operation Date.

"Committee of Operation" means the committee of operation formed in accordance with Article 9.2 (*Committee of Operation*) for the purpose of elaborating the Operating Procedures and agreeing other issues in relation to the Facility subject to and in accordance with the provisions of this Agreement.

"Commercial Operation Date" means the day in each calendar year which immediately succeeds the day declared by the **Seller** by a Commercial Operation Notice as the day upon which the Facility will be ready for Commercial Operation.

"Commercial Operation Notice" means a minimum of 21 days written notice served on **BEL** pursuant to Article 2.1 declaring the date on which the Facility will be ready for Commercial Operation.

"Commissioning Tests" means the tests to be carried out on the Facility by **BEL** and the **Seller** in order to determine whether the Facility is ready for Commercial Operation, as set out in Article 7 and Exhibit 4 (*Testing Requirements for the Biomass Fired Plant*).

"Contract Capacity" means the electrical generating capacity of the Facility as set forth in Article 2.6 and which is required for the **Seller** to meet its contractual obligation to Dispatch electrical power.

JR

"Contract Price" has the meaning assigned to such term in Article 16 *(Price/Compensation).*

"Contract Year" means (i) initially the period commencing on the Scheduled Commercial Operation Date and ending at 24:00 hrs on December 31, 2017 and (ii) subsequently, each consecutive period of twelve (12) calendar months thereafter, the first such period commencing at 00:00 hrs on January 1, 2018 and ending at 24:00 hrs on December 31, 2018.

"Control System Interface" means a computerized control system whereby a central operator can operate, supervise and remotely control the generators in the Facility from a central control room.

"Declared Availability" is defined as stated in Section 2.8 True Availability Factor

"**Declared Firm Energy**" means, in relation to any Dispatch Period, the Firm Energy declared to be Available by the Seller during that Dispatch Period pursuant to Exhibit 6 (*Dispatch Instruction*) of the PPA.

"Default Interest" applicable to a month is the Domestic Banks' Weighted Average 'Commercial' Lending Rate for that month as published by the Central Bank of Belize at https://www.centralbank.org.bz/rates-statistics/interest-rates. If the lending rate for a specific month is not available from the website at the time of the assessment of interest charges, then the lending rate for the next earlier month is to be used.

"Delivery Point" means the physical point at the Site where the Facility output lines are connected with the Interconnection Facilities, which shall be the low voltage side of the step-up transformer located at the Site.

"Design Limits" means the operating parameters of the Facility as set forth under the heading "Design Limits" in Exhibit 3 (*Description of the Biomass Fired (Bagasse) Project including Design and Operating Limits and Site Description*).

"Dispatch" means the dispatch by the Facility of electrical power to the Delivery Point in accordance with a Dispatch Instruction, the Dispatch Procedures, the Operating Procedures and this Agreement and subject to the Operating Limits and any form of the term Dispatch (e.g., "Dispatched," "Dispatches" or "Dispatching") shall be construed accordingly.

"Dispatch Instruction" means an instruction, issued by **BEL** in accordance with Prudent Utility Practice and this Agreement, to increase, reduce, commence or

JR

cease the Dispatch of electrical power, substantially in the form of Part II of Exhibit 6 (*Dispatch Instruction*).

"Dispatch Period" means the period commencing at 0.00 hrs (Belize time) on the immediately succeeding day (following the Dispatch Instruction) and ending at 24.00 hrs on that day.

"Dispatch Procedures" means the procedures for the Dispatch of electrical power from the Facility established by the Committee of Operations as set forth in Article 9.2 as amended from time to time by the Committee of Operation.

"Early Termination Date" has the meaning assigned to such term in Article 22.2 (*Termination*).

"Emergency" means a condition or situation which exists on the Transmission Grid during times when generation supply is outside required limits of the Transmission Grid Code as set forth in Exhibit 2 (*Transmission Grid Code*) and parameters for operation of the Transmission Grid as set forth in Exhibit 9 (*Operating Procedures and Emergency Procedures*) or other circumstances that exist resulting in a condition where the security, stability, integrity or safety of the Transmission Grid may be jeopardized.

"Emission Reductions" mean those benefits recognized as intangible commodities by the **Parties** and/or others as arising under the PPA through the direct displacement by Energy from renewable sources, of the emissions from fossil fuelled electrical generation and includes Emission Reduction Credits **(ERC's)**. Emission Reduction under the **PPA** relates to Greenhouse Gas Emissions **(GHG)** and other specific emissions known to arise from some or all fossil-fuel electrical generation. **GHG** and other specific air emissions recognized under the **PPA** are CO2, NOx, SO2, particulates and heavy metals and/or their salts or combinations thereof. Emission Reductions and **ERC's** do not include any tax credits, benefits, deductions or allowances under the laws of Belize.

"Emission Reduction Credits or ERC's" means all benefits, rewards, credits premiums, incentives, and other advantages related, in whole or in part, to **GHG** Emission Reductions, whether in existence as of the date of the **PPA** or arising during the Term to the extent related or attributable to the operation of the Facility for the generation of Energy or otherwise, including:

(a) any credit issued or granted by a Government Agency in any part of the world including Belize, ("Government Agency") in connection with **GHG** Emission Reductions;

JR

(b) any tradable allowance or allocated pollution right issued or granted in connection with **GHG** Emission Reductions.

"**Energy or Electrical Energy**" are interchangeable terms and mean electric Energy measured as units for watt hours (kWh, MWh, or GWh).

"**Energy Allocation for Facility and Factory**" means the portion of the Electrical Energy generated by the Facility which is used by the Facility and the Factory.

"**Energy Metering Facilities**" means all meters and metering devices owned by **BEL** and used to measure the delivery of Net Energy Output at the Delivery Point.

"**Environmental Compliance Plan**" means the environmental compliance plan set out in the document issued by the Department of the Environment stipulating the environmental measures which must be adopted during the operation of the Facility and the Interconnection Facilities, as set forth in Exhibit 8 (*Environmental Compliance Plan*).

"**Event of Default**" has the meaning assigned to such term in Article 22.1 (*Event of Default*).

"**Event of Insolvency**" means an event or circumstance in respect of a Person where: (i) that Person admits its insolvency or makes a general assignment for the benefit of creditors or any proceeding is instituted by that Person seeking relief or giving notice of its intention to seek relief on its behalf as debtor, or to adjudicate it a bankrupt or insolvent, seeking liquidation, winding-up, re-organization, arrangement, adjustment or composition of it or its debts under any insolvency legislation, or seeking appointment of a receiver, receiver and manager, trustee, custodian or other similar official for it or any substantial part of its property and assets or that Person takes any action to authorize any of the foregoing; or (ii) any proceeding is instituted against that Person seeking to have an order for relief entered against it as a debtor or adjudicate it as bankrupt or insolvent or seeking liquidation, winding-up, reorganization, arrangement, adjustment or composition of it or its debts under any Insolvency Legislation, or seeking appointment of a receiver, receiver and manager, trustee, custodian or similar official for that Person or any substantial **part** of its property and assets, and (A) such proceeding results in any entry of an order for such relief or any such adjudication or appointment, or (B) if such proceeding is not being contested, or is being contested in good faith, such proceeding continues un-dismissed, or un-stayed and in effect, longer than twenty (20) days from the institution of any such proceeding.

"**Execution Date**" has the meaning assigned to such term in clause (i) of the Recitals to this Agreement.

"**Facility**" means the generating station described in Exhibit 3 (*Description of Biomass Fired (Bagasse) Project including Design and Operating Limits and Site Description*), located in the Cayo District, Belize adjacent to the Factory and which is constructed and operated for the purpose of (i) supplying Electrical Energy and steam to the Factory and (ii) supplying excess Electrical Energy to **BEL** in accordance with this Agreement.

"**Factory**" means the sugar mill and land of SS Energy in the Cayo District, Belize.

"**Force Majeure Event**" has the meaning assigned to such term in Article 11 (*Force Majeure Event*).

"**Forced Downtime**" means any partial or complete interruption of, or reduction in, the Facility's Electrical Energy production capability that is not the result of (a) a Scheduled Downtime, (b) a Maintenance Downtime or (c) a Force Majeure Event.

"**Fuel**" means the combustible material used by the Facility which shall comprise Bagasse and any other combustible material agreed by both **Parties** to be used in the future.

"**GHG or Greenhouse Gas Emissions**" means any gas substance that is the subject of the UN Framework Convention on Climate Change and related protocols, treaties, agreements and instruments and includes carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons.

"**GHG Emission Reductions**" mean reductions in Greenhouse Gas Emissions however measured and includes, for greater certainty, any reductions in Greenhouse Gas Emissions attributable to the purchase and resale by **BEL** of Energy generated from the Facility as an alternative to generating Energy by other means which would result in higher levels of Greenhouse Gas Emissions.

"**Governmental Approval**" means, without limitation, any authorization, consent, approval, license, ruling, permit, exemption, variance, order, judgment, decree, declaration of or regulation by any Governmental Authority relating to the acquisition, ownership, occupation, operation or maintenance of the Facility or to the execution, delivery or performance of this Agreement, including those listed in Exhibit 1 (*Governmental Approvals*).

"**Governmental Authority**" means any authority of the Government of Belize having jurisdiction over either **Party** or the Facility, including any national, district, local, territorial or municipal government or any department, commission, board, bureau, agency, instrumentality, judicial or administrative body thereof.

JR

"**GW**" means gigawatt.

"**GWh**" means gigawatt hour.

"**Harvest Season**" means the period of harvesting of sugar cane.

"**Interconnection Facilities**" means all the equipment and facilities which are used for the purpose of delivering Net Energy Output from the Delivery Point to the Interconnection Point, including the following: the Energy Metering Facilities, transmission and distribution lines and associated equipment, transformers and associated equipment, relay and switching equipment, protective devices and safety equipment and telemetering equipment, wherever located.

"**Interconnection Point**" means the physical point or points where interconnection is made between the Interconnection Facilities and the Transmission Grid.

"**kW**" means kilowatt.

"**kWh**" means kilowatt-hour.

"**Law**" means any statute, law, rule, regulation, order, decision, directive, treaty, or court decision existing, enacted, made, issued or promulgated or imposed by a Governmental Authority or the National Assembly of Belize and includes the intended legislation relating to the project facility whether in effect now or at any time in the future and applicable to the **Parties**, the Facility or relating to the rate of return on investment of the **Seller** or its shareholders or the cost of financing, constructing, operating and maintaining the Facility including any of the foregoing relating to Tax, reserve or repatriation requirements of any kind or relating to expropriation or compulsory acquisition.

"**Lenders**" means, at any time, the banks and other financial institutions that have entered into commitments to provide financing or refinancing facilities (including loans, guarantees, letters of credit and hedging facilities) in connection with the Facility at such time and any transferees, agents, trustees or other representatives of such persons.

"**Loan Documents**" means the loan agreements, notes, indentures, security agreements, interest rate hedging agreements, guarantees and other documents entered into or to be entered into relating to the financing (including financing of working capital requirements and refinancing and provision of letters of credit for financing) of the Facility and Interconnection Facilities or any part thereof.

JR

"**Maintenance Downtime**" means a partial or complete interruption of the Availability of the Facility that (a) has been coordinated in advance with **BEL** in accordance with Article 10.2 (*Maintenance Downtime*) (including agreed start date, time and duration), (b) is not a Force Majeure Event, Forced Downtime or a Scheduled Downtime, and (c) is for the purpose of performing work on specific components of the Facility in order to maintain the performance, safety or durability of the Facility, which should not, in the reasonable opinion of the **Seller**, be postponed until the next Scheduled Downtime.

"**Marginal Cost of Energy or MCE**" means the average cost of the last MWh purchased or produced by the BEL's generation portfolio during the day. MCE is represented by the formula below where n is the number of sub-periods over the evaluation period (i.e. 24 for a daily MCE using hourly data), i is the particular sub-period, and $Cost_i$ is the cost per MWh of the last resource dispatched during sub-period i.

$$MCE = \frac{\sum_{i=1}^{n} Cost_i}{n}$$

"**Minimum Annual Production**" means the production target in kWh as set forth in Article 2.7

"**Minimum Load**" means the minimum load required by the Facility to be able to run under a stable condition, as defined in Exhibit 3 (*Description of the Biomass Fired (Bagasse) Project including Design and Operating Limits and Site Description*).

"**Minister**" means the Minister responsible for Public Utilities.

"**Modification**" means the modification or alteration of the design of the generation project in such a manner as to materially alter its capacity, its reliability or operational mode; and to such an extent that the modification will reasonably have a material effect on the production costs of the generation project (whether increased or reduced).

"**MW**" means megawatt.

"**MWh**" means megawatt-hour.

JR

"Net Energy Output" or **"NEO"** means the total Electrical Energy (net of equivalent steam) that is generated by the Facility less the Energy Allocation for Facility and Factory and delivered by the **Seller** to **BEL** at the Delivery Point in accordance with a Dispatch Instruction, as measured in kWh by the Energy Metering Facilities.

"Operating Limits" means, collectively, the Design Limits and the Permit Limits set forth in Exhibit 3 (*Description of the Biomass Fired (Bagasse) Project including Design and Operating Limits and Site Description*).

"Operating Procedures" means the written operating procedures developed by the **Seller** and **BEL** pursuant to Article 9.2 (*Committee of Operation*), as amended, modified or supplemented from time to time.

"Operating Year" means each consecutive period of twelve (12) calendar months, the first such period commencing at 00:00 hrs on January 1, 2017 and ending at 24:00 hrs on December 31, 2017.

"Party" has the meaning assigned to such term in the preamble hereto.

"Performance Test" means a test performed in accordance with Exhibit 4 (*Testing Requirements for the Biomass Fired (Bagasse) Project*).

"**Permit Limits**" means the approved characteristics of the Facility and any operating constraints specified in the Governmental Approvals for the Facility.

"Person" means any individual, corporation, partnership, limited liability company, joint venture, trust, unincorporated organization or Governmental Authority.

"Phase 1" means the first period of operation of the Facility during which the Capacity will be 16.5 MW.

"Phase 2" means the second period of operation of the Facility during which the total Capacity will then be approximately 33 MW.

"Phase 2 Commercial Operation Date" means the day which immediately succeeds the day declared by the **Seller** by a Phase 2 Commercial Operation Notice as the day upon which the Phase 2 Facility will be ready for Commercial Operation.

"Phase 2 Commercial Operation Notice" means a minimum of 60 days written notice served on **BEL** pursuant to Article 2.1.1 declaring the date on which Phase 2 will be ready for Commercial Operation.

JR

"**Point of Isolation or POI**" means the designated disconnect switch that securely isolates the Facility from **BEL's** Transmission Grid.

"**Production Period**" means the expected time of operation of the Facility for the generation of electricity as agreed upon by the Committee of Operations.

"**Protected Persons**" has the meaning assigned to such term in Article 27.5 (*Confidentiality*).

"**Prudent Utility Practice**" means the practices and standards generally or customarily followed from time to time by the Electrical Energy industry having regard to engineering and operational considerations, including manufacturers' recommendations. For the avoidance of doubt, Prudent Utility Practice shall not be limited to optimum practices, methods or acts to the exclusion of all others, but shall be a spectrum of possible practices, methods and acts which could have been expected to accomplish the desired result at reasonable cost consistent with reliability and safety.

"**PUC**" means the Public Utilities Commission of Belize.

"**Purchaser**" has the meaning assigned to such term at the beginning of this Agreement.

"**Quarter**" means, in relation to any calendar year, each period of three calendar months commencing on January 1, April 1, July 1 and October 1 of that year.

"**Renewable Energy Credits**" mean those credits, benefits or other intangibles that now, or at any time in the future, convey a right in respect of those attributes (fungible or non-fungible), whether or not tradable, pertaining to the generation of Energy pursuant to the **PPA**, representing the renewable aspect of the source of such Energy, and include "green tabs", or "tradable renewable Energy credits", or "renewable portfolio standard tags".

"**Scheduled Commercial Operation Date**" means February 1, 2017.

"**Scheduled Downtime**" means a planned partial or complete interruption of the Availability of the Facility.

"**Seller**" has the meaning assigned to such term at the beginning of this Agreement.

"Site" has the meaning assigned to such term in Exhibit 3 (*Description of the Biomass Fired (Bagasse) Project including Design and Operating Limits and Site Description*).

"SS Energy" has the meaning assigned to such term in the preamble hereto.

"SS Electrical Energy Metering Facilities" means the metering equipment owned by the **Seller** for the purpose of measuring Electrical Energy supplied by the **Seller** to the Factory.

"Successor Company" means (a) in the case of **BEL**, any Person who acquires the whole or any substantial part of the rights of **BEL** under **BEL's** License and (b) in the case of the **Seller**, any Person who acquires the whole or any substantial part of the rights of the **Seller** to conduct the business of generation and sale of the Electrical Energy to be supplied under this Agreement.

"Taxes" means any tax, charge, impost, tariff, duty or fee of any kind charged, imposed or levied directly or indirectly by the Government of Belize applicable to the **Seller**, the shareholders of the **Seller** or the Facility, including any such business tax, general sales tax, stamp tax, import duty, withholding tax (whether on dividends, interest payments, fees, equipment rentals or otherwise), tax on foreign currency loans or foreign exchange transactions, excise tax, property tax, registration fee or license, or environment tax.

"Term" has the meaning assigned to such term in Article 4 (*Term and Termination*).

"Termination Payment" has the meaning assigned to such term in Article 22.3 (*Termination Payment*).

"Transmission Grid Code" has the meaning assigned to such term in Exhibit 2.

"Transmission Grid" means the transmission system owned by **BEL**.

1.2 **Interpretation.** Unless the context otherwise requires:

(a) Words singular and plural in number shall be deemed to include the other and pronouns having masculine or feminine gender shall be deemed to include the other.

(b) Any reference in this Agreement to any Person includes its successors and assigns and, in the case of any Government Authority, any Person succeeding to its functions and capacities.

JR

(c) Any reference in this Agreement to any Article, Exhibit or Annex means and refers to the Article or Article contained in, or Exhibits or Annex attached to, this Agreement.

(d) Other grammatical forms of defined words or phrases have the meaning corresponding to that of the defined word.

(e) Any reference to a document or agreement, including this Agreement, is a reference to that document or agreement as amended, supplemented or restated from time to time in accordance with its terms.

(f) Any reference to a Law is a reference to that Law as amended or re-enacted.

(g) If any payment, act, matter or thing hereunder would occur on a day that is not a Business Day, then such payment, act, matter or thing shall, unless otherwise expressly provided for herein, occur on the next Business Day.

(h) The terms "include," "includes" and "including" shall be deemed to be followed by the phrase "without limitation" notwithstanding any omission of such phrase.

(i) The words "hereof," "herein," and "hereunder" and words of similar import when used in this Agreement shall refer to this Agreement as a whole and not to any particular provision of this Agreement.

(j) Any reference to a document in the agreed form or in the agreed terms is to the form or terms of the relevant document agreed between the **Seller** and the **BEL** and initialled by or on their behalf for purposes of identification.

(k) A "regulation" includes any regulation, rule, official directive, request or guideline (whether or not having the force of law) of any governmental, intergovernmental or supranational body, agency, department or regulatory, self-regulatory or other authority or organization.

(l) A "day" means a period beginning at 00:00 hrs on any day and ending at 24:00 hrs on the same day.

(m) A time of day is a reference to Belize time.

2. SALE AND PURCHASE OF ENERGY AND CAPACITY

2.1 **Commencement of Annual Commercial Operations.** In each calendar year with effect from January 1, 2017 the **Seller** shall serve the **Purchaser** with the Commercial Operation Notice declaring the Commercial Operation Date for that year.

2.1.1 **Commencement of Phase 2 Commercial Operations.** Subject to a No by the Commission, the **Seller** shall serve the **Purchaser** with the Phase 2 Commercial Operation Notice declaring the Phase 2 Commercial Operation Date.

2.2 **Sale and Purchase**. Subject to and in accordance with the other terms and conditions of this Agreement, from (and including) the first Commercial Operation Date until (and including) the last day of the Term: (i) the **Seller** shall make available at the Delivery Point and sell to the **Purchaser** all of the **Seller's NEO** and (ii) the **Purchaser** shall purchase from the **Seller** the total NEO for the amount described in Article 16 (*Price/Compensation*).

2.3 **Assumptions and Project Parameters**. The **Seller** acknowledges that the Compensation to be paid by the **Purchaser** for the **NEO** is based on certain assumptions and project parameters as agreed by the Parties and in particular, the respective Phase 1 Capacities, Design, Operating Limits and other specifications as per the description of the Facility in Exhibit 3.

2.4 **Effect of Modification.** The **Seller** shall serve the **Purchaser** with prior written notice of any proposed Modifications to the Facility. Any Modification to the Facility [including for Phase 2 after execution] requires a Consent from the **PUC** and determination of applicable rates, if necessary.

2.5 **Title and Risk of Loss**. Title to and risk of loss of Electrical Energy generated by the Facility shall reside with the **Seller** until the Delivery Point and shall pass from the **Seller** to the **Purchaser** at the Delivery Point.

2.6 Minimum **Contract Capacity**. Minimum Contract Capacity for each Contract Year shall be 8 MW for Phase 1 and a minimum aggregate of 16 MW upon execution of Phase 2.

2.7 **Energy Production and Purchase Guarantee.** the Purchaser guarantees the purchase of the Net Energy Output **(NEO)** produced for each Operating Year subject to and in accordance with the Dispatch Procedures as set forth in Exhibit 9. The **Seller** is expected to meet the Minimum Annual Production target as per Exhibit 10. The **Seller** agrees to ensure that in each Operating Year the Facility will continue in operation to the extent necessary to utilize all available bagasse generated in that Operating Year excepting the amount of reserve bagasse required for the start of the boiler in the

JR

subsequent Operating Year, such amount to be determined by the **Seller** and tabled at the next following Operations Committee meeting.

2.8 **True Availability Factor**

The Seller acknowledges and agrees that the dependable operation of the Facility is essential to the **Purchaser**. Accordingly, for each Contract Year, an availability factor (the "**True Availability Factor**") shall be calculated and will be maintained by the Seller at or above 88% in accordance with the following formula:

$$TAFy = \left(\frac{\left[\sum_1^{HY-(FMh+OLh)} (NEOLi \times AHi)\right] + [(\sum_1^{FMh} DAi \times FMh) + \sum_1^{OLh} (DAi \times OLh)]}{[\sum_1^{HY} CC \times HY]} \right)$$

Where:

TAFy = True Availability Factor for the applicable Contract Year "y";

i = each hour in the applicable Contract Year "y";

CC = "Contract Capacity" means the electrical generating capacity of the Facility at the Delivery Point, as determined by Phase 1 which is 8 MW and Phase 2 which is proposed as 16 MW.

DA = Declared Availability in the applicable contract year which is the available Contract Capacity for dispatch which shall be no more than the Contract Capacity in kW;

NEOLi = Net energy output limited up to the day before declared availability for that applicable hour.

AHi = each hour of the Contract Year that the Facility is available to supply all or part of their Day Ahead Declared Availability; AHi hours are In Season Hours.

DAi = Declared Day Ahead Availability in kW available for the hour in the applicable Contract Year, which shall be no more than the Contract Capacity CC. For the purpose of calculating TAFy, DAi for any particular hour shall not be greater than CC; It is expected for Off Crop Season Hours DAi = 0

FMh = Total number of hours in the applicable Contract Year that the Facility has been off line or not able to supply the Contract Capacity due to Force Majeure;

OLh = Total number of hours in the applicable Contract Year that the Facility has not been available to supply the Contract Capacity due to actions or instructions of the Purchaser.

HY = number of In Season hours in the applicable Contract Year "y".

In the evaluation of this formula the term "hours" shall include fractions of an hour.

2.8.1 With the exclusion of circumstances related to Force Majeure, the **Purchaser**-directed curtailment, unavailability of the Interconnection Facilities or other

JR

circumstances reasonably beyond the control of the **Seller,** failure by the **Seller** to meet the Minimum Annual Production in any Operating Year shall constitute a material breach of this contract and without prejudice to the rights of the **Purchaser** on the occurrence of an Event of Default shall entitle the **Purchaser** to liquidated damages based on the average daily Marginal Cost of Energy purchased by the **Purchaser** from another source to compensate for **Seller's** undelivered minimum Energy. Calculations of such liquidated damages would be based on the average daily MCE of the day following the last day of purchase from **Seller** by the **Purchaser** in that operating year.

2.8.2 Failure by the Seller to meet availability requirements in any day in the Contract Year shall result in adjusted rates in accordance to Article 16.1.2

2.9 Failure by the **Purchaser**, through no fault of **Seller**, to purchase the Minimum Annual Production in any Operating Year shall constitute a material breach of this contract and without prejudice to the rights of the **Seller** on the occurrence of an Event of Default shall entitle **Seller** to liquidated damages equal to the amount the **Seller** would have received based on the rates approved by the **PUC** for such Energy that would have been purchased by **the Purchaser** save for the failure to purchase.

This is to be calculated as follows for defaulting on the MAP

$$NEO_{ymin} = \left\{\left[\sum_{1}^{HY-(FMh+OLh+NTCh+TCh)} (NEOi \; x \; AHi)\right] + [DAi \; x \; OLh]\right\}$$

If NEOymin < MAP

then **the Purchaser** is liable for liquidation damages

= MCE * [MAP – NEOymin]

Where:
NEO_{ymin} = Minimum Energy for the applicable Contract Year "y"
MCE = Marginal Cost of Energy
MAP = Minimum Annual Production
i = each hour in the applicable Contract Year "y";
CC = Contract Capacity" means the electrical generating capacity of the Facility at the Delivery Point, as determined by Phase 1 which is 8 MW and Phase 2 which is proposed as 16 MW.
DA = Declared Availability in kW;
NEOi = Net energy output for that applicable hour.

JR

AHi = each hour of the Contract Year that the Facility is available to supply all or part of their Day Ahead Declared Availability; AHi hours are In Season Hours.
DAi = Declared Day Ahead Availability in kW available for the hour in the applicable Contract Year, which shall be no more than the Contract Capacity CC. For the purpose of calculating NEO_{ymin}, DAi for any particular hour shall not be greater than FC; It is expected for Off Crop Season Hours DAi = 0
FMh = Total number of hours in the applicable Contract Year that the Facility has been off line or not able to supply the Contract Capacity due to Force Majeure;
OLh = Total number of hours in the applicable Contract Year that the Facility has not been available to supply the Contract Capacity due to actions or instructions of the **Purchaser**.
NTCh = Total number of hours in terms of NEO_i in the applicable Contract Year that the Facility has not been able to supply the Contract Capacity due to actions or instructions of the **Purchaser** due to non-technical reasons. This must not exceed a maximum of 120 hours in that Contract Year.
TCh = Total number of hours in terms of NEO_i in the applicable Contract Year that the Facility has not been able to supply the Contract Capacity due to actions or instructions of the **Purchaser** due to technical reasons.
HY = number of hours in the applicable Contract Year "y".
In the evaluation of this formula the term "hours" shall include fractions of an hour.

2.10 **Sale and Purchase During Commissioning**. the **Purchaser** shall have the right at its option to purchase Electrical Energy during the Commissioning period at the Contract price set forth in Article 16.1. Any Electrical Energy purchased by the **Purchaser** during the Commissioning period shall be aggregated with purchases after the Commercial Operation Date for the purpose of determining the price to be paid for each unit.

3. CONDITIONS PRECEDENT

3.1 **Effectiveness of the Seller's Obligations**. Notwithstanding anything to the contrary contained in this Agreement or any related agreement (but subject nonetheless to Article 3.3 below and Article 27.5) the **Seller** shall have no obligations under this Agreement until it shall have received all Governmental Approvals applicable to **Seller** as listed in Exhibit 1 (*Governmental Approvals*) and such Governmental Approvals remain in full force and effect.

3.2 **Effectiveness of the Purchaser's Obligations**. Notwithstanding any other provisions of this Agreement or any related agreement (but subject nonetheless to Article 3.3 below and Article 27.5), the **Purchaser** shall have no obligations under this Agreement until the following conditions precedent have been fulfilled or waived in writing by the **Purchaser**:

(a) **the Purchaser** shall have received copies of the Memorandum and Articles of Association of the **Seller**, certified as true by the **Seller's** company secretary, and a copy of the **Seller's** Licence to Generate and Supply Electricity under the Electricity Act;

(b) **the Purchaser** shall have received copies of resolutions passed by the **Seller's** Board of Directors authorizing the execution, delivery and performance by the **Seller** of this Agreement and the transactions contemplated by this Agreement, together with a Certificate of Incumbency and Authorization regarding officers duly authorized to sign, certified as true by the **Seller's** company secretary;

(c) **the Purchaser** shall have received an opinion of Belize Legal Counsel acceptable to **the Purchaser**, in form and substance satisfactory to the **Purchaser**, confirming:

(i) that the **Seller** is a corporation duly organized, validly existing and in good standing under the Laws of Belize and the **Seller** has all requisite power and authority to conduct its business and own its properties;

(ii) that the execution, delivery, and performance of the **Seller's** obligations under this Agreement have been duly authorized by all necessary corporate action, and do not and shall not require any consent or approval of the **Seller's** board of directors or shareholders which has not been obtained and each such consent and approval that has been obtained is in full force and effect;

(iii) the power, capacity and authority of the **Seller** to enter into this Agreement and the transactions contemplated hereby, the enforceability of this Agreement against the **Seller** in accordance with its terms;

(d) The **Seller** shall have provided the **Purchaser** with copies of the Governmental Approvals described in Exhibit 1 (*Governmental Approvals*) attached hereto; and

(e) The **Seller** shall have provided the written designation of qualified persons to represent it on the Committee of Operation in all acts regarding the implementation of this Agreement and the authentication specimen signature of the said representatives.

3.3 **Exhibits – Conditions of Effectiveness**. All Exhibits form a part of this agreement though the terms of this Agreement supersede. The **Parties** hereto mutually agree that this Agreement shall be binding and enforceable upon execution, Save and Except for Exhibit 9 (*Operating Procedures and Emergency Procedures*), which shall be annexed upon mutual agreement of the **Parties'** representatives upon completion by the

JR

Committee of Operation pursuant to Article 9.2.4 and confirmation of the approval of the **PUC**.

4. TERM AND TERMINATION

4.1 The term of this Agreement shall commence on the Scheduled Commercial Operation Date and shall continue in full force and effect until the fifteenth (15^{th}) anniversary of such date unless it is terminated earlier in accordance with this Agreement.

4.2 **Termination**. The termination or expiry of this Agreement shall be without prejudice to the rights and obligations of the **Parties** accrued under this Agreement prior to, or which are expressed to continue beyond, such termination or expiry.

4.3 **Extension**. Notwithstanding the above provisions, the Term may be extended for a period of ten (10) years unless either **Party** serves written notice of termination at least 1 year prior to the expiration of the Term as defined in Article 4.1 above, with the written approval or concurrence of the **PUC**.

5. START OF COMMERCIAL OPERATIONS

5.1 It is the intent of the **Parties** that on or before the Scheduled Commercial Operation Date:

(i) The Facility shall be ready and available for the commencement of Commercial Operations;

(ii) The Interconnection Facilities shall have been completed and ready for the commencement of Commercial Operations;

(iii) Commissioning shall have been completed;

(iv) The Committee of Operations shall have been formed and the respective Representatives of each **Party** shall have been duly appointed;

(v) The Operating Procedures and Emergency Procedures shall have been developed and agreed by the Committee of Operations;

(vi) The Conditions Precedent shall have been delivered and accepted;

(vii) Forecasting in respect of the first Contract Year shall have been provided by the **Seller** pursuant to Article 9.4.4.1.

The **Parties** agree to use their best efforts to ensure that Commercial Operations in 2017 commence not later than 15 days following the Scheduled Commercial Operation Date.

5.2 **Failure to Commence.** Failure to commence Commercial Operations within 90 days from the Scheduled Commercial Operation Date will constitute a default, which on written notice from the **Purchaser** under Article 22.1.2(b) shall constitute an Event of Default.

6. INTERCONNECTION FACILITIES

6.1 **BEL** shall use its best efforts to construct and commission, at its own cost and expense by not later than February 1, 2017, the Interconnection Facilities from the POI as described in Exhibit 5 (*Description of Interconnection Facilities*).

6.2 **BEL** will secure all right-of-ways, permits, environmental approvals, and all other requirements of the construction of the facilities.

7. COMMISSIONING, TESTING AND CAPACITY RATINGS

7.1 The **Seller** shall perform the Commissioning Tests of the Facility as per Exhibit 4 (*Testing Requirements for the Biomass Fired Plant)* to demonstrate the capability of the Facility and the Interconnection Facilities.

7.2 **BEL** shall at its own cost and expense undertake any equipment upgrades, transmission upgrades or substation modifications reasonably required on the Transmission Grid after the **POI** (on the **BEL** side) to enable the Interconnection Facilities to remain properly connected to the Transmission Grid and to operate from and at any time after the test date.

7.3 **BEL** shall at its own cost and expense co-operate with the **Seller** to facilitate the Commissioning Tests including, without limitation, acceptance of the Electrical Energy generated, provision of data and information relating to the Transmission Grid and other such support services which may be reasonably required or desirable to enable the **Seller** to perform the Commissioning Tests.

7.4 The procedures and programme for the Commissioning Tests shall be in accordance with recognized international standards and Prudent Utility Practice appropriate to the Facility, and shall be agreed by the Committee of Operation not later than forty-five

JR

(45) days prior to the test date. **BEL** shall nominate an appropriately qualified representative to be present at the appropriate times to witness the Commissioning Tests.

7.5 At the same time as agreeing the procedures and programme for the Commissioning Tests, the Committee of Operation shall agree on the appropriate procedures and acceptance criteria such that acceptance or rejection in whole or in part of the Commissioning Tests is to be determined objectively and automatically. Any rejected parts of the Commissioning Tests shall be repeated until the acceptance criteria have been met.

8. CONTINUITY OF SERVICE AND SYSTEM SAFETY

8.1 The **Purchaser** may require the **Seller** to temporarily curtail, interrupt or reduce deliveries of Energy, or where necessary to disconnect the **Seller's** Facility from **BEL's** system. The **Purchaser** is permitted to curtail for justifiable non-technical reasons up to a maximum of 120 hours in a Contract Year. In addition, the **Purchaser** is permitted to curtail for technical reasons, including but not limited to the following:

(a) in order for **BEL** to interconnect following construction, install, maintain, repair, replace, remove, investigate, test or inspect any of its equipment or any part of its system including, but not limited to, accommodating the installation of non-utility owned facilities to its system; or

(b) because of a system emergency, forced outage, operating conditions on its system; or

(c) if either the **Seller's** Facility does not operate in compliance with Prudent Utility Practice or acceptance of Energy from the **Seller** by the **Purchaser** would require the **Purchaser** to operate **BEL's** system outside of Prudent Utility Practice which in this case shall include, but not be limited to, excessive system frequency fluctuations or excessive voltage deviations, and any situation that the **Purchaser's** System Operator determines, at his or her sole discretion using Prudent Utility Practice, could place in jeopardy system reliability; or

(d) if at any time the **Purchaser** reasonably determines that the continued operation of the **Seller's** Facility may endanger **BEL's** personnel, and/or may endanger the integrity of **BEL's** system or have an adverse effect on **BEL's** other customers' electricity service.

JR

8.2 When a curtailment control signal (or instruction) is received by the **Seller's** Facility, the corresponding action (e.g., decrease in **Seller's** Facility's output) shall be initiated without delay. **BEL** shall send curtailment control signals (or instructions) to the **Seller's** Facility during a one-minute period, which corresponds to a ramp rate not to exceed the unit ramp rate parameters established in Exhibit 3. Unless agreed in writing by both **Parties**, the curtailment signals (or instructions) will consist of raise and lower signals. Further curtailment may be implemented if conditions warrant and **BEL's** System Operator deems it necessary. The **Seller** shall not override **BEL's** curtailment. As conditions warrant, **BEL** shall end or reduce the curtailment when it is reasonably determined that the reason for the curtailment is no longer in existence. **BEL's** System Operator shall end or reduce the curtailment by sending raise control signals to the **Seller's** Facility through the Control System Interface. **Seller** may request that **Seller's** Facility be restored no sooner than one hour after **BEL** has curtailed the **Seller's** Facility.

8.3 If a Control System Interface is unavailable, the **Seller** must be able to respond to verbal instructions by **BEL's** system operator, in the language mutually agreed between **BEL** and the **Seller**, and execute these instructions within the timeframe requested by **BEL**.

8.4 Where **BEL** finds it necessary to curtail or disconnect the **Seller's** Facility from **BEL's** System for personnel or system safety reasons, it shall as soon as practicable notify the **Seller** and thereafter confirm in writing the reasons for the curtailment or disconnection.

8.5 In keeping with **BEL's** rights and obligations as herein set forth the **Seller** must separate from **BEL's** System whenever requested to do so by **BEL's** System Operator according to this agreement. The **Seller's** Facility shall remain curtailed or disconnected, as the case may be, until such time as **BEL** is satisfied that the condition(s) referred to above have been corrected. Under no circumstances shall the **Seller**, when separated from **BEL's** System for any reason, reclose into **BEL's** System without first obtaining specific approval to do so from **BEL's** System Operator according to relevant provisions in the agreement.

8.6 In the event that **BEL** temporarily curtails, interrupts, or reduces deliveries of Energy or disconnects from the **Seller's** Facility pursuant to this Article, **BEL** shall not be obligated to accept or pay for any Energy from the **Seller** during such curtailment, interruption or reduction in delivery of Energy.

8.7 **BEL** shall take all reasonable steps to minimize the number and duration of curtailments, interruptions or reductions as per the approved guidelines of the Committee of Operations. **BEL's** performance against the guidelines will be reviewed quarterly by the Committee of Operations.

JR

8.8 Logs shall be kept by the **Seller** for information on unit availability including reasons for planned and forced outages, circuit breaker trip operations and relay operations, including target initiation and other unusual events. **BEL** shall have the right to review these logs, especially in analyzing system disturbances. **Seller** shall maintain such records for a period of not less than thirty-six (36) months.

9. MAINTENANCE AND OPERATION OF THE FACILITY

9.1 Permits; Compliance with Laws.

9.1.1 The **Seller** shall, at its own cost and expense, acquire and maintain in effect, in accordance with applicable Law, any Governmental Approvals which the **Seller** requires from time to time (i) for the operation and maintenance of the Facility and (ii) for the **Seller** to perform its obligations, in each case in accordance with this Agreement.

9.1.2 **BEL** shall use its best efforts to support the application by the **Seller** for such Governmental Approvals, and shall use its best efforts to assist with the procurement of such Governmental Approvals PROVIDED HOWEVER that neither **BEL**, nor its officers or employees, will be required to provide such support or assistance in circumstances which would constitute a conflict of interest, whether actual, potential or perceived.

9.1.3 The **Seller** shall, at all times, comply in all material respects with all material Laws, transmission operation guides/requirements and Governmental Approvals applicable to it, the Facility and the generation of Electrical Energy, including all applicable environmental Laws in effect at any time during the Term.

9.1.4 The **Seller** shall promptly, and at its own expense, execute and deliver all such documents and do all such things as may from time to time be required for the purpose of giving full effect to its obligations under the provisions of this Article 9, including but not limited to the requisite annual and other filings under the Companies Act.

9.1.5 The **Seller** shall provide **BEL** with any information, certificate, filing or other documentation confirming or evidencing its compliance with its obligations as **BEL** may reasonably request.

9.1.6 **BEL** shall at all times, comply in all material respects with all Laws and, at its expense, acquire and maintain in effect any and all Governmental Approvals which may be necessary from time to time for **BEL** to perform its obligations under this Agreement.

9.2 **Committee of Operation.**

9.2.1 A Committee of Operation shall be formed within forty-five (45) days of the Execution Date. Such Committee of Operation shall be comprised of an equal number of representatives of each of the **Purchaser** and the **Seller** (each a "**Representative**"). Each **Party** shall delegate to its Representative(s) authority to agree procedures and technical issues in respect of the operation and maintenance of the Facility and the Interconnection Facilities.

9.2.2 Any and all procedures and technical issues to be agreed by the Committee of Operation shall be in accordance with, and shall not conflict with, this Agreement. The Committee of Operation shall have no authority to waive, alter or amend any provision of this Agreement.

9.2.3 The Committee of Operation shall meet one month prior to the beginning of the milling period, and at least two other occasions in each Contract Year, at times to be agreed between the **Parties**. Any and all costs incurred by a **Party** in respect of such meetings shall be borne by the **Party** which has incurred them. The decisions of, and any procedures agreed by the Committee of Operation shall be recorded in writing, and shall be verified, signed on behalf of each **Party** by one Representative of such **Party** and submitted to the respective addresses for service of Notices in Article 26.

9.2.4 The Committee of Operation shall develop and agree on written Operating Procedures and Emergency Procedures not later than thirty (30) days before the Scheduled Commercial Operation Date. The Operating Procedures shall take into account the design of the Facility, the requirements of the Factory during the milling period, the Transmission Grid and the requirements of any Governmental Authorities. Topics covered in the Operating Procedures shall include, without limitation, the method for day-to-day communications, key personnel lists for both **Seller** and the **Purchaser**, failure reporting, outage reporting and scheduling, Dispatch Instructions, Dispatch Procedures, forms of monthly capacity reports, daily capacity and associated energy reports, unit operations logs to be maintained, clearances and switching practices.

9.2.5 The **Parties** agree to implement in good faith from time to time any changes to the Operating Procedures and Emergency procedures reasonably required by either **Party**. Any changes to the Operating Procedures and Emergency Procedures must be accepted and ratified by the Committee of Operation at a regularly scheduled meeting or a meeting called specifically to facilitate such ratifications.

JR

9.3 **Operating Procedures**

9.3.1 The **Parties** agree to implement in good faith any changes to the Dispatch Procedures which may be agreed by the Committee of Operation from time to time.

9.3.2 The **Seller** shall operate the Facility and the **Purchaser** shall operate the Interconnection Facility and the Transmission Grid such that, subject to Prudent Utility Practice, Net Energy Output delivered by the **Seller** is as close as possible to the Net Energy Output indicated in a Dispatch Instruction issued in accordance with this Agreement.

9.3.3 The Operational and Emergency Procedures, upon agreement of the **Parties** and approval of the **PUC**, shall form part of this PPA (Exhibit 9).

9.4 **Performance Standards**

9.4.1 **Operating limits**

The **Purchaser** acknowledges that the **Seller** will not be required to exceed or surpass the operating capacity of any machinery equipment or facility beyond its manufacturers prescribed limits.

9.4.2 **Voltage regulation**

The **Seller** shall regulate the voltage at the Point of Interconnection to a voltage specified by the **Purchaser** in the conduct of its system operations. The power factor at which Energy is to be delivered by the **Seller** to the **Purchaser** shall be adjustable and adjusted as necessary, within the limits of the reactive power range specified below (9.4.3.3), to maintain voltage at the specified level, but in no event shall the voltage deviate more than 0.5% from the voltage specified by the **Purchaser**. The design for the voltage regulation will be reviewed and approved by **BEL** from time to time.

9.4.3 **Reactive Amount**

9.4.3.1 The **Seller** shall install sufficient equipment to have the ability to deliver or absorb reactive power to and from **BEL**.

9.4.3.2 The **Seller** shall operate and control its Facility within the Operating Limits and the Transmission Grid Code in Exhibit 2 (*to provide reactive power in accordance with the Dispatch Instructions*).

9.4.3.3 The **Purchaser** may request from time to time that the **Seller** generate or absorb reactive power such that the power factor could range between 0.90 and -0.90 at a response speed to achieve no less than 90% of its final value within 1 second following a step change in voltage to provide support to the system to maintain stability.

9.4.3.4 The **Seller** shall, when requested by **BEL**, alter its generation to operate within a requested power factor outside of the prescribed range in 9.4.3.3 for short time durations as long as the security of the **Seller's** system is not negatively impacted.

9.4.3.5 If the **Seller's** Facility does not operate in accordance with Article 9.4.2, **BEL** may disconnect all or part of the **Seller's** Facility from the System until the **Seller** corrects its operation.

9.4.3.6 The **Seller** shall not be compensated for such operating changes.

9.4.4 **Forecasting**

9.4.4.1 For the **Purchaser 's** planning purposes, **Seller** shall, by December 1 of each year during the Term of the Contract (except for the last year of the term), provide a non-binding forecast of each month's average-day Energy production from the facility, by hour, for the following calendar year. This forecast (i) shall include the expected range of uncertainty based on historical operating experience, and (ii) shall be updated on a monthly basis by notice given to the **Purchaser** at least six Business Days before the first Business Day of each month.

9.4.4.2 By Not later than 1600 hrs Belize time two Business Days immediately preceding the day on which Energy from the Facility is to be delivered, **Seller** shall provide the **Purchaser** with Declared Firm Energy as per Exhibit 6 with a binding daily forecast of deliveries for each hour of the day on which energy from the Facility is to be delivered. The minimum hourly Declared Firm Energy shall be greater than or equal to the Minimum Contract Capacity except during Maintenance Downtime, Scheduled Downtime and Forced Downtime of the Facility. **Seller** shall update a forecast any time information becomes available indicating a change in the forecast of generation of Net Energy Output from the then current forecast; provided, however, that **Seller** shall not be required to update such forecasts more frequently than once per hour. Declared Firm Energy shall be confirmed by a duly completed available capacity declaration as set forth in Exhibit 6 to be delivered by email to the

JR

Purchaser. Notwithstanding anything contained in this contract this daily forecast of hourly energy shall only become binding from 1st March of every Contract Year and the adjusted rates will be based on the two Business Day ahead forecast provided by the Seller.

9.4.4.3 In order to make **Seller's** forecasts as accurate as possible, **Seller** will install and maintain appropriate equipment for that purpose.

9.4.4.4 When **Seller** learns that any of its equipment will be taken out of service or will be returned to service which may affect its delivery of Energy to the **Purchaser, Seller** shall notify the **Purchaser** as soon as practicable, and in any event, no later than the daily forecasts required by Article 9.4.4.2 above. This requirement to notify shall include, but not be limited to, notice to the **Purchaser** of **Seller's** intention to start up or shut down any turbines. Any start-up or shut-down must be coordinated with the **Purchaser** in advance to the extent practicable to allow a reasonable amount of time for the **Purchaser** to make generation adjustments required by the additional Energy resulting from a turbine start-up or the loss of Energy from a turbine shut-down.

9.5 Operating Standards

9.5.1 **Compliance by the Seller**. The **Seller** shall, and shall ensure that its employees, agents and representatives shall, use best efforts to operate, maintain and manage the Facility in accordance with (a) this Agreement, (b) the Operating Limits, (c) Prudent Utility Practice, (d) the Operating Procedures, (e) the Transmission Grid Code, (f) any applicable Governmental Approvals and Laws, including but not limited to the Act as amended from time to time and any environmental guidelines, occupational health and safety standards and (g) any applicable maintenance and repair guidelines.

9.5.2 **Compliance by the BEL**. **BEL** shall, and shall ensure that its employees, agents and representatives shall, use best efforts to operate, maintain and manage the Interconnection Facilities in accordance with (a) this Agreement, (b) Prudent Utility Practice, (c) the Transmission Grid Code, (d) any applicable Governmental Approvals and Laws, including but not limited to the Act as amended from time to time and any environmental guidelines, occupational health and safety standards and (e) any applicable maintenance and repair guidelines.

9.5.3 **BEL** shall operate the Transmission Grid in accordance with Prudent Utility Practice and within the operating parameters defined in Exhibit 2 (*Transmission*

Grid Code) and Exhibit 9 (*Operating Procedures and Emergency Procedures*) when the latter is agreed, completed and approved. Furthermore, BEL will seek to procure those other generating entities that supply Electrical Energy to the Transmission Grid shall conduct their operations substantially in accordance with the Transmission Grid Code or otherwise in a manner which does not materially conflict with any right of the **Seller** under this Agreement or the transactions contemplated by this Agreement.

9.6 **Personnel**

9.6.1 The **Seller** shall employ only personnel (management, supervisory or otherwise) who are qualified and experienced in (i) operating and maintaining facilities similar to the Facility and (ii) coordinating operation of the Facility with the Transmission Grid. The **Seller** shall ensure that sufficient personnel is available at all times during operation of the Facility.

9.7 **Licenses**

9.7.1 **BEL** and the **Seller** shall at all times comply with their respective Licenses and shall use their best efforts to ensure that such Licenses are renewed or extended to a date which falls after the expiry of the Term and each shall disclose to the other **Party** all information which is available to it and which relates or might be relevant to the Facility, the Interconnection Facilities, the transactions contemplated by, or any right of the **Parties** under, this Agreement.

10. OUTAGES AND EMERGENCIES

The Committee of Operations shall ensure that Scheduled Downtime and Maintenance Downtime are scheduled so as to minimise disruption of Net Energy Output onto **BEL's** system and to the operation of the Facility.

10.1 **Scheduled Downtime**

10.1.1 In consideration of the limited duration of the Production Period the **Seller** shall use its best endeavours to eliminate Scheduled Downtime during the agreed Production Period.

10.1.2 **BEL** shall coordinate the maintenance programmes for the Interconnection Facilities with Scheduled Downtimes so as to minimise any disruption to the operation of the Facility. The Committee of Operation shall coordinate and agree on the scheduling of all such maintenance programmes and Scheduled Downtimes.

JR

10.2 **Maintenance Downtime**

10.2.1 In addition to Scheduled Downtime, the **Seller** may schedule additional hours of Maintenance Downtime provided that the **Seller** must deliver to **BEL**, as soon as reasonably possible but in any event not later than forty-eight (48) hours prior to commencement of a proposed Maintenance Downtime, written notice of the reason for the maintenance, the start time and the anticipated duration of the Maintenance Downtime.

10.3 **Forced Downtime**

10.3.1 Promptly upon the occurrence of a Forced Downtime, the **Seller** shall notify **BEL's** System Operator thereof.

10.3.2 If such Forced Downtime is continuing forty-eight (48) hours after it first occurred, the **Seller** shall deliver to **BEL** a written notice describing, to the extent that it is aware thereof

(i) the nature and cause of the Forced Downtime,
(ii) the expected restoration date or time; and
(iii) the measures being implemented to remedy the cause of that Forced Downtime.

10.4 **Emergencies**

10.4.1 The Committee of Operation will agree to written procedures for operating the Facility during an Emergency consistent with the Design Limits, Permit Limits and safe operation of the Facility. Such Emergency procedures will be included in Exhibit 9 to this Agreement (*Operating Procedures and Emergency Procedures*) and will include recovery procedures following a local or widespread electrical blackout and voltage reduction procedures in order to effect load curtailment. Each of the **Seller** and **BEL** shall use their best efforts to comply with such procedures in the event of an Emergency.

10.4.2 During an Emergency, the **Seller** may supply such electrical power as the Facility is able to generate and **BEL** is able to receive, and which is in excess of the Contract Capacity as defined in Article 2.6, in accordance with Prudent Utility Practice and within the Operating Limits.

10.4.3 During an Emergency, the **Seller**, if requested, will use its best efforts to reduce its processing and increase the available Energy to be sold to **BEL** in order to prevent or reduce the potential for system failure. This reduction in operation will not be longer than two hours. The Committee of Operation will develop

written procedures and a cost recovery mechanism, subject to the approval of the **PUC**, in favour of the **Seller** for this emergency.

11. FORCE MAJEURE EVENT

11.1 Except as expressly provided in this Agreement, neither **Party** claiming the existence of a Force Majeure Event (the "**Claiming Party**") shall be in breach of its obligations under this Agreement or be otherwise liable to the other **Party** (the "**Non-Claiming Party**") for any delay in performance or any non-performance of any such obligations if and to the extent that such delay or non-performance is due to a Force Majeure Event **provided that**:

(a) the Claiming **Party** could not have avoided the effect of the Force Majeure Event by taking precautions which, having regard to all matters known to it before the occurrence of the Force Majeure Event and all other relevant factors, it ought reasonably to have taken but did not take and such Force Majeure Event was beyond the reasonable control of the Claiming **Party**; and

(b) the Claiming **Party** has used reasonable efforts to mitigate the effect of the Force Majeure Event and remedy any inability to perform its obligations under this Agreement due to such Force Majeure Event provided that the Claiming **Party** shall not be obliged to take any such steps if the Facility is no longer economically viable or technically viable due to, or as a direct or indirect result of, such Force Majeure Event.

11.2 A "**Force Majeure Event**" shall be defined as any event or circumstance or combination of events or circumstances beyond the control of the Claiming **Party** and which materially and adversely affects the Claiming **Party** in the performance of its obligations in accordance with the terms of this Agreement, such events and circumstances to include, without limitation:

(a) flood, earthquake, tornado, hurricane, storm, fire, civil disobedience, labour disputes (other than between the Claiming **Party** and its employees), sabotage, war, drought;

(b) restraint by court order or public authority (whether valid or invalid) not resulting from any improper or illegal action or inaction of the Claiming **Party**;

(c) any action or failure to act on the part of a Government Authority not resulting from any improper or illegal action or inaction of the Claiming **Party**; or

(d) the inability to obtain or renew required Governmental Approvals not resulting from any failure by the Claiming **Party** to comply with the terms of such

JR

Governmental Approvals, pay the prescribed fee therefor or fill out the prescribed application therefor.

11.3 The Claiming **Party** shall notify the Non-Claiming **Party** in writing of the occurrence of a Force Majeure Event as soon as reasonably possible, and in any event within forty-eight (48) hours after the Claiming **Party** knew, or ought reasonably to have known, of its occurrence and that the Force Majeure Event would be likely to have an impact on the performance of its obligations under this Agreement. Any notice pursuant to this Article shall set out full particulars of:

(a) the nature of each Force Majeure Event which is the subject of any claim for relief;

(b) the effect which such Force Majeure Event is having or had on the Claiming **Party's** performance of its obligations hereunder;

(c) the measures which the Claiming **Party** is taking, or proposes to take, to mitigate the impact of each Force Majeure Event;

(d) the expected duration of the Force Majeure Event (if known); and

(e) any other information relevant to the Claiming **Party's** claim.

11.4 For so long as the Claiming **Party** continues to claim to be affected by a Force Majeure Event, it shall provide the Non-Claiming **Party** with regular (and not less than monthly) written reports containing:

(a) the information required by Article 11.3 and

(b) such other information and evidence as the Non-Claiming **Party** may reasonably request concerning the Claiming **Party's** claim.

11.5 The Claiming **Party** shall promptly notify the Non-Claiming **Party** in writing when any Force Majeure Event ceases or when there is a material change in its impact on the Claiming **Party's** performance of its obligations under this Agreement.

11.6 Upon the occurrence of a Force Majeure Event, the time for the performance of obligations under this Agreement by the Claiming **Party** shall be extended to the extent reasonably necessary to compensate for the delay experienced by that Claiming **Party** provided that:

(a) the performance by the Claiming **Party** of its obligations hereunder is resumed promptly upon the cessation of such Force Majeure Event;

JR

(b) the Force Majeure Event was not caused by, or the result of (i) any negligent acts or wilful misconduct on the part of the Claiming **Party**; (ii) any failure by the Claiming **Party** to comply with any Law; or (iii) any breach or default by the Claiming **Party** of any term of this Agreement.

11.7 If a Force Majeure Event causes a breakdown of communications such that a **Party** is unable to serve notice under this Agreement, the period for the serving of such notice shall be extended for every day whilst such Force Majeure Event prevents the service of such notice.

11.8 Subject to Article 11.10 in the event that one or more consecutive Force Majeure Events delays or prevents a **Party's** performance for a period in aggregate exceeding ninety (90) days and provided that the Claiming **Party** is not responsible for the occurrence or continuation of such Force Majeure Event(s), the Term shall be extended by a period equal to the duration or the aggregate of the durations of such Force Majeure Event(s) subject to the following conditions:

(a) the performance by the Claiming **Party** of its obligations hereunder is resumed promptly upon the cessation of each Force Majeure Event; and

(b) If the Claiming **Party** is the **Seller**, the Term shall be extended only to the extent that the **Seller** has not received payment or insurance proceeds in an amount equal to the full revenue which would have been received by it from **BEL** in the absence of such Force Majeure Event(s).

11.9 Notwithstanding anything to the contrary contained in this Agreement, the **Seller** shall never be required to control and/or operate the Facility in a manner which (i) is inconsistent with the Permit Limits or Design Limits, (ii) might reasonably be expected to cause damage to the Facility or the Factory or (iii) may cause physical injury to any individual.

11.10 If a Force Majeure Event persists, or if consecutive Force Majeure Events persist for a continuous period of at least 180 Days or if the duration of a Force Majeure Event is reasonably estimated by the Claiming **Party** to be at least 180 Days, then the Non Claiming **Party** shall have the right, but not the obligation, to terminate this Agreement by giving notice of termination to the Claiming **Party**. For purposes of this Article 11.10, if the period between the end of one Force Majeure Event and the commencement of another Force Majeure Event is less than 30 Days, the period of Force Majeure shall be deemed to be continuous, but the time between the Force Majeure periods shall not be counted in determining the 180-Day period required before termination hereunder is allowed.

JR

12. ADMINISTRATION

12.1 Books, Records and Information.

12.1.1 Each **Party** shall keep proper books of record and account, in which full and correct entries shall be made of all dealings and transactions of, or in relation to, its business and affairs in accordance with generally accepted accounting principles in Belize and consistently applied.

12.1.2 All such records shall be maintained for a minimum of seven (7) years after the creation of such records and for any additional length of time required by applicable Law.

12.1.3 The **Seller** shall maintain accurate and up-to-date operating logs and work order history, as appropriate, at the Facility with records of real and reactive power production for each clock hour, changes in operating status, Scheduled Outages, Maintenance Outages, Forced Outages and any unusual conditions found during inspections. The **Seller** shall require that all major equipment inspections be recorded with a reasonable amount of detail and consistent with Prudent Utility Practice. Operating logs for the plant shall be maintained throughout the life of the plant.

12.1.4 **BEL** may require periodic reviews of the **Seller's** Facility, maintenance records, available operating procedures and policies, and relay settings, and **Seller** shall implement changes **BEL** deems necessary for parallel operation or to protect **BEL's** System from damages resulting from the parallel operation of the **Seller's** Facility with **BEL's** System.

13. ELECTRIC METERING

13.1 Ownership of Meters

13.1.1 **BEL** shall own and maintain the Energy Metering Facilities. **BEL** shall purchase and own meters suitable for measuring the Net Energy Output of the **Seller's** Facility sold to **BEL** in kilowatts and kilowatt hours on a time-of-day basis and of reactive power flow in kilovars and true root mean square kilovarhours. The metering point shall be at the Point of Interconnection. The **Seller** shall supply, at no expense to **BEL**, a mutually agreeable location and mounting structure for meters and associated equipment. **BEL** will calibrate these devices in accordance with the latest edition of the American National Standards Institute (**ANSI**) Code for Electricity Metering. **BEL** shall install, maintain and annually test such meters and shall be reimbursed

JR

by **Seller** for all reasonably incurred costs for such installation, maintenance and testing work.

13.1.2 The **Seller** shall own and maintain the Check Meter Facilities and the SS Electrical Energy Metering Facilities.

13.2 **Meter Reading**

13.2.1 On or before the 3rd business day after each Billing Period, **BEL** shall provide to Seller a detailed Metered Energy reading report by electronic media (in the original software file format) of the energy sales delivered by Seller to **BEL** pursuant to this Agreement.

13.3 **Meter Usage Testing, Inspection and Correction**

13.3.1 The Energy Metering Facilities shall be used to determine the Net Energy Output delivered by the **Seller** to **BEL** at the Delivery Point.

13.3.2 The Check Metering Facilities shall be used to check the accuracy of the Energy Metering Facilities and to provide back-up metering facilities in the event of faults occurring in the Energy Metering Facilities.

13.3.3 Each **Party** will notify the other and the **PUC** when the meters are to be inspected, calibrated, tested or adjusted, giving not less than seven (7) days prior written notice thereof. Calibration and testing shall be carried out at least once per calendar year and from time to time as may be required by either **Party** at any time following the occurrence of any discrepancy between the Energy Metering Facilities and the Check Metering Facilities. The other **Party** shall be entitled to have a representative present and to receive copies of all test and calibration reports.

13.3.4 If any test of any metering equipment conducted by the **Party** indicates that the meter readings are in error by one percent (1%) or more, the meter readings shall be corrected as follows: (i) determine the error by testing the meter at approximately ten percent (10%) of the rated current (test amperes) specified for the meter; (ii) determine the error by testing the meter at approximately one hundred percent (100%) of the rated current (test amperes) specified for the meter; (iii) the average meter error shall then be computed as the sum of one-fifth (1/5) the error determined in (i) and four-fifths (4/5) the error determined in (ii).

13.4 **Billing Corrections**

13.4.1 If, at any time and in relation to any Relevant Period (as defined below), either **Party** (acting reasonably) determines that th Energy Metering Facilities have not registered the true amount of Net Energy Output which was delivered by the **Seller** to the Delivery Point during that Relevant Period, such Net Energy Output shall be determined by the Committee of Operation, utilizing the average meter error determined according to Article 13.3.4.

13.4.2 The average meter error shall be used to adjust the bills for the amount of electric Energy supplied to **BEL** for the previous six (6) months from the **Seller's** Facility, unless records of meter readings conclusively establish that such error existed for a greater or lesser period, in which case the correction shall cover such actual period of error. The Committee of Operation shall determine (i) the Relevant Period and (ii) the amount of any balancing payments due from **BEL** to the **Seller** or from the **Seller** to **BEL** (as the case may be) in respect of that Relevant Period utilizing the average meter error determined according to Article 13.3.4.

13.4.3 "**Relevant Period**" means (i) (if the actual period can be determined by the Committee of Operation) the actual period during which different amounts of Net Energy Output were registered by the Energy Metering Facilities and the Check Metering Facilities or (ii) (if the actual period cannot be determined by the Committee of Operation) a period equal to one-half (1/2) of the time elapsed since the most recent test of the Energy Metering Facilities provided that a Relevant Period under paragraph (ii) shall not at any time exceed twelve (12) Months.

13.4.4 The **Parties** shall furnish in a reasonable time period, reports on all testing results and any Relevant Period and balancing payments due pursuant to this Article to the **PUC**.

13.5 **Meter Repair**

If either **Party** discovers that any component of the Energy Metering Facilities or the Check Metering Facilities is found to be outside acceptable limits of accuracy or is otherwise not functioning properly, it shall immediately notify the other **Party** thereof and (in the case of the Energy Metering Facilities) **BEL** and (in the case of the Check Metering Facilities) the **Seller** shall forthwith repair, recalibrate or replace such component (as required) and shall notify the other **Party** promptly upon the completion of any examination, maintenance, repair, recalibration or replacement thereof.

JR

14. ACCESS AND NON-INTERFERENCE

14.1 The **Seller** hereby grants, and shall procure that the Factory shall grant to **BEL** (including **BEL's** duly authorized agents and representatives) a right of access, at reasonable hours (and, in an emergency, immediately upon request) to the Facility in order to construct, install, operate, maintain, repair, replace, inspect and remove **BEL's** equipment and facilities consistent with **BEL's** obligations and rights under this Agreement provided that such right of access shall not interfere with the **Seller's** rights of ownership and operation of the Facility.

14.2 **BEL** shall ensure that, during periods of access to the Facility or the Factory, **BEL's** personnel and/or agents shall at all times comply with health, safety and security rules or regulations applicable in respect of the Facility and/or the Factory (as the case may be) and the **Seller** shall not be liable for any loss or damage to any Person which results (directly or indirectly) from any failure by **BEL's** personnel and/or agents so to comply provided nonetheless that the **Seller** shall take reasonable steps to post by means of a notice in a conspicuous manner and shall provide to **BEL's** representatives a copy of the applicable safety and security rules or regulations.

14.3 The **Seller** shall, at the request and sole cost and expense of **BEL**, execute such documents as may reasonably be required formally to record such right of access to **BEL**.

15. PAYMENT AND BILLING

15.1 Delivery and Form of Invoice

15.1.1 On or after the fifth (5) day of each calendar month following a Billing Period, the **Seller** shall deliver to **BEL** a detailed written invoice in respect of Net Energy Output for the Billing Period most recently ended. Each invoice shall specify amounts owed by **BEL** to the **Seller** and, if applicable, amounts owed by **Seller** to **BEL**.

15.1.2 Each original invoice shall be in paper format and the **Seller** shall provide an electronic copy of each such invoice (in the original software file format with all formulae and calculations attached).

15.1.3 Each invoice shall be in a form agreed by the Committee of Operation from time to time and shall include the amount which is owing by **BEL** to the **Seller** and a calculation of the following:

JR

(a) payments for Net Energy Output associated with Available Capacity during the relevant Billing Period calculated in accordance with Article 16 (*Price/Compensation*);

(b) any adjustments in respect of any corrections associated with the average meter error;

(c) any other amounts owed by **BEL** to the **Seller**;

(d) any amounts owed by the **Seller** to **BEL** in respect of Electrical Energy supplied by **BEL** to the Factory through the **Seller**; and

(e) any other amounts owed by the **Seller** to **BEL** under or pursuant to this Agreement and which are to be set-off against the amount due from **BEL** to the **Seller** for the applicable Billing Period.

15.2 **Payments**

15.2.1 **BEL** shall pay the amount specified in the relevant invoice within thirty (30) days of delivery of that invoice by the **Seller** to **BEL**.

15.2.2 Invoices shall be paid in Belize dollars at a rate of 100.8 percent of the amount calculated by applying the approved tariff structure.

15.2.3 If any amounts are owing by the **Seller** to **BEL** under this Agreement and if such amounts are not specified on the relevant invoice, **BEL** may submit to the **Seller** a separate invoice. Except as otherwise set forth herein, the **Seller** shall pay such invoice within thirty (30) days of delivery of that invoice by **BEL** to the **Seller.**

15.2.4 Default Interest shall accrue with effect from the next business day after the due date and shall be payable in respect of payments due from **BEL** to the **Seller** or from the **Seller** to **BEL.**

15.3 **Same Day Funds**

Notwithstanding anything contained in this Agreement to the contrary, all payments to be made under this Agreement shall be made by deposit of freely available same day funds to such account as the **Party** receiving such payment shall have specified. If the applicable payment due date is not a Business Day, the payment shall be due on the immediately preceding Business Day.

JR

16. PRICE/COMPENSATION

16.1 Contract Price. **BEL** shall pay the **Seller** for **NEO** as follows:

16.1.1 **Phase I only**

Effective January 1, 2020

Supply-kWh	Tariff
0 - 20,000,000 per Contract Year	$BZ 0.17 per kWh
Over 20,000,000 per Contract Year	$BZ 0.16per kWh

16.1.2 **Phase I only (Adjusted Tariffs)**

With effect from January 1, 2022, the Seller shall be subjected to the following adjusted tariffs between March 1 and the end of each Contract Year, in circumstances where the Facility produces less than 90% (ninety percent) of the total daily Declared Firm Energy for that particular day in accordance with Article 9.4.4.2:

Supply-kWh	Tariff
0 - 20,000,000 per Contract Year	$BZ 0.15 per kWh
Over 20,000,000 per Contract Year	$BZ 0.13 per kWh

16.1.3 **Phase 2**

Price/Compensation for Phase 2 is subject toa future rate proceedings and shall be determined by the **PUC** according to its prescribed methodology.

17. DISPUTED PAYMENTS

In respect of amounts owing by one **Party** to the other pursuant to this Agreement:

17.1 If a **Party** believes that an invoice is inaccurate, it shall notify the other **Party** thereof within five (5) days of delivery of that invoice and provide details of the alleged inaccuracy. Both **Parties** have the right to withhold that portion of payment in dispute until resolution is reached. The **Parties** shall enter into negotiations with a view to resolving any dispute in accordance with Article 23.1 (*Mutual Discussion*). Any adjustments to which the **Parties** shall agree shall be made by a credit or an additional charge on the next invoice rendered.

JR

17.2 If the **Parties** are unable to resolve the dispute in this manner, the dispute shall be resolved in accordance with Article 23 (*Resolution of Disputes*) provided that (i) any amount (or part thereof) specified on the relevant invoice which is undisputed shall be promptly paid and (ii) any disputed amounts required to be paid as a result of resolution of a dispute shall be paid within ten (10) days after resolution of such dispute and shall be paid together with Default Interest compounded monthly, on that disputed amount from the date the payment should originally have been made until payment is received by the relevant **Party** in freely available funds.

17.3 Any payment due hereunder but not made by a **Party** on its due date and not subject to a dispute will incur Default Interest from the time payment was due until the time payment was actually received by the other **Party** provided that such payment shall remain due and payable and this Article 17 shall not be construed as agreement by the other **Party** to any delay or deferral thereof.

17.4 **BEL** reserves the right to net amounts previously invoiced and owed to the **Seller** against amounts owed by the **Seller** to **BEL**; however, if there is a dispute over any of the amounts involved, then **BEL** shall not net any amounts that are subject to the dispute.

17.5 The **Seller** reserves the right to net amounts previously invoiced and owed to **BEL** against amounts owed by **BEL** to the **Seller**, however, if there is a dispute over any of the amounts involved, then the **Seller** shall not net any amounts without the dispute being resolved.

17.6 Except as otherwise provided, nothing in this Article shall derogate from or affect any right of set off of either **Party**.

18. EMISSION REDUCTIONS AND RENEWABLE ENERGY CREDITS

BEL and the **Seller** may mutually agree to amend this agreement, with the approval of the **PUC**, to include provisions relating to:

(a) the right to claim credits in any reporting program established or maintained by any Government Agency relating to GHG Emission Reductions;

(b) the right to register, claim, file or bank GHG Emission Reductions in any registry system established or maintained by any Government Agency or nongovernmental organization or entity;

(c) the right to any form of acknowledgment by any Government Agency that actions have been taken by any Person in connection with GHG Emission Reductions that

JR

result in the reduction, avoidance, sequestration or mitigation of anthropogenic GHG;

(d) the right to claim or use GHG Emission Reductions for any and all purposes and in any manner or from whatsoever source now or in the future;

(e) the right to any form of acknowledgment by a Government Agency to claim tradable GHG allowance allocations when those tradable allowance allocations can be:

(i) banked for credit in the event of any regulation requiring any reduction, avoidance or mitigation of, or compensation for GHG,
(ii) claimed for credit against any compliance requirement, or
(iii) put to any other sanctioned use;

(f) the right to any form of acknowledgment by an international agency in respect of GHG Emission Reductions including the right to any acknowledgment that GHG Emission Reductions constitute tradable emission reductions units for the purpose of international rules; and

(g) the right to any offset of anthropogenic GHG that can be claimed by using GHG Emission reductions.

19. REPRESENTATIONS AND WARRANTIES

19.1 **Representations and Warranties of the Seller**. The **Seller** represents and warrants to **BEL** as of the Execution Date and which is deemed to be repeated as of the Scheduled Commercial Operation Date as follows:

19.1.1 The **Seller** is a corporation duly organized, validly existing and in good standing under the Laws of Belize and the **Seller** has all requisite power and has (or, at the appropriate time therefor, will have) the authority to conduct its business, to own its properties and to execute, deliver and perform its obligations under this Agreement.

19.1.2 The execution, delivery, and performance of its obligations under this Agreement by the **Seller** do not and shall not:

(a) violate any provision of any Law, rule, regulation, order, writ, judgment, injunction, decree, determination, Governmental Approval, or award having applicability to the **Seller**, the violation of which could reasonably be expected to have a material adverse effect on the ability of the **Seller** to perform its obligations under this Agreement;

JR

(b) result in a breach of, or constitute a default under, any provision of the memorandum and articles of incorporation or by-laws of the **Seller**;

(c) result in a breach of, or constitute a default under, any agreement relating to the management or affairs of the **Seller**, any indenture, loan or credit agreement or any other agreement, lease or instrument to which the **Seller** is a **Party** or by which the **Seller** or its properties or assets may be bound, the breach or default of which could reasonably be expected to have a material adverse effect on the ability of the **Seller** to perform its obligations under this Agreement; or

(d) result in, or require the creation or imposition of any mortgage, trust, pledge, charge or other encumbrance of any nature (other than as may be contemplated by this Agreement) upon or with respect to any of the assets or properties of the **Seller** now owned or hereafter acquired, the creation or imposition of which could reasonably be expected to have a material adverse effect on the ability of the **Seller** to perform its obligations under this Agreement.

19.1.3 This Agreement constitutes legal, valid, binding and enforceable obligations of the **Seller**, except as may be limited by bankruptcy, insolvency, reorganization, moratorium or other similar Laws applicable to the **Seller** and, subject to Article 27.2.2, is subject to the application of general principles of equity (regardless of whether considered in a proceeding in equity or at law), including (i) the possible unavailability of specific performance, injunctive relief or any other equitable remedy and (ii) concepts of materiality, reasonableness, good faith and fair dealing.

19.1.4 There is no pending or, to the best of the **Seller's** knowledge, threatened action or proceeding against the **Seller** before any court, Governmental Authority or arbitrator that could reasonably be expected materially and adversely to affect the financial condition or operations of the **Seller** or the ability of the **Seller** to perform its obligations hereunder, or that purports to affect the legality, validity or enforceability of this Agreement.

19.2 **Representations and Warranties of BEL**. **BEL** represents and warrants to the **Seller** as of the Execution Date and deemed to be repeated as of the Scheduled Commercial Operation Date as follows:

19.2.1 **BEL** is a corporation, duly organized, validly existing and in good standing under the Laws of Belize and has the full legal right, power and

JR

authority to conduct its business, to own its properties and to execute, deliver and perform its obligations under this Agreement.

19.2.2 The execution, delivery, and performance of its obligations under this Agreement by **BEL** have been duly authorized by all necessary corporate action, and do not and shall not:

(a) require any consent or approval of BEL's board of directors or any shareholder which has not been obtained and each such consent and approval that has been obtained is in full force and effect;

(b) violate any provision of any Law, rule, regulation, order, writ, judgment, injunction, decree, determination, Governmental Approval, or award having applicability to BEL, the violation of which could reasonably be expected to have a material adverse effect on the ability of **BEL** to perform its obligations under this Agreement;

(c) result in a breach of, or constitute a default under, any provision of the memorandum and articles of incorporation or by-laws of **BEL**;

(d) result in a breach of, or constitute a default under, any agreement relating to the management or affairs of **BEL** or any indenture or loan or credit agreement or any other agreement, lease, or instrument to which **BEL** is a **Party** or by which **BEL** or its properties or assets may be bound or affected, the breach or default of which could reasonably be expected to have a material adverse effect on the ability of **BEL** to perform its obligations under this Agreement; or

19.2.3 This Agreement constitutes a legal, valid, binding and enforceable obligation of **BEL**, except as may be limited by bankruptcy, insolvency, reorganization, moratorium or other similar Laws applicable to **BEL** and, subject to Article 27.7.2, is subject to the application of general principles of equity (regardless of whether considered in a proceeding in equity or at law), including (i) the possible unavailability of specific performance, injunctive relief or any other equitable remedy and (ii) concepts of materiality, reasonableness, good faith and fair dealing.

19.2.4 There is no pending or, to the best of **BEL's** knowledge, threatened action or proceeding affecting **BEL** before any court, Government Authority or arbitrator that could reasonably be expected materially and adversely to affect the financial condition or operations of **BEL** or the ability of **BEL** to perform its obligations hereunder, or that purports to affect the legality, validity or enforceability of this Agreement.

JR

20. INSURANCE

20.1 At the **Seller's** own cost and expense, the **Seller** shall purchase and maintain in full force during the Term a policy or policies of liability insurance in amounts that are in line with best industry practice for comparable operators and reasonable given the size of the Facility and the availability of insurance covering the **Seller's** ownership, occupation, and running of the Facility and endorsed to cover the **Seller's** liability obligations in Article 21. The **Seller** shall be responsible for all deductibles. Upon request the **Seller** will provide a certificate of insurance evidencing the coverage required.

21. INDEMNIFICATION AND LIABILITY

21.1 Indemnification

21.1.1 Each **Party** (the "**Indemnifying Party**") shall indemnify, defend and hold the other **Party** (the "**Indemnified Party**") and its officers, directors, partners, Affiliates, agents, employees, contractors and subcontractors harmless from and against any and all Claims, to the extent caused by any negligent act or omission or wilful misconduct of the Indemnifying **Party** or the Indemnifying **Party's** own officers, directors, partners, Affiliates, agents, employees, contractors or subcontractors or to the extent such Claims arise out of, or are in any manner connected with, any breach of this Agreement by such Indemnifying **Party.**

21.1.2 The Indemnified **Party** shall notify the Indemnifying **Party** as soon as reasonably practicable of any such Claims in respect of which it is or may be entitled to indemnification provided however that failure to give such notice shall not relieve the Indemnifying **Party** of its obligations hereunder except to the extent such Indemnifying **Party** is materially prejudiced by such failure. The Indemnifying **Party** shall be entitled, at its option and expense and with counsel of its selection, to assume and control the defence of any such Claims in respect of, resulting from, relating to, or arising out of, any matter for which it is obligated to indemnify the Indemnified **Party** hereunder provided that (i) the Indemnified **Party** at its own expense may participate and appear on an equal footing with the Indemnifying **Party** in the defence of any such Claims, (ii) the Indemnified **Party** may undertake and control such defence in the event of the material failure of the Indemnifying **Party** to undertake and control the same and (iii) the Indemnified **Party** shall not concede or settle or compromise any Claim without the prior written approval of the Indemnifying **Party** (which approval shall not be unreasonably withheld).

JR

21.1.3 If the defendants in respect of any such Claim include both the Indemnifying **Party** and the Indemnified **Party**, and the Indemnified **Party** reasonably concludes that there may be defences available to it and/or other indemnified Persons which are different from or additional to those available to the Indemnifying **Party**, the Indemnified **Party** or other indemnified Persons shall have the right to select separate counsel to assert such legal defences and to otherwise participate in the defence of such action on behalf of such Indemnified **Party** or other indemnified Persons. The Indemnified **Party** shall be entitled to settle or compromise any such Claim without the prior written consent of the Indemnifying **Party** provided that if the Indemnifying **Party** agrees in writing to indemnify the Indemnified **Party**, the Indemnified **Party** may not settle or compromise any such Claim without the consent of the Indemnifying **Party**.

21.1.4 If an Indemnified **Party** settles or compromises any Claim in respect of which it would otherwise be entitled to be indemnified by the Indemnifying **Party** without the prior written consent of the Indemnifying **Party** when such consent is required by this Agreement, the Indemnifying **Party** shall be excused from any obligation to indemnify the Indemnified **Party** making such settlement or compromise unless such consent was unreasonably withheld.

21.2 **Joint Negligence**. In the event injury or damage results from the joint or concurrent negligent or intentional acts or omissions of the **Parties**, each **Party** shall be liable under this indemnification in proportion to its relative degree of fault.

21.3 **Limitations of Liability, Remedies and Damages**. Each **Party** acknowledges and agrees that in no event shall any partner, shareholder, owner, officer, director, employee, or Affiliate of either **Party** be personally liable to the other **Party** for any payments, obligations, or performance due under this Agreement or any breach or failure of performance of either **Party**, and the sole recourse for payment or performance of the obligations under this Agreement shall be against the **Seller** or **BEL** and each of their respective assets and not against any other Person (except for such liability as is expressly assumed by an assignee pursuant to an assignment of this Agreement in accordance with the terms hereof).

22. DEFAULTS AND TERMINATION

22.1 Event of Default

22.1.1 The occurrence of any one of the following events or circumstances shall constitute an Event of Default by **BEL**, unless it is caused by (i) a material breach of this Agreement by the **Seller** or (ii) a Force Majeure Event which is

JR

continuing provided that any failure by **BEL** to make a payment hereunder at the time and in the place specified therefor shall constitute a material breach of this Agreement notwithstanding that a Force Majeure Event is continuing:

(a) **BEL** fails to make payments for amounts due under this Agreement to the **Seller** at the time and in the place specified therefor unless such payment is received by the **Seller** within thirty (30) Business Days after delivery of written demand for such payment from the **Seller**;

(b) **BEL** fails to comply with any material provision of this Agreement (other than the obligation to pay money when due in accordance with paragraph (a) above), and such failure is continuing for one hundred twenty (120) days after the day on which the **Seller** has delivered written notice thereof to **BEL**;

(c) **BEL**: (i) admits in writing its inability to pay its debts as such debts become due; (ii) makes a general assignment or an arrangement or composition with or for the benefit of its creditors; or (iii) fails to controvert in a timely and appropriate manner, or acquiesce in writing to, any petition filed against it under any bankruptcy or similar Law;

(d) any proceeding or case is commenced, without the application or consent of **BEL**, in any court of competent jurisdiction, seeking: (i) **BEL's** liquidation, reorganization of its debts, dissolution or winding-up, or the composition or readjustment of its debts; (ii) the appointment of a receiver, custodian, liquidator or the like of **BEL** or of all or any substantial part of its assets; or (iii) similar relief in respect of **BEL** under any Law relating to bankruptcy, insolvency, reorganization of its debts, winding-up, composition or adjustment of debt provided that it shall not constitute an event of default if such proceeding or case is based on a frivolous and vexatious claim or any other claim in circumstances where such claim is being contested in good faith and by appropriate action and the same, if capable of remedy, is remedied within ninety (90) days from commencement;

(e) **BEL** makes an assignment in violation of Article 25 (*Assignment*);

(f) Any representation made by **BEL** under Article 19.2 (*Representations and Warranties of **BEL***) is untrue in any material respect when made.

22.1.2 The occurrence of any one of the following events or circumstances shall constitute an Event of Default by the **Seller**, unless it is caused by (i) a material breach of this Agreement by **BEL** or (ii) a Force Majeure Event which is continuing provided that any failure by the **Seller** to make a payment hereunder

JR

at the time and in the place specified therefor shall constitute a material breach of this Agreement notwithstanding that a Force Majeure Event is continuing:

(a) the seller fails to achieve a True Availability Factor of at least 0.88 in any Contract year; **provided that** it shall not constitute an Event of Default if such failure is cured within twelve (12) Months from its occurrence;

(b) the **Seller** fails to make payments for amounts due under this Agreement to BEL if applicable at the time and in the place specified therefor unless such payment is received by BEL within thirty (30) Business Days after delivery of written demand for such payment from BEL;

(c) the **Seller** fails to comply with any material provision of this Agreement (other than the obligation to pay money when due in accordance with paragraph (a) above and those specific breaches for which damages are otherwise specified herein), and such failure is continuing for one hundred twenty (120) days after the day on which **BEL** has delivered written notice thereof to the **Seller**;

(d) the **Seller**: (i) admits in writing its inability to pay its debts as such debts become due; (ii) makes a general assignment or an arrangement or composition with or for the benefit of its creditors; or (iii) fails to controvert in a timely and appropriate manner, or acquiesce in writing to, any petition filed against it under any bankruptcy or similar Law;

(e) any proceeding or case is commenced, without the application or consent of the **Seller,** in any court of competent jurisdiction, seeking: (i) the **Seller's** liquidation, reorganization of its debts, dissolution or winding-up, or the composition or readjustment of its debts; (ii) the appointment of a receiver, custodian, liquidator or the like of the **Seller** or of all or any substantial part of its assets; or (iii) similar relief in respect of the **Seller** under any Law relating to bankruptcy, insolvency, reorganization of its debts, winding-up, composition or adjustment of debt provided that it shall not constitute an event of default if such proceeding or case is based on a frivolous and vexatious claim or any other claim in circumstances where such claim is being contested in good faith and by appropriate action and the same, if capable of remedy, is remedied within ninety (90) days from commencement;

(f) the **Seller** shall make an assignment in violation of Article 25 (*Assignment*);

JR

(g) any representation made by the **Seller** under Article 19.1 (*Representations and Warranties of the **Seller***) shall be false in any material respect when made.

22.1.3 **Remedies for Default**

Without prejudice to the non-defaulting **Party's** rights under Article 22.2 (*Termination*), upon the occurrence and during the continuation of an Event of Default, the non-defaulting **Party**, at its election and in addition to such other rights or remedies as the non-defaulting ***Party*** may have hereunder, at law or in equity, may (but shall not be obliged to) serve notice requiring the defaulting **Party** to demonstrate, to the satisfaction of the non-defaulting **Party**, that reasonable measures have been planned or implemented to remedy such Event of Default.

22.1.4 At all times during the continuance of an Event of Default where the **Seller** is the defaulting **Party** and maintains actual possession and control of the Facility, the **Seller** shall use its reasonable efforts to operate and maintain the Facility otherwise in compliance with this Agreement.

22.1.5 Subject to any terms and conditions approved by the **PUC** in consultation with **BEL** and the **Seller**, during the continuance of an Event of Default at any time after the day which falls one hundred and eighty (180) days after **BEL** has delivered a notice of Event of Default to the **Seller** or such earlier day as may be agreed between the **Seller** and **BEL, BEL** or its designee shall temporarily undertake the operation and maintenance of the Facility to maintain system stability. Subject to the approval of the **PUC**, the **Seller** and **BEL** shall jointly develop a procedure, including evaluation of the qualifications of **BEL's** designee, to fulfil this requirement.

22.2 **Termination**

Upon the occurrence of an Event of Default and subject to the written permission or approval of the **PUC**, the non-defaulting **Party** may serve notice establishing a date (the "**Early Termination Date**") on which this Agreement shall terminate, which date shall be no earlier than thirty (30) Business Days after the non-defaulting **Party** delivers a notice of termination to the defaulting **Party**, and if the defaulting **Party** fails to remedy the default to the reasonable satisfaction of the non-defaulting **Party** within such period of thirty (30) Business Days this Agreement shall terminate on the Early Termination Date.

22.3 **Termination Payment**

Upon termination established by the Early Termination Date, the non-defaulting **Party** shall, in good faith, calculate its direct termination costs resulting from the termination of this Agreement (the "**Termination Payment**") and shall notify the defaulting **Party** of the amount of the Termination Payment and, if the defaulting **Party** agrees with that amount, the defaulting **Party** shall pay such Termination Payment, together with any Default Interest that shall accrue from the Early Termination Date until the date the Termination Payment is made, within fifteen (15) Business Days after receipt of such notice. If the defaulting **Party** disputes the non-defaulting **Party's** calculation of the Termination Payment, the issue shall be decided according to Article 23 (*Resolution of Disputes*), and any Termination Payment determined thereby shall be due and payable within fifteen (15) Business Days after such determination.

22.4 **Obligations upon Termination**

Upon expiration or termination of this Agreement, the **Parties** shall have no further obligations or liabilities hereunder except for those obligations and liabilities that (a) arose prior to such termination, or (b) expressly survive such termination pursuant to this agreement.

22.5 **Continuing Obligations**

During the continuance of an Event of Default neither **Party** shall be relieved of any of its obligations or liabilities under this Agreement, including **BEL's** obligations to take or pay for Net Energy Output until this Agreement is terminated in accordance with Article 22.2 (*Termination*).

23. RESOLUTION OF DISPUTES

23.1 **Mutual Discussion**

All disputes including any dispute in relation to a failure by the Committee of Operation to reach agreement on any issue shall, to the extent possible, be settled in the first instance through good faith discussions between designated senior officers of the **Parties.** If a dispute cannot be settled by discussions between designated representatives of the **Parties** within thirty (30) days from the commencement of such dispute (which commencement shall be deemed to occur upon delivery of notice from one **Party** to the other of the dispute), the dispute resolution procedure set forth in this Article 23 of this Agreement shall be used to settle the matter.

JR

23.2 **Escalation / Arbitration**

23.2.1 If a dispute cannot be settled in accordance with Article 23.1 (*Mutual Discussion*), such dispute shall be referred to the **PUC**; provided that either **Party** may request that the **PUC** refer the dispute to arbitration under the Arbitration Act of Belize as in effect on the date of such referral.

23.2.2 The referral to the **PUC** and any request for arbitration shall be made within a reasonable time after the claim, dispute or other matter in question has arisen, and in no event shall it be made after one year from when the aggrieved **Party** knew or should have known of the controversy, claim, dispute or breach. This agreement to arbitrate shall be specifically enforceable. The arbitration shall be conducted in Belize City. The arbitrators shall have no authority to award punitive, consequential, special, or indirect damages. The arbitrators shall not be entitled to issue injunctive and other equitable relief. The arbitrators shall award interest from the time of the breach to the time of award at the Default Interest rate.

23.2.3 Notwithstanding the foregoing provisions of 23.2.1 of this Agreement, the parties acknowledge and agree that the Public Utilities Commission of Belize, shall be solely responsible for determining all disputes which relate to the rates to be charged by the Seller and paid by BEL under this Agreement and that the Public Utilities Commission shall be the only entity responsible for determining any dispute related to whether the rates charged under this Agreement are fair, reasonable or contrary to the laws of Belize.

23.2.4 Where the **PUC** agrees to refer the dispute to arbitration under the Arbitration Act of Belize as in effect on the date of such referral, the following sections of this Article shall be applicable. In agreeing to refer a dispute to arbitration, the **PUC** may designate a deadline for a resolution to be reached.

23.3 **Selection of Arbitrators**

The matter shall be referred to a panel of arbitrators comprised of a nominee from each **Party** with an Umpire to be selected by the two (2) nominated appointees. Each **Party** shall select an arbitrator within ten (10) days of commencement of the arbitration and the two (2) designated arbitrators shall select the Umpire within twenty (20) days of their selection. If the two (2) arbitrators cannot agree on selection of an Umpire within twenty (20) days of their appointment, the **Parties** shall select the Umpire in accordance with the terms of this agreement. In the event that the **Parties** are unable to select an Umpire then an Umpire shall be appointed by the Supreme Court upon the summary application of the **Parties** or either of them. The Umpire shall preside over the proceedings and in the event of a difference of opinion in the panel the majority decision shall prevail. Subject to the foregoing provisions,

JR

the Arbitration Act Chapter 125 of the Laws of Belize shall govern the arbitration proceedings.

23.4 **Enforcement of Award**

By execution and delivery of this Agreement, each **Party** hereby accepts and consents to the application of the Arbitration Act of Belize (Chapter 125) and the jurisdiction of the Belize Courts for the purpose of enforcement of any award against itself and its property and waives for itself and in respect of its property, all defences it may have as to or based on jurisdiction, improper venue or *forum non conveniens*. Each **Party** hereby irrevocably consents to the service of process or other papers by the use of any of the methods and to the addresses set out for the giving of notices in Article 26 hereof. Nothing herein shall affect the right of each **Party** to serve such process or papers in any other manner permitted by Law.

23.5 **Performance during Arbitration**

During the pendency of an arbitration, each **Party** shall continue to perform its obligations hereunder (unless such **Party** is otherwise entitled to suspend its performance hereunder or terminate this Agreement in accordance with the terms hereof), and neither **Party** shall refer or attempt to refer the matter in dispute to a court or other tribunal in any jurisdiction, except as provided in this Article 23 (*Resolution of Disputes*).

23.6 **Final and Binding**

Subject to Article 23.7 below and the concurrence of the **PUC**, awards made by the arbitral tribunal shall be final and binding on the **Parties.**

23.7 Notwithstanding Article 23.6 (*Final and Binding*) either **Party** may appeal to the Supreme Court of Belize against the arbitration award (the "**Award**") within 21 days of the delivery of thereof upon the grounds of either "**Error of Law**" or "**Serious Irregularity**" as defined below:

"**Error of Law**" means an erroneous interpretation or application of a point of Law (or points of Law) which caused the decision to be wrong to the prejudice of the appealing **Party**;

"**Serious Irregularity**" means an irregularity of one or more of the following kinds which the Court considers has caused or will cause substantial injustice to the appellant:

the tribunal exceeded its powers;

JR

the tribunal failed to conduct the proceedings in accordance with the procedure agreed by the **Parties**;
the tribunal failed to deal with all the issues that were put to it;
the Award is ambiguous or uncertain;
the Award was obtained by fraud or the way in which it was procured being contrary to public policy;
an irregularity in the conduct of the proceedings or in the Award which is admitted by the tribunal.

23.8 The cost of arbitration shall be borne by the **Party** that loses the arbitration. The Laws of Belize shall govern the validity, interpretation, construction, performance and enforcement of the arbitration provisions contained in this Article 23 (*Resolution of Disputes*).

23.9 **Alternative Resolution**

In the event that the provisions of this Article 23 (*Resolution of Disputes*) are unenforceable, and a judicial proceeding is necessary under applicable Law to resolve a dispute, the **Parties** hereby submit to the jurisdiction of the courts of Belize.

24. TRANSFER OF BEL'S OBLIGATIONS TO ITS SUCCESSOR

24.1 **Expiration of BEL's License**

In the event that **BEL's** License shall expire and not be renewed or shall be revoked and a Successor Company takes over responsibility for operation of the Transmission Grid and supply of Electrical Energy, whether or not such an event shall constitute a Force Majeure Event, **BEL** shall:

(a) at the requirement of the **PUC,** facilitate the transfer to the Successor Company of the rights and obligations of **BEL** under this Agreement with the exception of any outstanding payment obligations;

(b) at the requirement of the **PUC** as part of the transfer of the Transmission Grid assets, transfer the ownership to the Successor Company of the Energy Metering Facilities and any other equipment installed by **BEL** either at the Facility or elsewhere to allow Electrical Energy to be dispatched and transmitted from the Facility to the Transmission Grid;

(c) in the event that a temporary operator is nominated to operate the Transmission Grid prior to the appointment of a Successor Company, allow such temporary operator access to and use of the Interconnection Facilities, Energy Metering Facilities and any other equipment installed by **BEL** either at the Facility or

JR

elsewhere to allow Electrical Energy to be Dispatched by the Facility to the Transmission Grid;

(d) in the event that a Governmental Authority shall take control or ownership of the assets prior to appointment of a Successor Company or for any reason whatsoever, allow access to and use by the Government Authority or transfer ownership to the Government Authority as part of the Transmission Grid assets, the Energy Metering Facilities and any other equipment installed by **BEL** either at the Facility or elsewhere to allow Electrical Energy to be dispatched and transmitted from the Facility to the Transmission Grid.

25. ASSIGNMENT

25.1 Right to Assign and Transfer

25.1.1 The **Seller** may not assign its rights nor transfer its rights and obligations under this Agreement without the prior written consent of **PUC**.

25.1.2 **BEL** shall not assign its rights nor transfer its rights and obligations under this Agreement without the prior written consent of the **PUC**.

26. NOTICES

26.1 Communications in Writing

Any communication to be made under or in connection with this Agreement shall (unless otherwise stated) be made in writing or other mutually acceptable means and (unless otherwise stated) may be made by e-mail, fax or letter.

26.2 Addresses

The address and fax number (and the department or officer, if any, for whose attention the communication is to be made) of each **Party** for any communication or document to be made or delivered under or in connection with this Agreement is:

In the case of the **Seller**:

Chief Executive Officer
SS Energy Limited
21 San Vincent Street, North Piscini
Belmopan City, Cayo District, Belize

JR

E-mail: jrodriguez@santandersugar.com
With Copy to:
Arguelles and Co.
Attorneys-at-Law, Suite 401, The Matalon
Belize City, Belize
E-mail: belizelawyer@hotmail.com

And

In the case of **BEL**:

General Manager Energy Supply and Transmission
Belize Electricity Limited
2½ Miles Philip Goldson Highway
Belize City, Belize
Email: Jose.Moreno@bel.com.bz

or any substitute address, e-mail, fax number or department or officer as either **Party** may notify to the other by not less than five (5) Business Days' notice in writing.

26.3 **Delivery**

Any communication or document made or delivered by one **Party** to another under or in connection with this Agreement will only be effective:

(a) if by way of fax, when received in legible form; or

(b) if by way of letter, when it has been left at the relevant address or two (2) Business Days after being deposited in the post postage prepaid and registered in an envelope addressed to it at that address.

(c) if by way of email, one (1) Business Day after being sent.

27. MISCELLANEOUS PROVISIONS

27.1 **Variations in Writing**. All additions, amendments or variations to this Agreement shall be binding only if approved by the **PUC,** be in writing and signed by duly authorised representatives of both **Parties.**

27.2 **Entire Agreement**. This Agreement and all Exhibits thereto together represent the entire agreement between the **Parties** in relation to the subject matter thereof and supersede any and all previous agreements or arrangements between the **Parties** (whether oral or written), including, without limitation, the Original Agreement,

which Original Agreement shall be deemed null and void, and of no further force or effect whatsoever following the date hereof, provided that this Agreement may be amended by mutual agreement with the approval of the **PUC** or according to any Directive issued on the **Parties** by the **PUC**.

27.3 **Severability**. If any term or provision of this Agreement or the application thereof to any Person or circumstance is held in a final, non-appealable judgment to be illegal, invalid or unenforceable under any present or future applicable Law, (a) such term or provision shall be fully severable, (b) this Agreement shall be construed and enforced as if such illegal, invalid or unenforceable provision had never comprised a part hereof, and (c) the remaining provisions of this Agreement shall remain in full force and effect and shall not be affected by the illegal, invalid or unenforceable provision or by its severance here from.

27.4 **Waivers**

27.4.1 No waiver by either **Party** of any default by the other in the performance of any of the provisions of this Agreement shall (a) operate or be construed as a waiver of any other or further default whether of a like or different character or (b) be effective unless in writing duly executed by an authorised representative of such **Party.**

27.4.2 The failure by either **Party** to insist on any occasion upon the strict performance of the terms, conditions or provisions of this Agreement or any time or other indulgence being granted by one **Party** to the other shall not be construed as a waiver thereof.

27.5 **Confidentiality**

27.5.1 All information (whether written, oral or from visual inspection), hereinafter referred to as the "**Information**," furnished (whether before or after the Execution Date) by a director, officer, partner, employee, affiliate, controlling person, representative (including financial advisors, attorneys and accountants) or agent of either **Party,** hereinafter referred to as "**Protected Persons**," to a director, officer, partner, employee, affiliate, controlling person, representative (including financial advisors, attorneys and accountants) or agent of the other **Party** pursuant to this Agreement, shall not be disclosed in any manner by the receiving **Party** to any third **Party** without the prior written consent of the other **Party** and shall be utilized by the receiving **Party** solely in connection with the purposes of this Agreement.

27.5.2 Information shall not include information which (i) is or becomes publicly available other than as a result of disclosure by the receiving **Party,** (ii) is or becomes available to the receiving **Party** from another source which is not

JR

prohibited from disclosing such information to the receiving **Party** by a legal, contractual, or fiduciary obligation of a Protected Person and becomes available to the receiving **Party** on a non-confidential basis, (iii) is currently in the possession of the receiving **Party** and is not subject to a confidentiality obligation, or (iv) is required by applicable Law, Regulation or Governmental Approval to be publicly disclosed by the receiving **Party provided that**, to the extent reasonably possible, the disclosing **Party** shall give prior notice to the other **Party** of such disclosure and, if so requested by such other **Party**, shall use all reasonable efforts to oppose or resist the required disclosure, as appropriate under the circumstances, or otherwise to make such disclosure pursuant to a protective order or other similar arrangement for confidentiality.

27.5.3 Notwithstanding the above, either **Party** may reveal Information to actual and prospective Financing **Parties**, actual and prospective equity investors, suppliers and potential suppliers of equipment to the Facility, advisers (including legal advisers), mediators, arbitrators, judges and other third **Parties** if, in the sole opinion of the relevant **Party**, such disclosure may be necessary or desirable in order for that **Party** duly to perform its obligations under this Agreement and/or the Loan Documents so long as such Persons (a) need to know the Information for purposes of evaluating this Agreement or the transactions contemplated thereby, (b) are informed of the confidential nature of the Information and (c) agree to act in accordance with the terms of this Article 27.5 (*Confidentiality*). If the Information provided to the receiving **Party** is no longer necessary for purposes of this Agreement, the receiving **Party** will, upon request from the other **Party**, promptly destroy all copies of written Information in the receiving **Party's** possession and confirm such destruction in writing to the other **Party**, or return, at the receiving **Party's** expense, all copies of the written Information in the receiving **Party's** possession to the other **Party**.

27.6 **Successors and Assigns**. This Agreement shall inure to the benefit of, and be binding upon, the **Parties** hereto and their respective successors and permitted assigns.

27.7 **Limitation of Liability by a Party**

27.7.1 Notwithstanding any other provision of this Agreement and for the avoidance of any doubt, for breach of any provision of this Agreement for which an express remedy or liquidated damages are provided, such express remedy or liquidated damages shall be the sole and exclusive remedy of the non-breaching **Party** in respect of that breach under this Agreement, at law or in equity and the breaching **Party's** liability shall be limited as set forth in such provision and all other remedies and damages at law or in equity are hereby waived by the non-breaching **Party**.

27.7.2 If no remedy or measure of damages is expressly provided herein, the breaching **Party's** liability shall be limited to direct actual damages. Such direct actual damages shall be the sole and exclusive remedy of the non-breaching **Party** and all other remedies and damages at law or in equity are hereby waived by the non- breaching **Party**. Notwithstanding any other provision herein, neither **Party** shall be liable for consequential, incidental, punitive, exemplary or indirect damages, lost profits or other business interruption damages, by statute, in tort or contract, under any indemnity provision or otherwise.

27.7.3 The **Parties** agree that any express remedies and liquidated damages shall be without regard to the cause or causes of any breaches related thereto, including the negligence of any **Party,** whether such negligence be sole, joint or concurrent, active or passive. To the extent liquidated damages are required to be paid hereunder, the **Parties** acknowledge that actual damages are difficult, inconvenient or impossible to determine.

27.8 **Third Parties**. This Agreement is intended solely for the benefit of the **Parties**. Nothing in this Agreement shall be construed to create any right, duty or liability in favour of, or standard of care with reference to, any other Person (other than an assignee of any **Party**).

27.9 **Headings**. The headings contained in this Agreement are solely for the convenience of the **Parties** and should not be used or relied upon in any manner in the construction or interpretation of this Agreement.

27.10 **Survival**. The expiration or termination of this Agreement shall be without prejudice to all rights and obligations of the **Parties** accrued under this Agreement prior to the date of such expiration or termination. For the avoidance of doubt and notwithstanding any other provision of this Agreement, accrued rights and undischarged obligations under this Agreement capable of surviving its termination or expiration shall survive the Agreement, including (without limitation), the rights and obligations set forth in Articles 1 (*Definitions and Interpretation*), 4.1 (*Term*), 21 (*Indemnification and Liability*), 22 (*Defaults and Termination*), 23 (*Resolution of Disputes*), 24 (*Transfer of **BEL's** Obligations to its Successor*), 26 (*Notices);* 27.5 (*Confidentiality);* 27.7 (*Limitation of Liability by a **Party**);* 27.11 *(Governing Law).*

27.11 **Governing Law**. This Agreement and the rights and obligations of the **Parties** under or pursuant to this Agreement shall be governed by and construed in accordance with the Laws of Belize. The language of this Agreement is the English language. Notwithstanding anything to the contrary herein, this Agreement is particularly subject to the Public Utilities Commission Act and the Electricity Act, as amended from time to time, and any Byelaws or Regulations made by the Minister or the **PUC** with the approval of the Minister, or any relevant Orders or Directives made and issued by the **PUC**, and the **Parties** are further subject to any Licenses granted by the **PUC**.

JR

27.12 **Relationship of the Parties**. This Agreement shall not make either of the **Parties** partners or joint ventures one with the other, nor make either the agent of the other. Neither **Party** shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other **Party**.

27.13 **Good Faith**. Under this Agreement, each **Party** shall have the duty to act in good faith.

27.14 **Taxes and Change in Law**

27.14.1 In the event that any change in Law following the Execution Date shall increase the costs of financing, operation or maintenance of the Facility to the **Seller** or reduce the revenue to the **Seller**, the **Seller** may apply to the **PUC** or other Governmental Authority responsible for regulation of the electricity tariffs for an upward revision of the Contract Price. Such application shall be accompanied by a fully detailed justification, detailing the impacts of the changes in Law

27.14.2 Variations to the level of personal or corporate taxation implemented by any Government Authority as part of its normal fiscal policy shall not constitute a change in Law. However changes to the application of taxes and duties, introduction of new taxes and duties or changes to the level or application of concessions granted in respect of tax and duty exemptions and other fiscal incentives shall constitute a change in Law.

27.15 **Announcements**. Except as otherwise required by Law, for so long as this Agreement is in effect, neither the **Seller** nor **BEL** shall, nor shall they permit any of their Affiliates to, issue or cause the publication of any press release or other public announcement with respect to the transactions contemplated by this Agreement without the prior written consent of the other **Party**, which consent may be withheld in such **Party's** sole discretion.

THE SIGNATURE PAGE FOLLOWS

IN WITNESS WHEREOF, BEL and the **Seller** have caused their respective Common Seals to be hereto affixed on the day and the year first above written.

THE COMMON SEAL of)
BELIZE ELECTRICITY LIMITED)
was hereunto affixed and this instrument)
was delivered in the presence of)

OFFICER

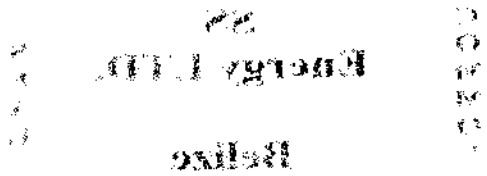
DIRECTOR

THE COMMON SEAL of)
SS ENERGY LIMITED)
was hereunto affixed and this instrument)
was delivered in the presence of)

COMMON **SS Energy LTD. Belize** SEAL

OFFICER

OFFICER



POWER PURCHASE AGREEMENT

BETWEEN

BELIZE ELECTRICITY LIMITED

AND

SS ENERGY LIMITED

Dated as of November 25, 2022

EXHIBIT 1

GOVERNMENTAL APPROVALS

JR

The following are the five Governmental Approvals required by SS Energy Limited:

1. Central Building Authority Permit
2. Central Bank Approval for Syndicated Loan
3. PUC License to construct and operate a 16 MW Power Station plant
4. The PUC approval of this Power Purchase Agreement
5. An Environmental Compliance Plan approved by the Department of the Environment – included as Exhibit 8

JR

CBA
Central Building Authority
117 North Front Street - 2nd Floor
Belize City, Belize, Central America
Tel.: (501)223-2616 or 223-1878 Fax: (501)223-6269
Email (1): info@cbabelize.org
Email (2): centralbuildingauthority@yahoo.com
Website: www.cbabelize.org

Form 02

NO OBJECTION TO PROPOSED DEVELOPMENT

Having reviewed the documents submitted to the Central Building Authority by SANTANDER SUGAR (GENERATION HOUSE) The Central Building Authority hereby indicates that it has no objection to the proposed development being carried out in accordance with the drawings that were submitted, reviewed and subsequently recorded by the Central Building Authority as CBA-110-15-C Tr.

The Central Building Authority would like to remind you that neither the Authority, nor any of its agents accepts any liability for the integrity of the proposed development. It is the owner's responsibility to ensure that legally competent personnel were engaged to design, and prepare the documents submitted.

Please be advised that while the Central Building Authority has no objections to the proposed development, this does NOT in any way constitute permission to begin building works. A form requesting permission to begin building works must be filled out, and submitted to the Central Building Authority, along with the requisite fees, and a permit must be obtained from the Central Building Authority before the building works can begin. This request for permission to begin building works must be submitted within 365 calendar days of the 1 day of APRIL ,20 15 .

This No Objection is granted under the explicit understanding that a copy of the drawings that have been reviewed, stamped, signed, and recorded at the Central Building Authority as CBA-110-15-C Tr shall be kept on site at all times during the construction process, and shall be made available to the Director, or his representative(s) on request. This No Objection is also granted under the explicit understanding and that all works will be carried out in full compliance will ALL requirements of the CBA.

NOTE: *You are reminded that the curtailed check system covers only the fundamental issues of a building proposal. Although non-fundamental issues were raised it did not prevent us from offering a NO OBJECTION to the submission.*

CBA expect that all contravention of the Belize Building Act and its subsidiary legislation are rectified as and when they are discovered and in any event before completion of works and the issuance of an Occupancy Permit. In this connection, we ask you note that the Central Building Authority attaches great importance to the proper assumption of duties and responsibilities by authorized persons and Registered Architects and/or Engineers.

Arnaldo Hernandez Jr. Arch
Director of Building Control
Central Building Authority

CBA
Central Building Authority

1 / April / 2015
(Date Issued)

Revised Jan.30, 2015

JR

LICENCE GRANTED BY

THE PUBLIC UTILITIES COMMISSION

- under -

SECTION 14 OF THE ELECTRICITY ACT

- to -

SANTANDER SUGAR LIMITED

VR

TABLE OF CONTENTS

JR

PART I: TERMS OF THE LICENCE

1. The Public Utilities Commission (the "Commission"), in exercise of the powers conferred by Section 14 of the Electricity Act (the "Act") hereby grants a Licence to Santander Sugar Limited (SSL), a company incorporated under the laws of Belize (the "Licensee"), as follows:-

   a) to generate electricity for a capacity of 16 MW and associated energy for the purpose of giving a supply to the premises owned and occupied by Santander Sugar Limited and described in Condition 4 of this Licence;

   b) to generate electricity for a capacity of 16 MW and associated energy for the purpose of giving a supply to the Belize Electricity Limited (BEL), subject to any Power Purchase Agreement approved by the Commission, to enable BEL to give a supply to any premises in BEL's Authorized Area.

   c) to transmit electricity for the purpose of giving a supply (i) to premises owned and occupied by Santander Sugar Limited and described in Condition 4 of this Licence and (ii) to the Belize Electricity Limited; and

   d) to supply electricity (i) to premises owned and occupied by Santander Sugar Limited and described in Condition 4 of this Licence and (ii) to the Belize Electricity Limited;

   subject to the Conditions set out in Part II below (hereinafter referred to as the "Conditions").

2. The Conditions are subject to modification or amendment in accordance with their terms or in accordance with the Act and any subsidiary legislation made thereunder. This Licence is further subject to the terms as to revocation specified in Part III below.

3. The rights granted under sub paragraphs (a), (b) and (c) of paragraph 1 above shall be divisible as between each sub paragraph and, if the Commission so specifies by written notice to the Licensee, with effect from the date of such notice the Licensee shall be deemed to have been granted a separate license in respect of the grant of rights set out in each such sub paragraph.

4. This Licence does not authorize the holder to supply electricity directly to other members of the public, other than to the persons so authorized in this Licence.

5. This Licence shall come into force on January 1, 2017 and unless revoked in accordance with the provisions of Part III below shall continue in force until December 31, 2032 ("Renewal Date") and thereafter for a consecutive period of ten years (an "Extension") unless either the Commission or the Licensee serves upon the other not less than one year's written notice indicating an intention that the Licence shall terminate, expiring as appropriate upon the Renewal Date or the last day of the Extension.

6. Unless notice of termination is given for reasonable cause, the Licensee will have the right of first refusal on any subsequent licence; and if the Licence is

terminated and another is not granted to the Licensee, for any reason, the Licensee will transfer all of its electric utility assets to the new operator at their market value or 120 percent of their net book value, whichever is greater, unless the Commission and the Licensee agree otherwise in writing.

7. The prices to be charged and/or rates to be applied by the Licensee in respect of the generation and supply of electricity pursuant to this Licence shall be in accordance with a methodology approved by the Commission. The Commission may approve a Power Purchase Agreement between the Utility and the Licensee; or prescribe a formula for the rates to be charged

8. The Commission authorizes the Licensee to act as necessary for the purposes of exercising its rights, fulfilling its obligations and performing its functions under this Licence and grants to the Licensee all of the relevant powers referred to in the Act for such purposes.

9. It is confirmed that the Licensee shall have all of the relevant powers referred to in Part IV of the Act for the purpose of exercising its rights, fulfilling its obligations and performing its functions under this Licence. This confirmation is without prejudice to all or any other rights, powers and privileges granted to or exercisable by the Licensee under the Act or any subsidiary legislation.

10. Notwithstanding any rights or obligations conferred by this Licence, the Licensee shall comply at all times with the provisions of the Act and any subsidiary legislation in so far as such provisions are applicable to it.

11. This Licence does not authorize the Licensee to construct, modify, commission or operate any system in relation to any of its Licensed Businesses except in accordance with a Consent granted by the Commission pursuant to sections 51 and 52 of the Act.

12. The Licensee shall not sub-licence any of the rights granted under this Licence except with the written approval of the Commission on such terms and conditions as may be approved by the Commission in writing.

13. This Licence shall not be assigned except with the written approval of the Commission on such terms and conditions as may be approved by the Commission in writing.

14. In the event that a licence to generate, transmit or supply electricity is proposed to be granted to a person other than the Licensee, and which may affect the rights and obligations granted under this Licence in relation to Part I paragraph 1. (a), (c)-(ii) and (d)-(ii), then the Commission and the Licensee shall agree such modifications, if any, to this Licence as shall be necessary to enable such person to exercise its rights, fulfill its obligations and perform its functions under such proposed licence. In the event that the Licensee unreasonably refuses to so agree, the Commission may revoke this Licence in whole or in part in accordance with paragraph 1 of Part III below.

15. The provisions of subsections (2) to (5) of Section 42 of the Act shall apply for the purposes of the service of any notice under this Licence.

John P. Avery
Chairman, Public Utilities Commission
May 28, 2019

JR

PART II: THE CONDITIONS

Condition 1: Interpretation

1. Unless the contrary intention appears, words and expressions used in the Conditions shall be construed as if they were an Act of Belize and the Interpretation Act applied to them and references to an enactment shall include any statutory modification or re-enactment thereof after the date when this Licence comes into force.
2. Any word or expression defined for the purposes of any provision of the Act shall, unless the contrary intention appears, have the same meaning when used in the Conditions.
3. In the Conditions unless the context otherwise requires:

"Associate of the Licensee"	shall have the meaning set out in Condition 18.
"Customer"	means any person supplied or entitled to be supplied with electricity by the Licensee.
"Emergency"	means an emergency of any kind, including any circumstance whatsoever resulting from major accidents, natural disasters and incidents involving toxic or radio-active materials.
"Emergency Organizations"	shall have the meaning set out in Condition 8.
"Generation Business"	means the business of the Licensee of generation of electricity being a business involving generation sets.
"Generation set"	means any plant or apparatus for the production of electricity and shall where appropriate include a generating station comprising more than one generation set.
"Licensed Businesses"	means the Generation and Supply Business owned and operated by the Licensee and where the context so permits, each and every one of them.

"Supply Business"	means the business of the Licensee as distributor and supplier of electricity in Belize.

4. In construing the Conditions, the heading or title of any Condition or paragraph shall be disregarded.
5. Where, in the Conditions, any obligation of the Licensee is required to be performed within a specified time limit that obligation shall be deemed to continue after that time limit if the Licensee fails to comply with that obligation within that time limit.

JR

Condition 2: Standards of Performance

1. The Licensee shall conduct its Licenced Businesses in a manner which it reasonably considers to be best calculated to achieve the standards of performance, including quality of service standards, as may be (i) prescribed by Regulations, Byelaws, Orders, directions or other subsidiary legislation or administrative orders of the Commission promulgated or issued in writing or served upon the Licensee pursuant to any powers contained in the Act or this License; and (ii) set out in the Codes of Practice required to be prepared by the Licensee pursuant to the Condition 5 below.

2. The Licensee shall respect and have due regard for the rights of other licensees in accordance with any applicable provisions in the Act, Regulations, and Byelaws of the Commission. The Licensee shall cooperate as necessary to permit such other licensees to undertake the activities they are authorized to undertake within the power system and regulatory framework of Belize.

3. The Licensee shall be liable for and shall promptly pay all applicable penalties associated with its failure to meet standards of performance, including quality of service standards, in accordance with the methodology to determine penalties and process for payment set forth in any applicable Byelaws enacted by Commission in exercise of the powers conferred upon it by the Act.

JR

Condition 3: Economic purchasing and efficient use

1. The Licensee shall purchase raw materials and other inputs, assets and services in connection with the carrying on of its Licenced Businesses, at the best effective prices reasonably obtainable having regard to the sources available. In determining the effective prices at which such raw materials and other inputs, assets and services are purchased by the Licensee, regard shall be had to market conditions. In the discharge of its obligations, the Licensee may additionally have regard to any considerations liable to affect its ability to discharge its obligations under this Condition in the future, including the future security, reliability and diversity of sources of raw materials and other inputs, assets and services available for purchase.
2. This Condition shall apply mutatis mutandis where the Licensee exercises a discretion or (by agreement or otherwise) varies the terms of an existing contract (whether or not entered into prior to the date of entry into force of this Licence) in such a manner as to alter the effective price under such contract.
3. The Licensee shall conduct its Supply Business in the manner which it reasonably considers to be best calculated to achieve any standards of performance in connection with the promotion of the efficient use of electricity supplied.

Condition 4: Authorized Area

The Authorized Area shall be the premises owned and occupied by Santander Sugar Limited located in the Cayo District and further described by the coordinates in the table below and referencing the geospatial image on the next page:

UTM Coordinates Zone 16 Q		
Point Number	Easting	Northing
1	316476.35	1917216.43
2	316299.96	1917227.70
3	316225.64	1917204.49
4	316180.03	1917209.55
5	316081.21	1917285.47
6	315965.66	1917322.86
7	315800.96	1917284.91
8	315136.76	1916683.29
9	315022.74	1916609.91
10	314916.31	1916597.25
11	314693.33	1916528.93
12	314616.31	1916539.90
13	314597.04	1916549.18
14	314526.10	1916612.44
15	314508.36	1916736.43
16	314703.47	1916992.01
17	314718.67	1917057.80
18	314690.80	1917126.12
19	314642.65	1917159.02
20	314609.71	1917148.90
21	312893.28	1920154.08
22	314310.20	1920984.54


22
21
Composting
Facility
Parcel:
19 - 41 - 2
Workshop
Sugarmill
Casco
(Farms offices)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
20

JR

Condition 5: Codes of practice on Licensed Business

1. The Licensee shall in consultation with the Commission prepare and at all times have in force and shall implement and (subject to paragraph 6 of this Condition) comply with the following codes of practice:

   (a) a code governing the operations of the Supply Business and the transmission, distribution and supply of electricity within and from the supply system including, without limitation, all material technical aspects relating to connections to and the operation and use of the supply system and the operation of electric lines and electrical plant connected to the supply system and which is designed so as to permit the development, maintenance and operation of an efficient, coordinated and economical system for the distribution and supply of electricity within their Authorized Area;

   (b) a code governing the operations of the Generation Business and the production of electricity from generation sets and which is designed so as to permit the development, maintenance and operation of an efficient, coordinated and economical system for the production of electricity and the optimization of generation from such system.

2. It shall be incumbent on the Licensee to

   (a) implement and comply with operational and maintenance Codes, referred to in paragraph 1(b), that are in accordance with best practices for the relevant power plant technology.

   (b) maintain detailed and updated operational and maintenance logs, and upon the request of the Commission, make such logs available for review by the Commission for determination of the licensee's adherence to the implemented operational and maintenance Codes.

   (c) make its facilities available, without undue delay or obstruction, to officer(s) authorized by the Commission to perform on-site inspections. It is an offence for any person acting on behalf of the Licensee to frustrate the work of persons authorized by the Commission to monitor the compliance of the Licensee with any of its obligation under the this Licence or any other Law.

3. The Licensee shall (with the concurrence of the Commission) periodically review the Codes referred to in paragraph 1 and their implementation. Following any such review, the Licensee shall send to the Commission:

   (a) a report on the outcome of such review; and

(b) any proposed revisions to any of the Codes from time to time as the Licensee (having regard to the outcome of such review) reasonably thinks fit for the achievement of the objectives referred to in paragraph 1.

(c) revisions to any of the codes proposed by the Licensee and sent to the Commission pursuant to paragraph 2(b) shall require to be approved by the Commission.

4. Having regard to any written representations or objections, and in any event following such consultation as may be reasonable and appropriate, the Commission may issue a directive requiring the Licensee to revise the codes in such manner as may be specified in the directive, and the Licensee shall forthwith comply with any such directives.

5. The Licensee shall give or send a copy of any of the Codes (as from time to time revised) to any person requesting the same. The Licensee may make a charge, in an amount approved by the Commission, for any copy of the codes (as from time to time revised) given or sent pursuant to this paragraph.

6. The Commission may (after consultation with the Licensee) issue directives relieving the Licensee of its obligations under any of the Codes to such extent and for such period as may be specified in the directives.

Condition 6: Security standards

1. Subject to Condition 16 below and to any regulations from time to time made by the Minister or the Commission, the Licensee shall use its reasonable endeavours to make arrangements sufficient to minimize the occurrence of power outages, low voltage conditions or the interruption or reduction of electricity supplies by him.
2. This Licence authorizes the Licensee to enter into such agreements with other Licensees for the purchase of electricity services to enable him to meet his obligation to give a supply within his Authorized Area.
    a) For the avoidance of doubt, the Licensee can only enter into such agreements with another licensee that is authorized to provide such electricity services by a licence granted by the Commission.
3. The Licensee shall upon request by the Commission provide to the Commission such information as the Commission may require for the purpose of monitoring compliance with this Condition and to enable the Commission to review the operation of this Condition.

Condition 7: Energy Supply Output

1. In respect of its Generation Business, the Licensee shall prepare a statement in a form approved by the Commission showing in respect of each financial year of the Licensee generation output, forecast generation output, demand and forecast demand on each part of the Generation System and fault levels.
2. In respect of its Supply Business, the Licensee shall prepare a statement in a form approved by the Commission showing in respect of each financial year of the Licensee circuit capacity, forecast power flows and loading on each part of the supply system and fault levels.
3. The Licensee shall, where required by the Commission, prepare and submit regular reports on any aspect of its Licensed Businesses; or prepare and submit information or reports in the conduct of an investigation or in the carrying out of its surveillance of any matter related to electricity.

Condition 8: Special arrangements for Emergencies

1. The Licensee shall, after consultation with such authorities responsible for Emergency Organizations as the Commission may from time to time determine, make plans or other arrangements for the provision or, as the case may be, the rapid restoration of electricity services as are practicable and may reasonably be required in Emergencies.
2. The Licensee shall, on request by such person as is designated for the purpose in the relevant plans or arrangements, implement those plans or arrangements in so far as it is reasonable and practicable to do so.
3. Subject to the provisions of this Condition, the Licensee shall connect to his transmission system any electricity distribution and supply system which is owned or operated by another person including, without limitation, the Government of Belize.
4. The Licensee shall not be required to so connect unless the electricity distribution and supply system is, in the reasonable opinion of the Licensee, fit for the purpose of distributing and supplying electricity transmitted from the transmission system. In determining whether a system is fit for the purpose, the Licensee shall be entitled to have regard to whether the system, in the reasonable opinion of the Licensee, is liable to cause death, personal injury or damage to property or materially to impair his generation, transmission and supply systems.
5. Nothing in this Condition shall preclude the Licensee from:

   (a) recovering the cost which it incurs in making or implementing any such plans or arrangements from those on behalf of or in consultation with whom the plans or arrangements are made, through reasonable charges approved by the Commission; or

   (b) making implementation of any plan or arrangement conditional upon the person or persons for whom or on whose behalf that plan or arrangement is to be implemented satisfactorily indemnifying the Licensee for all costs and expenses incurred as a consequence of the implementation, through payment of reasonable charges approved by the Commission.

4. In this Condition, "Emergency Organizations" means:

   (a) the public police, fire, ambulance and coastguard services of Belize;

   (b) the National Emergency Management Organization (NEMO); and

   (c) such other similar organizations providing assistance to the public of Belize in Emergencies, as the Commission may from time to time determine.

Condition 9: No discrimination or unfair preference

1. Subject to the terms of this Licence and to any direction in writing of the Commission, the Licensee shall not in the exercise of its rights, fulfilling its obligations and performing its functions under this Licence unduly discriminate against or unduly prefer any one or any group of persons in favour of or as against any one other or any other group of persons.

Condition 10: Health and safety of employees and environmental matters

1. It shall be the duty of the Licensee to consult with appropriate representatives of its employees for the purpose of establishing and maintaining an appropriate machinery or forum for the joint consideration of matters of mutual concern in respect of the health and safety of persons employed by the Licensee.

2. The Licensee shall comply with Section 49 of the Act and at all times comply with and have regard to those matters relating to preservation of the amenities and fisheries referred to in the Second Schedule to the Act.

3. The Licensee shall at all times comply with any relevant Laws that deal with health and safety.

Condition 11: Measurement of Supply

1. The Licensee shall at all times have installed and properly maintained and calibrated the appropriate measuring and recording instruments and meters to measure the quantity and quality of electricity supply and at all times comply with and have regard to those relevant matters relating to meters and metering referred to in the First Schedule to the Act.

Condition 12: Restriction on use of certain information

1. Where any person is required to provide information to the Licensee such person providing the information may, by notice in writing given to the Licensee not later than the time at which such information is provided or by the endorsement on the information of words indicating the confidential nature of such information, specify such information as confidential information for the purposes of this Condition and the provisions of this Condition shall apply to that information.

2. Where the Licensee receives confidential information in accordance with paragraph 1, the Licensee shall not use the confidential information for any purpose other than that for which it was provided.

Condition 13: Requirement to enter into certain agreements

1. If any proposed agreement relating to the generation and supply of electricity has (after consultation with the Licensee) been designated by the Commission for purposes of this Condition, the Commission may require the Licensee:

   (a) to offer to enter into such proposed agreement; and

   (b) upon that offer being accepted, forthwith to enter into such agreement.

2. In this Condition, "agreement" shall include any arrangement whether or not in writing and whether or not intended to be legally enforceable, and "proposed agreement" shall be construed accordingly.

3. Notwithstanding paragraphs 1 and 2 above, the Licensee shall not be obliged to enter into an agreement that fails to adequately compensate the Licensee for any obligations undertaken. In the event the Commission requires the Licensee to enter into an agreement in contravention of this paragraph, subsequent to a formal objection by the Licensee based on this paragraph, the Licensee may seek a final determination on the matter from the Supreme Court.

Condition 14: Prohibited disposal of relevant assets

1. The Licensee shall not dispose of or relinquish operational control over any relevant asset otherwise than in accordance with the following paragraphs of this Condition.

2. Save as provided in paragraph 3, the Licensee shall give to the Commission not less than six months' prior written notice of its intention to dispose of or relinquish operational control over any relevant asset, together with such further information as the Commission may request relating to such asset or the circumstances of such intended disposal or relinquishment of control or to the intentions with regard thereto of the person proposing to acquire such assets or operational control over such asset.

3. Notwithstanding paragraphs 1 and 2, the Licensee may dispose of or relinquish operational control over any relevant asset:

   (a) where:

      (i) the Commission has issued directions for the purposes of this Condition containing a general consent (whether or not subject to conditions) to:

         (aa) transactions of a specified description; or

         (bb) the disposal of or relinquishment of operational control over relevant assets of a specified description; and

      (ii) the transaction or the relevant assets are of a description to which such directions apply and the disposal or relinquishment is in accordance with any conditions to which the consent is subject;

   (b) where the disposal or relinquishment of operational control in question is required by or under any enactment or subordinate legislation.

4. Notwithstanding paragraph 1, the Licensee may dispose of or relinquish operational control over any relevant asset as is specified in any notice given under paragraph 2 in circumstances where:

   (a) the Commission confirms in writing that it consents to such disposal or relinquishment (which consent may be made subject to the acceptance by the Licensee or any third party in favor of whom the relevant asset is proposed to be disposed or operational control is proposed to be relinquished of such conditions as the Commission may specify); or

   (b) the Commission does not inform the Licensee in writing of any objection to such disposal or relinquishment of control within the notice period referred to in paragraph 2.

JR

5. In this Condition:

"disposal"	includes any sale, gift, lease, grant of any other encumbrance or the permitting of any encumbrance to subsist or any other disposition to a third party, and "dispose" shall be construed accordingly.
"relevant asset"	means any material asset for the time being used in the Licensee's Generation Business or forming part of the transmission and supply systems and any legal or beneficial interest in land upon which any of the foregoing is situate.

Condition 15: Provision of information and compliance with a uniform system of accounts

1. The Licensee shall furnish to the Commission, in such manner and at such times as the Commission may reasonably require, such documents, accounts, estimates, returns or other information as the Commission may require for the purpose of exercising the functions assigned to the Commission by or under the Act, subsidiary legislation relating to the Act or this Licence.

2. The Licensee shall maintain its financial books and accounts, and shall provide information thereon to the Commission, in accordance with any applicable regulations and/or Byelaws, including but not limited to those requiring the Licensee to adopt a uniform system of accounts.

Condition 16: Exceptions and Limitations

1. Unless the context otherwise requires the Licensee's obligations under these Conditions have effect subject to the following exceptions and limitations.

2. The Licensee shall not be held to have failed to comply with an obligation imposed upon it by or under these Conditions if and to the extent that the Licensee is prevented from complying with that obligation by an act of God (such as hurricanes, earthquakes, floods, fires or riots) or of the public enemy, actions or inaction of regulatory authority, shortages of fuel supply, or actions of others (including but not limited to strikes, lockouts or other industrial disturbance), not within the control or arising from the fault of the Licensee and sufficiently serious or material to prevent fulfillment of its obligations and performance by the Licensee of its functions hereunder.

3. In so far as this Licence imposes any obligation upon Licensee to provide a service it shall not apply:-

   (a) where provision of the service requested would expose any person engaged in its provision to undue risk to health or safety; or

   (b) where in the opinion of the Commission it is not economical or reasonably practicable in all the circumstances for the Licensee to provide the service requested at the time or place demanded; or

4. The Licensee shall not be obliged to provide the services of all or any of the Licensed Business or to supply, connect, or to keep connected to any of the Licensed Business, or to permit to be so connected or kept so connected any other system, if the person to or for whom that is or is to be done:

   (a) has not entered or will not enter into a contract for the purpose with the Licensee for reasons other than the unreasonable refusal of the Licensee to agree terms for the purpose; or

   (b) is, or in the opinion of the Licensee has given reasonable cause to believe that he may become:

      (i) in breach of a contract with the Licensee for the provision of any services of all or any of the Licensed Businesses supplied by the Licensee; or

      (ii) in default in regard to any debt or liability owed to the Licensee in respect of any such contract;

   (c) is using, or permitting the use of, electricity so supplied for any illegal purpose or has done so in the past and is likely to so again; or

   (d) has obtained, or attempted to obtain, any electricity service from the Licensee by corrupt, dishonest or illegal means at any time.

JR

5. This Condition shall apply without prejudice to any limitation or qualification of the requirements imposed by or under any other Condition and shall not in itself give rise to any implied obligations.

6. Nothing in these Conditions shall prevent the Licensee from withdrawing or restricting services requiring the attendance of any of its employees:-

   (a) on a day on which the Commission determines it is unreasonable to require the relevant employees of the Licensee to attend for the purpose of providing those services.

Condition 17: Licence Fee

1. The method for setting the Licence Fees payable and the due date, may be prescribed in an applicable Byelaws enacted by the Commission in exercise of the powers conferred upon the Commission by the Act.

2. Where no applicable Byelaws is in force, the Licensee shall pay to the Commission:

   (a) the sum of ten thousand dollars ($10,000.00) upon the grant and upon each extension or renewal of this Licence.

   (b) for the duration of this license the annual sum of ten thousand dollars ($10,000.00) on or before the end of each commercial operational year.

JR

Condition 18: Determination and publication of tariffs and charges.

1. The Commission may approve a Power Purchase Agreement (PPA) between the Utility and the Licensee in respect of the trade of capacity and associated energy between the parties. Such a PPA may prescribe a value, benchmark or formula for the rates to be charged.

Condition 19: Associates of the Licensee

1. Subject to paragraphs 2 and 4 below, the rights and obligations of the Licensee under this Licence shall be deemed to apply mutatis mutandis to any Associate of the Licensee.

2. Without limitation of the foregoing and without prejudice to the Licensee's obligations under these Conditions, where:

   (a) any Associate of the Licensee does anything which the Licensee is prohibited from doing under these Conditions or fails to do anything which the Licensee is in the circumstances required to do under these Conditions; and

   (b) the Commission is of the opinion that:

      (i) in consequence the Licensee is seeking to or is in a material and substantial way avoiding obligations which would apply under these Conditions if the thing had been done or not done by the Licensee; and

      (ii) that, having regard to the duties delegated to the Commission pursuant to the Act the Commission ought to make a direction under this Condition;

   then the Licensee shall take such reasonable steps to ensure that the Associate ceases to do that thing or otherwise remedies the matter in such a manner as the Commission so directs.

3. These Conditions do not apply in respect of any business of the Licensee or any Associate of the Licensee other than the Electricity Generation and Supply Business.

4. This Condition shall not apply to any Associate of the Licensee if and to the extent that the Commission so determines.

5. For the purposes of this Licence an "Associate of the Licensee" shall comprise any subsidiary of or body corporate controlled by the Licensee.

6. For the purposes of this Licence:-

   (1) A company is deemed to be a subsidiary of another if (but only if):

      (a) that other:

         (i) either, is a member of it and controls the composition of its board of directors; or

         (ii) holds more than half in nominal value of its issued share capital carrying the right to vote in all circumstances at any general meeting of the company; or

JR

(b) the first-mentioned company is a subsidiary of any company which is that other company's subsidiary.

(2) Subparagraph (1) above is subject to sub-paragraph 5 below.

(3) For purposes of sub-paragraph (1)(a)(i), the composition of a company's board of directors is deemed to be controlled by another company if (but only if) that other company by the exercise of some power exercisable by it without the consent or concurrence of any other person can appoint or remove the holders of all or a majority of the board of directors.

(4) For purposes of subparagraph (3) above, the other company is deemed to have power to appoint a director if any of the following conditions is satisfied:-

(a) a person cannot be appointed as a director without the exercise in his favor of a power as is described in subparagraph (3) above, or

(b) a person's appointment as a director follows from his appointment as director of that other company, or

(c) that the directorship is held by that other company itself or by a subsidiary of it.

(5) In determining whether one company is a subsidiary of another:-

(a) any shares held or power exercisable in a fiduciary capacity only are to be treated as not held or exercisable by the fiduciary;

(b) subject to the following two subparagraphs, any shares held or power exercisable:

(i) by any person as nominee for the other (except where the other is concerned only in a fiduciary capacity), or

(ii) by, or by a nominee for, a subsidiary of the other (not being a subsidiary which is concerned only in a fiduciary capacity), are to be treated as held or exercisable by the other person;

(c) any shares held or power exercisable by any person by virtue of the provisions of any debentures of a company or of a trust deed for securing any issue of such debentures are to be disregarded;

(d) any shares held or power exercisable by, or by a nominee for, the other or its subsidiary (not being held or exercisable as mentioned in the preceding subparagraph (c) are to be treated as held or exercisable by the other if the ordinary business of the other or its subsidiary (as the case may be) includes the lending of money and the shares are held or the power is exercisable as above mentioned by way of security only for the purposes of a transaction entered into in the ordinary course of that business.

(6) A company is deemed to be another's holding company if (but only if) the other is its subsidiary and a body corporate is deemed the wholly-owned

JR

subsidiary of another if it has no members except that other and that other's wholly-owned subsidiaries and its or their nominees.

PART III: TERMS AS TO REVOCATION

1. Notwithstanding any other provision of this Licence, including (without limitation) paragraph 4 of Part I above, the Commission may at any time revoke this Licence by not less than 30 days' notice in writing to the Licensee:-

   (a) if the Licensee agrees in writing with the Commission that this Licence should be revoked;

   (b) if any amount payable under Condition 17 is unpaid 30 days after it has become due and remains unpaid for a period of 14 days after the Commission has given the Licensee notice that the payment is overdue. Provided that no such notice shall be given earlier than the sixteenth day after the day on which the amount payable became due;

   (c) if the Licensee fails to comply with an order or direction of the Commission in exercise of a power to make such an order or direction under the PUC Act, the Act and such order or direction is not subject to proceedings for review and appeal; or

   (d) if the Licensee:

      (i) is unable to pay its debts as they fall due, convenes any meeting with its creditors generally with a view to the general readjustment or re-scheduling of its indebtedness or makes general assignment for the benefit of its creditors generally;

      (ii) enters into receivership or liquidation;

      (iii) ceases to carry on any of the Licensed Business; or

      (iv) if the Licensee or any other person takes any action for voluntary winding-up or dissolution of the Licensee, or if the Licensee enters into any scheme of arrangement (other than in any such case for the purpose of reconstruction or amalgamation upon terms and within such period as may previously have been approved in writing by the Commission or a receiver, trustee or similar officer of the Licensee, or of all or any material part of the revenues and assets of it, is appointed, or if any order is made for the compulsory winding-up or dissolution of it.

2. For the purpose of paragraph 1(d)(i) above, the Licensee shall be deemed unable to pay its debts as they fall due:-

   (a) if a creditor, by assignment or otherwise, to whom the Licensee is indebted in a sum exceeding the Relevant Figure (as defined in paragraph 3 below) then due has served on the Licensee a demand under his hand requiring the Licensee to pay the sum so due and the Licensee has for three weeks

JR

thereafter neglected to pay the sum or to secure or compound for it to the reasonable satisfaction of the creditor; or

(b) if execution or other process issued on a judgment, decree or order of any court in favor of a creditor of the Licensee is returned unsatisfied in whole or in part; or

(c) if it is proved to the satisfaction of the court that the Licensee is unable to pay its debts, and, in determining whether a Licensee is unable to pay its debts, the court shall take into account the contingent and prospective liabilities of the Licensee.

3. For the purposes of paragraph 2 above the Relevant Figure shall be BZ$1,000,000 or such higher figure as the Commission may determine, and the said paragraph 2 shall not apply if the demand therein referred to is being contested in good faith by the Licensee with recourse to all appropriate measures and procedures, whether legal or otherwise, or if the demand is satisfied prior to the expiry of the notice from the Licensee.

POWER PURCHASE AGREEMENT BETWEEN

BELIZE ELECTRICITY LIMITED

AND

SS ENERGY LIMITED

Dated as of December 13, 2016

EXHIBIT 2

TRANSMISSION GRID CODE

JR

Belize Electricity Limited

Transmission Grid Code

JR

Abbreviations:

GCR	Grid Code Requirement
IPP	Independent Power Producer
IPS	Interconnected Power System
MCR	Maximum continuous Rating
TS	Transmission System

JR

Connection Conditions

This section on connection conditions specifies both the minimum technical, design and operational criteria which must be complied with by any Independent Power Producers (IPP).

The objective of the connection conditions is to ensure that by specifying minimum technical, design and operational criteria, the basic rules for *connection to the TS* are similar for all *IPPs* of an equivalent category and will enable the *Utility* to comply with its statutory and licence obligations. Since quality of supply and grid integrity are the shared responsibilities the Utility and the IPPs these conditions furthermore ensures adherence to sound engineering practice and codes by all the *participants*.

Generator connection conditions

This section defines minimum requirements for *generator* connections. Note that some of the sections below refer to a *Grid Code* Requirement (*GCR*) for brevity and later reference.

Compliance with the *GCR* shall be read in conjunction with the *unit* characteristics and sizes as specified in Table 1.1(a) below.

JR

Grid Code Requirement		*All Units* including Hydro (MVA rating)					
		<3	3 to 10	10 to 15	15 to 20	20 - 25	>25
GCR1	Plant availability	Depends on System Requirements	Yes	Yes	Yes	Yes	Yes
GCR2	Plant reliability	Depends on System Requirements	Yes	Yes	Yes	Yes	Yes
GCR3	**Protection**						
	Backup Impedance	-	-	Depends on System Requirements	Depends on System Requirements	Depends on System Requirements	Yes
	Loss of Field	-	Depends on System Requirements	Yes	Yes	Yes	Yes
	Pole Slipping	-	Depends on System Requirements	Depends on System Requirements	Yes	Yes	Yes
	Gen trfr backup earth fault	Yes	Yes	Yes	Yes	Yes	Yes
	HV Breaker Fail	-	-	Depends on System Requirements	Depends on System Requirements	Depends on System Requirements	Depends on System Requirements
	HV Breaker Pole Disagreement	-	-	-	-	-	Yes
	Unit Switch-onto-standstill Protection	Yes	Yes	Yes	Yes	Yes	Yes
	Under/Over voltage Protection	Yes	Yes	Yes	Yes	Yes	Yes
	Under/Over Frequency Protection	Yes	Yes	Yes	Yes	Yes	Yes
	Main Protection only	Yes	Yes	Yes	Depends on System Requirements	Depends on System Requirements	-
	Main and Backup protection	-	-	-	Depends on System Requirements	Depends on System Requirements	Yes
GCR4	Ability To Island	Depends on System Requirements	Depends on System Requirements	Depends on System Requirements	Depends on System Requirements	Depends on System Requirements	Depends on System Requirements
GCR5	Excitation system requirements	Depends on System Requirements	Depends on System Requirements	Yes	Yes	Yes	Yes
	Power System Stabilizer	-	-	Depends on System Requirements	Depends on System Requirements	Depends on System Requirements	Yes
	Limiters	-	Depends on System Requirements	Yes	Yes	Yes	Yes
GCR6	Reactive Capabilities	Depends on System Requirements	Depends on System Requirements	Yes	Yes	Yes	Yes
GCR7	Multiple *Unit* tripping	-	Depends on System Requirements	If the total station output is greater than the single largest contingency as defined for instantaneous reserve			If more than 1 *unit* at station
GCR8	Governing	Depends on System Requirements	Yes	Yes	Yes	Yes	Yes
GCR9	Restart after Station Blackout	Depends on System Requirements	Depends on System Requirements	If the total station output is greater than the single largest contingency as defined for instantaneous reserve			If more than 1 *unit* at station
GCR10	Black Starting	If agreed	If agreed	If agreed	If agreed	If agreed	If agreed
GCR11	External Supply Disturbance Withstand Capability	Depends on System Requirements	If more than 5 *units* at station	If the total station output is greater than the single largest contingency as defined for instantaneous reserve			If more than 1 *unit* at station
GCR12	On load tap Changer for generating *Unit* step up transformers	-	Depends on System Requirements	Depends on System Requirements	Depends on System Requirements	Depends on System Requirements	Depends on System Requirements

JR

GRC13	Emergency *unit* capabilities	Depends on System Requirements	Depends on System Requirements	Yes	Yes	Yes	Yes
GCR14	Independent action for control in system island	-	Depends on System Requirements	Depends on System Requirements	Yes	Yes	Yes

***Table 1.1(a)** - Summary of the requirements applicable to specific classes of units*

The Utility shall offer to connect and, subject to the signing of the necessary agreements, make available a point of connection to any requesting IPP licensed to generate electricity.

Protection (GCR3)

A generating *unit*'s, *unit* step-up transformer, *unit* auxiliary transformer, associated busbar ducts and switchgear shall be equipped with well-maintained protection functions, in line with international best practices, to rapidly disconnect appropriate plant sections should a fault occur within the relevant protection zones which fault may reflect into the *TS*.

The following protection functions shall be provided as defined to protect the *Interconnected Power System (IPS)*:

Backup Impedance

An impedance scheme with a large reach shall be used. This shall operate for phase faults in the *unit*, in the *HV* yard or in the adjacent *transmission* lines, with a suitable delay, for cases when the corresponding main protection fails to operate. The impedance facility shall have fuse fail interlocking. **Loss of Field**

All generating *units* shall be fitted with a loss of field facility that matches the system requirements. The type of facility to be implemented shall be agreed with the *Utility*. **Pole Slipping Facility**

Generating *units* shall be fitted with a pole slipping facility that matches the system requirements, where the *Utility* determines that it is required.

Unit Transformer HV back-up Earth Fault Protection

This is an IDMT facility that shall monitor the current in the *unit* transformer neutral. It can detect faults in the transformer *HV* side or in the adjacent network. The back-up earth fault facility shall trip the *HV* circuit-breaker.

HV Breaker Fail Protection

The "breaker fail" protection shall monitor the *HV* circuit breaker's operation for protection trip signals, i.e. fault conditions. If a circuit breaker fails to open and the fault is still present after a specific time delay (120 ms), it shall trip the necessary adjacent circuit breakers.

JR

A continuously-acting automatic excitation control system (AVR) shall be installed to provide constant terminal voltage control of the unit, without instability, over the entire operating range of the unit. (Note that this does not include the possible influence of a power system stabiliser.) Excitation systems shall comply with the requirements specified in IEEE 421.

The excitation control system shall be equipped with an under-excitation limiter, load angle limiter and flux limiter as described in **IEE 421**. The excitation system shall have a minimum excitation ceiling limit of 1.6 pu rotor current, where 1 pu is the rotor current required to operate the unit at rated load and at rated power factor.

The settings of the excitation system shall be agreed between the Utility and each IPP, and shall be documented, with the master copy held by the Utility. The IPPs shall control all other copies. The procedure for this is shown Appendix A, Table A.4.3.

In addition, the unit shall be capable of operating in the full range as indicated in the capability diagram supplied by the IPP for the Unit. Test procedures are shown in Appendix A, Table A.4.3.

The active power output under steady state conditions of any unit shall not be affected by voltage changes in the normal operating range.

Routine and prototype response tests shall be carried out on excitation systems as indicated in Appendix A, Table A.4.3 and in accordance with **IEE 421.**

Reactive capabilities (GCR6)

All new units shall be capable of supplying rated power output (MW) at any point between the limits 0.85 power factor lagging and 0.90 power factor leading at the unit terminals. Under lagging reactive power facility condition, the Producer is responsible for ensuring that self-excitation of the inductor generator does not occur, including under the various outage combinations that might occur in the BEL system.

Reactive output shall be fully variable between these limits under AVR, manual or other control.

Routine and prototype response tests shall be carried out to demonstrate reactive capabilities as indicated in Appendix A, Table A.4.4

Multiple unit tripping (MUT) risks (GCR7)

A power station and its units shall be designed, maintained and operated to minimise the risk of more than one unit being tripped from one common cause within a short time.

The larger the amount of generation lost from the IPS, or the smaller the time window in which the generation loss occurs, the greater the impact to the IPS. If a reasonable amount of generation is lost but in a short duration (more than one generating unit tripping

JR

HV Pole disagreement protection

The pole disagreement protection shall cover the cases where one or two poles of a circuit breaker fail to operate after a trip or close signal.

Unit Switch onto Standstill protection

This protection shall be installed in the HV yard *substation* or in the *unit* protection panels. If this protection is installed in the *unit* protection panels then the *DC* supply for this protection and that used for the circuit-breaker closing circuit shall be the same. This protection safeguards the *generator* against an unintended connection to the *TS* (back energisation) when at standstill or at low speed.

In addition, should system conditions dictate, other protection requirements shall be determined by the *Utility* in consultation with the *IPP* and these should be provided and maintained by the relevant *IPP* at its own cost.

All protection interfaces with the *Utility* shall be co-ordinated between the *participants*.

The settings of all the protection tripping functions on the *unit* protection system of a *unit*, relevant to *IPS* performance and as agreed with each *IPP* in writing, shall be co-ordinated with the *transmission* protection settings. These settings shall be agreed between the *Utility* and each *IPP*, and shall be documented and maintained by the *IPP*, with the reference copy, which reflects the actual plant status at all time, held by the *Utility*. The *IPP* shall control all other copies.

For system abnormal conditions, a *unit* is to be disconnected from the *TS* in response to conditions at the *point of connection*, only when the system conditions are outside the plant capability where damage will occur. Protection setting documents shall illustrate plant capabilities and the relevant protection operations.

Competent persons shall carry out testing, commissioning and configuration of protection systems. Prototype and routine testing shall be carried out as defined in Appendix A

Any work on the protection circuits interfacing with *transmission* protection systems (e.g. bus zone) must be communicated to the *Utility* before commencing with the works. This includes work done during a *unit* outage.

Ability of units to island (GCR4)

Every unit that does not have black start capabilities of less than one hour without power from the TS shall be capable of unit islanding. The procedure for testing is given in Table A.4.2

Excitation system requirements (GCR5)

JR

simultaneously) the impact to the IPS is severe. The impact would be far less if the trips where staggered in time, namely over 5 to 10 minutes.

No unreasonable MUT risks shall exist. For the purpose of this code, examples of unreasonable MUT risks are:

- Relaying and other equipment powered from a common DC supply that is sensitive to disturbances to the supply such as AC onto DC, that causes the tripping of unit/s.
- Relaying or other equipment supplied from a common DC supply that will malfunction and trip a unit/s in the event of a loss of DC supply.
- The loss of AC supply for up to two hours to un-interruptible power supply (UPS), leading to the malfunction of the UPS or its associated load equipment leading to the trip of unit/s
- An earth mat with insufficient capacity or capability to successfully direct lightning or switching surges away from sensitive equipment leading to the trip of unit/s
- The use of mercury type buchholz facilities which is sensitive to earth tremors leading to the tripping of units.
- DC systems common to generating units without proper earth fault location equipment
- Common compressed air plant without proper provision of isolation, storage and non-return valve systems.

Routine and prototype response tests shall be carried out to demonstrate MUT withstand capabilities as indicated in Appendix A, Table A.4.5.

Governing (GCR8)

Design requirements

All units shall have an operational governor that shall be capable of responding according to the minimum requirements set out in this document

System Frequency Variations

The nominal frequency of the TS is 60Hz and is normally controlled within the limits of 59.4 – 60.6Hz unless exceptional circumstances prevail. The system frequency could rise or fall in exceptional circumstances and units must be capable of continuous normal operation for the frequency range from 58.2 Hz to 61.8 Hz.
Design of turbo alternator units must enable continuous operation, at up to 100% active power output, within this range.

JR

Hydro-alternator units must be capable of continuous normal operation for high frequency conditions described in section 0 and low frequency conditions as described in section 0.

High Frequency Requirements for Turbo-alternators

All synchronised units shall respond by reducing active power to frequencies above 60 Hz plus allowable dead band described in section 0. Speed governors shall be set to give a 5 % droop characteristic. The response shall be fully achieved within 10 seconds and must be sustained for the duration of the frequency excursion. The unit shall respond to the full designed minimum operational capability of the unit at the time of the occurrence.

Over-frequency Conditions in the Range 61.8 to 62.4 Hz (Stage H1)

When the frequency goes above 61.8 Hz but less than 62.4 Hz the requirement is that the turbo-alternator units shall be able to operate for at least 5 minutes continuously without tripping in this range.

Exceeding this limit shall prompt the IPP to take all reasonable efforts to reduce the system frequency below 61.8 Hz. Such actions can include manual tripping of the running unit. Tripping shall be staggered in time and be initiated once the frequency has been greater than 61.8 Hz for 5 minutes. The IPP will trip a unit, and if the system frequency does not fall below 61.8 Hz, the other units shall be tripped in staggered format over the next five minutes or until the system frequency is below 61.8 Hz. The Utility shall approve this tripping philosophy and the settings.

Over-frequency Conditions in the above 62.4 Hz (Stage H2)

When the frequency goes above 62.4 Hz the requirement is that the turboalternator units shall be able to operate at least 30 seconds continuously without tripping in this range.

When the system frequency exceeds 62.4 Hz, the IPP can start tripping units sequentially. Tripping shall be spread over a 30-second window. If an IPP chooses to implement automatic tripping, the tripping shall be staggered. The Utility shall approve this tripping philosophy and the settings. As an example, the first unit will trip in 5 seconds, the second unit trip in 10 seconds, etc.

High Frequency Requirements for Hydro Alternators

All synchronised hydro units shall respond by reducing active power to frequencies above 60 Hz plus allowable dead band described in section 0. Speed governors shall be set to give a 5 % droop characteristic. The response shall be fully achieved within 10 seconds and must be sustained for the duration of the frequency excursion. The unit shall respond to the full load capability range of the unit.

When the frequency goes above 64.8 Hz but less than 66 Hz the requirement is that the hydro-alternator units shall be able to operate at least 30 seconds in this range.

When the system frequency increases to 64.8 Hz but less than 66 Hz for longer than 30 seconds, the IPP shall start staggered tripping of units as per the procedure for turbo-alternators. Settings shall be agreed with the Utility.

If the system frequency rises above 66 Hz for more than 1 second, independent action may be taken by an IPP to protect the unit. Such action includes automatic tripping.

Low Frequency Requirements for Turbo-alternator Units

Low frequency response is to be used for instantaneous reserve. However all units shall be designed to be capable of having a 5 % droop characteristic with a minimum response of 3% of MCR within 10 seconds of a frequency incident. The response must be sustained for at least 10 minutes.

Low frequency in the Range 58.2 to 57.6 Hz (StageL1)

When the frequency goes below 58.2 Hz but greater than 57.6 Hz the requirement is that the unit shall be able to operate at least 5 minutes continuously without tripping while the frequency is in this range.

If the system frequency is in this range for more than 5 minutes, independent action may be taken by the IPP to protect the unit.

Low frequency in the Range 57.6 to 57 Hz (Stage L2)

When the frequency goes below 57.6 Hz but greater than 57 Hz the requirement is that the unit shall be able to operate at least 30 seconds continuously without tripping while the frequency is below 57.6 Hz but greater than 57 Hz.

If the system frequency is in this range for more than 30 seconds, independent action may be taken by an IPP to protect the unit.

Low frequency below 57 Hz (Stage L3)

If the system frequency falls below 57 Hz for longer than 6 seconds, independent action may be taken by an IPP to protect the unit. *Low Frequency Requirements for Hydro-alternator Units*

All reasonable efforts shall be made by the IPP to avoid tripping of the hydro-alternator for under frequency conditions provided that the system frequency is above 55.2 Hz.
If the system frequency falls below 55.2 Hz for more than 1 second, independent action may be taken by an IPP to protect the unit. Such action includes automatic tripping.

Dead band

JR

The maximum allowable dead band shall be 0.18 Hz for governing. That is no response is required from the unit while the frequency is greater than 59.82 to and less than 60.18 Hz.

Routine and prototype response tests shall be carried out on the governing systems as indicated in Appendix A, Table A.4.6.

Restart after power station black-out (GCR9)

A power station and a unit is to be capable of being restarted and synchronised to the IPS following restoration of external auxiliary AC supply without unreasonable delay resulting directly from the loss of external auxiliary AC supply.

For the purposes of this code, examples of unreasonable delay in the restart of a power station are:

- Restart of the first unit that takes longer than 15 minutes after restart initiation
- Restart of the second unit that takes longer than 15 minutes after the synchronising of the first unit.
- Restarting of all other units that take longer than 15 minutes each after the synchronising of the second unit.
- Delays not inherent in the design of the relevant start up facilities and which could reasonably be minimised by the relevant IPP
- The start up facilities for a new unit not being designed to minimise start up time delays for the unit following loss of external auxiliary AC supplies for two hours or less.

Routine and prototype response tests shall be carried out to demonstrate capabilities as indicated in Appendix A, Table A.4.7

Black Starting (GCR10)

Power stations that have declared that they have a station black start capability shall demonstrate this facility by test as described in Appendix A, Table A.4.8.

Back start capable power stations may be called from time to time not to carry out a full station back start but a unit black start as described in Appendix A, Section A.4.8.

External supply disturbance withstand capability (GCR11)

Any unit and any power station equipment shall be designed with anticipation of the following voltage conditions at the point of connection:

A voltage deviation in the range of 90% to 110% for protracted periods.

A voltage drop to zero for up to 0.2s, to 75% for 2s, or to 85% for 60 s provided that during the 3 minute period immediately following the

JR

end of that 0.2s, 2s, or 60s periods the actual voltage remains in the range 90110% of the nominal voltage.

Unbalance between phase voltages of not more than 3 % negative phase sequence and or the magnitude of one phase not lower than 5 % than any of the other two for 6 hours. A Volt/Hz requirement of 1.1 p.u.

A requirement to withstand the ARC cycle for faults on the transmission lines connected to the power station, being three single faults, each of 150 ms duration, within 31 seconds.

Routine and prototype response tests shall be carried out to demonstrate capabilities as indicated in Appendix A, Section A.4.9

On load tap changing for generating unit step-up transformers (GCR12)

Generating unit step-up transformers shall have on-load tap changing where necessary. The range shall be agreed between the Utility and the IPP.

Emergency unit capabilities (GCR13)

All IPPs shall specify their units' capabilities for providing emergency support under abnormal power system conditions.

Facility for independent generator action. (GCR14)

Power Stations shall be used for frequency control under system island conditions where necessary, and units and associated plant(s) shall be equipped to handle such situations. The required control range is from 58.8 to 61.2 Hz.

Voltage disturbances

The interconnection of a Producer's generating equipment with BEL System shall not cause any reduction in the quality of service on the BEL System. No abnormal voltages, frequencies, or interruptions will be permitted. If high or low voltage complaints, transient voltage complaints, and/or harmonic (voltage distortion) complaints result from operation of a Producer's generation, Producer's such generating equipment shall be disconnected from the BEL System until the Producer resolves the problem. The Producer is responsible for the expense of keeping the generator(s) in good working order so that the voltage, harmonics, power factor (PF), and VAr requirements are always met. Variable output machines (wind), with fluctuations in plant MW output, may cause fluctuation in power system voltage. To achieve adequate speed of response to such variations, and plants relying on switched shunt capacitors to control such variations must have the capacitor banks equipped with "rapid dischare" circuits capable of rendering the capacitors available for re-insertion within 5 seconds of de-energization.

JR

The Producer should expect a normal transmission operating voltage range of +/- 5% from nominal. The plant should be capable of start-up whenever the voltage at the point of interconnection is within this range. If the auxiliary equipment within the Generator cannot operate within the above range, the Generator will need to provide regulation equipment to limit the station service voltage-level excursions. During system contingency or emergency operation, operating voltages may vary up to +/- 10% from nominal.

Flicker. Any voltage flicker at the Point of Connection caused by the Generating Facility should not exceed the limits defined by the "Maximum Borderline of Irritation Curve" identified in IEEE 519. This requirement is necessary to minimize the adverse voltage effects to other customers on the Power System.

Harmonics

The equipment of the Producer must include protective equipment so the Producer does not introduce excessive distortion to BEL's System voltage and current waveforms as defined by IEEE 519. Total harmonic distortion (THD) from the facility will be measured at Point of Interconnection. The measured results must be within the limits specified in IEEE 519. The Producer is encouraged to ensure that the facility as designed will comply with these requirements early in the design process. The Producer is responsible for the elimination of any objectionable interference (whether conducted, induced, or radiated) to communication or signalling circuits or systems, or any miss-operation, failure, or overloading of power system devices or equipment (protective relays, capacitor banks, metering, etc.) arising from non-fundamental current injections into the BEL's System from the Producer's facilities.

Interrupting device

Circuit breakers or other interrupting devices at the Point of Common Connection must be Certified or "listed" (as defined in Article 100, the Definitions Section of the National Electrical Code) as suitable for the application. This includes being capable of interrupting maximum available fault current.
Required *HV* breaker tripping, fault clearance times, including breaker operating times depend on system conditions and shall be defined by the *Utility*. Guidelines for operating times are:

120 ms where the point of connection is 115 kV and below

Further downstream breaker tripping (away from the system), fault clearing times, including breaker operating time, shall not exceed the following:

JR

120 ms plus additional 30 ms for DC offset decay

or 100 ms plus additional 40 ms for DC offset decay.

Where system conditions dictate, these times may be reduced. Where so designed, earth fault clearing times for high resistance earthed systems may exceed the above tripping times.

Disconnect Facility

The Electricity Producer will furnish and install a manual disconnect device that has a visual break and line side ground switch to isolate the Generating Facility from the Power System. The device must be accessible to the Utility's personnel and be capable of being locked in the open position.

Testing and compliance monitoring

An IPP shall keep records relating to the compliance by each of its units with each section of this code applicable to that unit, setting out such information that the Utility reasonably requires for assessing power system performance (including actual unit performance during abnormal conditions).

Within one month after the end of June and December, a IPP shall review, and confirm to the Utility, compliance by each of that IPP's units with every GCR during the past 6 month period.

An IPP shall conduct tests or studies to demonstrate that each power station and each generating unit complies with each of the requirements of this code. Tests shall be carried out on new units, after every outage where the integrity of any GCR may have been compromised, to demonstrate the compliance of the unit with the relevant GCR(s). The IPP shall continuously monitor its compliance with all the connection conditions of the Grid Code.

Each IPP shall submit to the Utility a detailed test procedure, emphasising system impact, for each relevant part of this code prior to every test.

If an IPP determines, from tests or otherwise, that one of its units or power stations is not complying with one or more sections of this code, then the IPP shall:

- promptly notify the Utility of that fact;
- promptly advise the Utility of the remedial steps it proposes to take to ensure that the relevant unit or power station (as applicable) can comply with this code and the proposed timetable for implementing those steps;
- diligently take such remedial action as will ensure that the relevant unit or power station (as applicable) can comply with this code. The IPP shall regularly report in writing to the Utility on its progress in implementing the remedial action;

JR

- and after taking remedial action as described above, demonstrate to the reasonable satisfaction of the Utility that the relevant unit or power station (as applicable) is then complying with this code.

Non-compliance suspected by the Utility

If at any time the Utility believes that a unit or power station is not complying with this code, then the Utility may notify the relevant IPP of such non-compliance specifying the code section concerned and the basis for the Utility's belief.

If the relevant IPP believes that the unit or power station (as applicable) is complying with the code, then the Utility and the IPP must promptly meet to resolve their difference. Unit modifications

Modification proposals

If an IPP proposes to change or modify any of its units in a manner that could reasonably be expected to either adversely affect that unit's ability to comply with this code, or changes the performance, information supplied, settings, etc, then that IPP shall submit a proposal notice to the Utility which shall:

1. contain detailed plans of the proposed change or modification;
2. state when the IPP intends to make the proposed change or modification; and
3. set out the proposed tests to confirm that the relevant unit as changed or modified operates in the manner contemplated in the proposal, can comply with this code.

If the Utility disagrees with the proposal submitted, it may notify the relevant IPP, and the Utility and the relevant IPP shall promptly meet and discuss the matter in good faith in an endeavour to resolve the disagreement.

Implementing modifications

The IPP shall ensure that an approved change or modification to a unit or to a subsystem of a unit is implemented in accordance with the relevant proposal approved by the Utility.
The IPP shall notify the Utility promptly after an approved change or modification to a unit has been implemented.

Testing of modifications

The Utility shall confirm that a change or modification to any of its units as described above, conforms with the relevant proposal by conducting the relevant tests, in relation to the connection conditions, promptly after the proposal has been implemented.

JR

Within 20 business days after any such test has been conducted, the relevant IPP shall provide the Utility with a report in relation to that test (including test results of that test, where appropriate).

Equipment requirements

Where the IPP needs to install equipment that connects directly with Utility's equipment, for example in the high voltage yard of the Utility, such equipment shall adhere to the Utility's design requirements.

The Utility may require customers to provide documentary proof that their connection equipment complies with all relevant standards, both by design and by testing.

Effective Grounding

IEEE 142 requires: The positive sequence reactance is greater than the zero sequence resistance ($R_o < X_1$); and the zero sequence reactance is less than or equal to three times the positive sequence reactance ($X_o \leq 3X_1$).

All Producer facilities connected to the BEL System must contribute to maintaining an effectively grounded transmission system. The generator step-up transformer is usually connected such that it isolates the zero sequence circuit of the Producer's generator from the zero sequence circuit of the BEL System.

Utility Grade Relay

Utility grade protective and control relays are required for all generation facilities interconnected to the BEL System. The relays must:

1. Meet or exceed ANSI/IEEE Standards for protective relays (i.e., C37.90, C37.90.1, and C37.90.2).
2. Have documentation covering application, testing, maintenance, and service.
3. Give positive indication of what caused a trip (Targets).
4. Have a means of testing that does not require extensive unwiring (e.g. a draw-out case, test-blocks, FT-1 switches, etc.).

The Producer is strongly encouraged to use microprocessor based protective relays. The self-diagnostic abilities, the sequence of events capabilities, and increased flexibility of application are highly desirable.

Technical Information Requirements

Technical Information Exchange

Technical Information Requirements from IPPs

All IPPs shall provide all pertinent technical information to the Utility concerning their power plant, and specifically information on for each generating unit, circuit breaker, transformer and any other important equipment which is considered essential within the plant to allow for the generation of power. Appendix B provides a listing of the information requirements for the equipment specified. Information to be provided for other equipment will be specified by the Utility upon being identified by the IPP. This information must be presented to the Utility at least 6 months prior to start-up of the power station, unit or electrical plant. Delays in providing the information listed herein, could result in the Utility requiring the IPP to delay the commissioning of the power plant and/or generating unit(s).

Technical Information Requirements from the Utility

IPPs shall request technical information from the Utility as required to allow them to do planning and other technical studies. The Utility shall use its best efforts to supply such information if available within a reasonable time.

A. Appendix A - Surveying, monitoring and testing for generators

A.1. Introduction

This section specifies the procedures to be followed in carrying out the surveying, monitoring or testing:

- of compliance by power stations with the Grid Code
- Provision by power stations of services which are required or they have agreed to provide.

A.2. Request for surveying, monitoring or testing

The Utility may at any time (although it may not do so more than twice in any calendar year in respect of any particular power station except to the extent that it can on reasonable grounds justify the necessity for further tests or unless the further test is a re-test) issue an instruction requiring a power station to carry out a test, at a time no sooner than 48 hours from the time that the instruction was issued, to demonstrate that the relevant power station complies with the Grid Code requirements.

A.3. Ongoing Monitoring of a Unit's Performance

An IPP shall monitor each of its units during normal service to confirm ongoing compliance with the applicable parts of this code. Any deviations detected must be reported to the Utility within 5 working days.

An IPP shall keep records relating to the compliance by each of its units with each section of this code applicable to that unit, setting out such information that the Utility reasonably requires for assessing power system performance (including actual unit performance during abnormal conditions).

Within one month after the end of June and December, an IPP shall provide to the Utility a report detailing the compliance by each of that IPP's units with every code section during the past 6 month period.

A.4. Procedures

A.4.1 Unit Protection System *Grid Code* Requirement GCR3		
Parameter	**Reference**	
Protection Function and Setting Integrity Study		**APPLICABILITY AND FREQUENCY** ***Prototype study:*** All new power stations coming on line or power stations where major refurbishment or upgrade of protection systems have taken place. ***Routine review:*** All power stations every 6 years. **PURPOSE** To ensure that the relevant protection functions in the power station is coordinated with the power system requirements. **PROCEDURE** ***Prototype*:** 1. Obtain the required power system protection functions and associated trip level requirements from the Utility. 2. Derive protection functions and settings that match the power station plant, transmission plant and system requirements. 3. Confirm the stability of each protection function for all relevant system conditions. 4. Document the details of the trip levels, stability calculations for each protection function. 5. Convert protection tripping levels for each protection function into per unit base. 6. Consolidate all settings in per unit base for all protection functions in one document. 7. Derive actual relay dial setting details and document the relay setting sheet for all protection functions. 8. Document the position of each protection function on one single line diagram of the generating unit and associated connections. 9. Document the tripping functions for each tripping function on one tripping logic diagram. 10. Consolidate detail setting calculations, per unit setting sheets, relay setting sheets, plant base information the settings are based on, tripping logic diagram, protection function single line diagram and relevant protection relay manufacturers information into one document. 11. Submit to the Utility for their acceptance and update. 12. Provide the Utility with one original reference copy and one working copy. ***Routine review*:** 1. Review Items 1 to 10 above. 2. Submit to the Utility for their acceptance and update. 3. Provide the Utility with one original reference copy and one working copy. **ACCEPTANCE CRITERIA** All protection functions are set to meet the necessary protection requirements of the transmission and power station plant with minimal margin. Optimal fault clearing times and plant availability Targets are achieved. Submit a report to the Utility one month after the test

JR

A.4.1. Unit Protection System *Grid Code* Requirement GCR3

A.4.2 Unit Islanding Capability Grid Code Requirement GCR4		
Parameter	**Reference**	
Islanding		**APPLICABILITY** ***Prototype test*:** All new power stations coming on line and all other power stations after major modifications or refurbishment of protection or related plant. ***Routine test*:** All Power Stations every 6 years or after major overhaul of plant which may affect islanding capability ***Continuous monitoring:*** Where in the day to day running of the plant, a real condition arises where a Generating Unit is required to Island, and the Islanding takes place successfully, and the Islanding condition is sustained as specified under acceptance criteria below or the unit is called to synchronize and completes synchronizing successful, it shall be considered as a successful Islanding test. **PURPOSE** To confirm that Generating Units that have been specified to provide Islanding service, complies. Islanding is the ability of a Generating Unit to suddenly disconnect from the TS by the opening the HV breaker, and automatically control all the necessary critical parameters sufficiently to maintain the turbinegenerator at speed and excited and supplying its own auxiliary load. This Islanded mode must be sustained for at least 20 minutes without tripping of the turbine, boiler, excitation system, or other systems critical to sustain an Islanding condition. **PROCEDURE** • Generating Unit running at steady state conditions above 60% full load conditions. • All protection and control systems in normal operating conditions. • No special modifications to the plant for the purpose of the test, accept installation of monitoring equipment, is allowed. • The Unit supplies all its own auxiliary load during the test • No operating is allowed for the first 5 minutes following the initiation of the Islanding. • Equipment is connected to the Generating unit that records critical parameters. The following minimum parameters is recorded; (a) Turbine speed (b) Alternator load (c) Alternator voltage and current (d) Exciter voltage and current (e) Unit busbar voltage (f) System frequency • Initiation of the Islanding is done by opening the HV Breaker/ **ACCEPTANCE CRITERIA** The turbine must settle at or close to its nominal speed, the excitation system must remain in automatic mode, supplying all the unit's auxiliary load. The Islanding condition must be sustained for at least 20 minutes.

Protection Integrity Tests		**APPLICABILITY** ***Prototype test:*** All new power stations coming on line and all other power stations after major modifications or refurbishment of protection or related plant. ***Routine test:*** All Power Stations every 6 years or after major overhaul of plant. **PURPOSE** To confirm that the protection has been wired and function according to that specified. **PROCEDURE** 1. Apply final settings as per agreed documentation to all protection functions. 2. With the generator unit off load and de-energized, inject appropriate signals into every protection function and confirm correct operation and correct calibration. Document all protection function operations. 3. Carry out trip testing of all protection functions, from origin (e.g. Buchholz relay) to all tripping output devices (e.g. HV Breaker). Document all trip test responses. 4. Apply short circuits at all relevant protection zones and with generator at nominal speed excite generator slowly, record currents at all relevant protection functions, and confirm correct operation of all relevant protection functions. Document all readings and responses. Remove all short circuits. 5. With the generator at nominal speed, excite generator slowly recording voltages on all relevant protection functions. Confirm correct operation and correct calibration of all protection functions. Document all readings and responses. **ACCEPTANCE CRITERIA** All protection functions fully operational and operate to required levels within the relay OEM allowable tolerances. Measuring instrumentation used shall be sufficiently accurate and calibrated to traceable standard. Submit a report to the Utility one month after the test.

JR

		Excitation system is set to meet the necessary control requirements in an optimized manner for the performance of the transmission and power station plant. Excitation system operates stable both internally and on the network. Submit a report to the Utility one month after tests are completed.

JR

A.4.2. Unit Islanding Capability Grid Code Requirement GCR4

A.4.3 Excitation System Grid Code Requirement GCR5		
Parameter	**Reference**	
Excitation and Setting Integrity Study		**APPLICABILITY AND FREQUENCY** ***Prototype study:*** All new power stations coming on line or power stations where major refurbishment or upgrade of protection systems have taken place. ***Routine review:*** All power stations every 6 years. **PURPOSE** To ensure that the Excitation systems in the power station is co-ordinated with the power system requirements. **PROCEDURE** ***Prototype:*** 1. Obtain the excitation system performance requirements from the Utility. 2. Derive a suitable model for the excitation system according to IEEE421. Where necessary, non standard models (non IEEE) shall be created. This may require frequency response and bode plot tests on the excitation system as described in IEEE 421. 3. Submit the model to the Utility for their acceptance. 4. Derive excitation system settings that match the power station plant, transmission plant and system requirements. This includes the settings of all parts of the excitation system such as the chop-over limits and levels, limiters, protection devices, alarms. 5. Confirm the stability of the excitation system for relevant excitation system operating conditions. 6. Document the details of the trip levels, stability calculations for each setting and function. 7. Convert settings for each function into per unit base and produce a high level dynamic performance model with actual settings in p.u. values. 8. Derive actual card setting details and document the relay setting sheet for all setting functions. 9. Produce a single line diagram / block diagram of all the functions in the excitation system and indicate signal source. 10. Document the tripping functions for each tripping on one tripping logic diagram. 11. Consolidate detail setting calculations, model, per unit setting sheets, relay setting sheets, plant base information the settings are based on, tripping logic diagram, protection function single line diagram and relevant protection relay manufacturers information into one document. 12. Submit to the Utility for their acceptance and update. 13. Provide the Utility with one original master copy and one working copy. ***Routine Review:*** Review Items 1 to 10 above. Submit to the Utility for their acceptance and update. Provide the Utility with one original master copy and one working copy update if applicable. **ACCEPTANCE CRITERIA**

JR

Excitation Response Tests		**APPLICABILITY** ***Prototype test:*** All new power stations coming on line and all other power stations after major modifications or refurbishment of protection or related plant. ***Routine test:*** All Power Stations every 6 years or after major overhaul of plant. **PURPOSE** On confirm that the excitation system performs as per the specified. **PROCEDURE** With the generator off line, carry out frequency scan / bode plot tests on all circuits in the excitation system critical to the performance of the excitation system. With the generator in the open circuit mode, carry out the Large signal performance testing as described in IEEE 421. Determine Time response, Ceiling voltage, voltage response, • With the generator connected to the network and loaded, carry out the small signal performance tests according to IEEE 421. Also carry out power system stabiliser tests and determine damping with and without Power System stabiliser where applicable. Document all responses. **ACCEPTANCE CRITERIA** Excitation system meets the necessary control requirements in an optimised manner for the performance of the transmission and power station plant as specified. Excitation system operates stable both internally and on the network. Power System stabilisers set for optimised damping. Submit a report to the Utility one month after tests are completed.

JR

A.4.3. Excitation System Grid Code Requirement GCR5

A.4.4 Unit Reactive Power Capability Grid Code Requirement GCR6		
Parameter	**Reference**	
Reactive Power Capability		**APPLICABILITY** *Prototype test*: All new power stations coming on line and all other power stations after major modifications or refurbishment of protection or related plant. **PURPOSE** To confirm that the reactive Power Capability specified are met. **PROCEDURE** The duration of the test will be for a period of up to 60 minutes during which period the System voltage at the Grid Entry Point for the relevant Generating Unit will be maintained by the Generator at the voltage specified by adjustment of Reactive Power on the remaining Generating Units, if necessary. **ACCEPTANCE CRITERIA** Generating Unit will pass the test if it is within ±5% of the capability registered with the Utility Submit a report to the Utility one month after the test is completed

JR

A.4.4. Unit Reactive Power Capability Grid Code

Requirement GCR6

A.4.5 - Power Station Multiple Unit Trip Grid Code Requirement GCR7.		
Parameter	**Reference**	
Multiple Unit Tripping (MUT)Tests, Study and Survey		**APPLICABILITY** ***Prototype tests / study / survey:*** • New power stations coming on line, items 1 to 3 below or • Power stations where major modifications or changes have been implemented on plant critical to Multiple Unit Tripping. Applicable item/s listed 1 to 3 below. ***Routine assessment:*** All power stations. Item 3 below. Annually ***Routine testing***: All Power Stations. Every 6 years or after a major overhaul. Items 1 and 2 below. **PURPOSE** To confirm that a power station is not subjected to unreasonable risk of MUT as defined in Section 1.1.5. **PROCEDURE AND ACCEPTANCE CRITERIA** *1. Emergency supply isolation test:* On all emergency supplies (e.g. DC supplies) common to more than one generating unit, isolate supply for at least one second, with the unit running at full load under normal operating conditions. Tests are carried out on one unit at the time. Where two supplies feed one common load, isolation of one supply at a time would be sufficient. Confirm that that the unit or part of the unit plant does not trip. No change in the unit output shall take place. Document results. *2. Uninterruptible power supplies (UPS) integrity testing:* On all UPS's supplying critical loads that can cause tripping of more than one generating unit isolate the AC supply to the UPS for a period of at least 1 minute. Where two UPS's supply one common load, one UPS at a time can be isolated. Load equipment must resume normal operation. Document results. *3. Earth mat integrity inspection and testing:* Carry out an inspection and tests on all parts of the power station earth mat that is exposed to lighting surge entry and in close proximity to circuits vulnerable to damage that will result in tripping of more than one generating unit. Confirm that all the earthing and bonding is in place, and measure resistances to earth at bonding points. Document findings and results. Report to be submitted to the Utility one month after testing.

A.4.5. Power Station Multiple Unit Trip Grid

Code Requirement GCR7

A.4.6 - Governing System Grid Code Requirements GCR8.		
Parameter	**Reference**	
Governing Response Tests		**APPLICABILITY** ***Prototype test***: All new power stations coming on line and all other power stations after major modifications or refurbishment of protection or related plant. ***Routine test:*** All Units to be monitored continuously, additional tests may be requested by the Utility **PURPOSE** Prove the unit is capable of the minimum requirements required for Governing **PROCEDURE** 1. Frequency or speed deviation to be injected on the Unit for 10 minutes. 2. Real Power Output of the Unit is to be measured and recorded. **ACCEPTANCE CRITERIA** Minimum requirements of the Grid Code are met

JR

A.4.6. Governing System Grid Code Requirements

GCR8

A.4.7 - Unit Restart after Station Blackout Capability Grid Code Requirement GCR9		
Parameter	**Reference**	
Restart after Station Blackout Survey.		**APPLICABILITY** ***Prototype survey:*** Item 1 for new power stations or Power Stations where modifications have been carried out on plant critical to multiple unit restarting. ***Routine survey:*** All power stations. Item 2 very 3 months. **PURPOSE** To confirm that a power station can restart unit simultaneously to the criteria outlined in section 1.1.7 after a station blackout condition. **PROCEDURE** *1. Plant capacity survey:* • Identify all supply systems common to two or more systems (e.g. Power supplies, crude oil, air, demineralised water) • Determine the quantity and supply rate required to simultaneously restart the number of units specified in section 0 • Document list of critical systems, required stock, study details and findings. *2.* **Survey of available stock:** • For each of the applicable critical systems identified, document the average stock for the year, minimum stock and duration below critical stock levels. • **ACCEPTANCE CRITERIA** More than 95% of the time of the year, all stocks above critical levels. Report to be submitted to the Utility one month after commissioning or surveys.

JR

A.4.7. Unit Restart after Station Blackout
Capability Grid Code Requirement GCR9

A.4.8 - Power Station Black Start Capability Grid Code Requirement GCR10		
Parameter	**Reference**	
Unit Black Starting		**APPLICABILITY** ***Routine Test:*** Power stations that have an arrangement with the Utility to supply Unit Black start services. When called for by the Utility but not more than once every 2 years **PURPOSE** Demonstrate that a Black Start Unit has a Black Start Capability **PROCEDURE** • The relevant Generating Unit shall be Synchronised and Loaded; • All the Auxiliary Gas Turbines and/or Auxiliary Diesel Engines in the Black Start Station in which that Generating Unit is situated, shall be Shutdown. • The Generating Unit shall be De-Loaded and De-Synchronised and all alternating current electrical supplies to its Auxiliaries shall be disconnected. • The Auxiliary Gas Turbine(s) or Auxiliary Diesel Engine(s) to the relevant Generating Unit shall be started, and shall re-energise the busbar of the relevant Generating Unit. • The Auxiliaries of the relevant Generating Unit shall be fed by the Auxiliary Gas Turbine(s) or Auxiliary Diesel Engine(s), via the Unit's busbar, to enable the relevant Generating Unit to return to Synchronous Speed. • The relevant Generating Unit shall be Synchronised to the System but not Loaded, unless the appropriate instruction has been given by the Utility. All Black Start Tests shall be carried out at the time specified by the Utility in the notice given under section 1.1.8 and shall be undertaken in the presence of a reasonable number of representatives appointed and authorised by the Utility, who shall be given access to all information relevant to the Black Start Test. **ACCEPTANCE CRITERIA** A Black Start Station shall fail a Black Start Test if the Black Start Test shows That it does not have a Black Start Capability (ie. if the relevant Generating Unit Fails to be Synchronised to the System within 15 minutes of the Auxiliary Gas Turbine(s) or Auxiliary Diesel Engine(s) being required to start). Submit a report to the Utility one month after test.

JR

Station Black Starting		**APPLICABILITY** ***Routine test***: Power stations that have an arrangement with the Utility to supply Unit Black start services. When called for by the Utility but not more than once every 2 years **PURPOSE** Demonstrate that a Black Start Station has a Black Start Capability **PROCEDURE** • All Generating Units at the Black Start Station, other than the Generating Unit on which the Black Start Test is to be carried out, and all the Auxiliary Gas Turbines and/or Auxiliary Diesel Engines at the Black Start Station, shall be Shutdown. • The relevant Generating Unit shall be Synchronised and Loaded. • The relevant Generating Unit shall be De-Loaded and De-Synchronised. • All external alternating current electrical supplies to the busbar of the relevant Generating Unit, and to the station auxiliary busbar of the relevant Black Start Station, shall be disconnected. • An Auxiliary Gas Turbine or Auxiliary Diesel Engine at the Black Start Station shall be started, and shall re-energise either directly, or via the station auxiliary busbar, the busbar of the relevant Generating Unit. • The Auxiliaries of the relevant Generating Unit shall be fed by the Auxiliary Gas Turbine(s) or Auxiliary Diesel Engine(s), via the Unit's busbar, to enable the relevant Generating Unit to return to Synchronous Speed. • The relevant Generating Unit shall be synchronised to the System but not Loaded, unless the appropriate instruction has been given by the Utility. All Black Start Tests shall be carried out at a time specified by the Utility in the and shall be undertaken in the presence of a reasonable number of representatives appointed and authorised by the Utility, who shall be given access to all information relevant to the Black Start Test. **ACCEPTANCE CRITERIA** A Black Start Station shall fail a Black Start Test if the Black Start Test shows that it does not have a Black Start Capability (ie. if the relevant Generating Unit fails to be Synchronised to the System within 15 minutes of the Auxiliary Gas Turbine(s) or Auxiliary Diesel Engine(s) being required to start). Submit a report to the Utility one month after test.

JR

A.4.8. Power Station Black Start Capability Grid Code Requirement GCR10

A.4.9 - External Supply Disturbance Withstand Capability Grid Code Requirement GCR11		
Parameter	**Reference**	
Voltage and Frequency Deviation		**APPLICABILITY** ***Prototype survey / test:*** New power stations coming on line or power stations where major modifications to plant that may be critical to system supply frequency or voltage magnitude deviations. ***Routine testing and survey:*** All power stations. Review every 6 years. **PURPOSE** To confirm that the power station and its auxiliary supply loads conforms to the requirements of supply frequency and voltage magnitude deviations as specified in Section 0. **SCOPE OF PLANT OR SYSTEMS** ***Critical plant:*** Equipment or systems that is likely to cause tripping of a unit, or parts of a unit that is likely to cause a Multiple Unit trip (MUT) **PROCEDURE AND ACCEPTANCE CRITERIA** *1. Frequency deviation survey:* Carry out a survey on the capability of critical plant confirming that it will resume normal operation for frequency deviations as required under Section 0. Document Findings. *2. Voltage magnitude deviation survey:* Carry out a survey on the capability of critical plant confirming that it will resume normal operation for voltage deviations as defined in Section 0. Document Findings. Also consider protection and other tripping functions on critical plant. Document all findings. A generating unit or power station must not trip or unduly reduce load for system voltage changes in the range specified in Section 0. Document all results. Report to be submitted to the Utility one month after testing.

B. Technical Information Requirements from IPPs

(a) Power station data

IPP name	
Power station name	
Number of units	
Primary fuel type / prime mover	For example diesel gas, hydro, biomass
Secondary fuel type	For example oil
"Restart after station blackout" capacity	Provide a document containing the following: Start-up time for the first unit (time from restart initiation to synchronize) and each of the following units assuming that restarting of units will be staggered.
Black starting capacity	A document stating the number of units that can be black started at the same time, preparation time for the first unit black starting restarting time for the first unit, and restating time for the rest of the units.
Partial load rejection capability	A description of the amount of load the unit can automatically govern back, without any restrictions, as a function of the load at the point of governing initiation.
Multiple unit tripping (MUT) Risks	A document outlining all systems common to more than one unit that is likely to cause a MUT. Discuss the measures taken to reduce the risk of MUT.

(b) Unit data

Unit number	
Capacity	Unit capacity (MW)
Manufacturer	
Model Number	
	Units
Normal maximum continuous generation capacity:	MW
Normal maximum continuous sentout capacity	MW
Unit auxiliary active load	MW
Unit auxiliary reactive load	MVAr
Maximum emergency generating capacity	MW
Maximum emergency sentout capacity	MW
Normal minimum continuous generating capacity	MW
Normal minimum continuous sentout capacity	MW
Generator rating (Mbase)	MVA
Normal maximum lagging power factor	MVAr
Normal maximum leading power factor	MVAr
Governor droop	
Forbidden loading zones	MW

JR

A.4.9. External Supply Disturbance Withstand Capability Grid Code Requirement GCR11

A.4.10 - Emergency Unit capabilities GCR13		
Parameter	**Grid Code Reference**	
Intermediate Load Capability		**APPLICABILITY** ***Prototype study:*** All new power stations coming on line or power stations where major refurbishment or upgrade of the Unit have taken place. ***Routine test:*** All Units to be monitored continuously, additional tests may be requested by the Utility **PURPOSE** Prove Unit can meet the minimum requirements of the Grid Code **PROCEDURE** 1. A section of the Unit is to be tripped that will cause a 15% of MCR reduction of the output of the Unit. Should nothing be found to induce this reduction a sudden reduction of the Unit output shall be done manually. 2. The plant is to be monitored and recorded to ensure the plant continues to operate in a stable and controlled mode after the reduction. **ACCEPTANCE CRITERIA** The Unit shall be in a stable and controlled mode after the trip or reduction in the Unit output.
Loading and De-loading Rates		**TYPE** ***Prototype study:*** All new power stations coming on line or power stations where major refurbishment or upgrade of the Unit have taken place. ***Routine test:*** All Units to be monitored continuously, additional tests may be requested by the System Operator **PURPOSE** Prove Unit can meet the minimum requirements of the Grid Code **PROCEDURE** 1. The Unit is to be ramped up and down. 2. The Unit is to be monitored and recorded to ensure the plant continues to operate in a stable and controlled mode during and after the ramps. **ACCEPTANCE CRITERIA** The Unit shall be ramped up and down in a stable and controlled mode and shall meet the minimum requirements of the Grid Code.

A.4.10. Emergency Unit capabilities GCR13

JR

Terminal voltage adjustment range	kV
Short circuit ratio	
Rated stator current	Amp
Time to synchronise from warm	Hour
Time to synchronise from cold	Hour
Minimum up-time	Hour
Minimum down-time	Hour
Normal loading rate	MW/min
Normal deloading rate	MW/min
Can the generator start on each fuel?	
Ability to change fuels on-load	
Partial load rejection capability	% MW name plate rating
Minimum time unit operates in island mode	Hour
Maximum time unit operates in island mode	Hour
Description	Data
Capability chart showing full range of operating capability of the generator, including thermal and excitation limits	Diagram
Systems that are common and can cause a multiple unit trip	Description
Open circuit magnetisation curves	Graph
Short circuit characteristic	Graph
Zero power factor curve	Graph

V curves	Diagram
Documents	**Description**
Protection setting document	A document containing the following: - A section defining the base values and per unit values to be used - A single line diagram showing all the protection functions and sources of current and voltage signals - A protection tripping diagram(s) showing all the protection functions and associated tripping logic and tripping functions - A detailed description of setting calculation for each protection setting, discussion on protection function stability calculations, and detailed dial settings on the protection relay in order to achieve the required setting - A section containing a summary of all protection settings on a per unit basis - A section containing a summary for each of the protection relay dial settings/programming details - An annex containing equipment information data (e.g. OEM data) on which the settings are based - An annex containing OEM information sheets or documents describing the protection relays functions

JR

Excitation setting document	A document containing the following: - A section defining the base values and per unit values to be used - A single line diagram showing all the excitation system functions and all the related protection functions - An excitation system transfer function block diagram in accordance with IEEE or IEC standard models - A detailed description of setting calculation for each of the excitation system functions, discussion on function stability calculations, and detailed dial settings on the excitation system in order to achieve the required setting - A section containing a summary of all settings on a per unit basis - A section containing a summary for each of the excitation system dial settings/programming details. - An annex containing equipment information data (e.g. OEM data) on which the settings are based - An annex containing OEM information sheets or documents describing the performance of the overall excitation system and each excitation function for which a setting is derived
Governor setting document	A document containing the following: - A section defining the base values and per unit values to be used - A single line diagram showing all the governor system functions and all the related protection functions - A governor system transfer function block diagram in accordance with IEEE standard models - A detailed description of setting calculation for each of the governor system functions, discussion on function stability calculations, and detailed dial settings on the governor system in order to achieve the required setting - A section containing a summary of all settings on a per unit basis - A section containing a summary for each of the governor system dial settings/programming details - An annex containing equipment information data (e.g. OEM data) on which the settings are based - An annex containing OEM information sheets or documents describing the performance of the overall governor system and each governor function for which a setting is derived

(c) Unit parameters

	Symbol	Units
Direct axis synchronous reactance	X_d	% on rating
Direct axis transient reactance saturated	X'_{dsat}	% on rating
Direct axis transient reactance unsaturated	X'_{dunsat}	% on rating
Sub-transient reactance unsaturated	$X''_d = X''_q$	% on rating
Quad axis synchronous reactance	X_q	% on rating
Quad axis transient reactance unsaturated	X'_{qunsat}	% on rating

JR

Negative phase sequence synchronous reactance	X_2	% on rating
Zero phase sequence reactance	X_{0q}	% on rating
Turbine generator inertia constant for entire rotating mass	H	MW s/MVA
Stator resistance	Ra	% on rating
Stator leakage reactance	X_L	% on rating
Poiter reactance	X_P	% on rating
Generator time constants: □ Direct axis open-circuit transient □ Direct axis open-circuit sub-transient □ Quad axis open-circuit transient □ Quad axis open-circuit sub-transient □ Direct axis short-circuit transient □ Direct axis short-circuit sub-transient □ Quad axis short-circuit transient □ Quad axis short-circuit sub-transient	 Tdo' Tdo" Tqo' Tqo" Td' Td" Tq' Tq"	 sec sec sec sec sec sec sec sec
Speed damping	D	
Saturation ratio at 1 pu terminal voltage	S(1.0)	
Saturation ratio at 1.2 pu terminal voltage	S(1.2)	

(d) **Excitation system**

The IPP shall fill in the following parameters or supply a Laplace-domain control block diagram in accordance with IEEE or IEC standard excitation models (or as otherwise agreed with the Utility) completely specifying all time constants and gains to fully explain the transfer function from the compensator or unit terminal voltage and field current to unit field voltage. The IPP shall perform, or cause to be performed, small signal dynamic studies to ensure that the proposed excitation system and turbine governor do not cause dynamic instability. Where applicable, a PSS (power system stabiliser) shall be included in the excitation system to ensure proper tuning of the excitation system for stability purposes.

	Symbol	Units
Excitation system type (AC or DC)		Text
Excitation feeding arrangement (solid or shunt)		Text
Excitation system filter time constant	Tr	sec
Excitation system lead time constant	Tc	sec
Excitation system lag time constant	Tb	sec
Excitation system controller gain	Ka	
Excitation system controller lag time constant	Ta	sec
Excitation system maximum controller output	Vmax	p.u.
Excitation system minimum controller output	Vmin	p.u.
Excitation system regulation factor	Kc	
Excitation system rate feedback gain	Kf	

JR

Excitation system rate feedback time constant	Tf	sec

(e) Speed governor system, turbine and boiler models

The IPP shall supply a Laplace domain control block diagram in accordance with IEEE standard prime mover models for thermal and hydro units (or as otherwise agreed with the Utility), fully specifying all time constants and gains to fully explain the transfer function for the governor, turbine, penstocks and control systems in relation to frequency deviations and setpoint operation.

(f) Control devices and protection relays

The IPP shall supply any additional Laplace domain control diagrams for any outstanding control devices (including power system stabilisers) or special protection relays in the unit that automatically impinge on its operating characteristics within 30 seconds following a system disturbance and that have a minimum time constant of at least 0,02 seconds.

(g) Unit step-up transformer

	Symbol	Units
Manufacturer		
Model Number		
Number of windings		
Vector group		
Rated current of each winding		Amps
Transformer rating		MVA_{Trans}
Transformer nominal LV voltage		kV
Transformer nominal HV voltage		kV
Tapped winding		
Transformer ratio at all transformer taps		
Transformer impedance at all taps (For three winding transformers the HV/LV1, HV/LV2 and LV1/LV2 impedances together with associated bases shall be provided)		% on rating MVA_{Trans}
Transformer zero sequence impedance at nominal tap	Z_0	Ohm
Earthing arrangement, including neutral earthing resistance and reactance		
Core construction (number of limbs, shell or core type)		
Open circuit characteristic		Graph

JR

(h) **Circuit Breaker**

	Symbol	Units
Manufacturer		
Model Number		
Type		
Rated voltage		kV
Rated maximum voltage		kV
Rated continuous current at 40 deg C		Amps
Rated breaking capacity		MVA
Rated Interrupting time		sec
Trip initiation to arc extinction vs. percent rated		graph
Reclosing time		sec
Peak value of switching overvoltage		kV/pu
Rate of rise restrike voltage at 100% breaking capacity		kV/μsec
Rated lightening impulse withstand voltage		kV
Rated frequency		Hz
Rated Operating Sequence		
Rated transient recovery voltage		kV
Rated short circuit making current		kA
Rated out-of phase breaking current		kA
Rated duration of short circuit		sec
Maximum pole spread		ms

POWER PURCHASE AGREEMENT

BETWEEN

BELIZE ELECTRICITY LIMITED

AND

SS ENERGY LIMITED

Dated as of November 25, 2022

EXHIBIT 3

DESCRIPTION OF THE BIOMASS FIRED (BAGASSE) PROJECT INCLUDING DESIGN AND OPERATIONG LIMITS AND SITE DESCRIPTION

JR

ANNEX

Santander Sugar Project Description

I. General:

1. Year of Commercial Operation: 2017

2. Geographical Location (coordinates): 17° 20' 34".83°N, 88°44'39".23°W

3. Type of Project: Cogeneration plant.

4. Fuel: Sugar cane bagasse is used as the primarily fuel. Fuel oil can be used also if needed.
   a. Sugar cane bagasse properties:

DESCRIPTION	VALUE	UNITS
ENERGY CONTENT (DRY BAGASSE)	8,000	BTU/POUND
ENERGY CONTENT (50% HUMIDITY)	3,818	BTU/POUND
% OF BAGASSE / SHORT TON	26.72%	%
1 SHORT TON	2,000	POUNDS

5. Basic Configuration: boilers + steam turbine.

6. Ramp Rate Cold Start: The ramp rate is 10 hours from a cold start to synchronization. Thereafter, the plant can increase its generation by 0.5MW / minute until full load.

7. Ramp Rate Hot Condition: Once the boiler is heated and a stop of short duration is required, the plant is able to reach full capacity in 1 hour.

II. Details:

The project consists of two phases:

Phase I: At this stage, Santander Sugar will operate a cogeneration power plant with the following arrangement:

1. Number of Boilers: one boiler, 600 psig, 750 °F, 265,000 pounds of steam per hour.

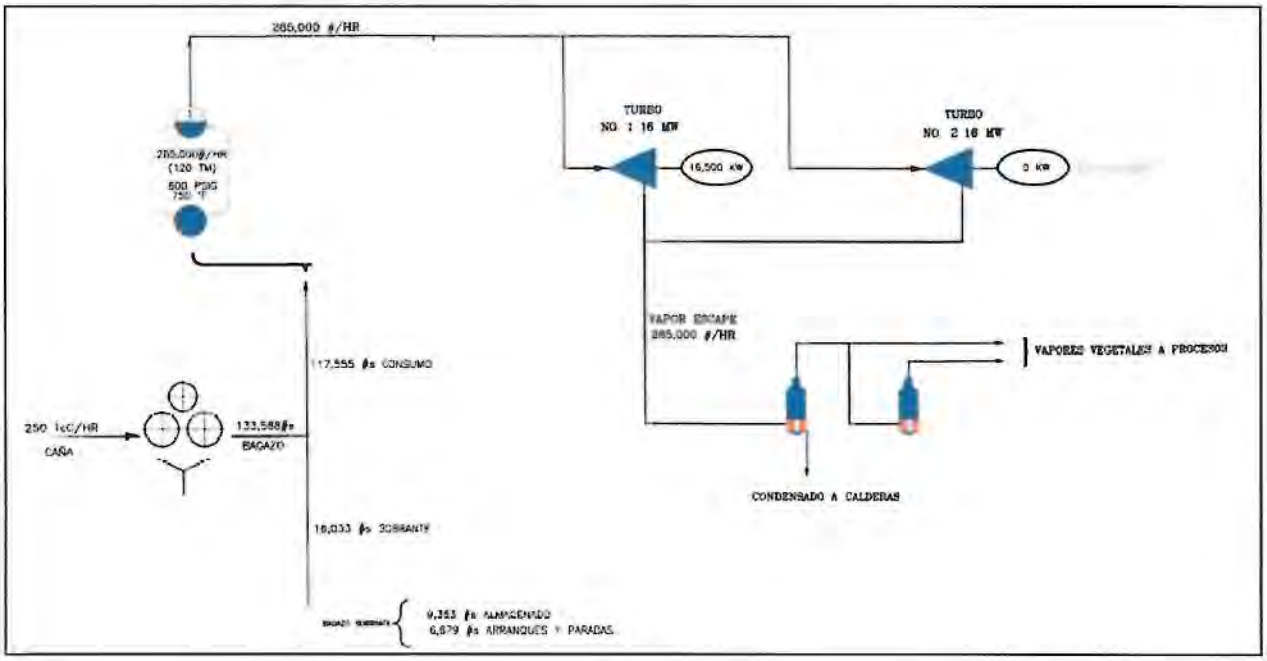
2. Number of Turbines: two steam turbines with extraction of steam. One turbine will be in standby mode.

JR

3. Maximum Power to the Grid: 8 MW

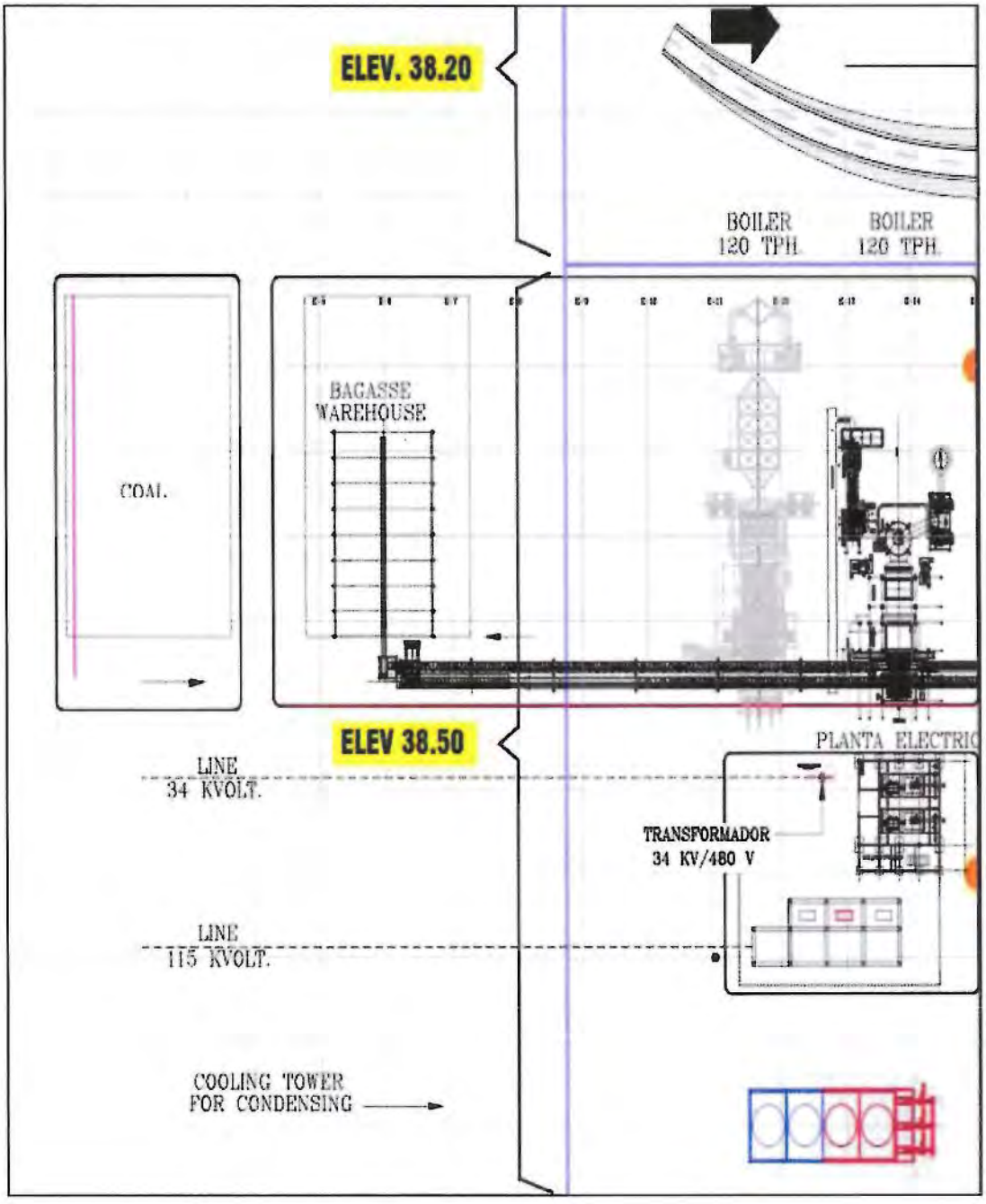
4. Minimum Operational Power Output: 4 MW

5. Schematic Diagram:



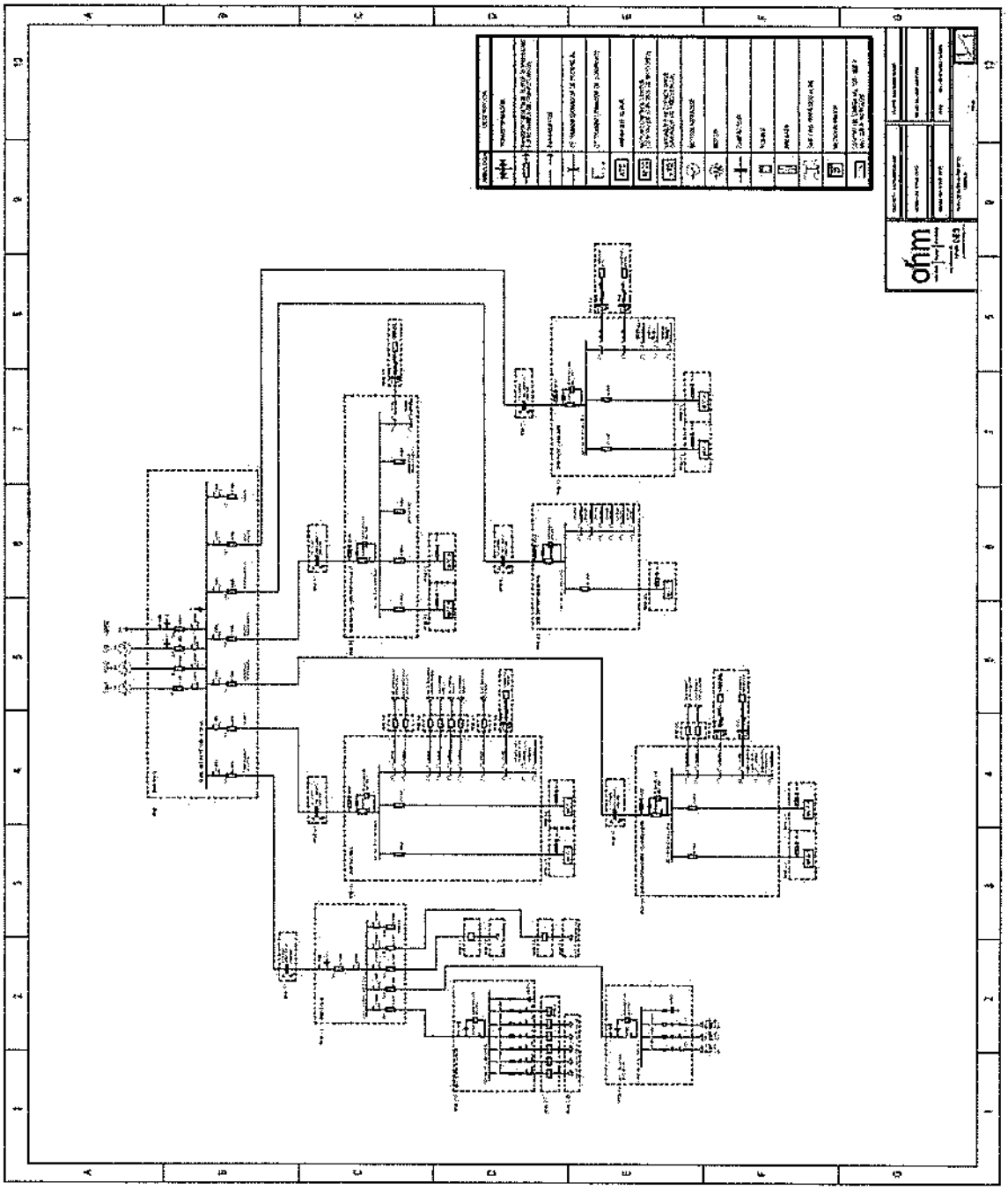
JR

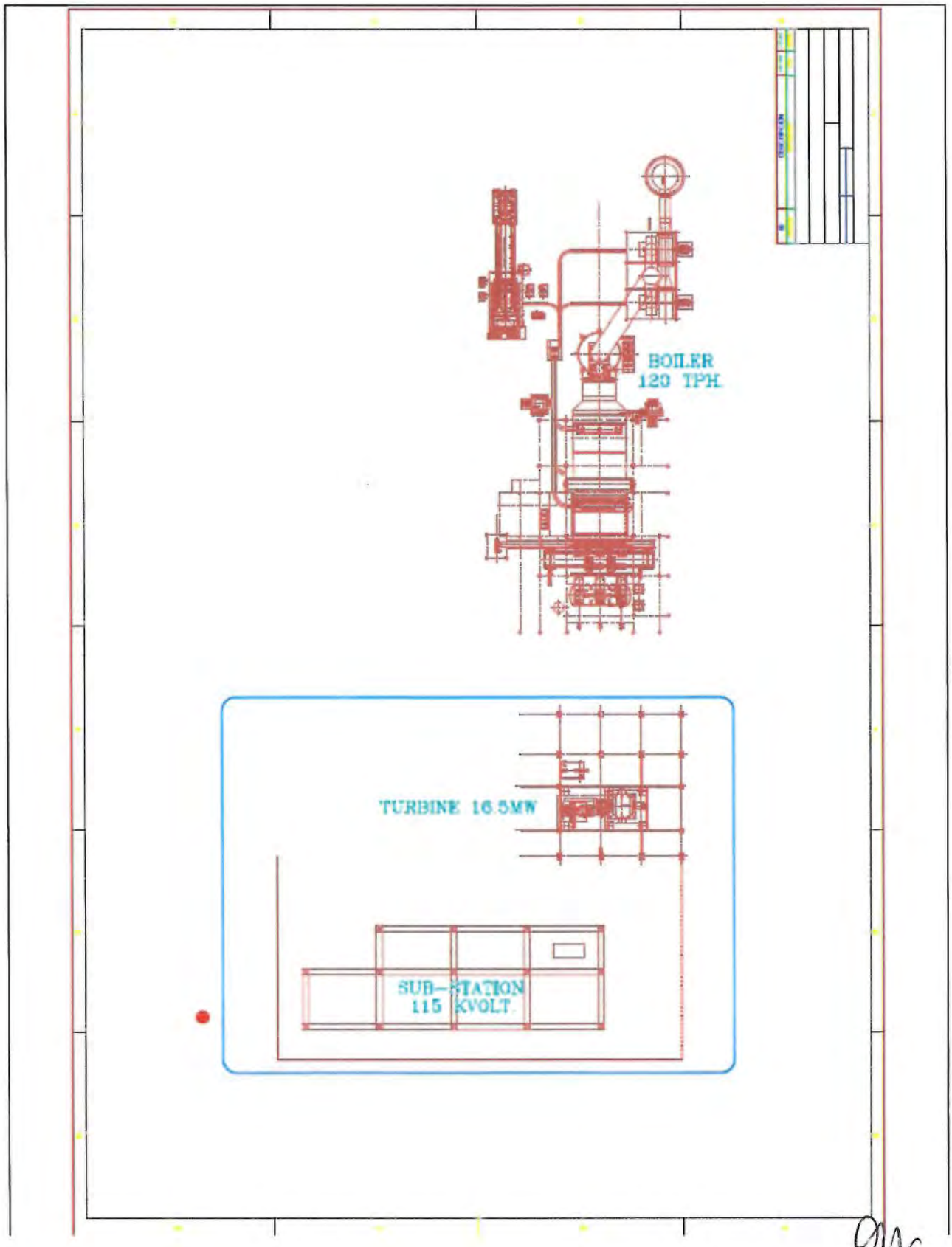
6. Site layout:

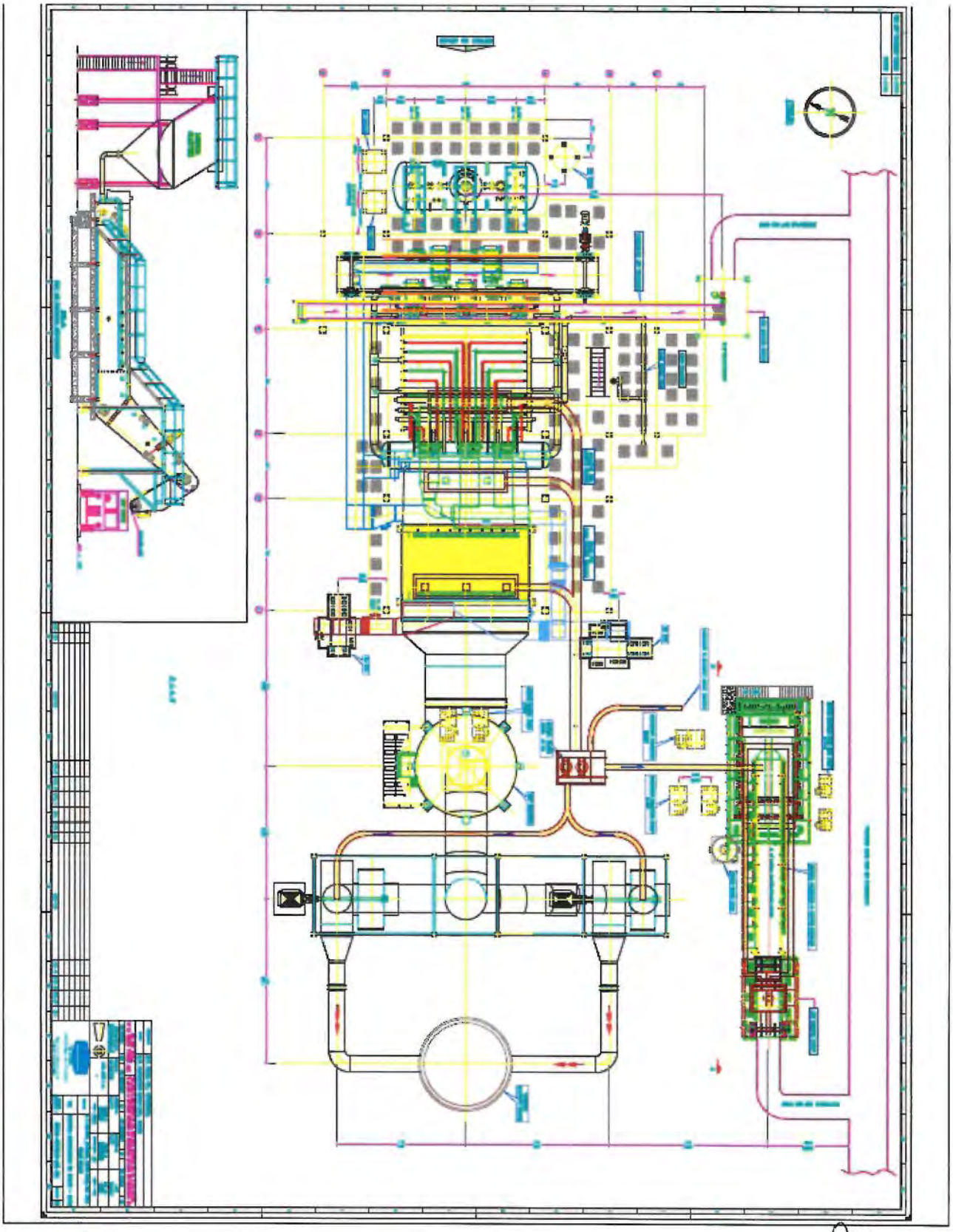


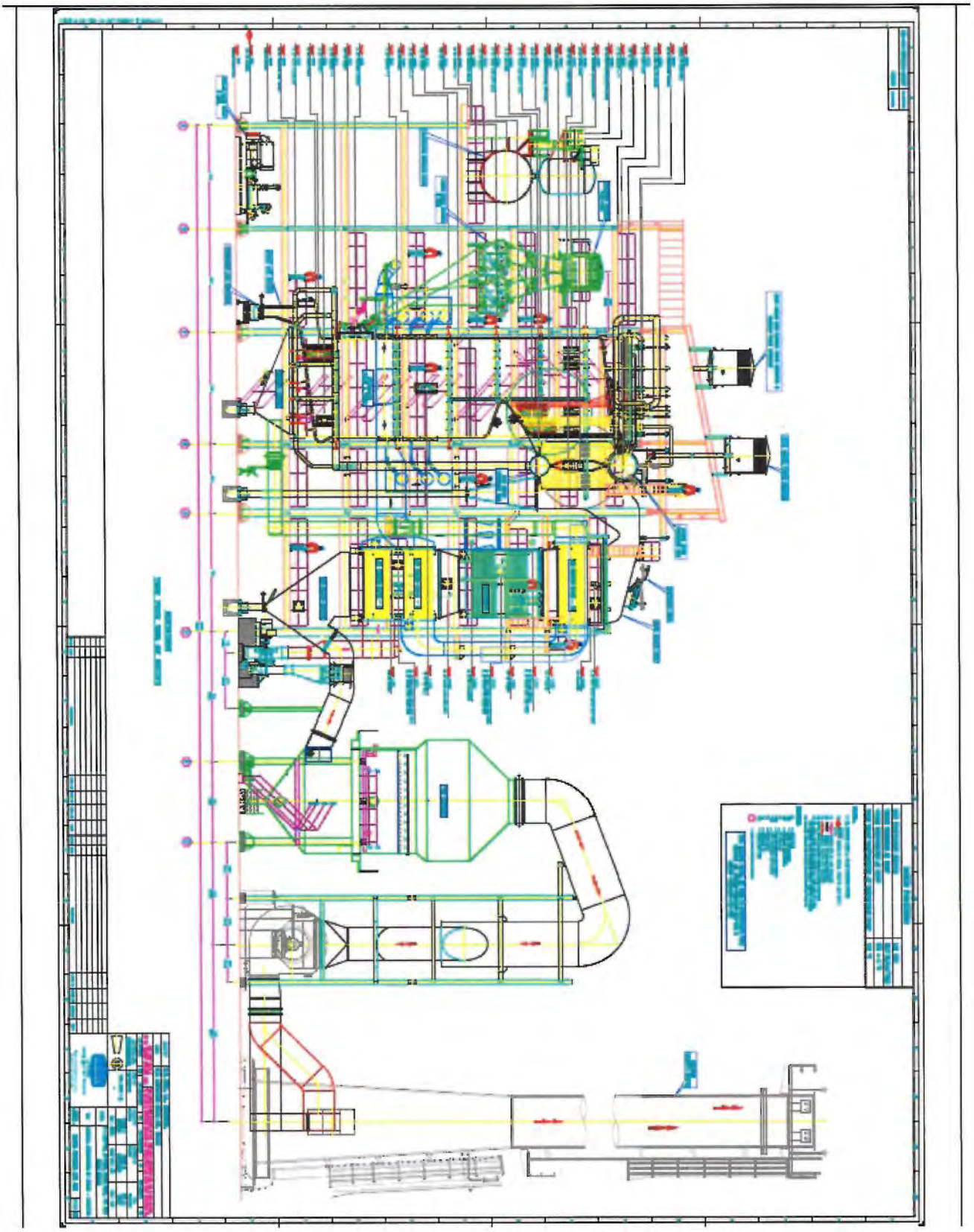
JR

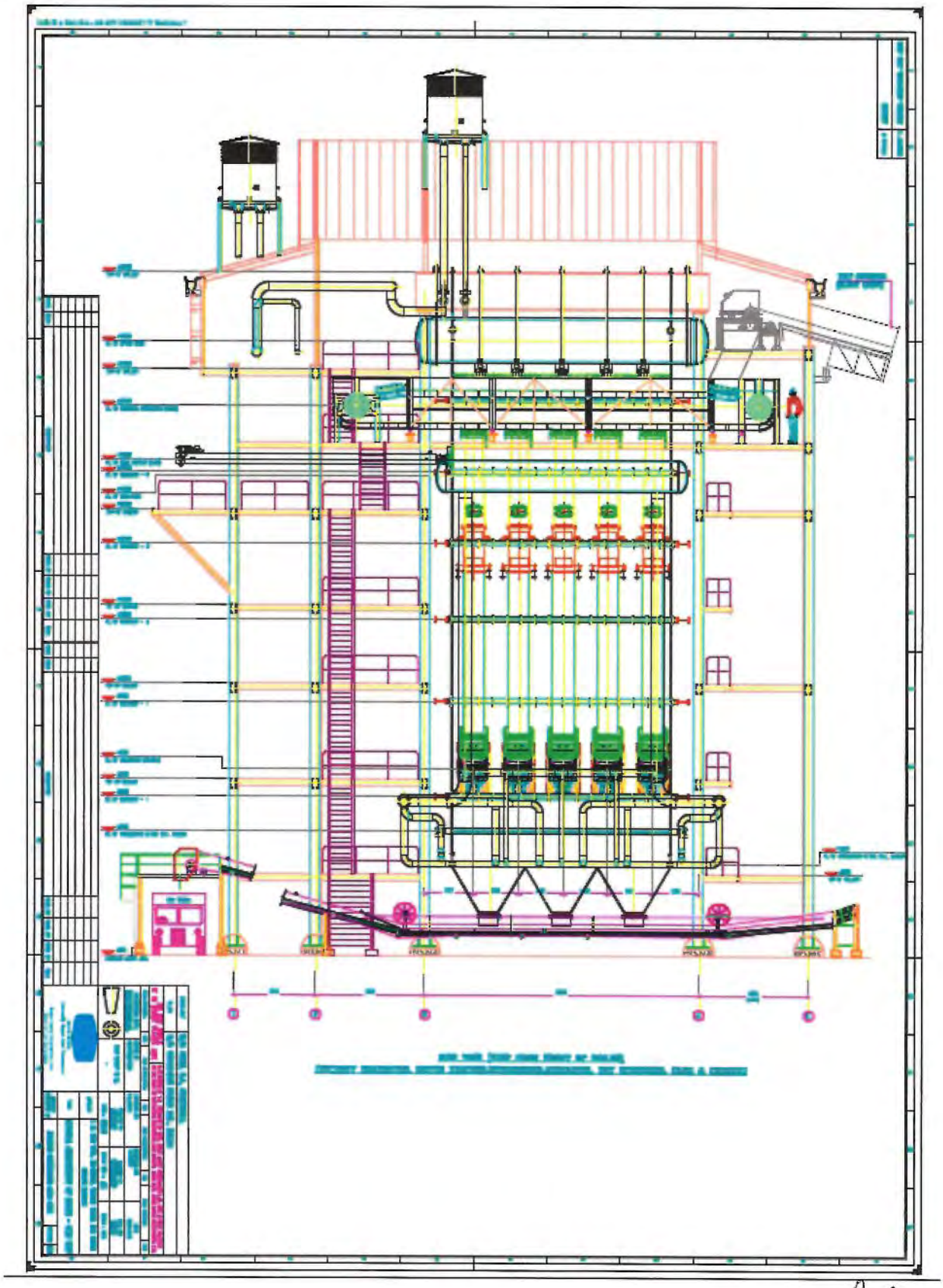
7. One Line Diagram:




BOILER
120 TPH
TURBINE 16.5MW
SUB-STATION
115 KVOLT







JR

POWER PURCHASE AGREEMENT

BETWEEN

BELIZE ELECTRICITY LIMITED

AND

SS ENERGY LIMITED

Dated as of December 13, 2016

EXHIBIT 4

TESTING REQUIREMENTS FOR BIOMASS FIRED PLANT

Exhibit 4 (Testing Requirements for a Biomass Fired (Bagasse) Project)

For the purpose of this Exhibit, the following definitions apply:

Purchaser: Belize Electricity Limited
Seller: Santander Sugar Energy Limited
Engineer: Party appointed by Seller to administer the Commissioning Tests

JR

The Seller's facility shall be subject to a number of tests to demonstrate its performance. These tests shall be categorised as Tests on Completion and Tests after Completion.

The **Tests on Completion** shall include such tests that are required, during manufacture and on completion of the Facility, in order to establish that the Facility has been manufactured and installed in accordance with the specification and is fit for commercial use by the Seller. The Tests shall be in accordance with good engineering practice and shall be approved by the Engineer who is acting on behalf of the Seller. Unless otherwise stated, testing shall be carried out in accordance with the appropriate conditions of the PPA and the Facility's Design.

All testing shall be carried out in accordance with BS, DIN, ANSI or other internationally recognised standards and codes of practice agreed between the Seller and the Purchaser at the Engineer's recommendation.

Tests associated with the steam generating boilers and environmental emissions shall conform to all the relevant standards and codes of practice of one of the British Standards and/or ASME. There shall be no exception to this.

Any standards and codes of practice required for tests specified by the local Grid Code shall be complied with.

The **Tests after Completion** are performed primarily to demonstrate that the facility meets the performance parameters stated in the PPA.

Where individual Facility parameters are not specified in these sections, the Engineer shall evaluate the performance parameters based on the equipment specifications as supplied by the original equipment manufacturers and consistent with the Facility Performance parameters stated in the PPA.

For the purposes of this Power Purchase Agreement, the following relevant tests, selected from those to be carried out under Tests on Completion and Tests after Completion, shall be performed as the "**Commissioning Tests**".

Commissioning Tests

Overspeed test shall be made on the turbo-alternators to demonstrate that the unit can be tripped by an electrically operated system should the turbine reach a speed of 5% greater than the specified nominal speed and by a mechanically operated device should the turbine reach a speed of 10% more than nominal speed.

Safety valve testing: As soon as operating steam pressure is available, the safety valves setting shall be tested. The settings shall be stated and adjusted where necessary. Each valve shall be tested to give three consecutive identical operating pressures. The pressure gauge or gauges used to monitor the test pressure shall be calibrated immediately prior to the tests by means of certified deadweight testing apparatus.

JR

Auxiliary fuel oil firing: Demonstrate that the auxiliary fuel system can be operated satisfactorily from the boiler control console and that a boiler output of 65% MCR can be sustained for a minimum period of two (2) hours.

Substation tests shall be carried out as detailed in relevant industry standards and to the satisfaction of the Engineer who shall take account of any regulatory requirements of the Purchaser.

Alternator heat run: The generators shall be operated at full rated load and power factor for a period of at least six (6) hours (or until the temperature rises are steady for four (4) hours) to demonstrate that the temperature rises in the generator are within the limits of the specification.

Load rejection tests: The Facility shall undergo a test to demonstrate that it will continue to operate safely following a sudden de-synchronisation and be re-synchronised within a period of one (1) hour. Immediately prior to the de-synchronisation the Facility shall have been operating at maximum output. It shall be demonstrated that instantaneous rejection of full load from the turbo-alternator set will not cause the overspeed trip or over-temperature trips to operate nor should the machine shut down for any reason arising as a consequence of the load rejection.

The Engineer must demonstrate that the Facility can accommodate a load rejection incident caused by the simultaneous loss of both the power being exported to BEL and to the sugar factory. This shall be demonstrated by the fact that all remaining items of Facility shall remain running in a stable fashion (without interruption) during this period. As soon as conditions allow the rejected load shall be re-instated.

Start up and load acceptance test: The Facility shall undergo a test which demonstrates its capability to perform a cold start and increase load at the minimum rate when the Facility has been shut down for a period greater than 16 hours but less than 32 hours.

Minimum load test: Facility shall prove its capability to operate in a stable condition with each boiler operating (separately and together) at 40% of its capacity at MCR for a period of two (2) hours.

Automatic voltage regulator tests: The Engineer shall demonstrate the performance of the AVR with particular emphasis on:

a) the ability to control the generator voltage over the range ± 10% of rated voltage to an accuracy of ± 0.2 % relative to the steady state voltage.
b) the ability to maintain the machine voltage in a stable manner during load changes
c) the ability to operate in "hand" mode. This means that that Automatic Voltage Regulator is placed on manual operation and will be physically changed by an Operator.
d) smooth change over from "hand" to "auto" and "auto" to "hand" in a seamless manner
e) demonstrating the ability of the alternator to perform across the full stable operating range as specified by the manufacturer. However this must not be less than the power factor range of 0.8 lagging to unity

JR

Subject to agreement with Purchaser on the acceptance of active and reactive power and within the safe operating limits of the Facility, tests shall be carried out to demonstrate the capability of the Facility to operate at rated voltage and frequency at power factors and under reactive conditions as follows:

Output	Power factor
100%	0.85 lagging
100%	0.95 lagging
100%	Unity PF
100%	0.9 leading

Protective relaying system: The Engineer shall demonstrate the operation of all protective relay devices by injection of power and simulation, where necessary, to confirm that the performance complies with the equipment specification. The Engineer shall demonstrate the operation, and repeatability of, the settings of time, overload current, earth fault current, voltage, frequency and discrimination as identified in the protection drawings formally approved under the conditions of the PPA.

Connecting switchgear: The Engineer shall demonstrate that the switchgear is rated at a voltage equal to the generating voltage and has been installed and is operating as specified. The demonstration shall include, but may not be limited to, insulation testing and speed of contact operation.

Trial operation: When the Engineer is satisfied that the Facility is fully erected and has successfully completed the specific commissioning tests he/she shall demonstrate its availability for operational use by operating the Facility for a minimum period of 72 hours at each of the two main operating regimes.

Capacity demonstration test: This test determines the Facility capacity by measuring the output at the relevant points in the Facility. Tests will be based on relevant ISO power test codes, IEC and IEEE standards using Facility instrumentation and any independently certified commissioning metering system connected to the Facility for the purposes of the test. Test results shall be corrected to the specification conditions in accordance with ISO 3046-1:1986.

During the period of the Capacity Demonstration Test, the capacity of the Facility shall be demonstrated in the following manner:

a) the Facility shall operate on both main operating regimes with normal auxiliary loads;
b) the Seller will advise Purchaser of the commencement of the test and will record the reading of the independently certified commissioning metering system;
c) the test duration will be 6 hours and at the end of this period the Seller will record the new reading of the independently certified commissioning metering system. The capacity as determined by such test shall be the difference between the reading taken

JR

at the end of the 6-hour period and the reading taken at the beginning of such period, divided by the test duration in hours.

POWER PURCHASE AGREEMENT

BETWEEN

BELIZE ELECTRICITY LIMITED

AND

SS ENERGY LIMITED

Dated as of November 25, 2022

EXHIBIT 5

DESCRIPTION OF THE INTERCONNECTION FACILITIES

The Purchaser's transmission line and equipment to be installed to interconnect the Purchaser's Grid to the Facility shall include but not be limited to the following:

Transmission Line Interface

115 kV Switches

JR

Associated Buswork to Tap from Existing Line
Associated Line Traps for Communication Purposes

Transmission Line

Approximately 8.37 km of 115 kV transmission line consisting of Wooden Structures of either H-Frame or Single Pole construction. Transmission Line to commence at UTM zone 16 coordinates 318131, 1911091 at the Purchaser's Existing Transmission Line to 315290.693, 1917147.475 to 315042.66, 1917007.207 to 314786.602, 1917448.432 to 314698.330, 1917397.112 to 314548.635, 1917654.599 and then to 314568.961, 1917666.417 at the Substation Facility.

Substation (including Communications Equipment)

115 kV Breaker
115 kV Disconnect Switches
Power Transformer
Surge Arresters Intermediate Class
Line Traps for Communication
Substation Steel Structures
Grounding System
BusWork
Chain Link Fence and Gates
Power & Control Wiring systems
EarthWorks
Civil Works

Control & Relay Panels
Primary Metering Cabinet
Fibre or PLC Equipment w/ Mux
RTU
Battery Charger & Batteries (Com)

The Seller shall provide all power supply including AC and DC sources. It should be in the best interest of the Seller to provide the Purchaser with information on what will be their (DC-AC) voltage levels to allow the Purchaser to match the power supply of their equipment at the time of ordering. Should the Purchaser's equipment voltage requirement be different from the Facilities, provision shall be made by the Seller to provide space for battery chargers, batteries, and supply and control cabling.

JR

POWER PURCHASE AGREEMENT

BETWEEN

BELIZE ELECTRICITY LIMITED

AND

SS ENERGY LIMITED

Dated as of November 25, 2022

EXHIBIT 6

PART I – AVAILABLE CAPACITY DECLARATION
PART II – DISPATCH INSTRUCTION

PART 1 - Available Capacity Declaration

Santander Sugar Energy Limited (SSEL) Power
Purchase Agreement with Belize Electricity Limited (BEL)
Exhibit 6 Part 1A

Submitted by SSEL for Month _____
Year _____

Monthly Projected Available Capacity Declaration
MW

Day	Hour 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Day Totals MWh
1																									
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									
13																									
14																									
15																									
16																									
17																									
18																									
19																									
20																									
21																									
22																									
23																									
24																									
25																									
26																									
27																									
28																									
29																									
30																									
31																									
																							Month total MWh		

Originated on behalf of SSEL — Name _____ Signature _____ Date _____

Received on behalf of BEL — Name _____ Signature _____ Date _____

cc. SSEL control room
SSEL accounts dept.

Part II – Dispatch Instruction

JR

SSEL'S ENERGY DISPATCH

Date to be Dispatched	January, 01 2017
BEL Shift Supervisor	
SSEL Supervisor	

	SSEL'S OFFER			BEL'S DISPATCH INSTRUCTIONS		
	FIRM ENERGY	AS-AVAILABLE ENERGY PRICE	AS-AVAILABLE ENERGY	FIRM ENERGY	AS-AVAILABLE ENERGY	
Hour	(kW)	(US$)	(kW)	PLANNED (kW)	PLANNED (Kw)	REMARKS
0						
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
Total	*0*			*0*		
Maximum	*0*			*0*		
Minimum	*0*			*0*		

JR

POWER PURCHASE AGREEMENT

BETWEEN

BELIZE ELECTRICITY LIMITED

AND

SS ENERGY LIMITED

Dated as of December 13, 2016

EXHIBIT 7

DESCRIPTION AND PROVISIONS FOR BEL'S EQUIPMENT INSTALLED AT THE FACILITY

The Purchaser's equipment to be installed in the Facility shall include but not be limited to the following:

Metering Equipment

JR

(Space provisions should be made for placement of this in the Relay Panel or its own panel)

One switch board T.O.U. meter SEL 735 or equivalent
One test block (Not required on the front panel but just behind the meter)
One kWh only, socket type meter as a backup to the TOU meter.

Substation Equipment

Relay Panel or Panels
Transformer Protection: SEL-587: Transformer Differential Protection, SEL-311L: Phase and Ground Distance Protection and the SEL-351: Dual Overcurrent Backup Protection.
Two Lockout Relays.
115kV Circuit Breaker: Control switch with the associated indicating lamps
SEL Meters,
An Annunciator Panel
Several auxiliary relays and secondary auxiliary switches.

One "Square D": AC Distribution Wall-mounted Cabinet
One "Square D" DC Distribution Wall-mounted Cabinet

Battery charger and battery bank.

Communication Equipment

One Remote Terminal Unit (RTU) with accessories to interconnect equipment for status, control, and tele-metering. Size 2'(width) x 7' (height) x 2' (depth), working space 4 feet back and front; ventilation 1 foot all around sides.

Fibre Connection.
Multiplexer and associated communication equipment, including telephone, termination block, etc.

The Seller shall provide all power supply including AC and DC sources. It should be in the best interest of the Seller to provide the Purchaser with information on what will be their (DC-AC) voltage levels to allow the Purchaser to match the power supply of their equipment at the time of ordering.

JR

POWER PURCHASE AGREEMENT

BETWEEN

BELIZE ELECTRICITY LIMITED

AND

SS ENERGY LIMITED

Dated as of December 13, 2016

EXHIBIT 8

EVIDENCE OF APPROVED ENVIRONMENTAL COMPLIANCE PLAN

VR

DEPARTMENT OF THE ENVIRONMENT

Market Square
Belmopan, Belize
Tel: 501-802-2542/ 2816 | Fax: 501-802-2862
Email: envirodept@btl.net or envirodept@ffsd.gov.bz | Website: www.doe.gov.bz

Please Quote: PRO/IND/04/408/13 (70)

December 13, 2013

Jose Rodriguez
Chief Executive Officer
Santander Group
21 St. Vincent Street
Belmopan City
Cayo District

Dear Mr. Rodriguez,

Please be informed that ***Environmental Clearance*** is hereby granted to the **Santander Group** for a sugar cane plantation a sugar processing facility an energy cogeneration facility located in the Mediation Area, Cayo District. This Environmental Clearance is granted subsequent to the signing of an Environmental Compliance Plan (ECP) on December 13, 2013.

Kindly be informed that **Santander Group** is required to comply with all the stated terms and conditions within the Environmental Compliance Plan. Disregard of any of the terms and conditions stipulated in the compliance plan may result in the revocation of the ***Environmental Compliance Plan, which automatically constitutes a revocation of this Environmental Clearance***. Notwithstanding, legal actions may also be taken against **Santander Group** for the disregard of any of the terms and conditions stipulated in the ECP.

No changes or alterations to what has been agreed within the ECP may be permitted without the written approval of the Department of the Environment.

Thank you for your kind consideration and cooperation in addressing these issues of mutual concern.

Respectfully,

M Alegria

Martin Alegria
Chief Environmental Officer
Department of the Environment

JR

POWER PURCHASE AGREEMENT
BETWEEN
BELIZE ELECTRICITY LIMITED
AND
SS ENERGY LIMITED

Dated as of November 25, 2022

EXHIBIT 9

OPERATING PROCEDURES AND EMERGENCY PROCEDURES

This Exhibit has been agreed between the Parties pursuant to Article 9.2.4 and is annexed with the concurrence of the PUC.

JR

POWER PURCHASE AGREEMENT
BETWEEN
BELIZE ELECTRICITY LIMITED
AND
SS ENERGY LIMITED

Dated as of November 25, 2022

EXHIBIT 10

DESCRIPTION OF MINIMUM ANNUAL PRODUCTION (MAP)

Year	NEO (KWh)	MAP (Kwh)
2022	36,190,000	25,333,000
2023	37,130,000	25,991,000
2024	37,600,000	26,320,000
2025	38,070,000	26,649,000
2026	38,775,000	27,142,500
2027	39,950,000	27,965,000
2028	41,125,000	28,787,500
2029	42,300,000	29,610,000
2030	43,475,000	30,432,500
2031	44,650,000	31,255,000
2032	47,000,000	32,900,000
2033	47,000,000	32,900,000
2034	47,000,000	32,900,000
2035	47,000,000	32,900,000
2036	47,000,000	32,900,000
2037	47,000,000	32,900,000
2038	47,000,000	32,900,000
2039	47,000,000	32,900,000

JR