BELIZE ELECTRICITY LIMITED
2 1/2 Miles Philip Goldson Highway | P.O. Box 327
Belize City, Belize C.A.
Telephone: 501.227.0954 | Fax: 501.223.0891

19 September 2023

Mr. Dean Molina
Chairman
Public Utilities Commission
#4 Princess Margaret Drive
2nd Floor, Marina Towers
Belize City, Belize

Dear Chairman Molina,

Re: PUC Approval to Procure Short-Term Generation Capacity

Belize Electricity Limited (BEL) hereby requests approval from the Public Utilities Commission (PUC) of the Company's decision to contract with General Electric (GE) for the purchase of one (1) refurbished 21 MW mobile gas turbine at a total price of approximately $30 million.

The PUC is aware that there is currently an in-country energy supply shortage due to delays in initiating the process to procure permanent in-country generation capacity. A short-term solution is necessary to secure sufficient in-country generation to meet electricity demand through to the end of 2024. The mobile gas turbine presents an optimal solution in terms of implementation time and value for money.

BEL intends to the deploy the mobile gas turbine in San Pedro, Ambergris Caye as the supply concerns are most critical in that service area. The capacity limit of the single submarine cable interconnected to the grid will likely be breached within the next 18 months due to extraordinary growth in demand, and the second submarine cable to the island will not be in place for another 24 months minimally. The site location will be near the southern tip of the island on a property that has already been earmarked for this purpose with interconnection to the 34.5 KV grid network.

BEL assures the PUC that contract effectiveness will be contingent on BEL conducting the necessary due diligence, including obtaining environmental clearances and the appropriate warranties from General Electric, and being satisfied that the unit being purchased will be able to perform as intended.

Attached is a more complete exposition of the rationale for the expenditure request. The PUC's immediate attention and support on this request is greatly appreciated.

Sincerely,
Belize Electricity Limited

Leon Westby
Manager, Strategy, Innovation & Regulatory Affairs

BELIZE ELECTRICITY LIMITED

Rationale for Short-Term Generation Request

1 OVERVIEW

The in-country generation capacity shortage situation continues to worsen due to higher-than-expected growth in demand for electricity and extended delays with bringing online key generation and transmission projects. The most optimal solution, at this point, is to deploy a 21 MW mobile gas turbine to supplement in-country generation capacity until the pending generation and transmission projects are brought online. The mobile gas turbine will be deployed in San Pedro, Ambergris Caye at an estimated capital cost of $30 million.

2 BACKGROUND & JUSTIFICATION

2.1 EXISTING GENERATION 2023

BEL currently sources energy from eight (8) Independent Power Producers (IPPs) and from its own generating plants, with characteristics as follows:

Table A: Existing Generation Sources 2023

Name	Fuel Type	Capacity	Availability
Fortis Belize	Hydro-electric	52 MW	Managed Firm
Hydro Maya	Hydro-electric	2 MW	Seasonal
Belcogen	Bagasse	12 MW	Seasonal
Santander	Bagasse	8 MW	Seasonal
Jica (UB)	Solar PV	< 0.5 MW	Intermittent
Paradise	Solar PV	< 0.5 MW	Intermittent

CFE	Imported	55 MW	Firm
Bapcol	Diesel/HFO	22.5 MW	Firm
Gas Turbine	Diesel	19 MW	Firm
Caye Caulker	Diesel	4.5 MW	Firm

Total existing in-country firm capacity is 113.5 MW during the first half of the year and 93.5 MW during the second half of the year.

2.2 GENERATION PLAN 2024-2026

Based on the latest trends, peak demand is projected to grow to 130 MW in 2024 and by 10 MW for each year thereafter up to 2026. The table below shows the schedule of firm capacity additions (and subtractions) over the next three years and the resultant in-country grid reserve margin.

Table B: Schedule of Firm Capacity Additions (and Subtractions) – 2024-2026

Units of MW	1st Half Year	2nd Half Year	1st Half 2024	2nd Half 2024	1st Half 2025	2nd Half 2025	1st Half 2026	2nd Half 2026
Peak Demand (Grid)	**125.0**	**115.0**	**130.0**	**120.0**	**140.0**	**130.0**	**150.0**	**140.0**
In-Country Capacity (Grid)	**113.5**	**93.5**	**130.0**	**110.0**	**140.0**	**132.5**	**162.5**	**152.5**
***ADD:* BEL GT Upgrade**			*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*
***ADD:* CCK Power Station**			*4.5*	*4.5*	*4.5*	*4.5*	*4.5*	*4.5*
ADD:* BEL BESS (Battery) *#1					*10.0*	*10.0*	*10.0*	*10.0*
ADD:* BEL BESS (Battery) *#2						*10.0*	*10.0*	*10.0*
ADD:* BEL BESS (Battery) *#3							*10.0*	*10.0*
ADD:* BEL BESS (Battery) *#4								*10.0*
***ADD:* NGC Rice**						*25.0*	*25.0*	*25.0*
SUBTRACT: Bapcol Fossil Fuel						*-22.5*	*-22.5*	*-22.5*

In-Country Reserve Margin (Grid)	**-11.5**	**-21.5**	**0.0**	**-10.0**	**0.0**	**2.5**	**12.5**	**12.5**

2.3 NEED TO BRIDGE SHORT-TERM CAPACITY SHORTFALL

Based on the generation plan over the next three years, in-country firm capacity will not be able to meet the projected demand through to the end of 2024. Moreover, if there are any delays in rolling out the plan, there will be further shortages beyond 2024.

Additionally, demand on the island of San Pedro is growing much faster than expected, and the capacity limit of the single submarine cable interconnection from the grid will likely be breached within the next 18 months unless an additional supply is installed. The second submarine cable interconnection to the island will not be in place before the next 24 months. Therefore, the only other solution is to install firm generation capacity on-island to supplement the grid supply from the single interconnection. This will also serve as backup in case the interconnection is lost at any time.

3 ASSESSED OPTIONS & RECOMMENDATION

Given the need for a short turnaround time, rental of diesel generation units was initially considered as the best generation solution. All providers have quoted supplying 12 to 18 small diesel fuel mobile units with a total capacity of 16 MW and capacity costs in the vicinity of $10.5 million USD for a two-year period and with delivery times of around 60 days.

An alternative solution explored was purchasing a refurbished mobile gas turbine unit. GE has now confirmed that it will be able to source a 21 MW unit for around $15 million USD within a 60-day window. Over a 15-year period, the purchase-to-own option is around three to four times less costly than the rental option and close to two times less costly than the current cost of the Bapcol supply (on a per KW capacity cost basis). Moreover, the purchase-to-own (GE) mobile gas turbine is a single unit that can run on natural gas, LPG, or distillate fuels.