

Ministry of Public Utilities' Response to the Joint Select Committee on Land and Physical Infrastructure on an Inquiry into the Management of T&TEC and related recommendations

OBJECTIVE 1: CURRENT MANAGEMENT STRATEGIES AT T&TEC

PLANS AND POLICIES

Recommendation

- A. We recommend that T&TEC provide a copy of its Business Plan to the Parliament upon its finalisation.

MINISTERIAL RESPONSE

T&TEC's Business Plan was completed and approved by the Ministry of Public Utilities and subsequently forwarded to the RIC in December 2021. The Plan is part of the documentation required by the RIC to conduct the Rate Review for Electricity tariffs, now in progress. Given the sensitive nature of the Rate Review, the Plan will be provided to the Committee upon the completion of the Rate Review exercise.

Recommendation

- B. We recommend that MPU provide, as part of its ministerial response, a progress report by T&TEC of the achievements made in relation to its Strategic Plan, 2021-2025.

MINISTERIAL RESPONSE

The undermentioned identifies the achievements of T&TEC in delivering on its strategic plan 2021-2025:

Finance Division

Goal 3: To achieve economic viability and sustainability to finance future expansion.

- A Business Plan for the period 2022-2026 was submitted to the Ministry of Public Utilities on 11th October 2021.
- Results of Financial Audit - Financial Credibility - Two (2) strategies are at varying phases and will assist with the management of the Payment Cycle:
 - i. The introduction of supplier payments by ACH (Automated Clearing House) to allow more timely payment to suppliers. This is in the implementation phase.
 - ii. The introduction of workflow to reduce the manual effort associated with processing payments. This is in the developmental stage.

Technical Division

1. Goal 2 – To provide service excellence consistent with international standards and best practice.

- Implemented an outage management and interactive voice response system, to better identify outages and respond.

2. Goal 3 – To achieve economic viability and sustainability to finance future expansion.

- Implemented a risk-based inspection philosophy rather than the traditional frequency-based approach. Implemented a maintenance management system philosophy.

3. Goal 4 – To maintain sufficient generation capacity and efficiency with the inclusion of alternate energy sources.

- Presently finalizing Power Purchase Agreement with Lightsource BP & Shell consortium to add 112.2MW of PV power to the grid in 2024. A paper has been completed on the implementation of solar; specifications were completed for solar modules, batteries & other components. A section is being established that will be attached to the Distribution Planning & Support Department to oversee rooftop solar installation on a commercial scale and at present training is ongoing to build the technical competence required. In terms of wind energy, the Commission is at present purchasing two (2) LiDAR systems to perform wind assessment and wind feasibility studies.

4. Goal 5 – To improve and maintain a modern space and highly reliable electricity grid.

- A 50/70MVA transformer was installed at Wrightson Rd. Substation. Transformer upgrades have been executed at substations such as Morvant, Malabar & Abattoir. Major Substation upgrades are ongoing at Maraval & Laventille Substations. These will improve reliability of power distribution to these areas. The Open Systems International Incorporated (OSI) supervisory system has also been upgraded. In terms of vegetation management, the Surveys 123 application is being used to identify and manage vegetation issues. Pertaining to natural disasters such as flooding, the Commission has purchased an amphibious vehicle to access flooded areas to aid in carrying out assessment and repairs. At present, necessary modifications are being finalised by the Supplier to ensure specifications are satisfied. Upon confirmation that the modifications are completed, the vehicle will be shipped and is expected by no later than June 30th 2022.

Operations Division

Goal 2 - To achieve economic viability and sustainability to finance future expansion.

1. Improved customer service via:

- a. Restructuring of Commercial Department for more centralized and integrated operations
- b. Implementation of Customer Energy Management Application
- c. Corporate website upgrade
- d. Implementation of QuickPay online payment platform

Goal 6 – To implement appropriate information technology solutions to achieve corporate deliverables.

2. Improved integration and effectiveness of IT systems
 - a. Reconfiguration of Corporate Network
 - b. Implementation of cyber security initiatives

3. Implement green initiatives (going paperless)
 - a. Online Performance management module
 - b. Upgraded job estimation program
 - c. Online Contractor HSE training module
 - d. Online Application for Capital Expenditure
 - e. Digitalization of Tendering Process.

Human Resource Division

Strategic Objectives	PROGRESS REPORT
1. Performance Management (Goal 1)	The online performance appraisal system was developed. Training was conducted for managers and supervisors; performance objectives were also established. The system is operational.
2. Cost Containment (Goal 3)	The general instruction for annual leave was revised to include measures to ensure that leave accumulation is maintained within the limit specified in the respective collective agreements.
3. Employee Wellness (Goal 1 and 2)	Programmes were developed to sensitise employees to mitigate against the spread of the Covid 19 virus such as a Covid 19 employee handbook, webinars and a vaccination drive etc. Additionally, worksites were adjusted to create a safe working environment for our employees.
4. Training and Development (Goal 1 and 2)	Training and development programmes were conducted for employees in the following main segments: <ul style="list-style-type: none"> - HSE - Line clearing awareness; driver safety awareness; safety and supervisor safety training. - Industrial Relations - Industrial relations awareness for supervisors - Security - Firearm re- certification training; Court & Process training for investigators; Disaster preparedness for the Caribbean; Bomb Threat and Job Hazard analysis etc. - General Training programmes – First Aid; Defensive driving; online performance appraisal; Renewable energy conducted by AMCHAM and sensitizing employees on the Procurement Act.
5. Security of the Commission’s personnel, plant and equipment (Goal 5)	A central command centre for monitoring CCTV cameras for the entire network was 75% completed at the end of 2021.

ROLES AND REPORTING RELATIONSHIP AMONGST ENTITIES WITH RESPONSIBILITY FOR ELECTRICITY

Recommendation

- C. **We recommend that the MPU play a more pivotal role in ensuring that timely information is submitted to the RIC for the conduct of rate reviews, evaluation of standards of service and performance monitoring.**

MINISTERIAL RESPONSE

MPU liaises with both RIC and T&TEC for submission of requested information to each party, in a timely manner. The MPU has noted the recommendation of the Committee and will ensure that it continues to provide all requested information to the RIC on time.

Recommendation

- D. **We recommend that consideration be given by T&TEC to allocate a designated coordinator to focus and ensure the timely delivery of information to the RIC. This designated coordinator should be provided with the necessary resources and authority to ensure that targets are met.**

MINISTERIAL RESPONSE

The Regulatory and Compliance Department at T&TEC was established in 2012 and is the designated co-ordinator to ensure the timely delivery of information to the RIC. The department is suitably staffed and authorized to provide the relevant information to the RIC according to agreed targets.

T&TEC'S FINANCES

Recommendation

- E. **Considering T&TEC's financial position, we recommend that T&TEC examine and implement strategies to reduce its technical losses which are contributing to approximately nine (9) percent of its revenue.**

MINISTERIAL RESPONSE

T&TEC is implementing the undermentioned strategies for the reduction of transmission losses by way of:

1. Recent Reactive Compensation Studies have earmarked 66 kV Capacitor banks for the Charlieville and Pinto Rd. Substations,
2. Previous Reactive Compensation Studies whereby 33 kV capacitors exist at the Mt.Hope, Barataria and Mt.Pleasant Substations and 12 kV capacitor banks installed on feeders throughout the network.
3. The value of the technical losses will be reduced in future once additional generation capacity is placed in the North.

4. Effective dispatch of the generation machines.
5. As far as practicable, resizing of the existing conductors.
6. Construction of intermediate substations.

Recommendation

- F. We recommend that the MPU expedite T&TEC's request for increased funding to cover its expenditure.**

MINISTERIAL RESPONSE

MPU does expedite TTEC's request for funding to cover its expenditure in timely manner however, the Ministry has to await the process of the Ministry of Finance releasing funds to facilitate T&TEC's request.

NATURAL GAS

Recommendation

- G. We recommend that the subsidy for natural gas be maintained.**

MINISTERIAL RESPONSE

The recommendation of the Committee has been noted, however, the government's position on natural gas is that its returns should be maximised. Therefore, the continued provision of a subsidy is not the best method for maximising natural gas returns. If our natural gas was to be sold on the international market it will result in greater forex for Trinidad and Tobago.

Given that the citizenry benefits from the subsidy, MPU is embarking on a Conservation Awareness Training programme, for both Government Ministries and by extension, the public at large, to bring attention to encourage conservation in electricity consumption, which will result in a reduction of T&TEC's consumption of natural gas and associated reduced costs.

Recommendation

- H. We recommend that T&TEC, in addition to its Five Year Operational Plan, examine other potential revenue streams in collaboration with the MPU. For example:**
- a. providing specialised services to customers and/or third parties in exchange for a fee, revenue sharing mechanism, or other financial benefits (i.e. utility marketplaces providing energy efficient home goods; home automation/smart homes); and**
 - b. exploring new lines of business such as solar installations, appliance servicing and repair, home warranty services, and outdoor/security lighting.**

MINISTERIAL RESPONSE

In relation to this recommendation by the Committee, T&TEC will be undertaking the undermentioned to increase revenue streams:

1. Research is ongoing to determine the feasibility of installing rooftop solar systems to existing and new customers and should be completed by the end of June 2022. This is expected to capture additional revenue from customer's residing in remote areas that would be located far from the Commission's network.
2. Work is ongoing to establish electric vehicle charging stations. This is expected to provide additional commercial revenue.
3. Pilot project on Digital Advertising Signage to be implemented in 2022.
4. The Commission proposes to expand the range of services offered to customers by conducting emergency repairs to defects in residential and commercial customers' meter bases. Discussions are ongoing with the Ministry of Public Utilities and the Government Electrical Inspectorate to operationalize this initiative.
5. Construction the 2nd 220 kV double circuit line from Union to Gandhi Village substation to get additional capacity from the use of more efficient machines thereby resulting in gas savings. This line is expected to be completed by 2023.
6. Change out of HPS lamps to LED lamps which will result in lower maintenance cost and reduced fuel consumption. This project also involves the use of Solar LED lights.
7. Further consideration of the sale of in-house software services.
8. Creation of business-to-business fibre link.

Recommendation

- I. **We recommend that a formal contractual agreement between T&TEC and NGC be finalised as soon as possible. This agreement will be based on a continuation of the price subsidy to be met by GORTT and a review of the current annual escalation of 3% that T&TEC is required to pay. The negotiation of this agreement should consider the impact on the financial status of the utility and its customers.**

MINISTERIAL RESPONSE

Provisions of the draft contract, save the matter of price, are largely agreed. The negotiation of the contract is ongoing. The Commission is however unable to complete the process until a final price has been agreed to.

T&TEC'S RECEIVABLES

Recommendation

- J. **We recommend that T&TEC update its debt collection policy.**

MINISTERIAL RESPONSE

A policy is being developed to address both the operational and accounting associated with debt collection.

Recommendation

- K. Given T&TEC's financial situation, we recommend that T&TEC seek to recover outstanding public debt from government agencies and pursue aggressive measures regarding recovering private debts.**

MINISTERIAL RESPONSE

The following processes are utilized to manage the Public and Private Sector Light and Power Debt:

Public Debt:

1. Regular meetings are held with the various agencies on this matter.

Private Debt:

1. Top five hundred (500) debtors in each Distribution Area are contacted on a monthly basis to liquidate arrears.
2. Customers are offered payment arrangements to clear arrears within 9 months.
3. Interactive Voice Response (IVR) system is used to automatically 'call' customers to notify them whenever they are due for disconnection.
4. All Customers are encouraged to utilize T&TEC's E-billing, QuickPay and Automatic Credit Card payments services.
5. Use of the mass media and the Corporate Facebook page to advertise disconnection drives.
6. The use of remote connect /disconnect meters is to be expanded to make disconnections for non-payment of bills and reconnections more efficient.

REVIEW OF T&TEC'S RATES

Recommendation

- L. Notwithstanding the importance of the finalised price of natural gas on T&TEC's operational costs, and considering that an economic tariff is being implemented in the rate review, we recommend that in future, the MPU authorises T&TEC to submit its Business Plan with an economic tariff using a proposed price to prevent delays in the rate review process.**

MINISTERIAL RESPONSE

I have noted the recommendation of the Committee, moving forward the Ministry will seek to ensure that it is implemented.

Recommendation

- M. Given that the RIC Act provides for the review of rates periodically and specifically every (5) five years, we recommend that the process be initiated in a timely manner to cater for delays in the submission of critical information necessary for conducting a rate review, so that T&TEC can benefit from much needed revenue in a timely manner.**

MINISTERIAL RESPONSE

The Committee's recommendation is noted. The approach employed by the RIC is consistent with the Committee's recommendation. For instance, the last final determination for T&TEC was due to expire in May 2011, and the RIC initiated the Price Review process in November 2010, six months before the expiration of the determination.

The RIC will continue to utilise this approach, and commence the process well before the end of a regulatory control period. It should be noted, however, that timely completion of the Rate Review could be stymied by the response of the utility and shareholder, but the RIC will continue to engage stakeholders to avoid delays as much as possible.

FACTORS CONSIDERED WHEN CONDUCTING PRICE REVIEW

Recommendation

- N. We recommend the adoption of the RIC's overall position as it concerns the purpose of the subsidy.**

MINISTERIAL RESPONSE

I recognised and agree with the RIC's overall position as it concerns the purpose of a subsidy namely that it should:

- target poorer consumers
- support a minimum level of consumption and not encourage excessive consumption
- not distort incentives and
- source needs to be predetermined and disclosed and paid to the service provider preferably out of general tax revenues.

However, the Committee should note that a subsidy is the responsibility of government and is set by government's policy direction, as a result the RIC has no input in determining same.

Recommendation

- O. We recommend that included in the proposed tariff structure should be the formalisation of payment plan option for vulnerable customers particularly during periods of unprecedented situations such as the Covid-19 pandemic where many household's incomes are compromised.**

MINISTERIAL RESPONSE

The tariff as currently structured already caters for the vulnerable customers with existing rates established below cost for customers within the lower consumption tiers.

Additionally, the initiative by the Government of the Republic of Trinidad & Tobago (GORTT) regarding the 25% Rebate Program for residential customers with electricity bills \$300.00 or less which from January 1st 2022 has now been increased to 35% and plays a critical role in assisting vulnerable customers. This initiative has resulted in benefits being derived by approximately 220,000 residential customers from a customer base of approximately 445,000 residential customers.

Recommendation

- P. Consistent with the need to adopt new ways of doing business as a result of the restrictions brought on by the COVID-19 pandemic, we recommend that the RIC utilise Video Conferencing to continue its outreach meetings.**

MINISTERIAL RESPONSE

The RIC notes the Committee's recommendation regarding the use of Video Conferencing in its public outreach and communication activities. The RIC has utilized video-conference channels to communicate with stakeholders and the public, most recently on December 3rd 2021, a Webinar was hosted titled *"Why are our days getting hotter? Climate change, COP 26 and You"*. Other electronic media are used to disseminate information and receive feedback from the public, including all Social Media channels.

The RIC's traditional outreach meetings are usually conducted in high-visibility areas where the public can interact directly with its personnel. At these face-to-face sessions, the RIC distributes informational brochures on energy conservation, water conservation, quality of service standards and other related content. These outreach sessions also serve as a medium through which the public obtain advice on how to address their utility-related complaints. The RIC will continue to explore further options for using video-conferencing as an alternative to its face-to-face public outreach meetings.

Recommendation

- Q. We recommend that the RIC engage in comparisons with jurisdictions with similar oil and natural gas producing economies and include same in its subsequent reports. These comparisons should also include comparisons for public consumption, the price of natural gas and the impact on electricity rates.**

MINISTERIAL RESPONSE

As part of the Price Review analyses, the RIC compares key metrics of T&TEC's operation, inclusive of electricity rates, against those of utility operators in other jurisdictions, inclusive of oil and natural gas producing economies, where such information is available. It should be noted that the RIC, as part of

the rate determination process, must take into consideration the price to be paid by the utility for natural gas. The level of subsidy, however, is a matter of Government Policy. Therefore, the electricity rates reflect the full amount of any subsidy on the price of natural gas that Government determines.

SUPPLY OF ELECTRICITY

Recommendation

- R. Considering the cost of unutilised capacity and T&TEC's financial challenges, we recommend that T&TEC examine and implement measures to optimise standby capacity and cater for spinning reserves.**

MINISTERIAL RESPONSE

T&TEC continuously models and observes the behaviour of the grid in order to optimize its Spinning Reserve Policy. This is a continuous activity incorporated in T&TEC's processes. The general aim of which is balancing the greater system reliability provided by increased Spinning Reserve against the greater cost incurred in doing so.

The recent deployment of disturbance recorders at generation stations have increased the available data used by the model to optimize spinning reserve.

Recommendation

- S. We recommend that all three (3) power producers be approached regarding the 'take or pay issue' to reduce cost for unutilised capacity where applicable.**

MINISTERIAL RESPONSE

All four (4) PPAs have a contracted term period. The Commission has made numerous attempts with the respective IPPs for consideration to be given for a possible reduction but same proved unsuccessful. Two (2) of these PPA contracts expire in the year 2029 and the Commission is in the process of reviewing these contracts to determine the best future option. This review will consider the load forecast as well as the use of renewable energy sources and the use of more efficient machines.

Recommendation

- T. We recommend that T&TEC negotiate for the omission of the 'take or pay' provisions in all PPA contracts being renewed or newly established.**

MINISTERIAL RESPONSE

Same as response to **Recommendation S**

Recommendation

- U. We recommend that T&TEC submit a copy of its Investment Policy when completed to the Parliament.**

MINISTERIAL RESPONSE

An Investment Policy has been developed and is being reviewed by various stakeholders before being submitted for final approval. Upon completion same will be submitted to the Committee.

Recommendation

- V. We recommend that T&TEC keep up-to-date with its annual Generation Adequacy Assessment.**

MINISTERIAL RESPONSE

T&TEC ensures its Energy Sales Peak Demand and Fuel Consumption Forecast, which looks at load growth over a 10-year horizon are done annually. When the forecast suggests generation will be inadequate to maintain spinning reserve and maintenance of machines a Generation Adequacy Assessment is done to determine the impact.

A system generation adequacy study based on the 2022 Energy Sales, Peak Demand and Fuel Consumption Forecast is expected to be completed by mid-2022. The load forecast update for the 2022-2031 period was completed.

Recommendation

- W. We recommend that infrastructure to facilitate any additional generation in future be located in North Trinidad as per T&TEC's advice.**

MINISTERIAL RESPONSE

Studies have pointed to generation being required in Trinidad in 2028, preferably located in the north of Trinidad. A site at El Socorro has been identified for the location of the power station and the Commissioner of State Lands, has been engaged. Discussions would be held with the Ministry of Energy and Energy Industries (MEEI) who is responsible for all new generation coming onto the grid and all capital cost associated with same.

DEMAND

Recommendation

- X. Considering that a lead time of five (5) years is required for the commissioning of a new power station plant which may be required by 2030, we recommend that T&TEC begin exploring the**

cost factors and other factors associated with the commissioning of a new power station plant to be located in North Trinidad.

MINISTERIAL RESPONSE

Discussions will be held with the MEEI who is responsible for all new generation coming onto the grid and all associated capital cost. T&TEC will negotiate with the IPP all details of a new PPA.

Recommendation

- Y. We recommend that T&TEC develop strategies to:**
- a. attract and maintain large industrial customers, which is more profitable for the Commission; and**
 - b. create incentives to discourage industrial customers from downsizing in capacity to commercial usage. Furthermore, considering the effect that the pandemic has had on industries, consideration should be given to offering payment plans and deferred payment options large industrial customers.**

MINISTERIAL RESPONSE

- a) To attract and maintain large industrial customers, T&TEC can enter into Demand Side Management with them and offer incentives for them to be charged a lower tariff for operating at non-peak periods and a higher tariff if they operate outside these periods. T&TEC will have to negotiate with the RIC to work out these arrangements. Notwithstanding the foregoing, it is noteworthy to mention that the Commission's loss per kWh at the present tariff increases significantly when large users are connected to the network.
- b) The industrial customers downsizing in capacity to commercial usage is usually linked to significant decrease in demand for their products and services offered. T&TEC has little or no influence in this area.

CONNECTIONS AND DISCONNECTIONS

Recommendation

- Z. We recommend the expansion of T&TEC's utilities assistance policy to include customers who are unemployed due to the COVID-19 pandemic.**

MINISTERIAL RESPONSE

The MPU has a Utilities Assistance Programme, which is intended to assist needy households with their utilities bills (water and electricity). Additionally, households whose electricity bills are \$300.00 and less per bi-monthly period enjoy a 35% electricity rebate. Accordingly, unemployed nationals can access these programmes. It should also be noted that the Ministry of Social Development has Public Assistance Grants and General Assistance Grants, which are readily available for the unemployed due to the COVID-19 pandemic.

Recommendation

AA. We recommend that the MPU and T&TEC liaise with Members of Parliament's Constituency Offices to identify persons who require assistance with paying utilities during the pandemic.

MINISTERIAL RESPONSE

I have established in the Ministry a "*Utilities Complaints from Members of Parliament Programme*". Consideration can be given to expanding this programme to accommodate persons who require assistance with paying utilities during the pandemic. The Ministry usually has forms for all of its social programmes at Members of Parliament's Constituency Offices, to make accessing our social programmes easy.

Recommendation

BB. We recommend that T&TEC consider expanding its LED bulb initiative, especially amongst its lower income customers, due to the cost benefits that accrue from the use of LED bulbs.

MINISTERIAL RESPONSE

Despite all efforts, a significant number of customers have still not collected the four (4) bulbs allocated to them at no cost based on the GORTT's initiative. As such, the Commission in an effort to ensure the necessary savings to be derived from the use of these bulbs are achieved, is now considering the recommendation of same being installed at other governmental institutions.

ELECTRICITY INFRASTRUCTURE

Recommendation

CC. We recommend that T&TEC examine through its five (5) year Development Plan suitable measures for the upgrade and maintenance of its transmission and distribution system and forward same to MPU for funding and implementation.

MINISTERIAL RESPONSE

To determine when upgrades are required, T&TEC:

1. Performs annual load studies;
2. Looks at increases in Distribution Demands; and
3. Inspects transmission and distribution equipment to determine timing of maintenance upgrades.

The five-year Development Plan is continually examined, and projects are being prioritized and resources aligned to achieve the required goals. The Commission will continue to seek funding from the MPU for developmental projects, as necessary.

It should be noted that despite the MPU's assistance via the PSIP programme, the majority of projects have to be completed from tariff revenue, which has been affected by the existing low tariff rates.

Recommendation

DD. We recommend that, as a part of its Ministerial Response, T&TEC provide:

- a copy of its five (5) year Development Plan for Electricity Infrastructure; and
- an outline of its plan to provide electricity for the infrastructural developments occurring in North and East, Trinidad.

MINISTERIAL RESPONSE

The five (5) year Development Plan for Electricity Infrastructure is included in T&TEC's Business Plan 2022-2026, which will be submitted to the Committee upon the conclusion of the rate review.

Further, the five-year Development Plan entails upgrades to several substations and circuits within the Northern and Eastern Areas of the country. These upgrades shall cater for the expected future increased load requirements and increased reliability of the Commission's System.

These include upgrade of transformers or switchgear at:

North - Westmoorings, Pt Cumana, Cascade, Diego Martin, St. James, Maraval, Carmille Rd., Laventille, Belmont, Boundary St, St. James Wrightson Rd, Abattoir, Gateway, Chaguaramas substations

East - El Socorro, Five Rivers (Arouca), Arima (new substation), Santa Rosa, Wallerfield, Sangre Grande, Matura, Toco Substations

Upgrade of Transmission and Distribution Overhead and Underground Circuits:

North: Transmission 33kV circuits- Westmoorings-Boundary Street, Carmille Rd-Maraval, Gateway-Port Authority, Gateway-Mucurapo; Transmission 66 kV circuits- Bamboo-Wrightson Road #1,2 &3 and Wrightson Road-Westmoorings # 1 & 2

North: Distribution 12kV circuits- Various underground cable circuits within Port-of-Spain to be upgraded from 6.6kV to 12kV

East: Distribution 12kV circuits- overhead line upgrades in El Socorro, St. Augustine, Trincity, Arima, Wallerfield and Sangre Grande Areas.

Recent works were completed in the Toco and Matura Areas on both Transmission and Distribution Circuits.

PSIP PROJECTS

Recommendation

EE. We recommend that the MPU, T&TEC, RIC and MEEI meet to discuss and thoroughly examine the position of the Commission, as it pertains to renewables and submit a policy document on same to the Cabinet for consideration.

MINISTERIAL RESPONSE

MPU, MEEI and T&TEC are currently collaborating to finalise the Feed-In-Tariff (FIT) Policy on Renewables. Upon completion MEEI will submit same to Cabinet for approval.

Recommendation

FF. We recommend that subsequent to internal discussions, MPU spearhead stakeholder discussions, including with the COSL on the PSIP Renewable Energy Initiative which will involve stakeholders in the process of preparation for the initiative.

MINISTERIAL RESPONSE

It is the intention of the MPU to engage in discussions with COSL during the second quarter of fiscal year 2022 to discuss land matters with respect to renewable energy. The Committee should note that the Cabinet appointed Committee for the Country's First Utility Scale Solar Plant has already commenced such discussions with COSL.

Recommendation

GG. We recommend that the COSL respond to T&TEC regarding approval to utilise the land area at Matura, Manzanilla and North Matura for the PSIP Renewable Energy Initiative.

MINISTERIAL RESPONSE

The Ministry is in continuous communication with COSL on these matters.

SECURITY

Recommendation

HH. We recommend that T&TEC encourage the public to report illegal connections by developing an anonymous hotline.

MINISTERIAL RESPONSE

T&TEC currently accepts reports on illegal connections via several channels- including walk-ins, social media, email and telephone. Persons making the reports are not required to provide any personal information and as such remains anonymous.

Recommendation

II. We recommend that T&TEC augment its use of Social Media to inform citizens of the dangers of illegally accessing and tampering with T&TEC's infrastructure.

MINISTERIAL RESPONSE

T&TEC has and will further increase its use of social media and print media to advertise the dangers of illegal connections and tampering.

OUTAGES

Recommendation

- JJ. We recommend that T&TEC utilise social media to advertise short duration outages. Although it may be difficult to determine specific start times of these outages, an advisory informing customers that they may experience short duration outages will assist affected customers in preparing for same.**

MINISTERIAL RESPONSE

T&TEC currently utilises social media to advertise short and extended planned outages as well as provide notices on large area emergency outages. The Commission's Outage Management System (OMS) can be utilized to issue targeted notifications in the instances of unplanned outages to customers in smaller clusters.

Further, the Commission does in fact utilise a combination of the daily newspapers, a Mike system, the radio broadcasting networks and even at times correspondence to advise customers of planned outages so that awareness can be created and customers can plan for same.

Recommendation

- KK. We recommend that T&TEC provide an outline of its line clearing and maintenance plan/policy and its measures to prevent the recurrence of a delay in establishing line clearing contracts.**

MINISTERIAL RESPONSE

With the aim of reducing delays in establishing line clearing contracts in future, the following are being implemented:

- a) Revision of the Line Clearing Contract Agreement to facilitate better management of the contract on a per feeder basis.
- b) Standardized duration of two (2) years for Line Clearing Contracts.
- c) Standardized Communication Plan to effectively manage Line Clearing Contracts.
- d) Timely preparation of Tender Packages to ensure continual maintenance of corridors. New Tenders are to be initiated nine (9) months prior to expiration of existing contracts.
- e) Vegetation Management is a component of the Line Manager's Performance Objectives and such the expectation is that the said managers will execute greater diligence in the execution of this function.
- f) Increased use of GIS (Survey123) to map vegetation threats to optimize operations.

Recommendation

LL. We recommend that T&TEC provide a status report on its initiatives to prevent frequent outages.

MINISTERIAL RESPONSE

The Status Report on Initiatives to prevent Outages includes:

Transmission & Distribution Departments - Programmes implemented for Vegetation Management in close proximity to overhead lines, Infrared Scans to detect possible faults before they occur. Vigorous Transmission and Distribution Maintenance Program.

Transmission & Distribution System Upgrades: to improve reliability of supply, e.g. Integration of the Inner West Ring, Outer West Ring, North East Ring upgrade, Lower City Ring upgrade, Wrightson Road Substation upgrade, Tobago System Upgrades, Pinto Road Ring upgrade, Arima Substation, South upgrades in the general Harmony Hall - Penal area and in the Chatham area, South East Ring upgrade etc.

Generation System: Working with the IPP's with an aim to reducing generator trips which can lead to loss of load as part of the protective Underfrequency Scheme operating.

Distribution System Initiatives

- a) Strategic installation of automatic reclosing devices on the 12 kV Distribution System to treat with transient faults which account for 80% of all faults. This is ongoing.
- b) Include an additional phase on long single-phase spur circuits, to improve reliability as less customers will experience an outage. Time frame 2022-2026.
- c) Increased use of fully insulated and partially insulated conductors, and line covers in heavily vegetated areas to reduce faults due to trees. Timeframe 2022-2026.
- d) Increased use of insulated covers and long pin insulator assembly to protect against faults due to wildlife (frogs, birds, maniocou, etc). Timeframe 2022-2026.
- e) Research is ongoing regarding the use of composite/wooden poles and crossarms.
- f) Change in inspection philosophy from frequency based to risk based.
- g) Full implementation of the Call center using Outage Management System and Interactive Voice Response technology.
- h) Increase use of hotline maintenance works to reduce the number of planned outages.

BENCHMARKS AND STANDARDS

Recommendation

MM. We recommend that T&TEC continue to implement initiatives to reduce the number of street light issues.

MINISTERIAL RESPONSE

T&TEC already has an established **preventative and corrective streetlight maintenance programme**, which involves the use of both inhouse crews and contracted resources to respond to streetlight issues based on customer reports received at its Call Centre and from street lighting surveys performed by T&TEC personnel.

In addition to this response, T&TEC has developed **corrective maintenance initiatives** to further reduce the number and frequency of street lighting issues. These initiatives include:

- a) **Street lighting Maintenance Blitz Program** (already in progress), where areas throughout Trinidad are zoned and periodically surveyed, followed by an immediate repair response based on that survey.
- b) Research and possible implementation of Smart Street lighting Infrastructure via the use of smart Photoelectric Control Units (PCUs) which can be used to not only dim or turn streetlights ON and OFF but can also immediately inform operators when there is a street lighting issue, thus reducing response times. The **preventative maintenance initiatives** being developed include the use of predictive maintenance strategies by categorizing and analyzing the types of street lighting issues identified, determining the route cause, and formulating mitigation strategies.

The change out of the HPS lamps to LED lamps inclusive of the use of Solar LEDs have reduced the need for maintenance and resulted in an increased lifespan of these luminaires before a change out or repairs are required.

Despite the above, given the significant increase in the number of streetlights and the existing limited resources due to cost implications based on the current low tariffs, the response time to execute repairs is impacted.

Recommendation

NN. The Committee looks forward to T&TEC resolving all outstanding streetlight issues by August 2022, and we recommend that T&TEC submit a progress report regarding same in its Ministerial Response.

MINISTERIAL RESPONSE

There are over 207,000 streetlights installed throughout Trinidad & Tobago. At the beginning of January 2021 there were 3,026 outstanding street lighting reports. During that year up to the end of August 2021, 16,117 reports were received, while 19,313 reports were completed.

Every effort to resolve the streetlight repairs is ongoing, however given its resources the Commission cannot guarantee all the issues will be resolved by August 2022.

HUMAN RESOURCES AT T&TEC

Recommendation

OO. We recommend that T&TEC prepare a succession plan for the MPU's consideration to ensure the adequacy of staff, given that two hundred and sixty-seven (267) persons are due for retirement in the next five (5) years.

MINISTERIAL RESPONSE

T&TEC has completed its Manpower Audit to address this issue, which can be provided to the MPU.

OBJECTIVE 2: THE CHALLENGES RELATED TO MANAGING POWER AND ELECTRICITY SERVICES IN TRINIDAD AND TOBAGO

Recommendation

PP. We recommend that T&TEC be granted right of way access via revised legislation to allow the Commission the flexibility to install and maintain required infrastructure on the system.

MINISTERIAL RESPONSE

The Committee is asked to note that legislation exists to allow right of way access to T&TEC. However, approval is procedurally sought from Cabinet and received for any accompanying matters related to right of way access, to allow the Commission the flexibility to install and maintain required infrastructure on the system.

Recommendation

QQ. We recommend that in reviewing the proposed tariff increase, the RIC take into consideration the increased number of streetlights.

MINISTERIAL RESPONSE

The RIC considers the existing and projected number of streetlights and the associated impact on the cost of service, inclusive of capital cost (Capex) and operation and maintenance costs (Opex) in the process of determining tariffs for the street lighting rate class.

OBJECTIVE 3: THE RECOMMENDATIONS TO IMPROVE THE MANAGEMENT STRATEGIES AT THE COMMISSION

INSTITUTIONAL ARRANGEMENTS, MANAGEMENT AND PERFORMANCE

Recommendation

RR. We recommend that T&TEC, MPU and RIC meet to discuss and implement procedures across distribution areas as indicated by the RIC to improve T&TEC's overall performance which should also prove useful in standardising T&TEC's data collection and reporting functions.

MINISTERIAL RESPONSE

The Ministry meets on a regular basis with T&TEC and the RIC to discuss procedural matters across distribution areas to improve T&TEC's overall performance. Recommendations arising from these discussions are submitted to me for approval and subsequently directed to T&TEC for action.

POLICY AND LEGISLATION

Recommendation

SS. We recommend the legislative review of T&TEC's Act Chapter 54:70 by the MPU based on T&TEC's review of the Act and its recommendations.

MINISTERIAL RESPONSE

The Ministry is currently undertaking a review of the T&TEC Act. The Committee should note that the Ministry undertook a review of the RIC Act to make amendments to establish the Licence for Utility Scale Renewable Power Generation. During the process, it was determined that there was conflict between the T&TEC and RIC Acts. In order to resolve this matter, the Ministry is currently undertaking a review of the T&TEC Act to bring alignment with the two Acts.

CONSERVATION

Recommendation

TT. We recommend T&TEC prepare a programme for the change out of HPS to LED luminaries over a specified period of time and present same to MPU for consideration and funding where possible.

MINISTERIAL RESPONSE

Since 2020, T&TEC has been preparing for the change out of HPS to LED luminaries over a specified period of time, as part of T&TEC's Strategic Plan, it has completed the research and now has a complete Project Plan for the implementation of the **Changeout of existing High Pressure Sodium (HPS) Luminaires to Light Emitting Diodes (LED) Luminaires**. Upon completion same will be provided to the Ministry.

RENEWABLES

Recommendation

UU. We recommend that the Commission take the lead role in renewable energy sources for power generation in Trinidad and Tobago including the promotion of solar rooftop generation for individual homes.

MINISTERIAL RESPONSE

The Commission has taken the lead role in renewable energy sources for power generation in Trinidad and Tobago including the promotion of solar rooftop generation for individual homes, though the implementation of:

Wind Energy: T&TEC is in the preparatory stages of a wind measurement study. The wind measurement study will be performed initially at four locations in Trinidad. Wind measurement is intended to be performed for one year at each location, after which it is intended to move the equipment to other locations. A Wind Measurement LiDAR was selected as the preferred equipment. A specification was completed for a Wind Measurement LiDAR in August 2021. A public tender for the purchase of two LiDARs was advertised in the daily newspapers on 18th October 2021. The tender closed on 11th January 2022 and is currently being assessed. Six (6) sites have been selected as options for locations for wind measurement and applications have been made to the Commissioner of State Lands (COSL) for use of these sites. These locations are Matura, Fishing Pond, North Manzanilla, Coromandel Settlement, Cedros and Carapichaima.

Solar Energy: The Commission is building its technical expertise in PV Systems through formal training initiatives. Simultaneously, we are working with our colleagues from CARILEC to participate in knowledge sharing from utilities within the CARILEC Renewable Energy Community, with high solar penetration, to share their experiences and lessons learnt in similar initiatives. Works have commenced on the document "Wiring for Light & Power for Renewables" which will serve as a guide for Wiring of Renewable Energy Systems for Residential and Commercial customers. A department is now focusing on presenting the rooftop solar option to customers in 2022.

Recommendation

VV. We recommend that the Commission examine models in various jurisdictions that include renewable energy for example Germany and Sweden.

MINISTERIAL RESPONSE

Research into the renewable models in various jurisdictions is ongoing and should be completed by the end of June 2022.

Recommendation

WW. We recommend that the Commission diligently pursue a policy for the purchase of surplus off-grid solar power from individuals.

MINISTERIAL RESPONSE

The development of a policy to pursue the purchase of surplus off-grid solar power from individuals is being spearheaded by the MEEI. The Commission has provided information for the policy, including but not limited to process workflow. The MPU also worked with the MEEI to finalize the said policy.

INFRASTRUCTURE

Recommendation

XX. We recommend that T&TEC in collaboration with the MPU explore incentives to encourage new customers to utilise underground infrastructure.

MINISTERIAL RESPONSE

Discussions are required with T&TEC, MPU & RIC to formulate a policy and incentives to utilise underground infrastructure. In addition, new developers are being encouraged to explore the underground option for their developments.

It is noteworthy to mention the use of underground infrastructure is always an option for developers and other customers but the cost associated with same is not as attractive as overhead line infrastructure and as such the developer has refused the underground option. The current rates do not prove economical for the Commission to further incentivise the use of underground infrastructure as the current Capital Contribution policy has many concerns which leaves the Commission saddled with upfront costs which takes many years to recover, if at all.

CLIMATE CHANGE AND DISASTER PREPAREDNESS

Recommendation

YY. We recommend that T&TEC review and improve its disaster plan as it is a matter of urgency.

MINISTERIAL RESPONSE

T&TEC has a disaster plan that has been implemented, however the funding for spares is a major factor to successfully achieve the objectives of same. Nonetheless, systems are in place for alternate/additional labour and to acquire spares where possible.

Recommendation

ZZ. We recommend that T&TEC conduct a detailed study to determine the adaptation and mitigation measures needed to minimise the adverse impact of climate change on its operations and infrastructure.

MINISTERIAL RESPONSE

The Committee is asked to note that the Commission has already commenced this study, some of the measures include:

Civil & Transmission Infrastructure, based on recent studies, now cater for increased wind speeds and consequent loading.

Revision of T&TEC's 12kV construction manual to ensure overhead distribution infrastructure, is built for long term sustainability and integrity.

T&TEC's Transmission & Distribution Networks are built with redundancy in mind, to cater for loss of circuits, isolation of faulted zone(s) and restoration of supply. Upgrade projects are constantly ongoing to ensure this condition is satisfied.

T&TEC is incorporating greater application of partially and fully insulated 12 kV conductor systems which mitigate the effect of fallen trees and clashing conductors during high wind and rain scenarios.

Various Distribution Automation initiatives are being tested to reduce outage zones and restoration times, example smart fault indicators, sectionalisers, etc.

Continuous Vegetation Management along all circuits, to ensure corridors are clear of vegetation, which can make contact with live components, during inclement weather.