



Government of the Republic of Trinidad and Tobago
Ministry of Public Utilities

Thirty-First Report of Public Accounts Committee on the Follow-up on the implementation of the recommendations in the Fifteenth Report of the Public Accounts Committee on the Examination of the Audited Financial Statements of the Water and Sewerage Authority of Trinidad and Tobago for the financial years 2008 to 2013

September 1, 2020

Office of the Permanent Secretary

1. Outstanding Audited Financial Statements

Recommendation:

- 1.1 WASA should submit the audited financial statements for FY 2015 and FY 2016 by August 30, 2020.

Ministerial Response:

The audited Financial Statements for FY 2015 were signed off on October 30, 2019 and submitted to the Ministry of Public Utilities on November 27, 2019. A Cabinet Note is being prepared to take the Statements to Cabinet, which has been delayed as the Ministry was awaiting additional information requested from WASA which has since been received. The FY 2016 audit commenced in October 2019 and was scheduled to be completed by June 30, 2020. However due to impact of the National Crisis COVID-19, the completion timeline has been revised to September 30, 2020. Upon the finalization of the aforementioned documents they will be submitted to the Committee for consideration.

Recommendation:

- 1.2 WASA should report to Parliament on the extent to which the External Audit Unit has measurably helped to expedite audits by August 30, 2020.

Ministerial Response:

The External Audit Unit (EAU) has measurably assisted in the expedition of the External Audits by:

1. Performing Quality reviews and Resolving Auditor Queries on submissions in a timely manner

The Unit performs a quality assurance review of all audit schedules, reconciliations and data analytics prior to submission to the External Auditors which has resulted in reduced queries and an improved turnaround time for close-off of requested information. The EAU receives requests from the external auditors for financial information and source documentation and disseminates these requests to the relevant Divisions/Departments in the Authority. When the information is submitted checks are performed to identify and resolve issues relating to omissions or data inconsistencies before remitting to the external auditors.

2. Increased Technical Expertise and Cost Savings

The preparation of the Audit Package (including the Draft Financial Statements, Notes and supporting schedules) and complex financial transactions such as the Lease Arrangements for desalinated water purchases was previously outsourced. The FY 2016 Audit package is now being prepared in-house by the Financial Services Specialist assigned to the EAU; resulting in cost savings of approximately \$250,000 per audit.

3. Dedicated additional resources assigned to address the Management Letter issues and monitor the Authority’s Action Plan for faster resolutions

The External Audit Management Letter is intended to provide Management with useful information/ recommendations regarding internal control weaknesses. The EAU is responsible for monitoring all recommendations and action initiatives. The EAU has also rectified and removed as of the FY 2015 External Audit two (2) qualification matters that arose from the Management Letter for FY 2014 External Audit (Inventories and Water Sale Agreement – Finance Lease).

2. Illegal Supplies of Water

Recommendation:

- 2.1 WASA should report to Parliament on the review of its distribution schedule and its initiatives to supply water more regularly to underserved areas by August 30, 2020.

Ministerial Response:

WASA successfully implemented several initiatives at its Wells and Booster facilities to augment water production in several areas, whilst simultaneously adjusting schedules in supply zones with a sustainable level of service to facilitate underserved areas. The following table summarizes some of these initiatives.

Region	Details
<ul style="list-style-type: none"> • North 	<ul style="list-style-type: none"> • Six (6) areas were upgraded from 24/1 to 24/3 with the upgrade of the pump size at Paramin Well #7. • Adjustments to the operations of the system addressed the level of service in eight (8) areas such as Joropo Cantaro Village, Sam Bouchard, Jaggan Village, Pipol and Laventille from 24/1 to 24/3. • Two (2) areas in NE were upgraded from 24/1 to 24/4 with the commissioning of the Limpet Booster in Bon Air, Arouca. • Two (2) areas in NE were upgraded from 24/2 to 24/3 with the commissioning of the Silver Bridge Booster in Maracas, St. Joseph. • Adjustment of operations in Trincity and Arouca improved the reliability of supply in Five Rivers.
<ul style="list-style-type: none"> • South 	<ul style="list-style-type: none"> • Six (6) areas off Thicke village were merged and moved from 24/1 to 24/3. • The Cap De Ville Booster supply has improved from a 9-day rotation to 24/1 level of service. • Reengineering of the Navet Offtakes to receive a supply from the Caroni/Desalcott source via the Savonetta and San Fernando Boosters allowing improvements in levels of service from 24/3 to 24/5 in areas such as Williamsville, Gasparillo, Ste Madelene, Cocoyea, Monkey Town (Barrackpore), HDC Wellington Rd, Debe.

Region	Details
	<ul style="list-style-type: none"> • Three (3) schedules improved from 12/2 to 12/4 in the La Brea area based on refurbishment works at the South Oropouche Booster Pump #4 and normalization of flows at the Pt. Fortin Desalination Plant. • Improved supply in Indian Trail from 24/3 to 24/5 and Mt. Pleasant from 24/2 to 24/7 from the recently commissioned Dow Village Booster. • Adjustments to the operations of the system addressed the level of service in three (3) areas such as Longdenville and Ravine Sable from the Carlsen Field supply improving the level of service from 24/0 to 24/1.
Tobago	<ul style="list-style-type: none"> • Bethesda and Pleasant Prospect upgraded from 24/1 to 24/3 with the upgrade of the Arnos Vale well #3 and Triangle Woods well. • Calder Hall and Government House road upgraded from 24/4 to 24/7 with the upgrade of the Calder Hall well • Canaan and Canoe Bay upgraded from 24/3 to 24/4 with the upgrade of the Arnos Vale well #3 and Calder Hall well • Louis D'or upgraded from 24/2 to 24/3 with the reconfiguration of the distribution network

2.2 WASA should report to Parliament on the following by August 30, 2020:

- a) the difference between illegal water trucking and illegal sale of water, including whether those carrying out illegal water trucking do so free of charge; and
- b) the challenges faced in gathering evidence in order to pursue cases against illegal water sellers;

Ministerial Response:

- a) The terms illegal water trucking and illegal sale of water may not be mutually exclusive. Illegal water trucking implies the unauthorized collection of water from a potable water source (i.e WASA's treated water) and the transport of same for distribution to residential/commercial/industrial properties. The illegal sale of water involves the unauthorized sale for profit of potable water by water trucking or otherwise. Either of these activities constitute an offence (i.e. an illegal act) under the Water and Sewerage Act and is subject to penalties under the Act.
- b) The greatest challenge faced in gathering evidence in an effort to pursue cases against the illegal water sellers is the unwillingness of persons purchasing water from the illegal water sellers to come forward and give evidence against them.

3. Management of Leaks

Recommendations:

- 3.1 WASA should submit a progress update on the repairs to the 900 remaining leaks by August 30, 2020.

Ministerial Response:

The Authority is continuously responding to new leak reports daily whilst addressing the backlog of leaks. The outstanding backlog of 900 leaks have been repaired. The recent leak report for August 20th 2020 indicates 1127 leaks scheduled for repairs. Leaks repairs continue to be stymied by a lack of resources which include but are not limited to equipment & material availability. This unavailability is due to late and/or nonpayment to service providers which resulted from WASA's inability to service its debt from the allocated budget.

Recommendation:

- 3.2 WASA should provide Parliament with an analysis of the reduction of the percentage of water now lost due to leaks following the 79,000 repairs by August 30, 2020.

Ministerial Response:

The backlog was reduced significantly by completing the 79,000 leaks, but new leaks continue to be reported daily. Based on new leaks reported, the current figure as at August 20th 2020 is 1127. The Authority receives on average 2784 leak reports per month across the country.

The perpetual increase in leaks reported is as a consequence of the Authority's aged pipeline infrastructure. Only through a comprehensive network modernization (hydraulic management and data), strategic mains replacement and metering program would a realistic reduction in the percentage of water loss be fully realized.

Recommendation:

- 3.3 WASA should report to Parliament on the following by August 30, 2020:
 - a) The measurable effect of the repairs on revenue generation; and
 - b) The measurable effect of the repairs on the level of water supply received by customers.

Ministerial Response:

- a) For the period stated, Non-Revenue Water averaged 45-50% suggesting a net balance in water saved from leak repairs versus new reported leaks. Without a comprehensive metering system, WASA is not be in a position to determine the measurable effects of the repairs on revenue generation. WASA's commercial customers are metered, however most domestic customers are assigned fixed rates. Increases in revenue would realistically

be derived from an increase in customer base and/or an increase in tariff and not necessarily correlated to the amount of leaks repaired.

- b) Timely repairs to leaks improve service levels and pressure profiles along the distribution network. However, in the absence of wide scale metering, the Authority remains challenged in determining the measureable impact on repairs to service levels and reduction in Non-Revenue Water.

Recommendation:

- 3.2 WASA should provide Parliament with a precise timetable for the scheduled 5-year installation of pressure valves and 10-year main replacement by August 30, 2020

Ministerial Response:

The timetable for the scheduled 5-year installation of pressure valves and 10-year main replacement is attached as **Appendix I** to this document. In years 1-5, it is proposed that 142.4kms will be replaced at an estimated cost of **\$551,976,310** and in years 6-10, it is proposed that 100.8kms will be replaced at an estimated cost of **\$394,452,265**

The roll-out plan for Pressure reducing valves goes together with the rollout of District Metered Areas (DMAs). The Authority proposes that this can be completed in Phases. The number of pressure reducing valves to be installed will be dependent on the hydraulic models conducted for the DMAs.

- Phase 1- North West
- Phase 2- Tobago and North East
- Phase 3- South West
- Phase 4- South East
- Phase 5- San Fernando Central
- Phase 6- Caroni North

The estimated cost of the implementation of the DMA/Pressure management is \$44,900,000.00 and broken down as follows:

- FY 2021/22 – \$6,000,000
- FY 2022/23 – \$10,800,000
- FY 2023/24 – \$9,000,000
- FY 2024/25 - \$10,000,000
- FY 2025/26 - \$9,100,000

This roll-out plan is dependent on the requisite funds being made available to execute.

Recommendation:

3.3 The Ministry of Public Utilities should report to Parliament on the following by August 30, 2020:

- a) the feasibility of setting leak reduction targets; and
- b) the possibility of WASA repairing customer side leaks for a fee or establishing a system whereby this may be done by the licensed sanitary constructors.

Ministerial Responses:

- a) WASA is required to report on its leak repair activities by recording (i) the length of pipe replaced or rehabilitated on a monthly basis and by region, and (ii) the ratio of the number of leaks repaired against leaks reported for the same period. In addition, the MPU has provided WASA with a business analytics tool that will allow it to use its leak record and repair datasets to unveil WASA's leak repair performance, for example, the time taken to repair leaks by region or crew. The intent is that these data analytics insights would facilitate improved decision-making at the operational level in WASA and improve its leak repair process. The Authority also sets leak reduction targets (based on the available resources - material and equipment) that are communicated with field staff and monitored daily.

In addition, the RIC in its draft Quality of Service Standards for the Supply and Distribution of Water and Wastewater Services (QSS), has set a performance standard for leaks on water service connections – Guaranteed Water Standard (GWS) 4. GWS 4 requires that water service providers (WASA) repair water connections: (i) within 48 hours of report by customer for critical institutions and for leaks resulting in damage to property, and (ii) within 3 working days for leaks and loss of supply affecting customers. When the QSS has been finalised, this will be the standard used by RIC, MPU and others to benchmark WASA's leak repair performance.

It is beneficial to understand that water loss through leakage within a water supply network is influenced by a range of factors which must be addressed to solve the ongoing problem of surface leaks. First, leaks are the symptom of a deeper network management issue that involves the following factors:

- condition of the network including water service connections (useful life, material and environmental conditions); and
- pressure management along the network (extreme pressure variations and surges can damage the network).

Secondly, while leaks frequently surface, there are still a vast majority of leaks that do not surface or are not reported and remain undetected necessitating an active leak control strategy.

In summary, WASA's leak reduction strategy should be a part of a broader, modernised network improvement strategy that is built on a data foundation (measurement of water entering, moving through and leaving the network for active leak detection), managing

pressures, assessment and management of network assets, lean system of repairing leaks and pipe materials management.

- b) WASA can investigate the possibility of expanding its Business Enhancement Unit to provide plumbing services for customers. WASA will also need to develop clear Protocols for the conduct of repairs on the customer side. A standard fee structure against a detailed scope of services will have to be developed and approved, this will ensure that Fees are fixed and are not subject to any individual's opinion. There must also be in place standard Customer's Agreements, which will indemnify the Authority whilst working within the Customer's premises.

WASA providing this service may auger well since the National Plumbing Code is considered part of the Water and Sewerage (WAS) Act Chap. 54:40. This Code governs the plumbing practice, materials and fixtures in connection with the public and private water supply and sewerage system. As mandated by the WAS Act, similar to WASA's system of licensing sanitary contractors who conduct work in relation to the public sewerage system, such a system can apply for all household plumbing works where it is connected to a WASA owned public water supply network. However, the only regulatory functions WASA currently undertakes is licensing of these contractors/plumbers. Consequently, WASA will have to assess the financial and institutional benefits of either extending this service to the public using internal resources and/or leaving this system of licensing contractors with an expansion to all plumbing works. The current practice already provides for the Licensed Sanitary Constructor to perform repairs within the customer premises. The Authority has a list of the LSCs, which can be provided to the customers.

4. WASA's Pipeline Infrastructure

Recommendation:

4.1 WASA should report to Parliament on the following by August 30, 2020:

- a) the number of consumers receiving water through asbestos cement pipelines and the percentage of WASA's total number of consumers that this represents.
- b) the Authority's assessment of the level of health risk posed by the continued use of this material.
- c) a precise timetable for the removal and replacement of all remaining asbestos cement pipelines.

Ministerial Response:

- a) The Authority has approximately 68,515 customers receiving water through asbestos cement pipelines representing 6% of the total number of customers, categorized as:

Region	Average Customer Count
North	20,593
South	46,269
Tobago	1,653
TOTAL	68,515

- b) WASA continues to be guided by the World Health Organization’s findings¹ regarding asbestos in drinking water arising from asbestos cement pipe. The guidelines essentially summarize that there has “*been little convincing evidence of the carcinogenicity of ingested asbestos in epidemiological studies of populations with drinking water supplies containing high concentrations of asbestos*”. At present, there are no known or reported health related issues from exposure to asbestos cement pipe.
- c) The projections for replacing the Authority’s remaining asbestos cement pipelines are provided in the table below:

Project	Estimated Date of Commencement (Financial Year)
Replace 700m 4" AC main with 4" PVC on 1st Avenue, Mt. Lambert	FY 2020/2021
Replace 300m each 4" AC main with 4" PVC on 1st, 2nd, 3rd, 4th, 5th, 6th, 7th and 8th Street, Mt. Lambert	FY 2020/2021
•Installation of 2.13km of 200mm PVC mains along Pleasantville Circular	FY 2021/2022
•Installation of 2.6km of 400mm DI mains along San Fernando bypass from Mon Repos Round-a-bout to S.S.Erin Rd	FY 2022/2023
•Replacement of 650m of 125mm (5" AC) Main with 150mm PVC in Bel View from Bel View Junction to South Oropouche Government School.	FY 2020/2021
•Install 2.7km of 150mm PVC main along the Fyzabad Guapo Road (Replace 75mm AC main).	FY 2020/2021
• Install 3.1km of 200mm PVC main in Harris Village from Corner Southern Main Road Oropouche to Avocat Junction (Replace 125mm AC main).	FY 2020/2021
• Install 1.4km of 150mm PVC main from Avocat Junction to Avocat Vedic School along the Siparia Old Road (Replace 125mm AC main).	FY 2022/2023
•Replacement of 4.0km of 225mm AC main with 200mm PVC from Alutrin Round-A-Bout to Guapo Police Station along the Southern Main Road Point Fortin.	FY 2022/2023
•Replacement of 4.7km of 150 & 225mm AC main with 200mm PVC from Guapo Police Station to Dunlop Round-A-Bout along the Southern Main Road Point Fortin.	FY 2022/2023
•Replacement of 5.6km of 100mm AC/CI main with 150 PVC from Hilo Round-A-Bout to Cap de Ville Junction along Guapo Cap de Ville Road Point Fortin.	FY 2020/2021
Replacement of 950 meters of 100mm AC to 100mm PVC main along Gambal Street.	FY 2020/2023
Replacement of 1670m of 100mm AC Main with 100mm PVC Main, Jacob Settlement, Santa Flora, Street A, Street B, Street C	FY 2020/2023

¹ Health Criteria and Other Supporting Information. 2nd ed. Vol. 2. World Health Organization, Geneva, 2003

Project	Estimated Date of Commencement (Financial Year)
Installation of raw water mains from Siewdass Road to Freeport WTP, along Siewdass Rd, Raphael Rd and Calcutta#1	FY 2020/2021
Installation of 2.5km of 300mm DI mains from St. Joseph Rd to Chacon Reservoir (cross country)	FY 2021/2022
Installation of 2km of 600mm DI mains along Marryat St and Coffee Street	FY 2023/2024
Replacement of 3km of pipeline from Hillsborough Dam to Belmont Branch Rd.	FY 2023/2024
Replacement of 1.3km DI of pipeline from Rojas Junction to St. Luke Junction.	FY 2020/2021
Replacement of 0.9km of 12" pipeline from Cocoa Watty to Butcher.	FY 2022/2023
Replacement of 6.3km of pipeline from Hillsborough Dam to Belmont Branch Rd.	FY 2024/2025

This roll-out plan is dependent on the requisite funds being made available to execute.

5. Anti-fraud Measures

Recommendations:

5.1 WASA should report to Parliament on the following by August 30, 2020:

- a) the weaknesses in the implementation of its Anti-Fraud Policy and Code of Ethics which made it possible for fraud to continue.
- b) the ways in which the Anti-Fraud Policy and Code of Ethics could be strengthened.

Ministerial Response:

- a) The weaknesses in the implementation of the Anti-Fraud Policy and Code of Ethics include the following:
 - Collective agreement limits action that can be taken against employees found to have committed fraudulent acts.
 - There is no 2nd line of defence in effective risk management. The Authority has been unsuccessful in recruiting a suitable candidate to fill the position of Head Risk and unable to establish a Compliance Unit.
 - Due to lack of buy in from the relevant Unions, there is no code of ethics declaration which allows for holding persons accountable for breaches with the Code.
- b) A comprehensive response on the ways the Anti-Fraud Policy and Code of Ethics is being strengthened are outlined in **Appendix II** of this document.

5.2 The Ministry of Public Utilities should report to Parliament on the possible support it could provide to WASA in the strengthening of its Anti-Fraud Policy and Code of Ethics by August 30, 2020.

Ministerial Response:

The MPU can review and analyse WASA’s existing Anti-Fraud Policy and Code of Ethics against that of other local utilities, such as T&TEC and WASA’s regional and international counterparts. The MPU can then advise WASA on policy and strategic changes based on these benchmarks to improve its corporate culture relative to fraud. In addition, WASA will need to explore the avenues for strengthening the internal controls that will allow it to achieve the objectives of the Policy and Code of Ethics which ultimately reside with the Board and CEO of WASA.

6. Overstaffing

Recommendation:

- 6.1 WASA should report to Parliament on the following regarding the Supervisory Control and Data Acquisition (SCADA) technology by August 30, 2020:
- a) the expected effect of the introduction of SCADA on staffing numbers.
 - b) the cost of SCADA in comparison to the savings to be realised from reduced staff numbers.
 - c) the number of Water Treatment Process Plants at which the SCADA technology will be introduced.

Ministerial Response:

- a) The implementation of SCADA technology and automation of the facilities will allow for reconfiguration of the current operating structure and could result in redeployment of some operational staff. At this time, the realistic impact on staffing numbers has not been determined as other factors such as security and safety of the water supply must be taken into consideration.
- b) Capital costs for automation is approximately 11 times the cost of monthly labour, based on automation works at the Lluengo and Naranjo (L&N) Water Treatment Plant in Maracas-St. Joseph. As such the breakeven period for the capital investment and the point from which savings may be incurred is 11 months.
- c) The Authority proposes to implement SCADA technology at fourteen (14) of its Water Treatment Plants across Trinidad and Tobago as follows.

Region	Facilities Proposed for SCADA installation
North	10
South	2
Tobago	2
TOTAL	14

The successful implementation of this technology is dependent on funding availability.

Recommendation:

- 6.2 WASA should submit to Parliament a list of any other technologies being considered, including the cost and benefits of introducing them by August 30, 2020.

Ministerial Response:

The High Density Polyethylene (HDPE) Pipe material is one of the new technologies the Authority is keen to pursue. WASA is currently in the process of procuring HDPE pipes and fixtures for one of its pipeline projects. The benefits of HDPE are listed as follows:

1. The fusion joint of HDPE Pipe is superior to a gasket joint since the fusion joined pipeline is regarded as a continuous pipeline without joints. On the other hand, gasket joints are a potential source of leakage and are very susceptible to vibrations due to rolling loads from vehicles as well as land movements. Fused joints provide far superior resistance to leakage than gasket joints and once fused using the proper procedure they are self-restraining. This makes HDPE pipes excellent for leak prevention.
2. The internal surface of HDPE pipe is devoid of any roughness which places it in the “smooth pipe” category, a category that results in the lowest resistance to fluid flow. The internal “smoothness” of other traditional piping products declines dramatically over time due to corrosion and tuberculation or biological buildup as these pipes become encrusted restricting flow. HDPE pipe provides notable resistance to these forms of encrustation. It also means an extended service life and long term cost savings.
3. Safe burial depths for HDPE pipe are similar to current depths presently utilized by the Authority, minimum 3 feet cover. While depths may vary and according to AWWA standards, HDPE pipes can be safely buried from a depth of 3 feet to 25 feet where the live load is presently based on the dimension ratio (DR) of the pipe.
4. HDPE pipe has outstanding resistance to fatigue. Unlike other plastic pipes, it is designed and pressure rated to handle the kind of occasional and recurring surge events that are common in water distribution systems.

One of the main factors to note with regards to HDPE is its high capital cost. The cost of PVC for smaller diameter pipes and Ductile Iron for larger diameter pipes can be lower than HDPE. HDPE primarily provides net savings over time due to a reduction in leaks, breakages and maintenance costs. As a consequence, fewer repair works are required and the disruption of roadways is less.

7. Expenditure Control

Recommendation:

- 7.1 WASA should report to Parliament on the long term sustainability of the recruitment freeze by August 30, 2020.

Ministerial Response:

The recruitment freeze is not sustainable over the long term. As employees exit the Authority through retirement, resignation, termination or death, positions will become vacant and filled through internal promotion which will create consequential vacancies at a lower level. As a result, the Authority will eventually experience a shortage of persons to fill entry level positions. Recruitment for entry level positions will only occur if the position is considered critical for the continuity of business operations.

Currently, the Authority utilizes ten (10) employees per 1,000 connections as its efficiency ratio. As at July 31st 2020, the Authority's manpower level was four thousand, eight hundred and thirty-six (4,836) employees, (excluding seventy-nine (79) employees engaged on project and the Executive Management Team). This figure represents a surplus of one hundred and eighty-one (181) employees over the desired staffing level of four thousand, six hundred and fifty-five (4,655) employees, based on connections of 465,525 at ten (10) employees per 1,000 connections. Furthermore, by 31st December, 2021 it is projected that one hundred and fifty four (154) employees will exit the Authority due to natural attrition. Consequently, at the end of December, 2021 the manpower numbers will be further reduced to four thousand, six hundred and eighty-two (4682) employees which will be twenty-seven (27) employees over the desired manpower number. This projected surplus figure of twenty-seven (27) employees is based on the assumption that the current number of connections remains constant.

However, it should be noted that, if there is a critical need for a position(s) and the competencies are not available within the Authority, external recruitment will be explored after all other strategies for the execution of the specific job responsibilities have been exhausted.

Recommendation:

- 7.2 WASA should report to Parliament on the decision made regarding the implementation of the shift system and submit the official shift system policy as well as an estimate for the average savings it would facilitate by August 30, 2020.

Ministerial Response:

A review of the Authority's current shift system was conducted and it was decided that the existing eight hours (8) shift system for System and Process Plant Operators needs to be revised to a twelve (12) hour shift. The Authority is currently engaged in ongoing discussions with the Public Services Association (PSA) regarding the implementation of a four (4) team, twelve (12) hours shift system as follows:

- The shift cycle shall comprise of two (2) daylight, two (2) evenings for a twelve (12) hour duration.
- No worker should work more that sixteen (16) consecutive hours except in cases of an unforeseen emergency.

- **Hours of work**

The normal hours of work for shift workers shall be: -

7.00 a.m. to 7.00 p.m. (Daily)

7.00 p.m. to 7.00 a.m. (Daily)

The Shift Roster shall consist of: -

Two (2) days;

Two (2) nights; and

Four (4) days off (72 hours)

With regards to the submission of an official shift system policy the Authority is also engaged in ongoing discussions with the Public Services Association (PSA) regarding the establishment of a shift system within the Pipeline Maintenance functional area. The proposed arrangement will include the following: -

- The creation of an eighteen hours; seven days (18/7) shift system for both monthly and daily rated employees within the Pipeline Maintenance areas.
- The creation of a two-shift system which utilizes two (2), ten (10) hours shifts during a calendar day, during the hours of 6:00 am and 12 midnight. The first shift (daylight shift) starts at 6:00 am and ends at 2:00 pm, while the second shift (evening shift) begins at 2:00 pm and ends at 12 midnight.

The implementation of the proposed shift system for System and Process Plant Operators identified above is projected to achieve a reduction in the cost associated with staffing of the shifts by approximately Eight Hundred and Eighty Thousand (\$880,000.00) on a monthly basis.

In light of the above it should be noted that, the shift system discussion is included in the current collective bargaining discussions, as well as the discussions on the restructuring of the Water and Sewerage Authority as the introduction of the new and revised shift arrangements will involve a change in the terms and conditions of employment for the employees.

8. Revenue Collection

Recommendation:

- 8.1 WASA should provide Parliament with a progress report on its metering drive and the effect on revenue by August 30, 2020

Ministerial Response:

The Authority has a plan for the implementation of Universal Domestic Metering (UDM). It entails installing 365,000 meters over 5 years to cover the entire domestic customer base at a total estimated cost of **\$2,100,750,000.00**.

The proposed implementation programme will entail a District Metered Area (DMA) approach, focusing on meters already established in DMA's which would aid in determination and ultimately reduction of Non-Revenue Water (NRW). It would also be supported by Customer cadastre surveys. Universal Metering is expected to be implemented by Operational Zones or Regions and is planned to be implemented in parallel with the Non-Revenue Water (NRW) programme, this will ensure that the programme benefits are realized. The priority would be the DMA's in highly populated and high consumption areas such as the North West and North East, the Central North and South and finally South East and South West. The implementation of the UDM programme is dependent on the required funding being in place to support the programme.

UDM is anticipated to have a positive impact in terms of revenue generation, historically in external Agencies, the implementation of UDM can result in a slight dip in revenues for the initial two years among certain customers, however as the consumers become familiar with having a meter installed, the consumption of water gradually increases resulting in increases in revenue. At this stage, it is difficult to place a figure on the expected increases due to metering. Further, the installation of the meter normally results in recovery of greater volume of water for consumption, distribution and revenue generation.

Recommendation:

- 8.2 WASA should provide a progress report to Parliament on the work of the debt collector on social sector receivables and the amounts collected due to their work by August 30, 2020.

Ministerial Response:

The awarded debt collector for social sector receivables, AV Knowles & Company Limited was engaged on June 7, 2020. Commencement of debt collection was initiated on July 20, 2020 with the Authority providing the Agency with Batch 1 - 5892 accounts with total receivables of **\$8,282,452.78**.

As at August 18, 2020 a total of **\$23,149.99** was collected from 21 accounts.

Recommendation:

- 8.3 WASA should report to Parliament on the arrangements agreed to for the continued recovery of outstanding sums from public sector entities by August 30, 2020.

Ministerial Response:

The Authority continues with its efforts of reducing Public Sector Receivables in FYr 2019/2020, through its discussions with Ministries, Department and Agencies and State Enterprises, including the Ministry of Education, Urban Development Corporation of Trinidad and Tobago (UdeCOTT) and the Housing Development Corporation (HDC). However, due to the National Lockdown that occurred during the period March 2020 to May 2020, meetings scheduled with other entities were postponed. In addition, correspondence on indebtedness to the Authority were disseminated to fourteen (14) Permanent Secretaries of Ministries between the period December 2019 and July 2020. As part of the Authority's attempt to further strengthen its Public Sector collection efforts, reminder notices continue to be disseminated to state agencies on a scheduled basis. The total receivables balance of Public Sector is \$103.1Mn as at July 2020.

Recommendation:

- 8.4 WASA should provide Parliament with a progress report on the approval by the Board of the Revised Bad Debts Write-Off Policy by August 30, 2020.

Ministerial Response:

The revised Bad Debt Write-Off Policy was approved by the Authority's Board of Commissioners on June 9, 2020. Procedures aligned to the use of the Bad Debt Write-Off Policy are currently being revised, with a scheduled implementation of the policy by the Authority by October 2020. Upon completion, a copy of the Policy will be provided to the Committee.

9. Rate Review

Recommendation:

- 9.1 WASA should report to Parliament on the feedback received from the Ministry of Public Utilities and the projected revenue increases that would be facilitated by the requested rate review by August 30, 2020.

Ministerial Response:

The MPU has advised WASA that it is satisfied that the latest Business Plan submitted in March 2020 incorporates all the Ministry's previous comments. The MPU has approved WASA's submission of the Business Plan to the Regulated Industries Commission for its technical and regulatory review and determination. The projected revenue increases of the proposed Tariff Structure were designed around efficient operations and customer affordability. The following Table provides the projected revenues.

**THE WATER AND SEWERAGE AUTHORITY
BUSINESS PLAN 2019-2024 AND PRICE CONTROL PROPOSAL**

EXISTING VS PROPOSED REVENUE: TTS SUMMARY

	2019	2020	2021	2022	2023	2024
Revenue						
Water revenue	\$759,943,149.90	\$905,922,157.57	\$893,359,799.06	\$1,080,852,253.84	\$1,221,872,182.47	\$1,604,032,604.05
Sewer revenue	\$52,186,362.77	\$71,895,960.68	\$78,966,923.14	\$124,773,094.66	\$158,817,577.95	\$258,064,807.30
Abstraction Fees	\$3,945,096.00	\$70,197,657.36	\$70,197,657.36	\$140,974,167.79	\$140,974,167.79	\$255,240,654.76
Other income (excl. abstraction fees)	\$13,714,392.00	\$13,714,392.00	\$13,714,392.00	\$13,714,392.00	\$13,714,392.00	\$13,714,392.00
Total operating revenue	\$829,789,000.67	\$1,061,730,167.61	\$1,056,238,771.55	\$1,360,313,908.30	\$1,535,378,320.22	\$2,131,052,458.11
Total revenue from tariffs	\$812,129,512.67	\$977,818,118.25	\$972,326,722.19	\$1,205,625,348.51	\$1,380,689,760.42	\$1,862,097,411.35

Note: Water revenue comprises of revenue for domestic customers and revenue

SUMMARY OF PIPELINE PROJECT FOR TEN YEAR PERIOD

Appendix I

Region	Distance/km		Estimated Cost	
	Years 1-5	Years 6-10	Years 1-5	Years 6-10
North	59.3	43	\$ 197,568,390	\$ 156,220,725
South	57.4	23.4	\$ 257,651,496	\$ 95,940,000
Tobago	25.7	34.4	\$ 96,756,424	\$ 142,291,540
Total	142.4	100.8	\$ 551,976,310	\$ 394,452,265

WATER AND SEWERAGE AUTHORITY

DOCUMENT REVIEW FORM

Name of Policy:
Period of Review:

Anti Fraud Policy

Item No.	Page No.	Heading	Comments
	1	Cover page	Consider changing the Policy Owner to General Counsel & Corporate Secretariat
1	4	Purpose	Consider including a statement that Fraud is a criminal offence as part of the Purpose/background of the policy
3	4	Policy	Separate Policy statements should be included for Protection of whistleblowers, Securing and retention of documents and evidence and Reimbursement and Recovery of Assets
3.1	5	Investigations Oversight Committee	Consider broadening the mandate and renaming the IOC committee to Fraud Risk Management. The committee should be required to meet on a regular basis.
3.1			1. Consider including that a registry be maintained both of the accused and the division/department that are consistently in breach. To facilitate an in-depth look of the controls that exist and the possible reasons for the breaches.
			2. Consider stating the involvement of the union in this process, especially during investigations.
			3. Consider including a Policy statement requiring the Committee to make rules and regulations for carrying out its functions.
			4. Consider including the Security Services Unit as part of the Committee
			The Unit's ToR should also include the performance of investigations. Resources should be trained accordingly and in so doing, this will ensure the Authority has competent, sufficient and specialist resources dedicated for investigations.
			5. Consider renaming Heading 3.1 to state 'Investigation Responsibilities' for ease of reference and then include the current paragraph 1 in the Sample ACFE Anti Fraud Policy and consider making the current paragraph in the Approved Anti-Fraud Policy as the 2nd paragraph so that 3.1 will now commence as follows " The IOC has the primary responsibility for the investigation of all suspected fraudulent acts as defined in the policy..."
6. Current Paragraph 3- Consider amending to clarify: a) the position regarding the decision to prosecute or refer the examination results to the appropriate law enforcement and/or regulatory agencies. Who makes such decision is it the CEO/AC? b) Is the GCCS only responsible for forwarding to the Fraud Squad or does he have authority in a broader sense i.e. to refer to the TTPS for prosecution, or to take civil action. c) Further clarification is required on the roles of the various parties to be consistent with sections 3.4, 6 and 7			

WATER AND SEWERAGE AUTHORITY

DOCUMENT REVIEW FORM

Name of Policy:
Period of Review:

Anti Fraud Policy

Item No.	Page No.	Heading	Comments
3.2	5	Confidentiality	1. Include the consequences for breach of confidentiality
3.2			2. Revise the clause to include the needs for confidentiality by all persons involved in the investigation from the whistle blower to the investigators up to and including the results of the investigation.
3.2			3. Currently, Employees are required to report suspected fraud to IACD only as opposed to the direct line Manager/Director. Employees should be directed to report fraud to line Management who should be given primary responsibility for managing and investigating fraud reports within their line with the assistance of Security department / WASA Police.
3.3	6	Disciplinary Action	Consider including a statement that action will be taken against Supervisors/Managers who failed in or neglected the execution of their duties and consequently contributed to fraud occurrence
3.4	6	Strategies to prevent Fraud	The Policy would be strengthened by converting this to a coherent Fraud Risk Management section encompassing Prevention, Detection, Reporting (whistle-blowing), Investigation and Communication (Internal & External)
3.4,vi			The performance of background checks by Human Resources should be included in a section for HR's responsibilities
4.0, ix	7	Incidences of Fraud	Re: conflict of interest, all newly recruited employees should be required to sign a declaration of conflict of interest, this should be included in a section for HR's responsibilities
5	8	Definitions	Consider revising the definition of fraud to utilise the ACFE's definition which is simpler and clearer
6	9	Responsibilities	Should include responsibilities for the following parties: Board of Commissioners, Security department/WASA Police, ICM, Human Resources Department, Legal Services. Clearer responsibilities for CEO, Managers and Executives
7	11	Procedures	The Policy would be strengthened by including these procedures as part of a coherent Fraud Risk Management section encompassing Prevention (3.4), Detection, Reporting and Investigation. Management should be required to perform their responsibility to address policy breaches. A Fraud Response Plan should be included with greater involvement of WASA police and TTPS

**WATER AND SEWERAGE AUTHORITY
DOCUMENT REVIEW FORM**

Name of Policy:

Code of Ethics and Business Conduct

Item No.	Page No.	Heading	Comments
	4	Responding to Media, Public and Other Inquiries	<p>Consider also including as follows:" This Policy provides guidance for employee use of social media, which should be broadly understood for the purposes of this policy to include blogs, wikis, microblogs, message boards, chat rooms. Electronic newsletters, online forums, social networking sites, and other sites and services that permit users to share information with others in a contemporaneous manner. The following principles apply to professional use of social media on behalf of the Authority as well as personal use of social media when referencing the Authority or WASA:</p> <ol style="list-style-type: none"> 1. Employees should be aware to the effect their actions may have on their image as well as the image of the Authority. The information that employees post may be public information for a long time. 2. Employees should be aware that the Authority may observe content and information made available by employees through social media. Employees should use their best judgement in posting material that is neither inappropriate nor harmful to the Authority, its employees, or customers. 3. Although not an exclusive list, some specific examples of prohibited social media conduct include posting commentary, content or images that are defamatory, pornographic, proprietary, harassing, libellous, or can create a hostile work environment. 4. Employees are not to publish, post or release any information that is considered confidential or not public. IF there are questions about what is considered confidential, employees should check with the Head, Corporate Communications and/or supervisor. <p>5. Social media networks, blogs and other types of online content</p>
	7	Violence and Weapons	<p>Consider amending and include a new paragraph 2 to state: The Authority through the Security Services Department, reserves the right, to conduct routine searches on vehicles entering and exiting the Authority's compound including (company owned/leased, employee/customer/visitor), for the purposes of determining whether a weapon or other illegal substances is brought onto any property owned/leased or controlled by the Authority.</p>
		Alcohol and Drugs	<p>Consider also including as follows....Any persons found in possession of illegal drugs or drug paraphernalia will be reported to the Trinidad and Tobago Police Service for criminal prosecution".</p>
	7	Gambling and Smoking	<p>In the last line of the 2nd paragraph consider including as follows: The Authority has devised an 'IDENTIFICATION OF DESIGNATED SMOKING AREAS Policy document which provides guidance on the implementation of Designated Smoking zones</p>

**WATER AND SEWERAGE AUTHORITY
DOCUMENT REVIEW FORM**

Name of Policy:

Code of Ethics and Business Conduct

Item No.	Page No.	Heading	Comments
		Conflicts of Interest	<p>Consider amending to state as follows: Many situations or relationships have the potential to create a conflict of interest, or the appearance of one. Generally speaking, a conflict of interest is a situation where our position or responsibilities presents an opportunity for us or someone close to us to obtain personal gain; or benefit (apart from the normal rewards of employment); or where there is scope for us to prefer our personal interests, or of those close to us, above our duties and responsibilities to the Authority. A situation will appear to be a conflict of interest if it provides an opportunity for personal gain or benefit, whether or not that gain, or benefit is obtained. A potential conflict of interest will arise if we are in a situation which could develop into an actual conflict of interest. Conflicts of Interest can arise in many ways. Here are examples of some of the more common ones:</p> <ul style="list-style-type: none"> - Outside jobs and affiliations: <ul style="list-style-type: none"> • Jobs and affiliations of/with close relatives • Serving as a Director or Consultant • Having a financial interest or holding investments • Connected to and/or Serving as a Public Official - Personal Conflicts of Interest.
	8	Conflicts of Interest (Cont'd)	<p>Disclosing conflicts of interest As soon as an actual or potential conflict arises, it must be disclosed to the employee's supervisor, Line Manager and the Director, Human Resources in writing. The General Counsel and Corporate Secretary must also be informed of all conflicts of interests and steps take to manager or mitigate the identified risk.</p> <p>Senior Management must disclose conflicts to, and seek formal approval from, the Chief Executive Officer and the Board of the Commissioners and at its next meeting.</p> <p>Potential and actual Conflicts of interests must be reviewed, updated and confirmed annually and all employees should be required to complete a Conflict of Interest Declaration (See Appendix)</p> <p>Recording conflicts of interest Managers should ensure that any actual or potential conflicts of interest disclosed to them in the course of the year are entered into the Department's conflicts of interest register.</p>
NA		Supervision of relatives	<p>The Authority strictly prohibits any Manager/Supervisor from directly supervising any member of his/her immediate and/or extended family. This includes spouse, child (children)/dependent(s), siblings, in-laws.</p>

**WATER AND SEWERAGE AUTHORITY
DOCUMENT REVIEW FORM**

Name of Policy:

Code of Ethics and Business Conduct

Item No.	Page No.	Heading	Comments
	8	Procurement	Consider revising in line with the Public Procurement and Disposal of Public Property Act 2015 to cover offences and penalties outlined as follows: S. 41- Onus/duty t report collusion s. 46 concealing/destroying information required for an investigation s. 31 splitting of procurement s. 39 breach of confidentiality in procurement s. 40 victimization s. 59 (10) conflicts of interest s. 60 (1) bid rigging
	4	Accepting gifts, Favours and Entertainment etc.	Consider revising to facilitate the following: -the creation of a gifts register for employees within each department to declare gifts received -The requirement for employees to declare/report the receipt of gifts to their immediate supervisor and the GCCS; and - A threshold below which gifts are not required to be declared
	10	Political Activities	Consider amending to include the following: The Water and Sewerage Authority will not make contributions to political parties or individual candidates. Employees shall not offer or promise to pay anything of value to local or foreign political parties or officials on behalf of the Authority."
		Reporting Misconduct and other Ethical Concerns	Consider expanding and creating procedures for reporting. As presently outlined, it is unclear how misconduct should be handled and the avenues available to the employee and other stakeholders for reporting.
	11	Compliance with the Code	Consider amending to state: Each employee is responsible for reading, understanding, and following this Code and all policies and procedures of the Authority. All employees are required to annually declare any potential or actual conflicts of interest or any affiliation with any Company doing business with the Authority. (See Appendix)
	11	Responsibilities	Consider amending current # 2. to state" All Managers, /Supervisors are responsible for ensuring that employees under their supervision read, understand and comply with the Code. Managers/Supervisors are responsible for reporting any and all breaches of the Code."

