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# Office of Utilities Regulation

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Richmond Environmental Services  
Limited Water and Sewerage Rates

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## Determination Notice

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2023 June 30

## DOCUMENT TITLE AND APPROVAL PAGE

**1. DOCUMENT NUMBER: 2023/WAS/002/DET.001**

**2. DOCUMENT TITLE: RICHMOND ENVIRONMENTAL SERVICES LIMITED  
WATER AND SEWERAGE RATES – DETERMINATION NOTICE**

### **3. PURPOSE OF DOCUMENT**

This document sets out the Office's decisions on Richmond Environmental Services Limited's Application for an increase to its water and sewerage rates.

### **4. ANTECEDENT PUBLICATIONS**

Publication Number	Publication Title	Publication Date
2020/WAS/002/DET.002	Richmond Environmental Services Limited Interim Water and Sewerage Rates Determination Notice	2020 April 03

### **5. Approval**

This document is approved by the Office of Utilities Regulation and the decisions therein become effective on 2023 June 26

On behalf of the Office:

  
.....  
**Ansord E. Hewitt**  
**Director-General**

**2023 June 30**

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## Definitions, Acronyms and Abbreviations

ANPAM	-	Annual Reset for Price Adjustment Mechanism
Application	-	RESL Tariff Application
BOJ	-	Bank of Jamaica
CDL	-	Can-Cara Development Limited
CPI	-	Consumer Price Index
EE	-	Energy efficiency
FX	-	Foreign Exchange
Government	-	Government of Jamaica
GS	-	Guaranteed Standards – Quality of Service
Interim Determination Notice-		Richmond Environmental Services Limited Interim Water and Sewerage Rates Determination Notice (Document No. 2020/WAS/002/DET.002) dated 2020 April 3
J\$	-	Jamaican dollars
kWh	-	kilowatt hour
Licences	-	Richmond Environmental Services Limited Water Supply Licence, 2013, and Richmond Environmental Services Limited Sewerage Services Licence, 2013
Licensed Business	-	The supply of water and the provision of sewerage services by the Licensee as authorized pursuant to the Licences
Licensee/RESL	-	Richmond Environmental Services Limited
Minister	-	Minister of Government with portfolio responsibility for Water and Sewerage Services
MTAOP	-	Meter Testing Administrative and Operational Protocol for The Electricity and Water Sectors in Jamaica, 2017 Document No. 2016/GEN/004/RUL.001
NEPA	-	National Environment and Planning Agency
NRCA	-	Natural Resources Conservation Authority
NRW	-	Non-Revenue Water
NWC	-	National Water Commission
OEM	-	Original Equipment Manufacturer
OPEX	-	Operating expenses
OUR Act	-	The Office of Utilities Regulation Act
OUR/Office	-	Office of Utilities Regulation
PSI	-	Pound per Square Inch
RDCL	-	Richmond Development Company Limited
Sewerage Licence	-	Richmond Environmental Services Limited Sewerage Services Provider Licence, 2013
STATIN	-	Statistical Institute of Jamaica
STP	-	Sewerage treatment plant
UFW		
- Unaccounted-for-Water		
US\$	-	United States dollars

WACC	-	Weighted Average Cost of Capital
Water Supply Licence	-	Richmond Environmental Services Limited Water Supply Licence, 2013
WRA	-	Water Resources Authority
WSP	-	Water Service Provider
WTP	-	Water Treatment Plant

## 1. Executive Summary

- 1.1. Richmond Environmental Services Limited (RESL) is a privately owned limited liability company incorporated in Jamaica. The company was granted a water supply licence and a sewerage services provider licence in 2013. These services are provided to the Richmond Development community in St. Ann and its immediate environs.
- 1.2. On 2022 August 19, RESL submitted a Tariff Application (“Application”) to the Office of Utilities Regulation (OUR) for an increase in its water and sewerage rates. In making the tariff submission, RESL relied on the “No Objection Policy” as the basis of its request because the proposed rates were below comparable rates currently charged by the National Water Commission (NWC).
- 1.3. RESL stated in its Application that Richmond Development Company Limited (RDCL) owns the water and sewerage network facilities. However, RESL has the responsibility for the maintenance and general upkeep of the entire system. According to the Application, this cost has always been subsidized by RDCL. RESL also stated in the Application that this arrangement has ended and many of the shared costs will be borne by RESL.
- 1.4. RESL’s proposed rates and charges are shown in Tables 1.1 and 1.2 below.

**Table 1.1: RESL Proposed Rates**

<b>RESL Proposed Water and Sewerage Rates</b>			
	<b>Water</b>	<b>Sewerage</b>	
<b>Consumption Blocks (Litres)</b>	<b>Proposed Rates (\$/1000 Litre)</b>	<b>Proposed Rates (\$/1000 Litre)</b>	<b>Percentage Increase</b>
<b>Residential</b>			
0 to 14,000	130.00	65.00	160%
For the next 13,000	232.00	116.00	231%
For the next 14,000	253.00	126.50	190%
Over 41,000	431.00	215.50	395%
<b>Commercial</b>			
0 to 9,100	337.12	400.00	N/A
Over 9,100	196.51	233.00	N/A
<b>Meter Size</b>	<b>Service Charge ( \$/month)</b>		
5/8 inch / 15mm	715.00		
3/4 inch /20mm	1,600.00		
1 inch / 25mm	2,200.00		
1¼ inch/30mm	4,000.00		
1 1/2 inch /40mm	4,000.00		
2 inch/50mm	6,000.00		

**Table 1.2: RESL Proposed Addition of Miscellaneous Fees**

Richmond Environmental Services Limited - Miscellaneous Fees		
Description	Existing Charges	Proposed Charges
	J\$/Month	J\$/Month
<i>Reconnection Fees</i>		
Domestic	6,000.00	6,000.00
Commercial	-	12,000.00
Illegal Connection (all customer types)	10,000.00	12,000.00

- 1.5. RESL also requested the approval of a monthly Price Adjustment Mechanism (PAM), which is to be applied to customers' bills. The proposed PAM methodology replicates the mechanism approved for the NWC.
- 1.6. In support of the Application, RESL provided its 2020 audited financial statements and additional data which were requested by the OUR to aid the tariff review exercise.
- 1.7. Having conducted the rate review, the OUR approves an annual revenue requirement of J\$36.27 million. RESL's submission did not include a proposed revenue requirement or a tariff methodology. The RESL's proposed water and sewerage rates were derived based on values set at approximately 93% and 40% of NWC's rates respectively.
- 1.8. Based on the J\$36.27 million annual revenue requirement and an estimated annual demand of 192.7 million litres, the approved rates are as shown in Table 1.3 below:

**Table 1.3: RESL Approved Rates and Charges**

Consumption Bands	OUR Approved Water Rates	OUR Approved Sewerage Rates
	J\$/1000 litres	J\$/1000 litres
0 to 14,000	75.57	37.79
For the next 13,000	105.80	52.90
For the next 14,000	131.72	65.87
Over 41,000	131.72	65.87
<b>Commercial Rate</b>		
0 to 9,100	-	-
Over 9,100	-	-
<b>Reconnection Charge (J\$/Month)</b>		
5/8 inch / 15mm	715.00	
3/4 inch /20mm		
1 inch / 25mm		
1¼ inch/30mm		
1 1/2 inch /40mm		
2 inch/50mm	6,000.00	

- 1.9. It is estimated that with the approved rates, a typical customer with an average consumption of 19,760 litres/month would see her/his bill moving from \$1,655,21 to \$3,216,75, which is an increase of 94.34% (See details in Table 1.4 below). This compares to the 229.31% increase that was proposed by RESL.

**Table 1.4: Bill Impact of OUR Approved Rates**

<b>Bill Impact of OUR Approved Rates</b>							
<b>&lt;= 27 m<sup>3</sup></b>	<b>Current Bill</b>			<b>New Bill</b>		<b>Bill Impact</b>	
<b>Description</b>	<b>'000 Litres</b>	<b>Rate (J\$)</b>	<b>Total</b>	<b>Rate (J\$)</b>	<b>Total</b>	<b>JMD Change</b>	<b>% Change</b>
<b>19.76</b>							
<b>Water Rates</b>							
0 - 14,000	14	50.00	\$ 700.00	75.57	\$ 1,058.01	\$ 358.01	51.14%
next 13,000	5.76	70.00	\$ 403.47	105.80	\$ 609.83	\$ 206.35	51.14%
<b>Sewerage Rates</b>							
0 - 14,000	14.00	25.00	\$ 350.00	37.79	\$ 529.00	\$ 179.00	51.14%
next 13,000	5.76	35.00	\$ 201.74	52.90	\$ 304.91	\$ 103.18	51.14%
<b>Service Charge (5/8 inch)</b>		-	\$ -	715.00	\$ 715.00	\$ 715.00	
<b>TOTAL BILL</b>			<b>\$ 1,655.21</b>		<b>\$ 3,216.75</b>	<b>\$ 1,561.54</b>	<b>94.34%</b>
<b>Average Rate per cubic meter (m<sup>3</sup>)</b>			<b>\$ 83.75</b>		<b>\$ 162.76</b>		

- 1.10. The OUR approves the implementation of a monthly PAM and an annual price adjustment mechanism (ANPAM). The mechanism is based on three (3) economic indicators; foreign exchange rate, consumer price index and electricity rate.
- 1.11. The approved weightings for the indices in the mechanism are as follows:
- Foreign exchange rate (FX): 8%
  - Consumer price index (CPI): 64%
  - Electricity rate: 28%
- 1.12. The approved base indices shall remain in effect until the anniversary of the PAM or until the next tariff review, whichever is earlier. The base indices are as follows:
- Foreign exchange (FX) – 155.10
  - Consumer price index (CPI) – 128.20
  - The electricity rate (J\$/kWh) – 57.32

### **Technical and Quality of Service Review**

- 1.13. Having conducted the technical review, evaluation, and analysis of the Application, the OUR determines as follows:
- 1) RESL shall fully satisfy all the regulatory requirements specified in the Richmond Environmental Limited Water Supply Licence, 2013 (Water Supply Licence), Richmond Environmental Services Limited Sewerage Services Licence, 2013 (Sewerage Licence)

and the Richmond Environmental Services Limited Interim Water and Sewerage Rates Determination Notice (Document No. 2020/WAS/002/DET.002) dated 2020 April 3 (Interim Determination Notice) that have been outstanding since 2020 April, and address all the instances of the company's non-compliance over the said period. All the required information and deliverables shall be submitted to the OUR within two (2) months of the effective date of this Determination Notice.

- 2) RESL is advised to exercise reasonable diligence and take urgent action to address the concerns raised by the OUR regarding its current lack of a legal or other interest in the relevant water/sewerage system fixed assets which comprise critical infrastructure for the operation of the Licensed Businesses. It is suggested that the Licensee secure a legal interest in the water and sewerage infrastructure and facilities through a purchase/transfer, a capital lease, an operating lease, or some other commercial arrangement as may be appropriate in the circumstances, and the associated health and environmental licensing and permitting to support the Licensed Businesses in its own name. A failure to remedy this asset ownership and control issue will impair the ability of the OUR to provide a comprehensive analysis of future rate applications by RESL, in light of the requirements of the legal and regulatory framework.
- 3) At the next tariff review, RESL shall provide supporting evidence/documentation to demonstrate that RDCL is proportionately absorbing the costs (electricity, repairs & maintenance, etc.) for the use of 45% of the water produced in the system.
- 4) RESL shall comply with the following requirements:
  - a. Within four (4) months of the effective date of this Determination Notice submit a report on the actions it has undertaken to implement appropriate measures and management controls to eliminate the embedded defects and inefficiencies in its management/operating process, to ensure full compliance with the prescribed legal and regulatory requirements.
  - b. Review and update its Guidance Framework/Action to reflect, among other things, all the requirements specified in the Interim Determination Notice, which shall be submitted within two (2) months of the effective date of this Determination Notice. RESL may seek further consultation with the OUR on this matter if necessary.
  - c. Develop the annual Maintenance Plans (3-year plan) for the water/sewerage system infrastructure facilities (production, treatment, distribution and storage), reflecting, among other things, the relevant OEM's maintenance requirements, schedule of inspections and major maintenance activities (start and end dates), spare equipment & supplies in inventory, and statutory maintenance requirements (where applicable), which shall be submitted as a separate document to the OUR, within two (2) months of the effective date of this Determination Notice. Thereafter, RESL shall review the plan at the end of each year and update as necessary, and submit the revised plan to the OUR by the end of the month of January that follows the applicable year, for the remaining period of RESL's Licences.

- 5) RESL shall satisfy the following requirements pertaining to NRW going forward:
  - a. Implement the appropriate metering in the water network to accurately measure and account for all authorized water consumption in the Richmond service area, which shall include the installation of revenue-grade water meters (approved by the OUR) at facilities and operations controlled by RDCL, which shall be completed within four (4) months of the effective date of this Determination Notice.
  - b. Properly account for all the components of NRW in the water network and provide a monthly breakdown of the NRW components/sources and estimated volumes in the quarterly Technical Reports to be submitted to the OUR.
  - c. Within four (4) months of the effective date of this Determination Notice, submit a report on the measures it has employed to reduce and maintain NRW within acceptable levels.
- 6) RESL, with regard to the revenue water meters which were installed in violation of the provisions of the MTAOP, shall take the necessary steps to normalize the status of the metering devices, subject to the provisions of the MTAOP framework, which shall be fully completed within four (4) months of the effective date of this Determination Notice. If RESL fails to rectify the issue as specified, the OUR will direct the company to remove the unauthorized water meters from service. In addition, RESL is required to provide a listing of all the revenue water meters already installed and those in inventory stores, which have been subjected to testing and approval under the MTAOP.
- 7) RESL shall comply with all the “Quality of Service” performance requirements for water and sewerage service specified in this Determination Notice.
- 8) RESL shall comply with all the Regulatory Reporting and Technical Requirements for water and sewerage service specified in this Determination Notice.
- 9) RESL shall comply with all the Water Abstraction and Environmental Requirements for water and sewerage service specified in this Determination Notice.
- 1.14. On 2022 October 30, the OUR hosted a virtual consultation meeting with representatives of RESL and customers/stakeholders. The concerns, among other things, were the significant increase being requested by RESL, the hardness of the water and the customer service delivery of the company.
- 1.15. Arising from the public consultation with stakeholders of RESL, and the OUR’s assessment of the service provided by the company, the OUR reviewed the Overall and Guaranteed Standards and makes the following determinations:
  - 1) RESL shall adhere to the revised Overall Standard D - "Planned and Unplanned Interruptions", the Guaranteed Standards stipulated in Table 9.1 of this Determination Notice, and all the other standards, which are specified in the Licences and service contracts.
  - 2) The OUR has also determined that the Overall Standards will continue to apply as outlined in the Sewerage Service Licence, with the exception of Overall Standard C – Guaranteed Standards. This decision is consistent with the establishment of Guaranteed

- Standard for water supply services only, where a service provider is licensed to provide both services.
- 3) RESL shall, within thirty (30) working days of the end of a reporting period, submit quarterly reports to the OUR on its performance against the Guaranteed Standards. These reports shall indicate the number of breaches committed against each standard and the potential and actual payout for each breach.
  - 4) RESL shall submit on a quarterly basis, its water quality test reports to the OUR within thirty (30) working days of the end of the relevant quarter. These reports shall include information on the calcium bicarbonate levels in the water supplied to customers.
  - 5) RESL shall, within three (3) months of the effective date of this Determination Notice, develop its Guaranteed Standards claim form and submit same to the OUR for approval.
  - 6) Compensation for breaches:
    - a) Wrongful Disconnection, Reconnection after Wrongful Disconnection and Reconnection after Payment of Overdue Amounts will attract Special Compensation of five (5) times the applicable service charge ; and
    - b) All other breached of the Guaranteed Standards will attract compensation of four (4) times the applicable service charge.
  - 7) Within two (2) months of the effective date of this Determination Notice, RESL shall submit to the OUR for approval, its updated Customer Service Charter, which shall outline its service delivery commitments, customers' rights and responsibilities, emergency procedures and contact details. The Charter should include, among other things, details of the activities and timelines in RESL's Complaints Handling Process inclusive of an escalation procedure.
  - 8) Within three (3) months of the effective date this Determination Notice, RESL shall develop and submit to the OUR for approval, its Hard Water Improvement Action Plan ("Action Plan"). This Action Plan should provide sufficient details on the strategies to be undertaken, with associated timelines, to ensure improvement in the calcium bicarbonate level (which has been identified as the cause for the hard water) in the quality of water supply to its customers.



## 2. Introduction

- 2.1. The Government's orientation as expressed in *Jamaica Water Sector Policy and Implementation Plan* (2019) document, is for the encouragement of private participation in the rural water and sewerage sectors, where it is likely to benefit consumers and the country. It is important therefore, that the players in the water sector strive to increase access to safe and potable drinking water and ensure adequate sewerage services.
- 2.2. Richmond Environmental Services Limited (RESL) is a privately owned limited liability company incorporated in Jamaica. The company was granted the Richmond Environmental Services Limited Water Supply Licence, 2013 (Water Supply Licence) and the Richmond Environmental Services Limited Sewerage Services Provider Licence, 2013 (Sewerage Licence) both dated 2013 December 30. The Water Supply Licence and Sewerage Licence (together referred to as the Licences) allow RESL to provide services to the Richmond Development community and its immediate environs in Richmond, St. Ann. RESL indicated that its current customer base is 1,042.
- 2.3. RESL's previous application for a tariff review was made on 2019 October 31. The Office of Utilities Regulation (OUR) reviewed the application and issued the *Richmond Environmental Services Limited Interim Water and Sewerage Rates Determination Notice*<sup>1</sup> ("Interim Determination Notice") on 2020 April 03. The decisions outlined in the Interim Determination Notice were established for a minimum of twenty-four (24) months.
- 2.4. On 2022 August 19, RESL submitted a Tariff Application ("Application") for an increase in its water and sewerage rates based on the "No Objection Policy" sometimes used by the OUR in private water/sewerage rate reviews. In support of its Application, RESL provided, among other things, operational data and its audited financial statements.
- 2.5. Following the preliminary review of the Application, the OUR requested additional data to better inform the decisions in the review. This additional information was received on 2022 October 25. The OUR engaged RESL in a meeting on 2022 November 9 in which the contents of the Application were discussed. At the meeting, RESL expressed its intentions to apply for base rates for all customer categories. On 2022 November 25, the company submitted the proposed commercial rates, which were missing from the initial Application.
- 2.6. The rate making process applicable for the review is outlined in Schedule 3 of the Licences. This process is supported by benchmarking techniques and sound regulatory practices.
- 2.7. According to the Licences, the rate review process involves the following:
  - a) The establishment of the test year.
  - b) The determination of the rate base (appropriately adjusted) to reflect net investments; and
  - c) The determination of the revenue requirement.
- 2.8. The test year used in this analysis represents the most recent set of audited financial statements presented by RESL, which is the 2020 audited financials. However, to establish

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<sup>1</sup> Document No. 2020/WAS/002/DET.002  
Richmond Environmental Services Limited Water and Sewerage Rates  
Determination Notice. Document No. 2023/WAS/002/DET.001

costs that reflect normal operating conditions, RESL's 2021 and 2022 Unaudited financials were also used in the analysis.

- 2.9. The revenue requirement applicable to the review process is predicated on the 'Rate of Return' methodology. Under this approach, the company is allowed to recover all prudently incurred costs plus a rate of return on its investment. Mathematically, the revenue requirement may be expressed as follows:

$$\text{Revenue Requirement} = \text{OPEX} + T + D + \text{ROI}$$

Where:

OPEX = Operating Expenses

T = Taxes

D = Depreciation

ROI = Return on Investment

- 2.10. This Determination Notice outlines RESL's Application and sets out the OUR's analysis and determinations. It also summarizes customer feedback obtained from the virtual consultation meeting hosted by the OUR with RESL and its customers on 2022 October 30, as well as the service and guaranteed standards that RESL is required to observe as a water and sewerage services provider.

### 3. Legal Framework

3.1. The OUR is a multi-sector utility regulator established pursuant to the Office of Utilities Regulation Act ("OUR Act"), with regulatory oversight of the provision of prescribed utility services in Jamaica. The supply and distribution of water and sewerage are included among the prescribed utility services defined in section 2 and the First Schedule of the OUR Act.

3.2. Section 4 (4) of the OUR Act expressly empowers the OUR to determine the rates charged for the provision of a prescribed utility service. This section reads:

*"(4) The Office shall have power to determine, in accordance with the provisions of this Act, the rates or fares which may be charged in respect of the provisions of a prescribed utility service."*

3.3. The provisions of the Licences issued to RESL reinforce the OUR's statutory powers to regulate the Licensed Business as defined under the Licences, where they state at clause 6.4.1 that:

*"The Licensee" in carrying out the "Licensed Business" shall be subject to regulation by "the Office" pursuant to the "OUR Act" and any other applicable Act and regulations and rules made pursuant thereto."*

3.4. With respect to tariffs and price controls, clause 6.17 paragraphs 1. and 2. of the Licences provide that:

*"1. "The Licensee" is subject to the conditions in Schedule 3.*

*2. The rates to be charged by "the Licensee" in respect of the prescribed utility services shall be subject to such limitation as may be imposed from time to time "the Office"."*

3.5. The Licences stipulate that the rates and charges as determined by the OUR should provide a reasonable opportunity for the Licensee to make a reasonable return on capital employed after taking into account all reasonable costs incurred in the provision of services. Extracts from Schedule 3 of the Licences, provide as follows:

*"The rates for the supply of services by the "Licensed Business" shall be set such that it provides a reasonable opportunity for "the Licensee" to make a reasonable return on capital employed after taking into account all reasonable costs incurred in the provision of the services.*

*Revenue Requirement = operating costs + depreciation + taxes + return on investment, with each component defined as follows:*

**Operating costs:** *All prudently incurred costs which are not directly associated with investment in capital plant...*

**Return on Investment:** *...The return on investment shall be calculated by multiplying the allowed rate-of-return by "the Licensee's" total investment base ("Rate Base") for the test year. The allowed rate of return is "the*

*Licensee's" Weighted Average Cost of Capital (WACC). The WACC ("K %") will balance the interests of both consumers and investors and be commensurate with returns in other enterprises having corresponding risks which will assure confidence in the financial integrity of the enterprise so as to maintain its credit and to attract capital... "*

- 3.6. The Licensee is permitted to apply to the OUR for a tariff review as needed, but no more frequently than once in every two (2) years. Schedule 3 of the Licence under the heading "Subsequent Tariff" provides that:

*"At such intervals as "the Licensee" may determine but no more often than once in every two years, "the Licensee" may submit an application for a tariff review. The Application must be supported with data and information as "the Office" will determine."*

- 3.7. Notwithstanding the provisions of Schedule 3 of the Licences, the OUR, may apply a "No-Objection Policy" to private water and sewerage providers, whereby rates proposed by these providers are approved on a "no objection" basis, if they are below those being charged by the National Water Commission (NWC) for comparable services. This policy is applied primarily, when the private water or sewerage provider is unable to provide adequate cost data to allow for a comprehensive tariff review.
- 3.8. The Licences expressly state in Schedule 2 that the Licensee shall observe prescribed service standards and they also authorize the OUR to introduce new or vary existing guaranteed standards that will encourage and facilitate minimum standards of customer service.

## 4. Summary of Tariff Proposal

- 4.1. RESL's requested the application of the OUR's No Objection Policy in the determination of its base rates, since this was the methodology applied to its previous application in 2019. In its Application, RESL requested an increase in its water and sewerage rates. The company argued that its approved rates are below those of the NWC (the dominant service provider) as well as other private providers in the industry.
- 4.2. In addition to its proposed rate increase, RESL indicated that it wants to standardize its rate structure in line with NWC's rate structure. The company proposed a rate structure consisting of volumetric rates, service charge and a monthly Price Adjustment Mechanism (PAM).
- 4.3. In a letter dated 2022 November 25, RESL made an additional request for the inclusion of commercial rates in its tariff structure.
- 4.4. Tables 4.1 and 4.2 below outline RESL's proposed rate structure and associated rates and charges.

**Table 4.1: Richmond Existing and Proposed Rates**

RESL Existing vs Proposed Rates				
WATER				
Consumption Blocks (Litres)	Current Rates (\$)	Proposed New Rates (\$)	Rate Change (\$)	Percentage Increase
0 to 14,000	50.00	130.00	80.00	160%
For the next 13,000	70.00	232.00	162.00	231%
For the next 14,000	87.15	253.00	165.85	190%
Over 41,000	87.15	431.00	343.85	395%
<b>Commercial Rate</b>				
0 to 9,100	-	337.12	337.12	N/A
Over 9,100	-	196.51	196.51	N/A
SEWERAGE				
Consumption Blocks (Litres)	Current Rates (\$)	Proposed New Rates (\$)	Rate Change (\$)	Percentage Increase
0 to 14,000	25.00	65.00	40.00	160%
For the next 13,000	35.00	116.00	81.00	231%
For the next 14,000	43.58	126.50	82.92	190%
Over 41,000	43.58	215.50	171.92	394%
<b>Commercial Rate</b>				
0 to 9,100	-	400.00	400.00	N/A
Over 9,100	-	233.00	233.00	N/A
Service Charge				
Service Charge	Current Rates (\$)	Proposed New Rates (\$)	Rate Change (\$)	Percentage Increase
5/8 inch / 15mm	-	715	715.00	N/A
3/4 inch / 20mm	-	1600	1,600.00	N/A
1 inch / 25mm	-	2,200.00	2,200.00	N/A
1¼ inch/30mm	-	4,000.00	4,000.00	N/A
1 1/2 inch / 40mm	-	4,000.00	4,000.00	N/A
2 inch/50mm	-	6,000.00	6,000.00	N/A

**Table 4.2: Proposed Miscellaneous Fees**

<b>Richmond Environmental Services Limited - Miscellaneous Fees</b>		
<b>Description</b>	<b>Existing Charges</b>	<b>Proposed Charges</b>
	<b>JS/Month</b>	<b>JS/Month</b>
<i>Reconnection Fees</i>		
Domestic	6,000.00	6,000.00
Commercial	-	12,000.00
Illegal Connection (all customer types)	10,000.00	12,000.00

### **Price Adjustment Mechanism (PAM)**

- 4.5. The PAM is an indexation mechanism that is applied to the base rates and charges for water and sewerage services to preserve the real revenue of a company. The PAM captures the movement of the consumer price index, foreign exchange rate (J\$/US\$) and electricity kilowatt hour charge (kWh). The company proposed to adopt the PAM model used by the NWC in the adjustment of its customers' bills. RESL stated that it has no control, over inflation, the foreign exchange rate and electricity prices. The company proposed a PAM, which is based on the indices used by the NWC in its PAM.

### **Capital Expenditure**

- 4.6. RESL indicated that RDCL has made substantial investments in the water and sewerage network. RESL further argued that while Richmond Development Company Limited (RDCL) owns the capital infrastructure, RESL has direct responsibility for the maintenance of the system, which includes the replacement of all parts and fittings. RESL posited in the Application that neither company had directly recovered the infrastructure cost of the system from customers of Richmond Estates. RESL contended that it is being subsidized by RDCL over the years and indicated that many of the once shared costs between the companies will be fully borne by RESL.

### **Return on Investment**

- 4.7. RESL did not specifically state its expected rate of return on investment as the company's major asset and capital infrastructure is owned by RDCL.

### **Operating Expenses**

- 4.8. RESL explained that its operating costs form the basis of determining the appropriate rates to be charged. The operating costs submitted in the Application reflect the costs incurred by RESL. These costs were presented in the company's audited, unaudited, and managerial financial accounts.



RESL also stated that its audited financial accounts do not include some of the shared costs that are financed by RDCL. Operating expenses include direct operating costs and administrative expenses.

- 4.9. Table 4.2 below gives a summary of the financial data, which were presented in RESL's audited and unaudited accounts for the period 2019-2022.

**Table 4.2: RESL Audited and Unaudited Revenues and Operating Costs 2019-2022**

RESL Profit and Loss Accounts				
		Audited	Unaudited	Un-Audited (Year to Date)
	2019	2020	2021	2022
<b>Revenues</b>				
Water Distribution and Services	21,130,655	19,843,846	21,632,998	17,244,33
<b>Other Income</b>				
Interest Received	4,114	4,160		
Exchange Gain		727		
<b>TOTAL INCOME</b>	<b>21,134,769</b>	<b>19,848,733</b>	<b>21,632,998</b>	<b>17,244,33</b>
<b>EXPENSE</b>				
<b>Direct Costs:</b>	<b>21,130,655</b>	<b>16,575,946</b>	<b>16,548,689</b>	<b>21,310,595</b>
Cost of Water		7,964,372	6,902,154	6,721,067
Electricity		7,617,642	8,954,340	13,867,177
Water Treatment		993,932	692,195	722,351
Other Direct Costs		0		
<b>Admin Expenses :</b>	<b>8,202,210</b>	<b>10,191,921</b>	<b>10,522,468</b>	<b>13,060,462</b>
Audit and Accounting	600,000	600,000	600,000	460,000
Bank Charges	292,618	356,461	349,488	362,605
Consultancy	0	90,000	420,000	261,525
Delivery Expense	0	0	148,283	4,250
Garbage Collection	204,000	156,000	156,000	6,000
Insurance	0	0	48,914	0
Interest Expense	0	0	2,400	0
Legal and Professional Fees	0	0	156,474	66,098
Licencing	380,000	325,000	320,000	40,458
MISCELLANEOUS	0	171,800	0	89,650
Motor Vehicle expense	0	56,697	213,397	525,818
Office Expenses	90,788	89,904	177,502	32,360
Repair and Maintenance	2,205,187	2,336,550	1,067,141	2,270,326
Salaries Wages & Statutory Contributions	2,210,399	3,072,925	3,924,677	5,777,745
Security	8,819	2,698,686	2,354,382	2,144,890
Telephone expense	0	0	13,250	111,413
Water	2,210,399	237,898	570,560	907,324
<b>Finance Expense :</b>		-218		
<b>Total Operating Costs</b>	<b>29,332,865</b>	<b>26,767,867</b>	<b>27,071,157</b>	<b>34,371,057</b>
<b>Depreciation</b>	<b>1,097,493</b>	<b>1,168,749</b>	<b>1,302,295</b>	<b>1,744,767</b>

## **5. Evaluation of the Application**

- 5.1. In its review of the Application, the OUR, in its effort to balance the interest of all stakeholders, took several factors into consideration. These include:
- Efficient cost recovery
  - Adequate service delivery
  - Financial viability
  - Cost reflectivity between the water and sewerage services
  - Incentivizing efficiency
- 5.2. The OUR also considered the issues raised and feedback received at public consultations on the Application as well as those received from interested stakeholders through various communication channels.

### **Tariff Methodology**

- 5.3. Based on RESL's Licences, the computation of the company's tariffs should be based on a rate of return (or "cost plus") methodology. However, in the context of limited availability of cost and operational data, the OUR has, over the years, applied what has been referred to as the "No Objection Policy" to the approval of rates for private water and sewerage service providers.
- 5.4. The "No Objection Policy" is based on a principle that if the rates proposed by a private water or sewerage service provider are below those being charged by the NWC for comparable services, the Office would not object to the implementation of the proposed rates.
- 5.5. Given that RESL has been in operation for some time, coupled with the fact that the company has already been through a rate review process, the OUR believes that the company should have acquired the necessary baseline data needed for a cost-based tariff.
- 5.6. In the rate evaluation exercise, it was noted that the RESL submitted audited financial accounts for the year ending 2020 March and unaudited accounts for the years 2021 and 2022. The information submitted was deemed adequate for the OUR's use in evaluating the company's tariffs based on a rate of return (or "cost plus") methodology in accordance with Schedule 3 of RESL's Licences.
- 5.7. Schedule 3 of the Licences prescribes the methodology and procedures to be applied by the OUR for the determination of the rates. The applicable rate of return methodology requires the OUR to consider, among other things, the following:
- A test year, defined as the latest twelve (12) months of operation for which there are audited accounts.
  - Adjustments to the test year cost if necessary, so that the normal operating conditions are reflected.
  - A rate base, which reflects the value of net investments with adjustments where appropriate.
  - A revenue requirement (RR), which is defined as follows:



$$RR = \text{operating costs} + \text{depreciation} + \text{taxes} + \text{return on investment}$$

Note: This would mean that the average rate to be charged to customers will be derived as follows:

$$\text{Average Price} = \text{Revenue Requirement} / \text{Quantity Demanded}$$

- 5.8. This approach to the rate review process is aimed at setting rates for the supply of services, which provide an opportunity for the utility to make a reasonable return on capital employed in the business based on cost efficiency.

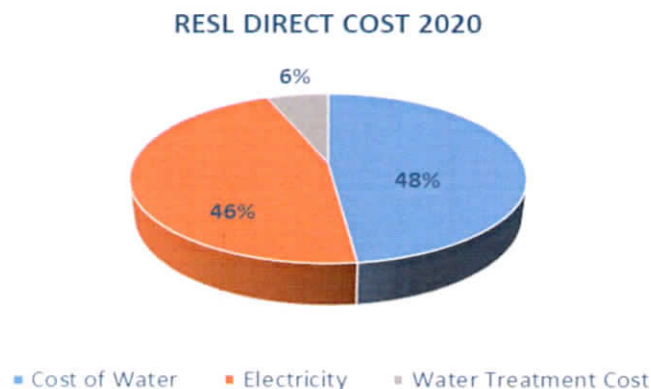
### Operating Costs

- 5.9. In the rate making process, the approved operating costs should reflect the known and measurable cost of providing acceptable services to all existing and potential customers. The OUR's position is that the approved operating costs should be those of the test year, adjusted for costs which are known and measurable within a twelve (12) month period, and reflect the reasonable costs of providing the services to customers. The test year used for RESL is 2020, which is the year in which the latest audited financial statement was available.
- 5.10. RESL's main operating costs are made up of Direct Costs (water treatment, electricity, cost of water) and Administrative Expenses.

#### Direct Operating Cost

- 5.11. Based on RESL's audited financial statements, direct costs are made up of three (3) main cost items: electricity cost, water treatment cost and cost associated with purchasing water. Figure 5.1 below shows the percentage makeup of each cost component. The cost breakout is further discussed below.

**Figure 5.1: RESL Direct Operating costs**



### Water Treatment Cost

- 5.12. Water treatment costs represent costs associated with the treatment of raw water for potable use, as well as costs associated with effluent disposal. This cost category includes coagulants and flocculant chemicals and chlorine dioxide treatment costs. RESL presented a test year water treatment cost of \$993,932. Based on data received from the company water treatment costs vary directly with water consumption volumes.
- 5.13. In arriving at its decision, the OUR used average water cost for the period 2020 to 2022 as a proxy for RESL's base water treatment cost. This methodology is not unreasonable since, to date, RESL's water consumption data has not shown significant fluctuation over the three-year period. The OUR approves water treatment cost of \$802,826. This amount is 11% above the company's unaudited 2022 amounts.

### Electricity cost

- 5.14. The electricity expense (which is a component of direct cost) is a large contributor to the total operating cost incurred by RESL. Electricity expenses account for approximately 28.5% of total operating cost in the test year 2020 and increased to 40.35% in 2022. The OUR recognizes that global oil prices, which impact electricity costs, remain volatile and believes that RESL's actual electricity prices for 2022 can be used as a base for the allowed electricity charges. This amount will be influenced by the RESL PAM which will align the company's actual cost with the approved base year cost. Based on this assessment, the approved annual cost for electricity is \$13.9 million.

### Cost of Water

- 5.15. In its Application, RESL included as part of its direct cost, the costs of purchasing water from the owner of a local well. The test year cost for the water abstracted is stated as \$7.96 million. The water abstracted is shared between RESL and RDCL in the ratio 55%: 45%. RESL indicated that the total water abstracted annually is approximately 104 million litres and the average water used by RESL is 58 million litres.
- 5.16. The RDCL's 'Agreement for Use of water', in essence states that the user must pay the owner of the well at a rate of ten percent (10%) of the rate being charged by the NWC at the time the water is being used, provided that, the user shall pay the owner no less than J\$0.01 per gallon for the water.
- 5.17. In evaluating the water purchase cost, the OUR applied the average abstraction volumes for the years 2020-2022 in determining RESL's average annual abstraction amount, which is used to derive the cost of water. RESL stated that at least fifty-five percent (55%) of the water abstracted is used by RESL. Therefore, the approved water abstraction cost incurred by RESL was set at \$6.9 million.
- 5.18. Table 5.1 shows the details of the components of the computation.

**Table 5.1: Computed Average Water Abstraction Costs**

DETAILS	2020	2021	2022	Average
Volumes (liters)	105,920,500	102,470,600	105,378,600	<b>104,589,900</b>
RESL -VOLUMES (55%) (liters)	58,256,275	56,358,830	57,958,230	<b>57,524,445</b>
RESL Cost of Water (J\$)	6,990,753	6,763,060	6,954,988	<b>6,902,933</b>

Administrative and other Operating Expenses

- 5.19. In its Application, RESL presented total administrative and operating cost of approximately \$10.2 million for the test year 2020. This cost category consists of salaries for existing staff, repair and maintenance expenses, legal, licensing and other professional fees, etc. Table 5.2 below shows the changes in total and administrative expenses over the years 2019 to 2022.d.<sup>2</sup>

**Table 5.2: RESL Administrative and Operating Expenses**

Years	2019	2020	2021	2022
Admin and Operating Exp	8,202,210	10,191,703	10,522,468	13,060,462
% Change		24.26%	3.25%	24.12%

Salaries, Wages and Statutory Contributions

- 5.20. RESL argued that its salaries and related expenses represent salary costs for the Assistant Operations Manager, Customer Service Representative, Groundsman, Plumbers and Meter Readers. RESL further explained that salary costs for the Managing Director, Financial Controller, Accounting Officer and Operations Manager are borne by a related company. RESL presented test year salary costs in the amount of \$3.1 million. The company however, specified that salary costs have increased over the years as various adjustments were made to suit current economic conditions. The company further explained that it was the intention of RESL to act as an independent water company and therefore some costs that were previously absorbed by RDCL would be fully charged to RESL. The company's salaries and related expenses were reported to be \$5.7 million in its 2022 unaudited accounts. The OUR takes the view that the \$5.7 million is a reasonable amount to be included in the revenue requirement for salaries, wages and statutory contributions.

Repair and maintenance

- 5.21. RESL stated that repair and maintenance costs were associated with repairs of its furniture and equipment. The company's financial accounts report repair and maintenance costs ranging between \$1.1 million and \$2.2 million over the period 2019 to 2022. RESL argued that although significant investments were made by RDCL, the maintenance and general upkeep of the system is the responsibility of RESL. The company further purported that although RESL has the responsibility to maintain the system, RDCL has assisted with repair and maintenance on a large scale, thus the stated amount is a fraction of its true repair and maintenance cost.

<sup>2</sup> The sum stated for 2021 and 2022 are unaudited amounts.  
Richmond Environmental Services Limited Water and Sewerage Rates  
Determination Notice. Document No. 2023/WAS/002/DET.001

- 5.22. The OUR is of the view that in a company that provides water and sewerage services, with critical infrastructure, repair and maintenance are essential in sustaining the useful life of its assets. The OUR judged the stated amounts reported for the repair and maintenance cost to be reasonable considering that a portion of the cost is being subsidized by RDCL. However, the OUR is encouraging RESL to develop a plan that will assist the company to effectively manage costs associated with repairs to be done to its system. Notwithstanding, the OUR has allowed the audited amounts listed for repair and maintenance adjusted for annual inflation of 10.3% to be included in the revenue requirement. The OUR therefore approves repair and maintenance costs of \$2.6 million.

Security

- 5.23. RESL presented security costs totaling \$2.7 million for the test year 2020. The company explained that its security cost is primarily related to contracts that RESL maintains with Ranger Protection, as well as security costs associated with providing daily security services at the water and sewerage treatment plant. The OUR takes the view that securing the water treatment plant (WTP) is necessary and has no objection to the inclusion of such a cost in the calculation of RESL's revenue requirement.

Other Administrative Costs

- 5.24. All other administrative costs were allowed based on the company's 2020 test year balance sheet. Adjustments were made where applicable, to include changes for inflation which occurred over the years.

Annual Operating Costs

- 5.25. With the adjustments detailed above, the annual operating costs approved for inclusion in the revenue requirement are \$34.9 million.
- 5.26. Table 5.3 below shows a comparison of the OUR's approved operating costs and RESL's operating expenses (OPEX), which were extracted from the company's 2020 test year audited accounts.



**Table 5.3: RESL Approved Operating Expenses**

Revenue Requirement	RESL Test Year Costs	OUR Approved	2020 Audited	2021 Unaudited	2022 Unaudited
<b>Direct Costs:</b>					
Cost of Water	7,964,372	6,902,933	7,964,372	6,902,154	6,721,067
Electricity	7,617,642	13,867,177	7,617,642	8,954,340	13,867,177
Water Treatment	993,932	802,826	993,932	692,195	722,351
<b>Admin Expenses :</b>					
Audit and Accounting	600,000	600,000	600,000	600,000	460,000
Bank Charges	356,461	356,461	356,461	349,488	362,605
Consultancy	90,000	257,175	90,000	420,000	261,525
Delivery Expense	-	-	-	148,283	4,250
Garbage Collection	156,000	156,000	156,000	156,000	6,000
Licensing	325,000	325,000	325,000	320,000	40,458
MISCELLANEOUS	171,800	171,800	171,800	-	89,650
Motor Vehicle expense	56,697	56,697	56,697	213,397	525,818
Office Expenses	89,904	99,922	89,904	177,502	32,360
Repair and Maintenance	2,336,550	2,577,215	2,336,550	1,067,141	2,270,326
Salaries Wages & Statutory Contributions	3,072,925	5,777,745	3,072,925	3,924,677	5,777,745
Security	2,698,686	2,698,686	2,698,686	2,354,382	2,144,890
Telephone expense	-	62,332	-	13,250	111,413
Water	237,898	237,898	237,898	570,560	907,324
Finance Expense	- 218	- 218	- 218		
<b>Total Expenses</b>	<b>26,767,649</b>	<b>34,949,649</b>	<b>26,767,649</b>	<b>27,071,157</b>	<b>34,371,057</b>

### Ownership of Water & Sewerage Infrastructure

- 5.27. In the Application, it is stated that RDCL made significant investments in the water and sewerage systems to service the communities it developed in Richmond, St. Ann. Further, RDCL currently maintains full ownership of the water network, while RESL has the responsibility for the maintenance and general upkeep of the systems. This claim was validated by the OUR from its examination of the technical and financial information provided in the Application. The salient observation is that the value of the major water/sewerage system facilities is not reflected in RESL's "test year" (2020 Audited Financial Statements) Non-Current Assets (Fixed Asset) account on the Balance Sheet.
- 5.28. The OUR considers this situation to be problematic from a cost accounting and a risk perspective, for the reasons delineated below:
- 1) The commercial arrangement between RDCL and RESL is such that RDCL, the construction company/developer, is the owner of the critical water and sewerage infrastructure. RDCL is also the holder of the relevant water abstraction licence and the lessee of the well from which the water resources are obtained. However, RDCL does not hold service provider licences and as such, is not authorised to distribute and supply water, and provide sewerage services in the Richmond service area.
  - 2) RESL which is a subsidiary of and a separate legal entity from RDCL, is the Licensee and therefore is the supplier of water and sewerage services to the Richmond Development community. However, RESL does not own critical water infrastructure, does not own a water abstraction licence and does not own the supply well or have any lease or contractual arrangement for the use of same.

- 3) At the 2019 Rate Review, the bifurcated responsibility for water/sewerage services was observed. The OUR has taken note that the arrangements remain the same. However, given the broad regulatory ramifications of tracking costs, this issue of clearly separating the assets and responsibilities of the two companies needs to be urgently addressed by RESL.
- 4) Although it has been reported that RDCL (as developer) constructed the water/sewerage system infrastructure/facilities in the Richmond Development and there appears to be an understanding between the companies in relation to the use of the facilities, it is not clear as to the specific nature and scope of RESL's control of the plant-in-service relating to the Licensed Businesses. In this regard, RESL would be required to properly account for the control and costs of such assets, either through a direct purchase, a capital lease, an operating lease, or some other legally binding commercial arrangement as may be acceptable in the circumstances. There was no information pertaining to any of these arrangements provided by RESL to support its Application.
- 5) As such, if RESL seeks cost reflective rates, it should ensure that its utility costs are prudent and justified. Cost reflective rates include, among other things, the return on capital employed in the delivery of the utility service. As mentioned earlier, RESL's capital structure does not clearly show a legal or other interest in the assets of the utility operations for which a return on investments can be provided for in the approved rates as contemplated in its Licences. Other elements of cost in relation to the plant assets which would also be recoverable through the approved rates, such as depreciation costs, cannot be approved in respect of several of the key assets which comprise the water and sewerage systems utilized by RESL, because they do not form a part of the company's rate base.
- 6) As it concerns the matter of risk, the OUR is concerned by the lack of evidenced legal access and control over the critical water and sewerage infrastructure, including the primary water source, by the Licensee. Such access or control is necessary to ensure compliance with the Licensee's obligations under the Licences, and generally to ensure resilience and continuity of the Licensed Businesses. Licensee's obligations, such as, the maintenance of and compliance with relevant environmental and health standards, permits and licences, the granting of access to sampling and monitoring points by the OUR and relevant Government agencies, the maintenance of the infrastructure and relevant equipment in good repair, and the maintenance of adequate insurance in relation to the plant used in the Licensed Businesses, appear largely dependent on the third-party controller of these assets (that is RDCL). RESL may not be able to guarantee meeting these obligations when it does not own or otherwise have an interest in the necessary infrastructure, does not have any direct ownership or contractual arrangement with regard to the primary water source, and does not possess the relevant environmental and health permits that ought to form part of its Licences. We believe this poses a significant risk not only to the Licensed Business, but to RESL's ability to ensure that its customers receive reliable and economical services, and to provide services that are designed to protect the health and well being of its users.

The current arrangements between RESL and RDCL regarding the water supply and sewerage systems therefore do not demonstrate that the Licensee has adequately secured the facilities necessary to reliably and safely provide the regulated services and operate the Licensed Business for the duration of the Licences.

Given the tariff calculation and risk concerns articulated above, and recognizing the broad ramifications of the absence of asset ownership or control issue, RESL is advised to exercise reasonable diligence and take immediate action to resolve this matter in the manner suggested. RESL must secure a legal interest in the water and sewerage infrastructure and facilities through a purchase/transfer, a capital lease, an operating lease, or some other commercial arrangement as may be appropriate in the circumstances. The relevant permitting to support the Licensed Business would thereafter also have to be obtained by the RESL to ensure its compliance as contemplated under its Licences. RESL is further advised that failure to remedy this asset ownership or control issue will impair the ability of the OUR to provide a comprehensive analysis of future rate applications by RESL, in light of the requirements of the legal and regulatory framework.

### **Return on Investment**

- 5.29. There was no formal request for a return on investment in RESL's Application. Instead, the company outlined all its water and sewerage system historical capital costs, which, the company indicated, were recovered from the sale of the residential lots. The company further disclosed that RDCL, its parent company, has financed the bulk of the system's repairs and maintenance costs to date and no longer plans to retain such arrangements.
- 5.30. As provided for in Schedule 3 of the Licences, the company is to be allowed the opportunity to earn a return sufficient to provide for the requirements of consumers and acquire new investments at competitive costs. This return is the compensation for capital which is invested in the regulated asset base and is computed by the application of a rate of return to the asset base of the company. Both the rate of return and the asset base of the company must be approved by the OUR.
- 5.31. In the absence of a specific request for a return on investment in the Application, prudent regulatory practice requires a determination guided by the provisions of the Licences. Accordingly, the OUR has reviewed RESL's audited and unaudited financials to determine a reasonable return for the company.
- 5.32. The overall rate of return is the weighted average cost of capital (WACC) and is calculated as the weighted average cost of both the long-term debt and the equity components of the capital structure.
- 5.33. The Return on Investment is derived by applying the WACC to the company's Rate Base:

$$ROI: WACC * Rate Base$$

- 5.34. Schedule 3 of the Licences details the Rate Base as:

*"...the value of the net water system investment in the "Licensed Business". The "Rate Base" shall be calculated on the net water system investment made by "the Licensee" at the time the rates are being set and*

*shall include net investment made by “the Licensee” in the distribution and supply of water. The “Rate Base” shall include appropriate rate-making adjustments to take into account known and measurable changes in the plant investment base.”*

*and*

*“...the value of the net investment in the “Licensed Business”. The “Rate Base” shall be calculated based on the net sewerage system investment made by the “the Licensee” at the end of the last financial year for which there are audited accounts, at the time the rate are being set. The Rate Base shall include appropriate rate making investments to take into account known and measurable changes in the plant investment base and shall be increased or reduced by any positive or negative working capital requirement that may exist at such time. Working capital shall include among other things, cost of appropriate levels of inventories.”*

RESL’s Rate Base

- 5.35. In deriving the rate base of the water utility, the common regulatory practice is to take into consideration the fixed assets of the licensee’s regulated business, any intangible assets, and the net working capital of the business. Based on RESL’s audited financials, the company’s rate base consists of property, plant, and equipment (PPE) and working capital.
- 5.36. In its Application, RESL disclosed that the assets of the water and sewerage system are owned by its parent company, RDCL. The fixed assets amounting to \$6.4 million in the company’s 2020 audited financial statement therefore, comprises mainly of furniture and fixtures, computer equipment and other equipment. Due to a large amount of current liabilities, the company has a negative net working capital and therefore this reduces the overall rate base for RESL.
- 5.37. The rate base amount approved by the OUR is \$1,586,173. The details of the computation are shown in Table 5.4 below.



Table 5.4: RESL Approved Rate Base

Balance Sheet Line Items		JMD
L1	<b>Property Plant and Equipment</b>	6,424,177.00
	Add	
L2	Intangible Assets	-
L3	<b>Total Long Term Assets</b>	<b>6,424,177.00</b>
	Add	
L4	<b>Working Capital [L5-L8]:</b>	- <b>4,838,004.00</b>
L5	<b>Add Current Assets:</b>	<b>3,704,927.00</b>
L6	Consumers' accounts receivable	3,680,787.00
L7	Other accounts receivable and prepaid expenses	24,140.00
	Inventories	-
L8	<b>Subtract Current Liabilities:</b>	<b>8,542,931.00</b>
L9	Deposit and retentions	-
L10	Trade accounts payable	7,993,373.00
L11	Other accounts payable	437,664.00
L12	Deferred Tax Liability	111,894.00
L13	<b>RATE BASE (Total Net Asset) [L3 + L4]</b>	<b>1,586,173.00</b>

RESL's Approved Rate of Return

- 5.38. It is stated in Schedule 3 of the Licences that the allowed rate of return is the WACC, which should be based on “...the actual capital structure or an appropriately adjusted capital structure which adjustment is required to keep parity of the interests of the consumers and investors...”
- 5.39. The OUR's review of the company's 2020 audited financial statement shows that there is no equity in the business, and that it was completely financed by debt. It was also noted that RESL's loans from related parties are recorded as current liabilities and not as long-term debt. There are no long-term loans recorded on the company's books.
- 5.40. The company's financials also included 2019 statements, which the auditors have disclosed were not audited. No long-term loans were reported for that period. However, equity of \$5.6 million was reported.
- 5.41. Given the significant difference in the capital structure that is reflected in the 2020 financial period, and the fact that the 2019 financials are unaudited, the OUR is of the considered view that only the 2020 test year data should be considered in the computation of the return on investment.

- 5.42. There being no equity, the computation of the return on investment would be the cost of debt. However, in its Application RESL mentioned that the funds borrowed from related parties do not attract interest and have no specific date of maturity.
- 5.43. Nevertheless, the OUR has approved a rate of return, which is derived from the average of the 2022 commercial lending rates reported by the Bank of Jamaica (BOJ). The one (1) year average results is 9.3% and is used as a proxy for the approved rate of return for RESL.
- 5.44. The application of the approved rate of return of 9.3% to the approved rate base derived in Table 5.4 above results in a return on investment of \$147,586.81. The OUR therefore approves an annual return on investment of \$147,586.81 for inclusion in the revenue requirement.

### Depreciation

- 5.45. The OUR considered it prudent to include an amount for depreciation on the used and useful assets that have been invested by the company. RESL reported in its 2020 test year audited financial statement that depreciation charges amount to \$1.17 million. RESL further advised that this amount is the depreciation which is charged on assets owned by RESL. Sewerage and water assets that are owned by the RDCL were excluded from the depreciated amounts and could only be included after these assets have been appropriately transferred to RESL. The OUR is of the view that the amount is reasonable and approves the depreciation charges of \$1.17 million for inclusion in the revenue requirement.

### The Revenue Requirement

- 5.46. The revenue requirement is derived from the summation of the total operating costs inclusive of depreciation and return on investments. The OUR approves a revenue requirement of \$36.3 million, as is outlined in Table 5.5 below.

**Table 5.5: Computation of the Revenue Requirement**

Components	RESL Calculated	OUR Approved
Operating Expenses	26,767,649.00	34,949,648.55
Depreciation	1,168,749.00	1,168,749.00
Interest on loans		-
Return on Investment		147,586.81
<b>Revenue Requirement</b>	<b>27,936,398.00</b>	<b>36,265,984.36</b>

#### Determination 1

The approved revenue requirement is \$36,265,984.36, which is to be recovered through the fixed and volumetric charges approved by the OUR.

## 6. Tariff Design

- 6.1. In the development of effective and efficient rates, the OUR had to satisfy itself that the revenues generated from the fixed and volumetric charges would be sufficient to cover the approved revenue requirement of \$36.3 million. The approved rates should also send the appropriate price signals for the cost of the services whilst ensuring economic efficiency, equity, and bill stability. In this section, the OUR outlines and evaluates RESL's proposal and discusses how the approved rates were derived.

### RESL's Proposal

- 6.2. RESL's current tariff structure consists of a two-tier volumetric rate structure for both its water and sewerage services. Currently, the company has no fixed service charge, nor does it have a monthly PAM). Table 6.1 below shows the details of RESL's current rates and structure, which was approved in the Interim Determination Notice.

**Table 6.1: RESL Current Tariff Structure & Rates**

Consumption Block (litres)	Water	Sewerage
	\$/1000 litre	\$/1000 litre
0 to 20,000	50.00	25.00
Above 20,000	87.15	43.58

- 6.3. In its Application, RESL requested the approval of four (4) consumption blocks/tiers for both water and sewerage services, the introduction of a fixed monthly service charge based on meter size, and a commercial rate category. Table 6.2 below shows the details of the proposed volumetric rates and rate structure.

**Table 6.2: RESL Proposed Volumetric Rates and Structure**

	Water	Sewerage
Consumption Blocks (Litres)	Proposed Rates (\$/1000 Litre)	Proposed Rates (\$/1000 Litre)
<b>Residential</b>		
0 to 14,000	130.00	65.00
For the next 13,000	232.00	116.00
For the next 14,000	253.00	126.50
Over 41,000	431.00	215.50
<b>Commercial Rate</b>		
0 to 9,100	337.12	400.00
Over 9,100	196.51	233.00



## OUR Approved Tariff Design

### Service Charge

- 6.4. In its Application, RESL proposed a change to its existing rate structure. The company requested the introduction of a fixed monthly service charge. The proposed service charges are akin to NWC's service charge structure where the service charge is dependent on the size of the customer meter. Table 6.3 below shows the details of the proposed service charges.

**Table 6.3: Proposed Service Charge**

Richmond Environmental Company Limited- Service Charge				
Description (Size)	Existing Charges	Proposed Charges	Rate Change	
	\$J/Month	JS/Month	JS	%
5/8 inch / 15mm	\$0.00	715	715	100.0%
3/4 inch /20mm	0.00	1600	1600	100.0%
1 inch / 25mm	0.00	2,200.00	2200	100.0%
1¼ inch/30mm	0.00	4,000.00	4000	100.0%
1 1/2 inch /40mm	0.00	4,000.00	4000	100.0%
2 inch/50mm	0.00	6,000.00	6000	100.0%

- 6.5. The OUR is of the view that the proposed introduction of a service charge is reasonable. The service charge is a critical component of a water utility rate structure and is a fixed amount that is applied to customers' bills monthly irrespective of the level of consumption. The company is allowed to recover some of its fixed operating expenses in the service charge. These expenses are primarily administrative overheads, which are incurred in the preparation of bills inclusive of meter reading costs.
- 6.6. RESL's customer base consists of 1,038 customers with 5/8-inch meters and four (4) customers with 2-inch meters. In light of this, and in the absence of information pertaining to the other meter size tiers, the OUR's computation of the service charge was confined to the 5/8-inch meter and the 2-inch meter tiers of the residential customer class.
- 6.7. Furthermore, the necessary data required to allow for the development of cost reflective service charges were not readily available and RESL did not specify the costs that were used to calculate the proposed service charge. Considering this, the OUR used benchmarking methodology to arrive at the approved service charge. The proposed charges were benchmarked against similar categories of service charge for other private water providers in our jurisdiction. Table 6.4 below shows details of the benchmarking results.

**Table: 6.4 Service Charge Comparison between RESL and other Water Providers**

Service Charge (JS/Month)	Approved RESL	NWC	CDL	DEML	RWBC
5/8 inch / 15mm	715.00	1,099.75	739.28	866.98	817.77
3/4 inch /20mm	0.00	2,405.58	0.00	0.00	0.00
1 inch / 25mm	0.00	3,141.40	0.00	0.00	2,344.15
1¼ inch/30mm	0.00	5,914.90	0.00	0.00	0.00
1 1/2 inch /40mm	0.00	5,914.90	0.00	0.00	0.00
2 inch/50mm	6,000.00	8,377.07	0.00	0.00	6,251.01

- 6.8. The proposed charges in the respective tiers were found to be reasonable and in consideration of this the OUR approved a monthly service charge of \$715.00 for residential customers connected to a 5/8-inch meter and \$6,000 for customers connected to a 2-inch meter.

Volumetric Rates

- 6.9. The current tariff structure, while being simple for customers to understand, may not be sending the correct price signals. The proposed structure will incentivise consumers to conserve and is akin to that which is currently used by the NWC. Considering this, the OUR has no objection to the company's proposal to introduce a four-tier consumption block rate structure.
- 6.10. In developing the tariff design, the company's billing data and the audited financials were examined to determine the appropriate billing determinants (demand) for the water and sewerage systems. The rates which will allow RESL to recover the approved revenue requirement were generated with the application of a deemed demand.
- 6.11. The revenue is determined by the quantity sold multiplied by the price of each unit sold (equation i) below). This principle is also applicable in deriving the rates for a utility. In this situation where the revenue (R) is already determined and approved, and quantity (Q) is deemed based on the company's historical performance, then price (P) has to be adjusted in order to achieve the desired revenue. This is expressed mathematically in equation ii) below:

$$\begin{aligned} \text{i)} \quad R &= P \times Q \\ \text{ii)} \quad P &= \frac{R}{Q} \end{aligned}$$

- 6.12. RESL provided data showing the full breakout of the company's total water consumption (sales) for the years 2019 to 2022. The data shows the number of customers on the system, the number of customers currently being billed, and the customer breakdown per consumption block. The OUR having reviewed this information was satisfied that an appropriate set of billing determinants was available for use in the design of the tariff.
- 6.13. In determining the number of customers using the system on a consistent basis, from the data provided, the OUR used the monthly average of billed customers for the most recent year (2022). This customer count is 813. At Richmond Estates, some homes within the development are being used as vacation homes and in a month when there is no consumption these customers would not receive a bill from RESL. This explains the variance between the number of billed customers and the number of customers (1042) connected to the system.
- 6.14. In computing the revenues to be generated from the service charge, the OUR used the 1042 customers who are connected to the system. These customers will be billed a monthly service charge whether or not they consume. However, in determining the revenues to be generated from the volumetric rates, the OUR is of the view that it is fair to use the 813-customer count.

- 6.15. The total system consumption recorded by RESL for the year 2020 was 192,698,000 litres and this is used as the deemed demand for the system. Important to note is that RESL, like

other companies in the sector, charges for sewerage services at the same volume for water consumption. This means that the total system demand of 199,484 cubic meters for water is the same volume of sewage deemed collected and treated by RESL.

- 6.16. With the existing rates and the deemed billing determinants, the total revenue computed for the system is \$18,542,095. With the approved revenue requirement of \$36,265,984 the existing rates had to be increased to recover the approved revenue requirement. The introduction of a monthly service charge and new consumption blocks, however, means that the percentage variable rate increase required for the existing rates would be within a reasonable threshold.
- 6.17. The new approved volumetric/variable rates are detailed in Table 6.5 below and represent an increase of 51.14% from the current rates being charged by RESL. This compares to the average rate increase of 255.42% being requested by the company.

**Table 6.5: OUR Approved Variable Rates vs RESL Proposed Rates**

SEWERAGE					
Consumption Bands	Current Rate	RESL Proposed Rates	OUR Approved Rates	RESL Proposed Change	OUR Approved Change
	J\$/1000 litres	J\$/1000 litres	J\$/1000 litres	%	%
0 to 14,000	25	<b>65.00</b>	37.79	160.00%	<b>51.14%</b>
For the next 13,000	35	<b>116.00</b>	52.90	231.43%	<b>51.14%</b>
For the next 14,000	43.58	<b>126.50</b>	65.87	190.27%	<b>51.14%</b>
Over 41,000	43.58	<b>215.50</b>	65.87	394.49%	<b>51.14%</b>
Average Volumetric Rate	<b>36.79</b>	<b>130.75</b>	<b>55.61</b>	<b>255.40%</b>	<b>51.14%</b>
WATER					
Consumption Bands	Current Rate	RESL Proposed Rates	OUR Approved Rates	RESL Proposed Change	OUR Approved Change
	J\$/1000 litres	J\$/1000 litres	J\$/1000 litres	%	%
0 to 14,000	50.00	130.00	75.57	160.00%	<b>51.14%</b>
For the next 13,000	70.00	232.00	105.80	231.43%	<b>51.14%</b>
For the next 14,000	87.15	253.00	131.72	190.30%	<b>51.14%</b>
Over 41,000	87.15	431.00	131.72	394.55%	<b>51.14%</b>
Average Volumetric Rate	<b>73.575</b>	<b>261.50</b>	<b>111.20</b>	<b>255.42%</b>	<b>51.14%</b>

- 6.18. To ensure that the approved rates are within the sector range, the OUR conducted a benchmarking analysis with a few other utilities in the sector with similar rate structures. The RESL approved rates were found to be at the lower end of the range. Table 6.6 below shows the rate comparison.



**Table 6.6: Rate Comparison for RESL Approved Rates and Other Utilities**

Volumetric Service Blocks	Approved RESL	NWC	CDL	DEML	RWBC
	Rate	Rate	Rate	Rate	Rate
<b>WATER</b>	(\$/1000 liters)	(\$/1000 liters)	(\$/1000 liters)	(\$/1000 liters)	(\$/1000 liters)
0 to 14,000	75.57	140.08	92.67	152.52	104.6
For the next 13,000	105.80	249.31	163.41	152.52	186.03
For the next 14,000	131.72	271.74	176.44	152.52	202.87
Over 41,000	131.72	463.55	225.22	152.52	345.76
<b>Avg. Volumetric Charge</b>	<b>111.20</b>	<b>281.17</b>	<b>164.44</b>	<b>152.52</b>	<b>209.82</b>
<b>SEWERAGE</b>	(\$/1000 liters)	(\$/1000 liters)	(\$/1000 liters)	(\$/1000 liters)	(\$/1000 liters)
0 to 14,000	65.00	161.79	84.11	152.52	121.67
For the next 13,000	116.00	287.96	148.30	152.52	215.13
For the next 14,000	126.50	313.86	160.13	152.52	236.02
Over 41,000	215.50	535.38	204.39	152.52	402.78
<b>Avg. Volumetric Charge</b>	<b>130.75</b>	<b>324.75</b>	<b>149.23</b>	<b>152.52</b>	<b>243.90</b>

*Miscellaneous Fees*

- 6.19. RESL proposed a reconnection fee of \$6,000 for domestic customers and \$12,000 for commercial customers. The company argued that the reconnection fee is a per customer charge applicable only to customers whose supply has been disconnected. The OUR recognizes that there are costs associated with reconnecting a supply, but the proposed amounts of \$6,000 for the reconnection of domestic supply is above the amounts charged by the other water companies in the sector. Furthermore, RESL has not shown any exceptional circumstances that would justify a fee above the average approved charges that are applicable to other regulated utility companies. Considering this, the OUR applied the sector benchmark and approves a reconnection fee of \$4,470 for residential customers and \$12,000 for commercial customers, which is the equivalent fee charged by the NWC for the removal and replacement of a metered service.
- 6.20. The OUR allowed RESL's proposed \$12,000 fee for illegal connection of all customer types, which remains at the same rate that was approved in the Interim Determination Notice.

**Determination 2:**

The OUR deemed a billing determinant of 192,698,000 liters and approves a tariff structure, volumetric rates, service charge and miscellaneous fees as follows:

1. Monthly Service Charges:  
5/8-inch connection: \$715  
2-inch connection: \$6,000

2. Volumetric Rates:

Consumption Bands	OUR Approved Water Rates	OUR Approved Sewerage Rates
	JS/1000 litres	JS/1000 litres
0 to 14,000	75.57	37.79
For the next 13,000	105.80	52.90
For the next 14,000	131.72	65.87
Over 41,000	131.72	65.87

3. Reconnection Fee: \$4,470 for residential customers and \$12,000 for commercial customers
4. Illegal Connection: \$12,000 for all customer classes.

**Price Adjustment Mechanism (PAM)**

- 6.21. The PAM is an indexation mechanism that is applied to the base rate and charges for water and sewerage services. The mechanism seeks to preserve the real revenue of a company. The PAM is considered critical to the financial viability of the company as the adjustment made to the rates and charges periodically reflects the changes in exogenous input costs. The PAM mitigates cost movements over which the company has no control.
- 6.22. Exogenous factors captured by the PAM are as follows:
  - Changes in inflation rate (CPI – Consumer Price Index),
  - Foreign exchange rate movements (FX) and
  - Changes in electricity rates (kWh).

- 6.23. The computation of the PAM adjustment rate is done using the following formula:

$$\text{PAM} = (w_{fx} * \Delta \text{FX} + w_{cpi} * \Delta \text{CPI} + w_{kWh} * \Delta \text{kWh}) * 100$$

Where:

$\Delta \text{FX}$  is the monthly percentage change in the J\$/US\$ exchange rate,

$\Delta \text{CPI}$  is the monthly percentage change in the CPI,

$\Delta \text{kWh}$  is the monthly percentage in the kilowatt hour charge for electricity,

$w_{fx}$  is the approved weight for the J\$/US\$ exchange rate,



$w_{cpi}$  is the approved weight for the CPI, and

$w_{kWh}$  is the approved weight for the kilowatt hour charge for electricity.

- 6.24. The CPI value is published by the Statistical Institute of Jamaica (STATIN) monthly. The foreign exchange rate should be the average monthly rate that is reported by the Bank of Jamaica. The average price of electricity is the total electricity bills for the preceding month divided by the total kWh of energy used in that month. In computing the PAM adjustment rate for a given month, the index values in the computation will lag by one (1) month. This implies the PAM rate adjustment for the month of May for example, would be computed using indexation values for the month of April.
- 6.25. The weights for the three indices are derived from the apportionment of RESL's total operating cost to each index. The determined weights for the indices are shown below in Table 6.7 below.

**Table 6.7 Weights of the Base Indices in the Price Adjustment Mechanism**

Index	Weight
FX	8%
CPI	64%
Electricity	28%

- 6.26. The base indices for RESL are presented below in Table 6.8 below.

**Table 6.8 Current Value of the Base Indices for RESL**

Index	Unit	Current Base Rate
FX	US\$1:J\$	155.10
CPI		128.20
Electricity	J\$/kWh	57.32

- 6.27. On the anniversary of the PAM, RESL shall make an application to the OUR for the resetting of the base indices. This is called the Annual Price Adjustment Mechanism (ANPAM) rate adjustment. The intention of the ANPAM is to minimize the monthly PAM adjustment differential amount, which is reflected on customers' bills, by rolling into base rates, the changes to the indices over a twelve (12) month period.
- 6.28. Mathematically, the new base rates may be expressed as follows:
- $$\text{New Base Rate} = \text{Current Base Rate} \times (1 + \text{ANPAM adjustment rate}).$$

**Determination 3:**

The Office approves the application of the Price Adjustment Mechanism (PAM). The approved weightings for the indices are as follows:

- The foreign exchange rate (FX) is 8%
- The consumer price index (CPI) is 64%
- The electricity rate (J\$/kWh) is 28%

The approved base indices shall remain in effect until the anniversary of the PAM or until the next tariff review whichever is earlier. The base indices are as follows:

- Foreign exchange (FX) – 155.10
- Consumer price index (CPI) – 128.20
- The electricity rate (J\$/kWh) – 57.32

**Bill Impact Analysis**

- 6.29. For a typical residential customer using the average monthly consumption of 19.76 m<sup>3</sup> and the rates proposed by RESL, customers would see a 229% increase in bills. On the other hand, using the same average monthly consumption of 19.76 m<sup>3</sup> and the OUR's approved rates, the typical customer will see a 93.54% increase in their bill. Tables 7.1 and 7.2 below show the details of the bill impact.

**Table 6.9: Bill Impact of Rates Proposed by RESL**

Bill Impact of RESL Proposed Rates							
<= 27 m <sup>3</sup>		Current Bill		New Bill		Bill Impact	
Description	'000 Litres	Rate (J\$)	Total	Rate (J\$)	Total	JMD Change	% Change
<b>19.76</b>							
<u>Water Rates</u>							
0 - 14,000	14	50.00	\$ 700.00	130.00	\$ 1,820.00	\$ 1,120.00	160.00%
next 13,000	5.76	70.00	\$ 403.47	232.00	\$ 1,337.22	\$ 933.75	231.43%
<u>Sewerage Rates</u>							
0 - 14,000	14.00	25.00	\$ 350.00	65.00	\$ 910.00	\$ 560.00	160.00%
next 13,000	5.76	35.00	\$ 201.74	116.00	\$ 668.61	\$ 466.88	231.43%
Service Charge (5/8 inch)		-	\$ -	715.00	\$ 715.00	\$ 715.00	
<b>TOTAL BILL</b>			<b>\$ 1,655.21</b>		<b>\$ 5,450.84</b>	<b>\$ 3,795.63</b>	<b>229.31%</b>
Average Rate per cubic meter (m <sup>3</sup> )			<b>\$ 83.75</b>		<b>\$ 275.80</b>		

**Table 6.10: Bill Impact of OUR Approved Rates**

<b>Bill Impact of OUR Approved Rates</b>							
<b>&lt;= 27 m<sup>3</sup></b>	<b>Current Bill</b>			<b>New Bill</b>		<b>Bill Impact</b>	
<b>Description</b>	<b>'000 Litres</b>	<b>Rate (J\$)</b>	<b>Total</b>	<b>Rate (J\$)</b>	<b>Total</b>	<b>JMD Change</b>	<b>% Change</b>
<b>19.76</b>							
<u>Water Rates</u>							
0 - 14,000	14	50.00	\$ 700.00	75.57	\$ 1,058.01	\$ 358.01	51.14%
next 13,000	5.76	70.00	\$ 403.47	105.80	\$ 609.83	\$ 206.35	51.14%
<u>Sewerage Rates</u>							
0 - 14,000	14.00	25.00	\$ 350.00	37.79	\$ 529.00	\$ 179.00	51.14%
next 13,000	5.76	35.00	\$ 201.74	52.90	\$ 304.91	\$ 103.18	51.14%
Service Charge (5/8 inch)		-	\$ -	715.00	\$ 715.00	\$ 715.00	
<b>TOTAL BILL</b>			<b>\$ 1,655.21</b>		<b>\$ 3,216.75</b>	<b>\$ 1,561.54</b>	<b>94.34%</b>
<b>Average Rate per cubic meter (m<sup>3</sup>)</b>			<b>\$ 83.75</b>		<b>\$ 162.76</b>		

## **7. Technical Review**

### **INTRODUCTION**

#### **General**

- 7.1. As per its Licences, RESL is required to prudently discharge its obligations set out in the respective Licences, and as prescribed by the OUR Act, and other applicable legislation, regulations, codes, and standards, to ensure a clean, safe, adequate, reliable, and efficient potable water supply and sewerage service to the customers in the service area, on a non-discriminatory basis.
- 7.2. Some of the key considerations that are critical to RESL meeting the stipulated obligations, include the following:
- a) Ongoing planning and assessment of the system capacity to meet aggregate demand for water/sewerage services in the service area on a sustained basis.
  - b) Optimization of water/sewerage systems operations to minimize system operating costs and improve overall efficiency.
  - c) Implementation of cost-effective energy efficiency (EE) measures where possible to reduce energy requirements, aimed at lowering system operating costs.
  - d) Systematic application of cost control measures to support sustainable water utility operations.
  - e) Implementation of measures to reduce non-revenue water (NRW) to minimal levels in the water network and thereby, ensuring viable water utility operations and the abatement of greenhouse gases.
  - f) Adoption of prudent maintenance strategies that enhance overall water/sewerage system performance and assure service continuity and reliability.
  - g) Ensuring the availability of firm/dependable primary electric power supply for operation of water/sewerage system electrical plant/equipment, as well as back-up power supply options to enhance reliability, operational flexibility, and resilience; and
  - h) Collection and reporting of water/sewerage system performance data/parameters to facilitate system regulatory assessment and monitoring.
- 7.3. As per general industry practice, it would be expected that RESL as a water and sewerage services provider, would have already initiated the process of adopting these requirements in a bid to effectively manage and operate the Licensed Business, and to satisfy the service requirements in the Richmond service area, over the term of the Licence, while maintaining economic and environmental sustainability.

#### **Technical Review Approach and Scope**

- 7.4. The OUR's review of the technical aspects of RESL's Application, include, among other things, the following key activities:

1. Preliminary examination of the technical aspects of the Application, to ascertain whether additional information would be required to facilitate the completion of the OUR's evaluation.
2. A site visit to Richmond Development for physical inspection of the water/sewerage system plant. This was to validate the company's operating status and capabilities, as well as to verify the system design configuration.
3. Technical assessment of RESL's water/sewerage service performance since the implementation of the Interim Determination Notice.
4. Technical evaluation of the Rate Review proposals and formulating the related regulatory determinations.

#### Preliminary Review

- 7.5. The OUR's preliminary review of the Application, revealed several information deficiencies, which triggered the need for additional data from RESL to facilitate the completion of the evaluation. The additional data was requested by the OUR on 2021 October 12. RESL provided a partial response on 2022 October 24, followed by another submission on, 2022 November 25, with some additional information. The OUR's review of the additional information submitted revealed that several of the items requested were not provided, while some were found to be inadequate. However, despite these limitations, the OUR proceeded with the technical evaluation, taking into consideration all relevant information provided by RESL, and other available system operations data. Further details on the OUR's preliminary review are provided in subsequent sections.

#### Site Visit to Richmond Development

- 7.6. On 2022 December 20, the OUR carried out a site visit at the Richmond Development. In the OUR's view, the site visit's objective of validating the operational status and capabilities of the water and sewerage systems facilities/equipment was successfully met. The undertaking facilitated the collection of specific information on the status of the relevant fixed assets and the overall operating condition of the water and sewerage systems and allowed the OUR to visualize and validate the design configuration/layout of the water and sewerage systems. The observations and information compiled during the site visit were factored into the OUR's technical evaluation and analysis.

#### Execution of the Technical Evaluation

- 7.7. The OUR conducted a comprehensive technical evaluation of the Application, including the performance parameters and aspects of the company's cost proposals. The details of the evaluation methodology, findings and determinations are delineated in the sections below.

### **OVERVIEW OF WATER AND SEWERAGE SYSTEMS AND OPERATIONS**

- 7.8. The configuration of the water and sewerage systems in the Richmond service area and features of the utility operations process are summarized below:

## **Water Supply System Configuration**

- 7.9. As described in the Interim Determination Notice, the RESL water supply system as was originally designed and constructed largely depicts a typical water infrastructure arrangement utilized by small water utilities across the industry. It comprises the essential system components, including water abstraction facilities, water treatment facilities, storage and distribution network, instrumentation and controls, and revenue metering devices, with adequate capacity to provide full water service coverage to the Richmond service area.

### **Sewerage System Configuration**

- 7.10. Similarly, RESL sewerage system as designed and constructed largely reflects the typical configuration of a small wastewater utility system in operation across the industry. It is comprised of the essential system components, including collection, conveyance, treatment, and disposal sub-systems, with sufficient capacity to provide 100% sewerage coverage to the Richmond service area.

### **Structural and Process Issues**

- 7.11. The OUR reiterates its position expressed in the Interim Determination Notice that while the underlying water/sewerage system plants/equipment are reasonably sound and functional, the management and operations processes appear to suffer from certain embedded deficiencies, which have not been addressed by RESL. Having assessed the issues, the OUR believes that the attributable circumstances are largely due to the following factors:
- 1) The operation of the water and sewerage systems based on unstructured planning and substandard quality management controls.
  - 2) A bifurcated ownership arrangement and lack of demarcation between the regulated business and the development company's (that is RDCL's) operations. RDCL who is not the Licensee, appears to be a dominant player in the regulated business (water/sewerage services).
  - 3) Poor operation/compliance management, which translates to inefficient operations (high non-revenue water), unsystematic maintenance approach, low compliance on regulatory reporting, poor record keeping, and ill-prepared rate review applications.
- 7.12. These issues will be elaborated on in greater detail in subsequent sections.

## **WATER SERVICE PERFORMANCE (2020-2022)**

### **RESL's 2020-2022 Water Service Performance against Targets**

#### **Reliability of Water Supply Performance (2020-2022)**

- 7.13. The Interim Determination Notice provided an upward adjustment in RESL's water rates, which would have resulted in increased revenues for the company over the 2020-2022 regulatory control period. However, due to the unavailability of critical performance data for RESL's water system operations, the OUR was not able to determine whether there was a commensurate or tangible improvement in the overall operation of the water supply system



and the “quality of service” provided to customers in the Richmond Development. Moreover, the OUR’s records show that during the period, RESL failed to fulfil the reporting requirements in relation to system reliability/service quality, stipulated in its Water Supply Licence, and specified in the Interim Determination Notice. Specifically, up to the date of the Application (2022 August 19), RESL did not submit to the OUR any dataset or report capturing the number of planned and unplanned interruptions, the dates, times, affected areas, the number of customers affected in each case, and the specified notifications.

7.14. It is notable that it was only after the OUR’s 2022 October 12 additional information request in relation to the Application that RESL provided some of the “planned and unplanned interruptions” data for the 12-month period (2021 July to 2022 June).

7.15. The specific data on some of the water service performance standards provided by RESL in its 2022 October 24 submission, is represented in Table 7.1 below.

**Table 7.1: RESL’s Water Service Performance versus Targets (2020 – 2022)**

RESL’s 2020 – 2022 PERFORMANCE ON WATER SERVICE STANDARDS									
No.	Service Standard	Performance Target	Measurements						
			2020 Qtr. 1-4	2021 Jan - Mar	2021 Apr - Jun	2021 Jul - Sep	2021 Oct - Dec	2022 Jan - Mar	2022 Apr-June
1	Water Quality Standards	At least 95% of water samples must be collected from water production sources for testing..	No Data	No Data	No Data	100%	100%	100%	100%
		At least 95% of water samples must be negative of coli form bacteria.	No Data	No Data	No Data	100%	100%	100%	100%
		The level of residual chlorine should be between 0.5 and 5.0mg/l and present in at least 95% of samples	No Data	No Data	No Data	96%	98%	100%	100%
2	Water Pressure	The licensee shall ensure that pressure of water to customers is in the range 20-60 psi, and take all reasonable steps to ensure that customers receive an adequate and consistent supply of water at all times.	No Data	No Data	No Data	54 PSI	60 PSI	54 PSI	54 PSI
3	Planned and Unplanned Interruptions	At least 24 hours’ notice shall be given at least 90% of all planned service interruptions.	No Data	No Data	No Data	100%	100%	100%	95%
		At least 90% of emergency lock offs should be restored within 24 hours.	No Data	No Data	No Data	100%	100%	100%	100%
4	Meter Testing	The Licensee shall ensure that meters to be installed on customers' premises are batch tested by the relevant local authorities and thereafter tested once in every 3 years to ensure accuracy in the measurement of supplies to customers.		-	-	-	-	-	-

7.16. RESL only provided data related to outage notifications and service restoration after lock-offs, for a limited period of operation. However, as previously revealed, the core “reliability of supply” data, including the nature/cause of the supply interruptions, the frequency and duration of the interruptions, the number of customers affected, and the total number of customers served in each instance, was not provided by RESL for the 2020-2022 rate period.



This information deficiency effectively constrained the OUR's technical evaluation of RESL's water service performance over the 2020-2022 review period.

Water Pressure Measurements (2020-2022)

- 7.17. In its 2022 October 24 additional information submission, RESL provided some water pressure data for the months of 2021 July to 2022 June, indicating a fixed pressure reading of **54 psi** for each month from 2022 January to 2022 June (see Table 7.1 above). However, this data appears to be questionable, given the operating dynamics of a water supply system. Also, no related reports or details authenticating the reported pressure measurements were provided by the company.
- 7.18. As with the "reliability of supply" performance indicators, the absence of the full datasets and reports on water pressure levels for the 2020-2022 rate period also prevented the OUR from determining whether RESL had consistently maintained the pressure of water supplied to customers in the specified range of 20 - 60 psi (Schedule 2 of the Water Supply Licence), during the 2020-2022 rate period.

Water Quality Testing (2020-2022)

- 7.19. With respect to the water quality standards, due to the unavailability of relevant water quality information, the OUR was unable to ascertain whether RESL was ensuring that the requisite water quality tests were being performed on a consistent basis, and at the appropriate testing frequency, during the 2020-2022 regulatory period.
- 7.20. In its 2022 October 24 submission, RESL submitted two (2) separate documents entitled "NWC Water Quality 1" and "NWC Water Quality 2", both having the same title, "Report of Bacterial Examination of Water", and naming Richmond Development as the customer. According to these reports, water samples collected on 2021 November 23 and 2022 January 10 (well and tap), were respectively examined by the NWC on the stated dates. On review, it was revealed that the scope of testing and the results included in the 2021 November 23 report, were not consistent with the contents of the 2022 January 10 report (water from all sample points were not tested). This has serious implications as to whether the water quality associated with the service meets the requisite standard. However, no explanation was provided by RESL.
- 7.21. Additionally, RESL provided monthly data purportedly for water quality tests conducted for the period 2021 January to 2022 June (see Table 7.1 above), however, the related water quality reports for 2022 February to 2022 June were not submitted to the OUR. The findings indicate that these isolated cases of water testing did not fully satisfy the water quality reporting requirements specified by RESL's Water Supply Licence and the Interim Determination Notice. Due to these information deficiencies, the OUR was unable to validate whether RESL satisfied the water quality requirements of Schedule 2, paragraph A of the Water Supply Licence during the 2020-2022 regulatory period.

### **OUR's Summary Comment – Water Service Performance**

- 7.22. The OUR's review of RESL's 2020-2022 water service performance revealed that the company was not in compliance with the regulatory reporting requirements stipulated in the RESL Water Supply Licence, and the relevant determinations in the Interim Determination Notice. The sparse amount of water system operations data provided did not fully satisfy the prescribed "quality of service" requirements. Further, the poor quality and deficiency in completeness of the data, did not allow the OUR to fully assess the company's water service performance over the 2020-2022 period.

### **Water Balance for Water Supply System (2020-2022)**

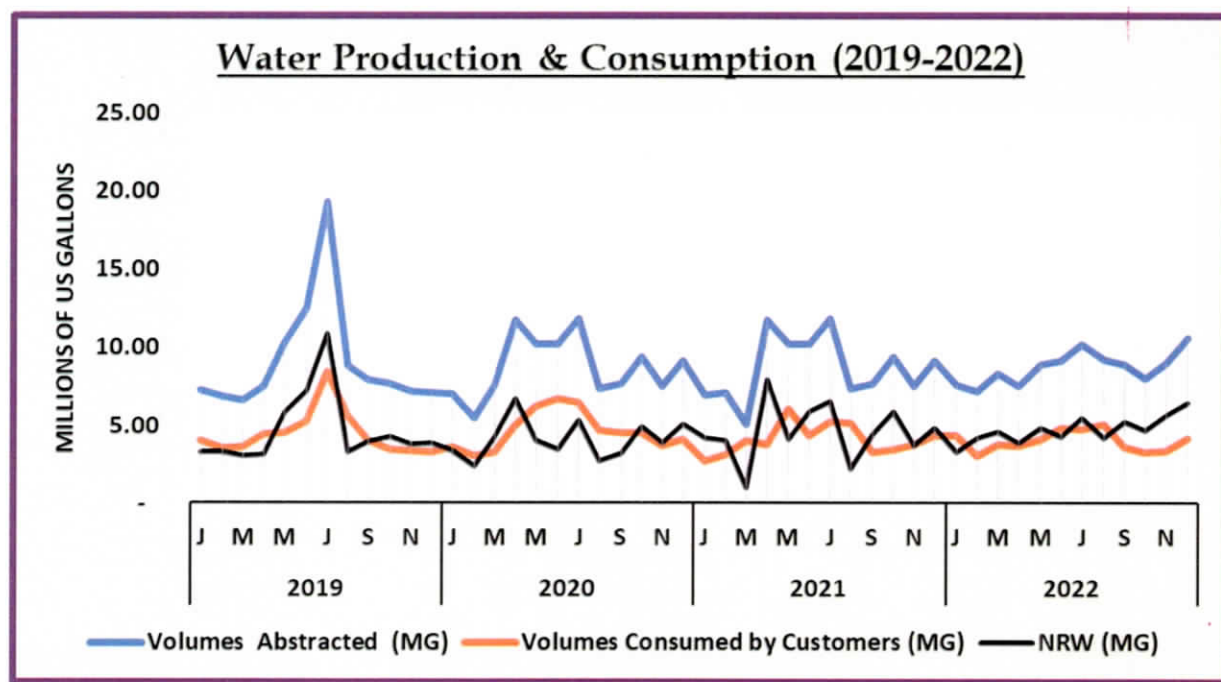
- 7.23. A "water balance" as generally applied to water utility systems across the industry is essentially a water accounting framework that establishes the relative proportions (or quantities) of the various categories/components of water consumption and water losses. The underlying principle is that for a given operating period, the total volume of water that enters a water distribution network should equate to the total volume taken out of the network (i.e., legitimate consumption, usage for fire/safety requirements, physical & commercial losses, etc.). To account for the total water quantities entering and leaving the network, the annual water balance for the period (2019-2022) was developed by the OUR, using the annual water production and billed consumption data provided by RESL for the period.
- 7.24. The water balance in this case was represented in a condensed format, encapsulating only the main components. This specifically includes the annual water production (system input volume), authorized water consumption (billed sales) and non-revenue water (NRW). The water balance for RESL's 2019 – 2022 operations is presented in Table 7.2 below.

**Table 7.2: 2019-2022 Water Balance for the Water Supply System**

RESL WATER BALANCE (2019 – 2022)										
COMPONENT	2019		2020		2021		2022		AVERAGE	
	Water Allocation (1000 US Gal)	% of Water Prod.	Water Allocation (1000 US Gal)	% of Water Prod.	Water Allocation (1000 US Gal)	% of Water Prod.	Water Allocation (1000 US Gal)	% of Water Prod.	Water Allocation (1000 US Gal)	% of Water Prod.
Water Prod.	109,768	100.00%	105,921	100.00%	104,927	100.00%	105,379	100.00%	106,498	100.00%
Billed Consumption	53,877	49.08%	56,270	53.12%	49,723	47.39%	48,253	45.79%	52,031	48.86%
<b>NRW</b>	<b>55,891</b>	<b>50.92%</b>	<b>49,651</b>	<b>46.88%</b>	<b>55,204</b>	<b>52.61%</b>	<b>57,125</b>	<b>54.21%</b>	<b>54,467</b>	<b>51.14%</b>
Prod. as % of Abstract Limit (3,500 m3/d)	32.53%	-	31.39%	-	31.09%	-	31.23%	-	-	-

7.25. The performance trend in the water balance indicators is further illustrated in Figure 7.1 below.

**Figure 7.1: Graphical Representation of 2019-2022 Water Balance**



### **Key Observations**

- 1) The performance indicators represented in the 2019-2022 water balance distribution show that the annual water production volume (water treated after abstraction) or “system input volume” realized from RESL’s water utility operations was approximately 106.50 million US gallons on average, of which, 52.03 million US gallons (or 48.86%) supplied customers’ aggregate water consumption (“billed sales”) in the service area, with annual NRW accounting for 54.47 million US gallons (or 51.14%) on average.
  - 2) The current NRW level is approximately 57.13 million US gallon (54% of annual water production) which is excessively high, given the size and scale of RESL’s water service operations. This NRW quantity was also deemed to be inconsistent with the design configuration and operating characteristics of the water supply system.
  - 3) In terms of performance trend, the data also shows that for 2020 (the year in which the Interim Determination Notice was implemented), the reported “billed consumption” was 56.27 million US Gal, representing a marginal increase above the 2019 volume (53.88 million US gallons). However, this change was reversed by the end of 2021, where the reported annual billed sales was 49.72 million US gallons, which further declined to 48.25 million US gallons by the end of 2022, effectively nullifying the increase in sales that was realized in 2020.
  - 4) The data indicates that there was a 4 percentage point reduction in the annual NRW level at the end of 2020 (46.88% of annual production volume) relative to the 2019 level (50.92%). However, this result was not sustained, and by the end of 2021, the annual NRW level jumped to 52.61%, which continued on an upward trajectory to 54.21% at the end of 2022 (see Figure 7.1 above). Thus, reversing the reduction in NRW that was realized in 2020.
- 7.26. In its Application, RESL did not provide any details on the sources and breakdown of the annual NRW quantities. This constrained the OUR’s water balance analysis. Notwithstanding, the NRW issue is addressed in further detail below.

### **RESL’s SEWERAGE SERVICE PERFORMANCE (2020-2022)**

#### **RESL’s 2020-2022 Sewerage Service Performance against Targets**

- 7.27. No report or data covering RESL’s performance in relation to the clearing of blocked sewer mains and odour control (Schedule 2, paragraph B of the Sewerage Licence) was provided, since the release of the Interim Determination Notice in 2020 April.
- 7.28. For the sewage flow measurements, RESL only provided some of the data in its 2022 October 24 additional information submission.
- 7.29. The data reported by RESL on the prescribed sewerage service standards is shown in Table 7.3 below.



**Table 7.3: RESL's Sewerage Service Performance versus Targets (2020 – 2022)**

RESL's 2020 – 2022 PERFORMANCE ON SEWERAGE SERVICE STANDARDS									
No.	Service Standard	Performance Target (Schedule 2, Paragraph B of Licence)	Measurements						
			2020 Qtr. 1-4	2021 Jan - Mar	2021 Apr - Jun	2021 Jul - Sep	2021 Oct - Dec	2022 Jan - Mar	2022 Apr-June
1	Clearing of Blocked Sewer Mains (Licence Requirement)	The Licensee shall clear 90% of all reported blocked mains within 4 hours of the report being received.	No Data	No Data	No Data	No Data	No Data	No Data	No Data
2	Odour Control (Licence Requirement)	The Licensee shall maintain the plant in such a manner as to minimize complaints of odour. There shall be no more than 5 complaints per 100 customers regarding odour in any month.	No Data	No Data	No Data	No Data	No Data	No Data	No Data
3	Swage Flow (OUR Requirement)	The Office may from time to time, introduce additional or vary these service standards and will have regard to the performance of the Licensee in meeting these standards at the tariff review.	No Data	No Data	No Inflow Measurement. Data. Effluent Outflow – 248.4 m3/d.	No Inflow Measurement. Data. Effluent Outflow – 374.4 m3/d.	No Inflow Measurement. Data. Effluent Outflow – 379.2 m3/d.	No Data	No Data

7.30. Due to these information deficiencies, the OUR was unable to validate whether RESL satisfied the requirements of Schedule 2 paragraph B of the Sewerage Licence during the 2020-2022 regulatory period.

### **RESL's COMPLIANCE WITH REGULATORY REQUIREMENTS**

7.31. During the 2019 Rate Review, the OUR after identifying several operational issues in RESL's water/sewerage service operations (related to planning/management strategy, O&M arrangements, revenue metering, among others), and recognizing a complete lack of compliance with the prescribed regulatory reporting requirements, determined that the company should comply with the requirements set out under **Determination 2** of the Interim Determination Notice. Additionally, the company was expected to observe the relevant requirements stipulated in the Licences.

### **RESL's Reporting Requirements and Compliance Level**

7.32. Even though RESL accepted and implemented the tariffs approved in the Interim Determination Notice, the company failed completely to meet the requirements specified in the relevant Licences and Determination 2 of the Interim Determination Notice. It was only after the OUR issued an information request in 2022 October, in relation to RESL's Application, that the reporting requirement was partially fulfilled by the company. Note that some of the supplied information was already overdue by almost eighteen (18) months. The reporting status and the extent of RESL's compliance with the applicable regulatory reporting requirements over the 2020-2022 rate period are captured in Table 7.4 and Table 7.5 below.

**Table 7.4: RESL's Water Service Reporting Requirements – Compliance Status**

RESL WATER SERVICE REPORTING REQUIREMENTS (RESL WATER SUPPLY LICENCE AND OUR'S 2020 DETERMINATION NOTICE)							
No.	Requirement	Reporting Frequency	Submission Date	RESL Reporting Period			OUR's Remarks
				2020	2021	2022	
1	Volume of Water Produced	Annually	By end of January directly following the applicable year.	Data Not Submitted	Data Not Submitted	Data Not Submitted	
2	Volume of Water Sold	Annually	Same as above	Data Not Submitted	Data Not Submitted	Data Not Submitted	
3	Assessment of Unaccounted-for-Water (UFW)	Annually	Same as above	Report Not Submitted	Report Not Submitted	Report Not Submitted	
4	Consumption per Customer	Annually	Same as above	Data Not Submitted	Data Not Submitted	Data Not Submitted	
5	Details of Unserved Demand	Annually	Same as above	Details Not Submitted	Details Not Submitted	Details Not Submitted	
6	Water Quality Reports	Annually	Same as above	Report Not Submitted	Report Not Submitted	Report Not Submitted	Two (2) separate documents entitled, "Report of Bacterial Examination of Water", for water samples collected 2021 Nov 23 and 2022 Jan 10 that were examined by the NWC on said date, with "Richmond Development" named as the customer, were provided by RESL as part of its 2022 Rate Review Application. Test data provided for 2021 Jul – 2022 June, but all the supporting test reports were not submitted.
7	Schedules of Maintenance Progm.	Annually	Same as above	Schedule Not Submitted	Schedule Not Submitted	Schedule Not Submitted	
8	Reliability of Supply Report: Number of Planned Interruptions Percentage of Planned Interruptions where the required 24-hour period of Notice is not adhered to. Number of unplanned interruptions Percentage of unplanned interruptions not restored in the required 24-hour period.	Annually	Same as above	Report Not Submitted	Report Not Submitted	Report Not Submitted	Monthly data for some of the "planned and unplanned interruptions" indicators for the period 2021 July – 2022 June, which were submitted by RESL (2022 October 24) only after the OUR's 2022 October 12 Additional Information Request, which was found to be inadequate and incomplete.  No data was provided on the number of planned and unplanned interruptions, the dates, times, affected areas, and the number customers affected in each case.
9	Technical Reports: Water Quality Water Pressure Planned Interruptions Unplanned Interruptions	Quarterly	Within 14 days after the end of the applicable quarter.	Quarter 2-4: Reports Not Submitted.	Quarter 1-4: Reports Not Submitted.	Quarter 1-4: Reports Not Submitted.	



**Table 7.5: RESL's Sewerage Service Reporting Requirements – Compliance Status**

RESL SEWERAGE SERVICE REPORTING REQUIREMENTS (RESL SEWERAGE SERVICE LICENCE AND OUR'S 2020 DETERMINATION NOTICE)							
No.	Requirement	Reporting Frequency	Submission Date	RESL Reporting Compliance			Remarks
				2020	2021	2022	
1	Costs and revenues associated with each customer category	Annually	By the end of January directly following the Applicable year.	Data Not Submitted	Data Not Submitted	Data Not Submitted	
2	Customer Base reports showing total number of customers per category (that is, industrial, commercial or domestic)	Annually	Same as above	Data Not Submitted	Data Not Submitted	Data Not Submitted	A dataset was provided by RESL (2022 October 24) only after the OUR's 2022 October 12 Additional Information Request.
3	Number and type of connections to other utilities	Annually	Same as above	Report Not Submitted	Report Not Submitted	Report Not Submitted	
4	Sewerage report of the relevant period detailing: total volume of sewerage collected from other utilities. total volume of sewerage treated.	Annually	Same as above	Data Not Submitted	Data Not Submitted	Data Not Submitted	
5	Effluent quality reports for each quarter	Annually	Same as above	Report Not Submitted	Report Not Submitted	Report Not Submitted	
6	Schedules of Maintenance Programme	Annually	Same as above	Schedule Not Submitted	Schedule Not Submitted	Schedule Not Submitted	
7	Number of employees	Annually	Same as above	Data Not Submitted	Data Not Submitted	Data Not Submitted	
8	Total number of new applications	Annually	Same as above	Data Not Submitted	Data Not Submitted	Data Not Submitted	
9	Total number of new sewerage connections	Annually	Same as above	Data Not Submitted	Data Not Submitted	Data Not Submitted	
10	Total number of delinquent customers (three billing period in arrears)	Annually	Same as above	Data Not Submitted	Data Not Submitted	Data Not Submitted	
11	Faults (blockages) reported in collection, conveyance and treatment	Annually	Same as above	Data Not Submitted	Data Not Submitted	Data Not Submitted	
12	Average time taken to clear faults	Annually	Same as above	Data Not Submitted	Data Not Submitted	Data Not Submitted	
13	Comparison with NEPA environmental quality standards	Annually	Same as above	Information Not Submitted	Information Not Submitted	Information Not Submitted	
14	Facilities in/out of service and period of time out	Annually	Same as above	Data Not Submitted	Data Not Submitted	Data Not Submitted	
15	Treatment capacity of sewerage plants: plant type (ponds, package, etc.). installed capacity. average throughput. Availability.	Annually	Same as above	Data Not Submitted	Data Not Submitted	Data Not Submitted	
16	Technical Reports All items required for the Annual Reports Sewage Flow	Quarterly	Within 14 days after the end of the applicable quarter.	Quarter 2-4: Reports Not Submitted	Quarter 1-4: Reports Not Submitted	Quarter 1-4: Reports Not Submitted	Effluent Outflow data for 2021 May-Dec provided in RESL's 2022 OCT 24 additional information submission.



## **RESL's Compliance with the 2020 Interim Determination Notice Technical Requirements**

- 7.33. Determination 2 of the Interim Determination Notice also established specific technical requirements for RESL in relation to its water and sewerage service operations. However, RESL did not furnish any of the items requested within the specified timeline, and where supplied, they lacked the details or contents required. The extent of RESL's compliance with the referenced technical requirements during the 2020-2022 review period is shown in Table 7.6 below.

**Table 7.6: RESL's Water/Sewerage Service Technical Requirements – Compliance Status**

OUR's 2020 DETERMINATION NOTICE REQUIREMENTS FOR RESL					
No	Requirement	Details	Due Date	Status	OUR Remarks
1	Operational Requirements (Water and Sewerage Systems)	A Guidance Framework/ Action Plan, including requirements pertaining to the planning, operations, maintenance of facilities, network diagrams, and risk assessment. This should include: Operating policies and procedures for prudent operation of the water and sewerage systems. Policies and procedures to guide the maintenance of the water and sewerage systems Infrastructure/ facilities. An overall Maintenance Plan for the water and sewerage systems infrastructure/facilities, for three (3) years in advance. Risk Management/Resilience strategy to assess and mitigate potential risks to the operation of water and sewerage systems.	2020 June 3	Items requested as per the conditions of the 2020 Interim Determination Notice, were Not submitted by RESL.	A "Guidance Framework and Action Plan" document was only submitted by RESL in response to the OUR's 2022 October 12, Additional Information Request, on 2022 November 25 (which was outstanding for almost 18 months)
2	Water/Sewerage System Environmental Requirements	RESL shall also provide the OUR with copies of any related licences, or special permits issued to the company by these entities, from time to time.		No Update provided.	The existing NEPA/NRCA Licence to Discharge Sewage Effluent (dated 2019 September 25 and valid for 5 years), was granted to RDCL, not RESL (the Licensee authorized to provide sewerage services).
3	Water Abstraction Authorization	RESL shall provide timely notification to the OUR of all applications for renewal of its water abstraction licence to the WRA, and provide copies of such renewed licenses.		The required information/ documentation for the renewal of the relevant WRA licences, as specified in the 2020 DET Notice, were Not furnished by RESL.	A copy of the new WRA water abstraction licence for the Coolshade Spring (effective date: 2021 March 5), was not submitted to the OUR until after almost 17 months, when it was included in the 2022 Rate Review Application. Also, the new WRA Licence was granted to RDCL, and not RESL (the Licensee for providing water services).
4	Revenue Metering: Requirements to satisfy the conditions of the Meter Testing Administrative and Operational Protocol (MTAOP).	A description of RESL meter procurement process. Listing of all water meters (revenue-type) installed at each service connection in MS Excel format, which shall include: The meter type. The meter manufacturer's serial number. RESL assigned meter number. Meter installation date. The specific meter location and service address. RESL customer/premises number. Copies of any related Pattern Approvals and Acceptance documents.	2020 May 3	Items requested as per the conditions of the 2020 Interim Determination Notice, were Not submitted by RESL.	Information due from 2020 May 3, was only submitted by RESL on 2022 November 25, after the OUR's 2022 October 12 Additional Information Request. The information provided is incomplete and inadequate.

### **OUR's Position – RESL's Regulatory Compliance**

- 7.34. As a cautionary note, RESL should be mindful that the persistent neglect of the company's regulatory obligations could eventually lead to the disintegration in the quality of service (water and sewerage) provided to the customers. Consequently:
- 1) Given the technical findings above, it is important to highlight that RESL's continued non-compliance with the specified regulatory requirements is unacceptable.
  - 2) Considering RESL's poor performance on the regulatory reporting and technical requirements, it is imperative that the company take urgent action to address its non-compliance and implement measures to transition the company to a more responsive, and structured organization, better oriented towards the provision of sustainable water and sewerage services.

### **OUR's TECHNICAL EVALUATION APPROACH**

- 7.35. To support its determinations on RESL's Application, the OUR, pursuant to the legal and regulatory framework, carried out a comprehensive evaluation of the technical components, in line with the technical review scope outlined above.

#### **Details of Preliminary Technical Review**

- 7.36. The OUR's preliminary technical review of the Application, revealed that additional information was required to facilitate the completion of an in-depth technical evaluation of the tariff proposals. The specific items that were requested by the OUR and the corresponding responses from the RESL are set out in Table 7.7 below.

**Table 7.7: OUR's Additional Information Request (2022 October 12) and RESL's Responses**

OUR's ADDITIONAL INFORMATION REQUEST (2022 OCT 12) AND RESL's RESPONSE (2022 OCT 24 and 2022 NOV 25)			
OPERATIONS/TECHNICAL DATA			
No.	OUR's Request	RESL's Response	Remarks
4	Monthly electricity bills, for the year ending March 2022.	Refer to attachments: Water and Sewerage Treatment Plants JPS Bills October 2021 to March 2022.	Copies of monthly JPS electricity bills to RDCL (customer) for 2021 OCT – 2022 MAR, provided for water and sewerage operations.
5	Production and consumption data for 2019 to 2021 by customer type and consumption bands.	Refer to attachments: Water Abstraction Reports 2019-2021 & Consumption Report 2019 – 2022.	Data incomplete/unclear. Monthly/annual water production data not provided. Volume unit for consumption not stated.
6	Current customer base (by customer type and meter size).	Refer to attachment: Customer Base.	All 1,035 accounts listed by RESL were classified as "Residential". About 20 of these accounts do not qualify for the residential rate class.
7	Number of staff by job functions.	Refer to organizational chart attached.	Listing of RESL's staff by job function provided. Total staff - 12
8	Updated water Abstraction License for Coolshade Spring.	Refer to attachment: Abstraction Licence Coolshade Spring & Well # 2.	A copy of the new WRA Licence for water abstraction from the Coolshade Spring (effective date: 2021 March 5) was provided. The new WRA Licence was granted to RDCL, and not RESL (the Licensee for providing water services).
9	Water Quality Reports and Test Results.	Refer to attachment: NWC Water Quality Reports 1 & 2.	Inadequate Information.
10	Water Pressure Measurement Reports	Refer to attachments: OVERALL STANDARDS 2021 and OVERALL STANDARDS January - June 2022.	Inadequate Information.
11	Service Quality Performance Data with regards to planned and unplanned service interruptions.	Refer to attachments: OVERALL STANDARDS 2021 and OVERALL STANDARDS January - June 2022.	Inadequate Information.
12	Updated NEPA/NRCA issued Licences	Refer to attachments: NEPA/NRCA Wastewater Treatment Plant & NEPA/NRCA Sewage Licences.	The existing NEPA/NRCA Licence to Discharge Sewage Effluent (dated 2019 September 25 and valid for 5 years), granted to RDCL, not RESL (the Licensee authorized to provide sewerage services)
13	Customer Service Charter (draft)	Refer to attachment: Customer Service Charter (Draft).	
14	Details regarding RESL's water meter procurement process including a copy of any related Pattern Approval and Acceptance Documents	Refer to attachment: Bureau of Standards - Test Report - Sensus SR11-2015	
	Inventory list of all RESL's revenue-type water meters (in Excel Format).	Refer to attachment: RESL's revenue-type water meters	Incomplete.
15	Technical Reports covering parameters set out under Schedule 2 of the Licence.	Refer to attachments: OVERALL STANDARDS 2021 and OVERALL STANDARDS January - June 2022	Inadequate Information.
16	Sewage flow measurements and related analysis reports.	Refer to attachment: Sewerage measurements 2021 – 2022.	incomplete
17	A Guidance Framework/Action Plan for the next three (3) years with regards to RESL's operating policies and procedures implemented/being considered to assure prudent system operation and the provision of a reasonable quality of service to customers, which shall include network diagrams, facility maintenance plans (inclusive of replacement inventories, inspection schedules, major maintenance activities, statutory requirements if any) and risk assessment strategy (including continual infrastructure integrity assessment methodology, continuous equipment performance assessment approach and the level of	We will provide the relevant documents in due course.	Guidance Framework & Action Plan document provided in RESL's 2022 November 25 additional information submission.



OUR's ADDITIONAL INFORMATION REQUEST (2022 OCT 12) AND RESL's RESPONSE (2022 OCT 24 and 2022 NOV 25)			
OPERATIONS/TECHNICAL DATA			
No.	OUR's Request	RESL's Response	Remarks
	integration of equipment redundancies and contingencies in the water supply system).		

### OUR's TECHNICAL EVALUATION OF RESL RATE REVIEW PROPOSALS

- 7.37. With regard to the water source, a Lease Agreement for access to the Richmond #2 well was provided as part of the RESL's 2022 November 25 additional information submission.
- 7.38. According to RESL, the volume of water that is extracted from the well and treated for use is materially the same. However, the Lease Agreement, includes a provision for the Owner to use the User's equipment, free of charge, to extract water from the well for the Owner's personal or commercial use. The terms of the Lease were apparently negotiated between the Owner and RDCL, to the exclusion of RESL. In terms of the physical setup, it was observed during the OUR's site visit to the Richmond Development on 2022 December 20, that a pipeline was connected to the well pump discharge line (with the meter installed), to channel water to the Owner (refer to Figure 7.2 below). RESL could not quantify the precise volume of water diverted to the Owner. Note also that while costs associated with the Lease Agreement were reflected in RESL's annual operating costs, no estimate of the cost of the water diverted to the Owner was presented as an offset, even though all the costs of water abstraction previously mentioned, were proposed to be fully recovered from the ratepayers. In keeping with the principle of cost causation and allocation, the volumes of water used by the Owner and the associated costs should be quantified.

**Figure 7.2: Photo of Raw Water Abstraction Point and Connecting Pipeline to Landowner**



#### **Water Consumption by Related Party**

- 7.39. RESL asserted that RDCL assumes 45% of the cost of water abstracted from the Richmond #2 well, and that the water supplied to RDCL is not charged as revenue by RESL. In the Application, RESL did not provide the basis of this assumption, nor supporting documentation.
- 7.40. Under conditions where regulated water is provided by the utility to an affiliate entity for which no payment will be made, regulatory principles suggest that the quantity supplied should be metered and billed, and the associated revenue applied as an offset to the revenue requirement, to be recovered through the approved rates. On the other hand, there are administrative costs associated with water/sewerage supply borne by RDCL that are not captured in RESL's costs. In the absence of detailed data on the costs between the related parties, these considerations were left out of the tariff calculations. Notwithstanding, RESL shall be required in subsequent rate review applications to provide details on the water consumed by RDCL and the shared costs between the two companies.

#### **Electric Power Supply and Costs - Water/Sewerage System**

- 7.41. It was confirmed during the OUR's 2022 December 20 site visit that RESL has maintained a dependable and stable electric power supply to ensure reliable and continuous operation of the water and sewerage systems in the Richmond Development. The power source options available include a primary supply from the Jamaica Public Service Company Limited (JPS) power grid, delivered as a 415V, 3-phase, 50Hz AC supply, and back-up power in the form of a standby diesel generator with adequate capacity to power the electrical equipment utilized in the water and sewerage systems. The OUR considered these sources of electricity supply to be acceptable and adequate.



## Water/Sewerage System - Electricity Usage and Costs

7.42. For 2021 and 2022, the quantity of electricity used in the operation of the water and sewerage system, and corresponding costs are shown in Figure 7.3 below.

**Figure 7.3: Water/Sewerage System - Electricity Usage and Costs (2021-2022)**

Water System Electricity Usage and Costs (meter#: 2336116)					Sewerage System Electricity Usage and Costs (meter#: 2336114)				
Month	FX Rate	Consumption		Total (\$)	Month	FX Rate	Consumption		Total (\$)
		kWh	kVA				kWh	kVA	
2021 Jan	149.6129	11,802.00	48.00	605,197.72	2021 Jan	149.6129	9,302.40		545,477.36
2021 Feb	151.9405	12,716.40	50.40	712,431.69	2021 Feb	151.9405	9,724.00		639,104.05
2021 Mar	146.5813	13,240.80	57.60	630,894.42	2021 Mar	146.5813	4,577.60		247,650.61
2021 Apr	154.3078	18,480.00	61.20	921,727.32	2021 Apr	154.3078	6,006.40		371,849.52
2021 May	149.3524	13,800.00	61.20	684,217.82	2021 May	149.3524	6,701.60		367,899.38
2021 Jun	148.5164	16,404.00	61.20	773,023.97	2021 Jun	148.5164	6,724.00		377,569.15
2021 Jul	154.5879	11,676.00	52.80	597,994.80	2021 Jul	154.5879	8,336.00		467,183.77
2021 Aug	152.0910	12,360.00	52.80	639,519.24	2021 Aug	152.0910	7,116.00		414,497.97
2021 Sep	147.2441	10,920.00	52.80	572,302.47	2021 Sep	147.2441	7,100.00		401,289.46
2021 Oct	155.6587	12,960.00	50.40	692,341.07	2021 Oct	155.6587	8,575.20		519,661.53
2021 Nov	156.6721	11,520.00	50.40	739,070.11	2021 Nov	156.6721	9,242.40		646,918.18
2021 Dec	155.0878	12,295.20	42.24	690,186.25	2021 Dec	155.0878	7,864.80		520,718.77
<b>2021 TOTAL</b>	<b>151.8044</b>	<b>158,174.40</b>		<b>8,258,906.90</b>	<b>2021 TOTAL</b>	<b>151.8044</b>	<b>91,270.40</b>	<b>N/A</b>	<b>5,519,819.76</b>
2022 Jan	157.0589	11,286.00	50.40	687,666.67	2022 Jan	157.0589	9106.40		631,939.92
2022 Feb	155.6029	14,019.60	50.40	908,040.82	2022 Feb	155.6029	11904.80		912,597.75
2022 Mar	153.7801	14,167.20	50.40	800,852.73	2022 Mar	153.7801	12121.60		815,432.05
2022 Apr	154.8556	12,072.00	42.00	736,942.01	2022 Apr	154.8556	12737.60		909,991.69
2022 May	154.7429	9,242.40	44.40	610,273.56	2022 May	154.7429	6143.20		442,396.71
2022 Jun	151.5580	10,610.40	46.80	694,238.26	2022 Jun	151.5580	7476.80		536,482.62
2022 Jul	153.6414	11,829.60	50.40	781,661.15	2022 Jul	153.6414	9166.40		658,394.21
2022 Aug	151.6020	8,904.00	40.32	570,043.98	2022 Aug	151.6020	7773.60		510,043.03
2022 Sep	152.8195	8,950.80	40.32	632,223.09	2022 Sep	152.8195	8279.20		617,152.39
2022 Oct	154.1349	9,182.40	40.32	579,649.47	2022 Oct	154.1349	6980.00		469,012.52
2022 Nov	154.7128	10,978.80	40.32	662,852.51	2022 Nov	154.7128	9160.00		627,176.88
2022 Dec	152.0521	11,185.20	40.32	610,356.73	2022 Dec	152.0521	8556.80		534,856.06
<b>2022 TOTAL</b>	<b>153.8801</b>	<b>132,428.40</b>		<b>8,274,800.99</b>	<b>2022 TOTAL</b>	<b>153.8801</b>	<b>109,406.40</b>	<b>N/A</b>	<b>7,665,475.82</b>

7.43. For the water supply system, the data shows that although the 2022 annual electricity consumption (132,428) decreased by 25,746 kWh (19.4%) relative to the 2021 usage (158,174 kWh), the corresponding electricity costs were largely constant at approximately J\$8.3million. This was largely due to the combined effect of the FX rate changes, fuel rate and demand charge.

7.44. In contrast, the 2022 annual consumption for the sewerage system (109,406 kWh) increased by 18,136 kWh over the 2021 usage (91,270kWh), with a commensurate cost increase of J\$2.15 million.



### Efficiency Indicators for Electricity Consumption

- 7.45. In general terms, the provision of water and sewerage services using small utility systems such as those operating in Richmond, is normally a very energy-intensive activity. Given that facilities are usually affected by economies of scale, it is of necessity that emphasis is placed on energy efficiency (EE) measures/indicators to ensure the minimization of energy consumption in the operation of these utility systems.
- 7.46. Against this background, it is deemed critical to assess RESL's EE performance in its water and sewerage services operations, against established benchmarks, by considering the ratios of energy consumed to the volume of water produced, in the case of the water service, and for the sewerage service, the energy consumed to the volume of wastewater (WW) treated.
- 7.47. Using the electricity consumption and water production data provided, the EE indicators and other related parameters were derived by the OUR, which were compared against benchmarks, as presented in Table 7.9 below.

**Table 7.9: EE Indicators for RESL's water and Sewerage Service Operations**

EE INDICATORS FOR RESL's WATER AND SEWERAGE SERVICE OPERATIONS						
Components	2020	2021	2022	Average	Benchmark (Typical for Small Systems)	OUR Estimation for Revenue Req
<b>POTABLE WATER</b>						
Water produced (USG)	105,920,500	104,926,900	105,379,600	105,408,667		
Water produced (m3)	400,952.64	397,191	398,901	399,015.14		399,015
Total Electricity Cons. (kWh)	148,052.40	158,174.40	132,428	146,218.40		147,636
Total Elect Cost (J\$M) - Actual	6,235,195.61	8,258,907	8,274,801	7,589,634		
Electricity Cons per unit volume of PW Produced (kWh/m3)	0.37	0.40	0.33	0.37	0.10 to 1 kWh/m3	0.37
Ave cost per kWh (J\$/kWh)	42.11	52.21	62.49	52.27		57.50
Projected annual Elect Cost (J\$M)	-	-	-	-		8,488,810
<b>WASTE WATER (WW)</b>						
WW Treated (USG)	105,920,500	104,927,900	105,379	105,408,667		
Water produced (m3)	400,952.64	397,191	398,901	399,015.14		399,015
Total Electricity Cons. (kWh)	101,181.60	91,270	109,406	100,619		115,714
Total Elect Cost (J\$M) - Actual	5,226,015.08	5,519,820	7,665,476	6,137,104		
Electricity Cons per Volume of WW treated (kWh/m3)	0.25	0.23	0.27	0.25	0.6 kWh/m3	0.29
Ave cost per kWh (J\$/kWh)	51.65	60.48	70.06	60.73		66.80
Projected annual Elect Cost (J\$M)	-	104,927	105,379	-		7,730,143

7.48. Arising from the OUR's assessment the following key points were observed:

- 1) The energy consumption per unit volume of water produced (kWh/m3) and the energy consumption per unit volume of wastewater treated (kWh/m3) are within acceptable limits, and this suggests that utilization of electricity in the operations is within reasonable degrees of efficiency.

- 2) Applying the EE indicators and related parameters, the OUR estimated the annual electricity costs for the water and sewerage service operations as J\$8.5 million and J\$7.73 million, respectively.
- 7.49. With respect to the water service operations, the annual total electricity cost as reflected in the JPS bills represents the total cost for producing water.

### **Energy Efficiency Initiatives**

7.50. While the EE performance of the water and sewerage system seems reasonable, this does not mean that there is no scope for improvement. Considering the focus on EE as a means of improving overall operational efficiency, to delay capital investments and for reducing the carbon footprint, the OUR is of the view that RESL should be incentivised to implement feasible EE measures. This would lower overall energy consumption and costs, and contribute to the financial and environmental sustainability of the water and sewerage operation over the long-term. Some of the EE measures that may be considered include:

- Incorporating EE practices into daily system operations.
- Optimization of system operations.
- Utilizing new, energy-efficient technologies.
- Installing premium efficiency motors and variable speed drives (VSD);
- Developing alternative pumping schemes and pump system upgrades.
- Installing adequate controls and monitoring systems.
- Conducting benchmarking and energy audits.
- Shifting power consumption from on-peak to off-peak hours.
- Adding storage or more effectively using existing storage facilities.
- Promoting water conservation and use of energy efficient equipment/products; and
- Reducing water losses/leakages.

### **Management of the Licensed Business (Water and Sewerage Services)**

#### **RESL's Guidance Framework/Action Plan (water and sewerage)**

7.51. To provide reliable water and sewerage services at reasonable rates, the company is expected to ensure optimal system operations at all times, to minimize total operating costs, while improving overall efficiency, reliability and "quality of service" performance. While the realization of this objective is essential, it is also imperative for the company to employ prudent asset management strategies to limit malfunction and undue degradation of key water/sewerage infrastructure assets over time, particularly the major facilities/equipment that have been in service since the commencement of commercial operations. Note also that the water and sewerage systems as designed and constructed are expected to operate within the respective minimum functional specifications to deliver safe, adequate, efficient, and reliable water and sewerage services to the Richmond Development over the term of the Licences.

- 7.52. Recognizing these critical factors, the OUR in the Interim Determination Notice, determined that RESL was required to develop a “Guidance Framework/Action Plan” to guide the water/sewerage service operations over the long-term. As was specified by the OUR, this Framework/Action Plan was to include requirements pertaining to system planning, operations (policies and procedures), maintenance of facilities, as-built network diagrams, and risk assessment. RESL was required to submit this document to the OUR within three (3) months of the effective date of the Interim Determination Notice.
- 7.53. However, RESL submitted the Guidance Framework/Action Plan on 2022 November 25 after the OUR’s 2022 October 12 additional information request in relation to its Application. The OUR’s review of the document revealed that it was limited in several aspects and did not include some of the key requirements specified by the OUR.

#### Water/Sewerage System Maintenance Requirements

- 7.54. As stipulated in the Licences, RESL shall maintain and keep in good repair all equipment used in carrying out the Licensed Business. In doing so, the company would be required to develop prudent maintenance policies/procedures and adhere to these guidelines, to assure efficient, reliable and cost-effective water/sewerage supply to customers.
- 7.55. Having regard to these conditions, the OUR in the Interim Determination Notice determined that RESL shall develop appropriate policies/procedures to guide the maintenance of the water/sewerage system infrastructure/facilities, to be included in the Guidance Framework/Action Plan. The company was also required to develop an overall Maintenance Plan for the water/sewerage system infrastructure/facilities for three (3) years in advance with certain specified conditions, to be submitted to the OUR, within three (3) months after the effective date of the Interim Determination Notice, and thereafter, review the plan annually and update as necessary, then submit the revised plan to the OUR in the month of January following the applicable year.
- 7.56. The required maintenance plans as specified were not provided by RESL. In the Guidance Framework/Action Plan submitted on 2022 November 25, the company included very limited information on its maintenance strategy, which did not satisfy the requirements specified in the Interim Determination Notice.
- 7.57. In terms of costs, the scope of the maintenance programme presented was very limited and did not allow for any meaningful evaluation of present and future “repairs and maintenance” expenditures.

#### **OUR’s Position**

- 7.58. Given the issues highlighted, the OUR position is that going forward the company shall:
- 1) Implement appropriate measures and management controls to eliminate the embedded defects and inefficiencies in its management/operating process and ensure full compliance with the prescribed legal and regulatory requirements.
  - 2) Review and update the Guidance Framework/Action to reflect, among other things, the requirements specified in the Interim Determination Notice. This shall be submitted within

three (3) months of the effective date of this Determination Notice. RESL may seek consultations with the OUR on this matter if necessary.

- 3) Develop the annual Maintenance Plans (3-year plan) for the water/sewerage system infrastructure facilities (production, treatment, distribution and storage), reflecting, among other things, the relevant OEM's maintenance requirements, schedule of inspections and major maintenance activities (start and end dates), spare equipment & supplies in inventory, and statutory maintenance requirements (where applicable), which shall be submitted as separate documents to the OUR, within three (3) months after the effective date of this Determination Notice. Thereafter and for the remaining period of RESL's Licences, RESL shall review the plan at the end of each year and update as necessary and submit the revised plan to the OUR by the end of January following the applicable year.

## **RESL Water Service – Performance Requirements**

### **Water Production Capacity and Demand Requirements**

- 7.59. Based on the annual water production volumes reported for the water supply system since the start of commercial operations, it was established that these annual water outputs to date only represent up to **32.5%** of the annual water abstraction limit (3,500 m<sup>3</sup>/day) permitted by the WRA licence. This means that with ten (10) years of the twenty-year Water Supply Licence term having already elapsed and no massive growth in water demand expected over the remaining period, there should be no breach of the WRA water abstraction limit for the Richmond #2 Well to supply water to the Richmond service area. From these indications, it can be deduced that with prudent O&M practices and procedures, the water supply system should have sufficient production capacity, on a sustained basis, to meet the existing (~200,000 m<sup>3</sup>) and incremental potable water demand in the Richmond Development.

### **Treatment of Non-Revenue Water**

- 7.60. In water utilities operation, NRW mainly involves water losses, which is comprised of two major components: apparent losses and real losses. Apparent losses relate to unauthorised water consumption, metering inaccuracies and billing and accounting errors. If not addressed, these losses can become problematic, consequently depriving the company of needed revenues and distorting customer consumption data and usage patterns. On the other hand, real losses are physical water losses (mainly leakages and overflows) in the distribution network, which can severely impact the company's operations with significant cost implications.
- 7.61. With respect to RESL's water service operations, the NRW level for 2019, 2020, 2021 and 2022 was estimated at 50.92%, 46.88%, 52.61% and 54.21% of the annual system input volume, respectively, which are uncharacteristic for small water utility systems (based on industry benchmarks). Since NRW is a key performance indicator of efficiency, it therefore means that these annual NRW measurements, are reflective of low operational efficiency and a lack of proper water accounting and internal controls by RESL in the process of

carrying out the Licensed Business. The consequences of such deficiencies are far-reaching, as high NRW levels erode water revenues and deplete financial resources. This in turn, could lead to under investment in water network/infrastructure, which could further exacerbate system inefficiencies that will undoubtedly precipitate other adverse effects, such as degraded service quality.

- 7.62. From further examination of the data, it was deduced that the major cause of the high levels of NRW in the water network was not attributable to “real water losses” (leakage, overflows, etc), but instead, were largely due to “Authorized Unmetered/Unbilled Consumption” in the Richmond Development. However, RESL has provided no details on the specific sources and breakdown of NRW in the system.
- 7.63. As a point of reference, RESL indicated during the 2019 Rate Review process, that its annual NRW for 2018 was approximately 50%, which was largely caused by the authorized unmetered water usage in the Development, from the following operations:
- Supermarket owned by RDCL.
  - Construction activities in the Development being done by RDCL.
  - Office canteen and staff change rooms activities; and
  - Flushing of sewer mains and sewerage treatment plant (STP) facilities.
- 7.64. While RESL did not account for the relevant NRW volumes in its Application, the details relating to the 2018 NRW performance and causation, would appear to show a consistent NRW profile for subsequent years. In the OUR’s view, this NRW performance pattern infers that the same causation factors identified by RESL in 2019, have not been addressed, and continue to be the primary sources of the recorded high NRW in the water network.
- 7.65. In that context, the indicated NRW constituents should not be reported as actual water losses as defined but rather as RESL’s unbilled internal commercial water consumption. Accordingly, the estimated water volume for each component should be accounted for as water sales and not NRW. On that basis, the company needs to take appropriate action to address this situation. In the case of the sewerage plant operation, this is a separate service governed by a different licence. Therefore, any water input to the sewerage operation from RESL’s water supply system, should be metered and billed. Additionally, it should be noted that the water balance does not provide any specific information on fire water requirements.
- 7.66. In Section 7 of the Interim Determination Notice, the OUR specified that RESL should ensure that the supply of regulated water to a related party (RDCL) for commercial and construction operations, and other purposes, in the Richmond service area, should be accounted for as “billed water sales” and not NRW, and take appropriate action to address the issue of unmetered/unbilled water consumption by affiliate entities. However, the information provided in the Application indicates that RESL did not install the required revenue meters to accurately account for the unmetered/unbilled water provided to related parties, to properly account for water supplied as “billed consumption” and not NRW.



### **RDCL Water Usage and Contribution to NRW**

- 7.67. According to RESL, approximately 45% of the regulated water supplied to RDCL is not charged as revenue by RESL. It contends that the annual total water abstracted minus the sum of monthly metered consumption and the assumed amount for RDCL should represent the NRW. However, the application of the standard water balance framework (IWA/IWWA), would classify the water supplied to RDCL as an unmetered/unbilled quantity, which is recognized as a component of NRW.

### **Water for Sewerage System Operations**

- 7.68. For water used in the sewerage system, the OUR reasoned that such operations involve a separate service governed by a different licence, therefore, any water supplied for the flushing of sewer mains and other uses, must be metered and recorded as “billed consumption”. In the OUR’s view, these are weaknesses in how water is accounted for, and specific requirements must be addressed by RESL immediately after the implementation of this Determination Notice.

### **OUR’s Position - NRW**

- 7.69. Having regard to the described issues and factors, the OUR’s is of the view that RESL shall:
- 1) Implement the appropriate metering in water network to accurately measure and account for all authorized water consumption in the Richmond service area, which shall include the installation of revenue-grade water meters (approved by the OUR) at facilities and operations controlled by RDCL, which shall be completed within four (4) months of the effective date of this Determination Notice.
  - 2) Properly account for all the components of NRW in the water network and provide a monthly breakdown of the NRW components/sources and estimated volumes in the quarterly Technical Reports to be submitted to the OUR.
  - 3) Employ reasonable efforts to reduce and maintain NRW within acceptable levels.

### **Customer Base Issues**

- 7.70. According to the customer base data provided, there are currently 1,042 metered service accounts in the Richmond Development, which were all classified as residential service. The data also shows 25 of these 1,042 accounts are associated with premises/facilities (parks, gym, pool/clubhouse, and others) that do not qualify for the residential rate class, but no explanation for these non-residential facilities was provided by RESL.

### **Revenue Metering**

- 7.71. In the Interim Determination Notice, the OUR established that for the Licenced Business, RESL shall ensure that all revenue-type water meters installed at each customer supply connection in the service area, is in conformity with the requirements of Water Supply Licence and the Meter Testing Administrative and Operational Protocol for the Electricity

and Water Sectors in Jamaica, 2017 (MTAOP). In addition, RESL was to provide specific information on all revenue water meters installed in the water network which was to be submitted within one (1) month of the effective date of the Interim Determination Notice. However, RESL only submitted a dataset on the metering requirements 2022 November 25, after the OUR's 2022 October 12 additional information request.

- 7.72. The OUR's review of the dataset found it to be inadequate and incomplete and without details of the specific meter types used and the installation date for all the meters.
- 7.73. It was also observed that some water meters were installed by RESL in 2021 and 2022, which were not approved by the OUR. The MTAOP which was published in the Jamaica Gazette and implemented in 2017 October, requires regulated entities, including RESL, to obtain Pattern Approval and Acceptance Approval from the OUR before any revenue water meter can be deployed in the water networks.
- 7.74. This was not done by RESL for revenue water meters installed in the Richmond Development since the implementation of the MTAOP, and constitutes a violation of the relevant regulations, standards, and protocols. Also, no documentation was provided by RESL, indicating that it is permitted to install the meters in the system. Accordingly, any metering/billing issue or complaint by customers arising from those meters will by default be resolved in favour of the customers.
- 7.75. Given the ramifications of this issue, RESL shall take the necessary steps to normalize the status of the metering devices in question, subject to the provisions of the framework, which shall be fully completed within four (4) months of the effective date of this Determination Notice.

### **Water Supply Reliability**

- 7.76. This component relates to the availability and continuity of potable water services to all customers connected to the water supply system and is considered a key factor for assessment of overall system reliability and service delivery performance. Essentially, this dimension involves frequency, duration, and severity of water supply interruptions (planned and unplanned), as well as daily water demand/capacity dynamics, and other relevant metrics.
- 7.77. Based on the metering data provided, there are currently 1,042 metered service accounts in the Richmond Development, contributing to an annual average water consumption of approximately 200,000 m<sup>3</sup>, with potential for future demand expansion. In serving the water demand, RESL has the obligation to provide full (100%) coverage with acceptable reliability and water quality, regardless of occupancy level.

### **Planned and Unplanned Interruptions**

- 7.78. In evaluating service reliability performance, planned and unplanned supply interruptions provide a basis for deriving the relevant metrics and indicators.

With respect to RESL's water service operations, for the new regulatory period, the company shall comply with requirements for planned and unplanned interruptions as stipulated in Schedule 2, paragraphs D and I 3.h. of the Water Supply Licence.

- 7.79. Subject to the Water Supply Licence requirements, the reliability report on planned and unplanned interruptions to be submitted by RESL to the OUR shall be structured in MS Excel format, and in addition to the data/contents required for the annual reports, shall include a listing of the outages/interruptions that occurred each month, with details on the specific cause, date, start time, duration of each outage, and the number of customers and area affected by each outage. This reliability report shall be submitted to OUR within fourteen (14) days after the end of each applicable quarter.

### **Water Quality Requirements**

- 7.80. Pursuant to the existing legal and regulatory framework, this standard shall continue to apply as per the requirements of Schedule 2, paragraph A of the Water Supply Licence, which are minimum requirements. Notwithstanding, as previously indicated the OUR's review identified several issues with the frequency and scope of the water quality testing prescribed by the Water Supply Licence, along with some inconsistencies in contents of the test reports. In addition, RESL failed to submit all the test reports for the water quality testing purportedly done during the 2021-2022 timeframe. This information gap did not allow for a complete assessment as to whether RESL was fully satisfying the requirements of Schedule 2, paragraph A of the Water Supply Licence.
- 7.81. Arising from these revelations, the OUR's finds it necessary to stipulate that RESL shall, in accordance with prudent utility practice, put in place proper systems/processes to ensure that the potable water supplied to customers in the Richmond service area meets the prescribed water quality standard.

### **Water Pressure Requirements**

- 7.82. As dictated by the existing legal and regulatory requirements, this standard shall continue to apply as per the requirements of Schedule 2, paragraph C of the Water Supply Licence. However, as previously described, the full dataset on pressure levels in the water network during the 2020-2022 rate period was not provided by RESL.
- 7.83. Consequently, based on these findings, the OUR's position is outlined as follows:
- 1) RESL shall, in accordance with prudent utility practice, put in place proper systems/processes to ensure that the pressure of water supplied to customers is managed and maintained in the prescribed range (20 - 60 psi).
  - 2) RESL shall establish designated water pressure check points to ensure that there are no water supply pressure breaches throughout the water distribution network.
- 7.84. The water pressure measurements taken by RESL each month, shall be reported in the quarterly Technical Reports to be submitted to the OUR.

### **Water Abstraction Requirements**

- 7.85. It is of critical importance that RESL ensures that the relevant water abstraction licences are valid. Pursuant to the requirements of the Water Supply Licence, RESL in carrying out the Licensed Business shall conform to the relevant environmental standards established by the National Environmental Planning Agency (NEPA) and the Natural Resources Conservation Authority (NRCA).
- 7.86. The OUR has noted that the Water Resource Authorities (WRA) licences were granted to RDCL and not RESL (the Licensee). The most recent being the Coolshade Spring water abstraction licence, which was renewed on 2021 March 5, with RDCL as the licensee. On this matter, the OUR takes the view that since RESL is the water utility company it would be prudent that all relevant regulatory instruments, including the water abstraction licences be obtained by RESL in its own name prior to any further tariff applications.
- 7.87. It was also observed that the Richmond #2 Well water abstraction licence (issue date: 2018 February 26) has expired. In this regard, if it has not yet been renewed, it should be done immediately to ensure that the abstraction of water for the provision of regulated water service in the Richmond Development is done legitimately.
- 7.88. RESL shall be required to submit to the OUR copies of any renewed and/or modified licences, or special permits (pertaining to regulated water service) issued to the company by these regulatory agencies, from time to time.

### **Regulatory Reporting Requirements - Water Service**

- 7.89. Pursuant to the existing legal and regulatory framework, the water service reporting requirements specified in Schedule 2, paragraph I of the Water Supply Licence shall continue to apply. Accordingly, RESL shall submit to the OUR on an annual basis, the following technical information:
- a) Volume of water produced.
  - b) Volume of water sold.
  - c) Assessment of unaccounted-for-water (UFW).
  - d) Consumption per customer category.
  - e) Details of any unserved demand.
  - f) Water quality reports.
  - g) Schedules of maintenance programme.
  - h) Reliability of supply report for relevant period detailing:
    - Number of planned interruptions.
    - Percentage of planned interruptions where the required 24-hour period of Notice is not adhered to.
    - Number of unplanned interruptions; and
    - Percentage of unplanned interruptions not restored in the required 24-hour period.

### **Technical Reports**

- 7.90. To ensure that the company fulfils its regulatory obligations. The OUR requires that RESL shall continue to submit the following reports:
- 1) Quarterly Technical Reports covering, among other things, all the reporting requirements and performance indicators set out under Schedule 2 of the Water Supply Licence, which must be submitted for each applicable quarter prior to the submission of the full annual report for each calendar year during the remaining period of the Licences. These reports shall also include other identified items specified in this Determination Notice, and shall be submitted to the OUR within fourteen (14) days after the end of each applicable quarter; and
  - 2) Any other technical data/reports related to the water system that the OUR may consider necessary, from time to time.

### **RESL Sewerage Service**

#### **Sewage Treatment Capacity**

- 7.91. Based on the design specifications and capacity of the STP (3,028 m<sup>3</sup>/day), relative to the current maximum influent wastewater volumes (~ 450 m<sup>3</sup>/day), barring any unforeseen circumstances, the system is expected to have the sufficient sewage treatment capacity available to provide safe and reliable sewerage services in the Richmond Development over the remaining period of the Sewerage Licence.

#### **Sewerage Service Performance Standards**

- 7.92. Pursuant to the existing legal and regulatory framework, the sewerage service standards set out under Schedule 2, paragraph B of the Sewerage Licence (minimum requirements for clearing blocked sewer mains and odour control), shall be observed by the Licensee.

### **OUR's Position**

- 7.93. Given the gaps in RESL's reporting, the OUR requires that going forward, RESL shall ensure that all the relevant information on the prescribed sewerage service standards (as per the Interim Determination Notice) are submitted as specified by the OUR in a timely manner.

#### **Sewerage System Environmental Requirements**

- 7.94. Additionally, RESL shall submit to the OUR copies of any renewed and/or modified licences, or special permits (pertaining to regulated sewerage service) issued to the company by the relevant regulatory agencies, from time to time.



## **Regulatory Reporting Requirements – Sewerage Service**

- 7.95. Pursuant to the existing legal and regulatory framework, the sewerage service reporting requirements specified in Schedule 2, paragraph E of the Sewerage Licence shall continue to apply. Accordingly, RESL shall submit to the OUR on an annual basis, the following information:
- 1) Costs and revenues associated with each customer category.
  - 2) Customer based reports showing total number of customers per category (that is, industrial, commercial, or domestic).
  - 3) Number and type of connections to other utilities.
  - 4) Sewerage report of the relevant period detailing:
    - a) total volume of sewerage collected from other utilities; and
    - b) total volume of sewerage treated.
  - 5) Effluent quality reports for each quarter.
  - 6) Schedules of maintenance programme.
  - 7) Number of employees.
  - 8) Total number of new applications.
  - 9) Total number of new sewerage connections.
  - 10) Total number of delinquent customers (three billing period in arrears).
  - 11) Fault (blockages) reported in collection, conveyance and treatment.
  - 12) Average time taken to clear faults.
  - 13) Comparison with NEPA environmental quality standards.
  - 14) Facilities in/out of service and period of time out.
  - 15) Treatment capacity of sewerage plants:
    - a) plant type (ponds, package, etc.).
    - b) installed capacity.
    - c) average throughput.
    - d) availability.
- 7.96. Given RESL's reporting failures and delinquencies during the 2020-2022 review period, it now has an opportunity to focus on these regulatory requirements with the aim of significantly improving its current compliance level.

## **Technical Reports**

- 7.97. Based on the findings of the OUR's technical review, going forward, there will be a need for more in-depth monitoring and assessment of RESL's sewerage service performance, at closer intervals, to determine if the company is fulfilling its regulatory obligations stipulated by the legal and regulatory framework. On that basis, the OUR position is that RESL shall continue to submit the following items:
- 1) Quarterly Technical Report covering, among other things, all the reporting requirements and performance indicators set out under Schedule 2 of the Sewerage Licence, which must be submitted for each applicable quarter prior to the submission

of the full annual report for each calendar year during the remaining period of the Sewerage Licence. This reported shall also include other identified items specified in this Determination Notice, and shall be submitted to the OUR within fourteen (14) days after the end of each applicable quarter; and

- 2) Any other technical data/reports related to the sewerage system that the OUR may consider necessary, from time to time.

#### **OFFICE DETERMINATION**

7.98. In making its determination on the technical elements of RESL's Application, the Office took into consideration, among other things, the following:

- 1) The results of the OUR's technical evaluation of the Application.
- 2) The relevant provisions of the Licences; and
- 3) The determinations set out in the Interim Tariff Determination Notice.
- 4) The resulting Office determinations are summarized in Determination # 4 below:

#### **Determination 4**

- 1) RESL shall fully satisfy all the regulatory requirements specified in the Water Supply Licence, Sewerage Licence and the Interim Determination Notice that have been outstanding since 2020 April and address all the instances of the company's non-compliance over the said period. All the required information and deliverables shall be submitted to the OUR within two (2) months of the effective date of this Determination Notice.
- 2) RESL shall exercise reasonable diligence and take urgent action to normalize the existing ownership situation involving the relevant water/sewerage system fixed assets.
- 3) At the next tariff review RESL shall provide supporting evidence/documentation to demonstrate that RDCL is proportionately absorbing the costs (electricity, repairs & maintenance, etc.) for the use of 45% of the water produced in the system.
- 4) RESL shall fulfil the following requirements going forward:
  - a. Within four (4) months of the effective date of this Determination Notice submit a report on the actions it has undertaken to implement the appropriate measures and management controls to eliminate the embedded defects and inefficiencies in its management/operating process, to ensure full compliance with the prescribed legal and regulatory requirements.
  - b. Review and update the Guidance Framework/Action to reflect, among other things, all the requirements specified in the Interim Determination Notice, which shall be submitted within two (2) months of the effective date of this Determination Notice. RESL consult with the OUR on this matter if needed.
  - c. RESL shall develop the annual Maintenance Plans (3-year plan) for the water/sewerage system infrastructure facilities (production, treatment, distribution and storage), reflecting, among other things, the relevant OEM's maintenance requirements, schedule of inspections and major maintenance activities (start and end dates), spare equipment & supplies in inventory, and statutory maintenance requirements (where applicable), which shall be submitted as separate documents to the OUR, within two (2) months after the effective date of this Determination Notice. Thereafter, RESL shall review the plan at the end of each year and update as necessary, then submit the revised plan to the OUR by the end of the month of January that follows the applicable year, for the remaining period of RESL's Licences.
- 5) RESL shall satisfy the following requirements pertaining to NRW going forward:
  - a. Implement the appropriate metering in water network to accurately measure and account for all authorized water consumption in the Richmond service area, which shall include the installation of revenue-grade water meters (approved by the OUR) at facilities and operations controlled by RDCL, which shall be completed within four (4) months of the effective date of this Determination Notice.
  - b. Properly account for all the components of NRW in the water network and provide a monthly breakdown of the NRW components/sources and estimated volumes in the quarterly Technical Reports to be submitted to the OUR.
  - c. Within four (4) months of the effective date of this Determination Notice submit a report on the measures it has employed to reduce and maintain NRW within acceptable levels.

- 6) RESL, with regard to the revenue water meters which were installed in violation of the provisions of the MTAOP, shall take the necessary steps to normalize the status of the metering devices, subject to the provisions of the MTAOP framework, which shall be fully completed within four (4) months of the effective date of this Determination Notice. If RESL fails to rectify the issue as specified, the OUR will direct the company to remove the unauthorized water meters from service. In addition, RESL is required to provide a listing of all the revenue water meters already installed and those in inventory stores, which have been subjected to testing and approval under the MTAOP.
- 7) RESL shall comply with all the “Quality of Service” performance requirements for water and sewerage service specified under this section of this Determination Notice (see Annex 2).
- 8) RESL shall comply with all the Regulatory Reporting and Technical Requirements for water and sewerage service specified under this section of this Determination Notice (see Annex 2).
- 9) RESL shall comply with all the Water Abstraction and Environmental Requirements for water and sewerage service specified under this section of this Determination Notice (see Annex 2).
- 10) RESL shall comply with all the requirements in this Determination Notice. And, where the company is unclear about certain aspects of the Office determinations, it may choose to consult with the OUR on such matters.



## **8. Public Consultation**

- 8.1. The OUR, on 2022 October 30, hosted a virtual public consultation with the customers of RESL as part of its tariff review process and is in keeping with its usual practice and mandate. The virtual public consultation provided an avenue through which RESL customers were made aware of their service provider's requests in its Application and provided an opportunity for the OUR to obtain comments on the rate application as well as the quality of service experience of the customers.
- 8.2. In presenting the main points in its Application, RESL indicated that it has the lowest rates when compared to those of other small water and sewerage service providers and the NWC. In addition, RESL advised that the requested rate increase is needed to, among other things, offset increasing operations and maintenance costs as well as to provide for infrastructural upgrades, such as water softeners.

### **Highlights of Customers' Concerns**

- 8.3. The following highlights the concerns raised by customers regarding RESL's Application, at the consultation and in writing:

#### **Significantly high level of the proposed rate increase**

- 8.4. Customers queried the rationale for the level of rate increase being sought by RESL. They advised that while they recognise that a rate increase may be needed, the level of the increase (which ranges between 160% to 395%) requested is onerous and unreasonable. The customers suggested that RESL could stagger the level of rate increase, it is requesting, over a period of time to lessen the impact on its customers.
- 8.5. The customers also noted that they are not clear on the basis for the requested rate increase. In support of this view, the customers advised that they have concluded from RESL's presentation that the aim of the rate increase is to ensure that the rates are akin to those charged by the NWC.

### **RESL's Response**

- 8.6. RESL advised that the company has been operating at a financial loss. Accordingly, the requested increase in rates is to ensure that it can remain a viable service provider. RESL reiterated that, currently, it has the lowest rates of all similar service providers in addition to the NWC. RESL further stated that the increase is needed so that it will be able to continue to deliver quality service to its customers.



### **Response to Complaints**

- 8.7. Customers raised concerns about RESL's customer service delivery. One customer complained about an area on her property being disturbed by RESL to carry out repair works, and despite making several complaints, the area has not been restored.

### **RESL's Response**

- 8.8. In response, RESL apologized for the delay in restoring the disturbed area and committed to having the matter rectified. However, no timeline was provided.

### **Water Quality**

- 8.9. Customers complained about the quality of the water. Specifically, customers noted that the water was hard due to the high levels of calcium. They said they have had to expend significant funds to improve the water quality in their homes and/or frequently replace piping fixtures and fittings damaged by the hard water.

### **RESL's Response**

- 8.10. RESL advised that it is aware of the hardness of the water, which is due to the high calcium levels at its source. However, it said that despite the high calcium levels, the water delivered to customers is within the quality parameters established locally and internationally. Notwithstanding, RESL advised that, in its attempt to improve the water quality, it has installed one water softener with plans to install at least two (2) more, where resources permit.

## **9. Quality of Service Standards and Performance Criteria**

- 9.1. In keeping with its regulatory mandate and provisions of RESL's Licences, the Office has established Quality of Service (QoS) standards to be attained by the service provider. The QoS standards comprise the Overall and Guaranteed Standards for the water supply and Overall Standards for the provision of sewerage services.

### **Overall Standards**

- 9.2. The Overall Standards represent several general performance criteria to be met by RESL but will not result in compensatory payments being made to customers where the targets are not met. However, RESL is required to submit quarterly reports on its performance against these targets.

### **Amendment to Overall Standard D – "Planned and Unplanned Interruptions"**

- 9.3. As part of this tariff review, and in keeping with its right to introduce additional or make amendments to the existing ones from time to time, the OUR has reviewed the Overall Standards as set out in Schedule 2 of the Licences. Consequent to its review, the OUR has determined that the Overall Standards will continue to apply as outlined in the Water Supply Licence, with the exception of Overall Standard D "Planned and Unplanned Interruptions" which has been modified. The changes to Overall Standard D are intended to add specificity with regard to the timeline for advance notice of planned interruptions of service. The OUR has also determined that the Overall Standards will continue to apply as outlined in the Sewerage Service Licence, with the exception of Overall Standard C – Guaranteed Standards. This decision is consistent with the establishment of GS for water supply services only where a service provider is licenced to provide both services.
- 9.4. Overall Standard D shall be replaced as follows:

#### **Planned and Unplanned Interruptions**

At least 24 hours' notice shall be given to customers for at least ninety percent (90%) of planned service interruptions.

At least ninety percent (90%) of unplanned service interruptions should be restored within the time communicated by RESL to customers. RESL shall keep records of all planned and unplanned interruptions detailing: dates, times, affected areas, number of affected customers and notice provided to them.

### **Guaranteed Standards**

- 9.5. The Guaranteed Standards prescribe service levels such as Service Connection, Billing, Complaint Investigation, Metering, Disconnection, Reconnection and Compensation Payment to be met by RESL. Any failure by RESL to adhere to any individual Guaranteed Standard can result in compensatory payment to the affected customer.

9.6. In keeping with its power to introduce additional or modify the Guaranteed Standards from time to time, the OUR has also reviewed the RESL Guaranteed Standards as set out in Schedule 2 of the Water Supply Licence. Consequent to the review, the OUR has decided to amend the Guaranteed Standards as follows:

- **GS1 – Connection of New Customers**

To ensure that new customers are connected within the shortest possible time and that there is consistency with the timeline allotted to similar service providers, the number of days for new connections will be reduced to three (3) from five (5) for RESL.

- **GS4 – Wrongful Disconnection**

To modify GS 4 into two (2) distinct standards to represent the issue of RESL wrongfully disconnecting a supply and specify the timeline within which the wrongfully disconnected supply is to be restored. Accordingly, GS 4(a) will represent Wrongful Disconnection which relates to RESL disconnecting a supply for an account that is not in arrears or is the subject of an investigation internally or by the OUR. GS 4(b) will represent Reconnection after Wrongful Disconnection which specifies the timeline within which service is to be restored following a Wrongful Disconnection.

- **GS 8 – Payment of Compensation**

In order to ensure that affected customers do not have to submit a claim to receive the applicable compensation for GS breaches, the OUR has determined that GS 8 will transition from the claim form submission requirement to Automatic. This change brings consistency to the mode of compensation across similar service providers. Accordingly, RESL is required to automatically apply compensation for all GS breaches within one billing period. Additionally, where the compensation is not paid within the specified timeline, this constitutes a breach of GS 8.

- Substantially restating the remaining standards with some refinement being made to six (6) of them to improve clarity in the description of the particular Guaranteed Standard.

9.7. In light of the foregoing, the Water Supply Guaranteed Standards to be met by RESL, are outlined in Table 9.1 below:

**Table 9.1: Water Supply Guaranteed Standards**

<b>Code</b>	<b>Guaranteed Standard</b>	<b>Mode of Compensation</b>
<b>GS1 – Connection of New Customers</b>	RESL is required to connect all new customers with working meters, where water supply is available at the property boundary, within three (3) working days after signing the contract for connection.	Automatic
<b>GS2 – Issue of First Bill</b>	RESL must issue (print and mail/deliver) a bill to a customer based on a meter reading within thirty (30) working days after the account is opened.	Claim
<b>GS3(a) – Response to complaints - Acknowledgements</b>	RESL must acknowledge written customer complaints within three (3) working days of receipt.	Claim
<b>GS3(b) – Response to Complaints - Investigations</b>	RESL must, within fifteen (15) working days of receipt of a complaint, complete the investigation and inform the customer of the results.	Claim
<b>GS3(c) – Investigations involving 3<sup>rd</sup> party</b>	RESL must, within thirty (30) working days, complete investigations into a complaint involving a 3 <sup>rd</sup> party.	Claim
<b>GS4 (a)– Wrongful Disconnection</b>	RESL shall not disconnect the service of an account which has no overdue amount- except the amount in dispute only - or is the subject of an investigation internally or by the OUR.	Automatic
<b>GS4 (b) – Reconnection after Wrongful Disconnection</b>	RESL must, within twelve (12) hours, reconnect any supply that the company wrongfully disconnects and a written apology extended.	Automatic
<b>GS5 – Repair or Replacement of Faulty Meter</b>	RESL must, within ten (10) working days after detection, or after being informed of a meter defect, repair or replace any malfunctioning meter.	Automatic
<b>GS6 – Meter Readings</b>	RESL must render a bill based on a meter reading each month.	Automatic

<b>Code</b>	<b>Guaranteed Standard</b>	<b>Mode of Compensation</b>
<b>GS7 – Reconnection after Payment of Overdue Amount</b>	RESL must, within twenty-four (24) hours of receipt of all applicable payments (reconnection fee, etc.), reconnect customers disconnected for any outstanding balance.	Automatic
<b>GS8 – Payment of Compensation</b>	<p>RESL shall credit customers' accounts within one (1) billing period after a breach of any of the prescribed Guaranteed Standards.</p> <p>For the avoidance of doubt, if RESL does not compensate the customer within the specified time, this results in another breach. Where applicable, customers must submit claims within one hundred and twenty (120) days after the breach.</p>	Automatic

### **Guaranteed Standards Compensation**

- 9.8. As is currently presented in Schedule 2 of the Water Supply Licence, the Office confirms that the compensation mechanism for a breach of a Guaranteed Standard shall include “Claim” and “Automatic Compensation” as the prescribed mode of compensation. In the case of breaches that shall be compensated by way of a claim, such claims shall be made by submission of a written claim by or on behalf of the affected customer on a claim form (“GS claim form”) to be developed by RESL and approved by the OUR. Where applicable, customers must submit claims within one hundred and twenty (120) days after the date of the occurrence of the breach.
- 9.9. RESL will be required to, within three (3) months of the effective date of this Determination Notice, develop its GS claim form for submission to and approval by the OUR. Following approval, RESL will be required to make the claim forms accessible to its customers, such as placing the forms on the company’s website and in-store. Until the aforementioned claim form has been approved by the OUR, customers shall be permitted to submit their claims in writing to RESL within one hundred and twenty (120) days after the date of the occurrence of the breach.
- 9.10. For breaches that attract automatic compensation, customers are not required to submit a claim form. Instead, RESL will verify the occurrence of the identified or reported breach and apply the applicable credit to the affected customer's account.



- 9.11. The Office has further determined that, except for standards identified for *Special Compensation*, compensation for breach of a Guaranteed Standard will be calculated at four (4) times the applicable service charge.

### **Special Compensation**

- 9.12. Special Compensation is determined for breaches in relation to *Reconnection after payment of overdue amounts*, *Wrongful Disconnection* and *Reconnection after Wrongful Disconnection*, which will attract compensation of five times the applicable service charge.

### **Reporting Requirement**

- 9.13. RESL shall adhere to the performance criteria for Guaranteed Standards, outlined in Table 9.1 above, along with Overall Standards and all the other standards in its Licences and service contracts.
- 9.14. RESL shall, within thirty (30) working days of the end of the reporting period, submit quarterly reports to the Office on its performance against the Guaranteed Standards. These reports shall indicate the number of breaches committed against each standard and the potential and actual payout for each breach.
- 9.15. Additionally, RESL must submit, on a quarterly basis, its water quality test reports to the OUR within thirty (30) working days of the end of the reporting period. These reports shall include information on the calcium bicarbonate levels in the water supplied to customers.
- 9.16. The OUR has decided to limit its amendment to RESL's Guaranteed Standards and defer any other changes to its upcoming comprehensive review of the Guaranteed Standards Scheme for all small water and/or sewerage providers. The review will be done through a consultative process from which decisions regarding changes to the Guaranteed Standards scheme will be made.

### **Issues for Policy Development**

- 9.17. The Office is of the view that some of the concerns relating to service delivery that were highlighted by customers for improvement are more appropriately addressed through the development and implementation of policies. Accordingly, RESL, under the guidance of the OUR, is required to develop the following policies for implementation:

- **Customer Service Charter and Complaints Handling Procedure**

Within two (2) months of the effective date of this Determination Notice, RESL must submit to the OUR for approval, its updated Customer Service Charter which shall outline its service delivery commitments, customers' rights and responsibilities, emergency procedures and contact details. The Charter must also detail the activities and timelines in RESL's Complaints Handling Process, inclusive of an escalation procedure.

- **Hard Water Improvement Action Plan**

Within three (3) months of this Determination Notice, RESL must develop and submit to the OUR for approval, its Hard Water Improvement Action Plan (Action Plan). This Action Plan should provide sufficient details on the strategies to be undertaken to ensure improvement in the calcium bicarbonate level (which has been identified as the cause for the hard water) in the water quality with associated timelines.

**Determination 5:**

Arising from the public consultation with stakeholders of RESL, and the OUR's assessment of the service provided by the utility company, the OUR reviewed the Overall and Guaranteed Standards and makes the following determinations:

1. RESL shall adhere to the revised Overall Standard D - "Planned and Unplanned Interruptions", the Guaranteed Standards stipulated in Table 9.1 above, and all the other standards, which are specified in RESL's Licences and Service Contracts.
2. RESL shall, within thirty (30) working days of the end of the reporting period, submit quarterly reports to the OUR on its performance against the Guaranteed Standards. These reports shall indicate the number of breaches committed against each standard and the potential and actual payout for each breach.
3. RESL shall submit on a quarterly basis, its water quality test reports to the OUR within thirty (30) working days of the end of the reporting period. These reports shall include information on the calcium bicarbonate levels in the water supplied to customers.
4. RESL shall, within three (3) months of the effective date of this Determination Notice, develop its Guaranteed Standards claim form and submit same to the OUR for approval.
5. Compensation for breaches:
  - (a) Wrongful Disconnection, Reconnection after Wrongful Disconnection and Reconnection after Payment of Overdue Amounts will attract Special Compensation of (five (5) times the service charge of); and
  - (b) All other Guaranteed Standards will attract (four (4) times the service charge).
6. Within two (2) months of the effective date of this Determination Notice, RESL shall submit to the OUR for approval, its Customer Service Charter which shall outline its service delivery commitments, customers' rights and responsibilities, emergency procedures and contact details. The Charter must also detail the activities and timelines in RESL's Complaints Handling Process inclusive of an escalation procedure.
7. Within three (3) months of this Determination Notice, RESL shall develop and submit to the OUR for approval, its Water Quality Improvement Action Plan (Action Plan). This Action Plan should provide sufficient details on the strategies to be undertaken, with associated timelines, to ensure improvement in the quality of water supply to its customers.

## **10. ANNEX**

### **10. ANNEX 1: RESL Customer's Written Submissions on Tariff Application**

#### **H. Christian & Ferncourt Apartment Executive Committee**

On October 4, 2022, the homeowners and residents of the Ferncourt Apartment Complex, Richmond, received an email inviting us to a virtual meeting scheduled for October 30, 2022 to facilitate two-way communication for homeowners and residents to express our concerns – if any – regarding the tariff application submitted by the water and sewerage services utility provider, Richmond Environmental Services Limited (RESL).

The link to the tariff application dated August 17, 2022 on the Office of Utilities Regulation's (OUR's) website was included in the email. In this document, RESL was requesting a rate review.

While the regulator facilitated this meeting with a view to maintaining its stance on transparency and engagement with stakeholders prior to its decision-making, it is unfortunate that up to this date, the homeowners and residents who would be asked to pay this increase were never formally notified of RESL's intention to apply for a rate increase. Perhaps you didn't think this necessary since the application was submitted under a ... "No Objection Policy' as the rates then were below those charged by the National Water Commission for comparable services".

In paragraph 3 on Page 2 of the submission to Ms. Diana Cummings, Manager, Licensing and Regulatory Affairs at the OUR dated August 17, 2022, you refer to "...it will be noted from the audited financial statements and the unaudited management accounts that the repairs and maintenance cost is...". These documents were not on the OUR's website and if they form an integral part of your submission, should be made available to the homeowners and residents for our consideration as well. Without these documents, on which you have based your request for a rate increase, we are unable to determine if the increase is in fact warranted. Using a comparison to National Water Commission's (NWC's) rates is not a sufficient reason to apply for a rate increase.

Your tariff application also speaks to the introduction of additional charges for size of meter or service connection ranging from \$715.00 - \$6,000.00, to maintain a reconnection fee of \$6,000.00 (NWC = \$4,470.00) and the introduction of the Price Adjustment Mechanism (PAM) used by the NWC; a methodology which was not explained, except by reference to what is done by the NWC. RESL did not provide an example of how RESL will perform its own PAM calculation nor what would happen if there is an overcharge/undercharge of PAM.

All these fees being introduced all at once will be onerous on every homeowner and resident. Further, the application as it stands does not provide us with sufficient information to justify the level of increases requested.

I therefore object to the rate increase being proposed by RESL, ranging from 160% to 395%, the introduction of a charge based on size of meter or service connection, and the introduction of

PAM, both as an individual homeowner and on behalf of the Executive Committee of PSP #2796 of Ferncourt Apartment Complex.

**G. & J. Roper**

Office of Utilities Regulation (OUR)  
3<sup>rd</sup> Floor, MSET Resource Centre  
36 Trafalgar Road  
Kingston 10, Jamaica

November 9, 2022

Dear Mr. Gordon Brown:

**RE: Richmond Environmental Services Limited (RESL) – Tariff application**

We write as homeowners in the Fern Court Apartment Complex in Richmond, St. Ann, to object to the rate increases being proposed by RESL.

We note that as of this date, RESL has not yet formally informed the homeowners of a pending increase, however, thanks to the virtual meeting hosted by the OUR on October 30, 2022, we are now in the loop.

Although not against an increase in principle, the application by RESL includes increases upwards of 400% in some cases, in addition to the introduction of a Price Adjustment Mechanism (PAM). There being no explanation as to how the PAM will be calculated, we have no knowledge of how much this will impact the monthly bills, but we can be assured this will likely vary from month to month, and could be quite significant in some instances.

As homeowners, we too are subject to the fluctuations in the foreign exchange and electricity prices, however, we are not afforded the luxury of a PAM adjustment to our income, nor are we likely to get salary increases in keeping with inflation.

All these fees being introduced at once by RESL would be onerous and oppressive to the homeowners at Fern Court – many of whom are retired (including myself) – and rely on a fixed pension as their sole income.

In addition, since the Apartment complex operates as a Strata Property, the Strata Executive would have calculated the annual budget for the Strata based on current rates. An increase of this nature could not be absorbed by the maintenance fees paid by each unit, thus the Strata as a whole would be in jeopardy of operating in a loss position, resulting in the maintenance and upkeep of the Fern Court property being negatively impacted.

We therefore request that the OUR consider our position of objection to the tariff application and negotiate, on our behalf, a more reasonable and gradual attempt by Richmond to recoup their investment and operational costs.



## ANNEX 2: RESL Technical Requirements

RESL Water Service Technical Requirements		
Index	Aspect	Items to be submitted to the OUR
1	Water Abstraction	i. Notification on receipt of renewed water abstraction licence for Coolshade Spring, Liberty, St. Ann. Submit copy of licence document.
2	Technical Reports	i. Quarterly "Technical Reports" covering the parameters/requirements set out under Schedule 2 of the Licence, to be submitted within fourteen (14) days after the end of each quarter; and ii. Any other technical data/reports related to the system that the OUR may consider necessary, from time to time.
3	Availability and Reliability of Supply	i. A Guidance Framework/Action Plan, including requirements pertaining to the planning, operations, maintenance of facilities, network diagrams, and risk assessment. This shall be submitted to the OUR, within three (3) months after the effective date of this Determination Notice.
4	Water Quality	i. Annual water quality reports and quarterly water quality information, including test results, included in quarterly Technical Reports.
5	Water Pressure	i. Reporting of water pressure measurements in the quarterly Technical Reports
6	Planned and Unplanned Interruptions	i. Service quality performance information, which shall be included in the quarterly Technical Reports.
7	Revenue Metering	i. Listing of all revenue-type water meters installed in the service area in MS Excel format, which shall include: a) The meter type b) The meter manufacturer's serial number c) RESL's assigned meter number d) Meter installation date e) The meter location/service address f) Customer/premises number g) Copies of any related Pattern Approvals and Acceptance documents. ii. A description of RESL's water meter procurement process. iii. This information shall be submitted to the OUR within one (1) month of the effective date of this Determination Notice.
8	System Operation	i. Operating policies and procedures for prudent operation of the system, including critical equipment and facilities, which shall be included in the requested Framework/Action Plan.
9	Maintenance	i. Policies and procedures to guide the maintenance of the water supply infrastructure, which shall be included in the requested Framework/Action Plan. ii. An overall Maintenance Plan for the water supply infrastructure, for three (3) years in advance. The plan shall take into account the OEMs' recommendations for equipment maintenance, schedule of inspections and major maintenance activities, contingency equipment & replacement inventories, and statutory maintenance requirements, where applicable. The company shall submit the plan to the OUR, within three (3) months after the effective date of this Determination Notice. iii. Thereafter, the plan shall be reviewed annually and updated as necessary, then submitted to the OUR in January of each year, for the remaining period of the Licence.
10	Risk Management	i. Risk Management/Resilience strategy for continued to assess and mitigate potential risks to the water supply system, which shall be addressed in the requested Framework/Action Plan.
RESL Sewerage Service Technical Requirements		
Index	Aspect	Items to be submitted to the OUR



1	Technical Reports	<ul style="list-style-type: none"> <li>i. Quarterly "Technical Reports" covering the parameters/requirements set out under Schedule 2 of the Licence, prior to the submission of the full Annual Reports, which <u>shall be submitted within fourteen (14) days after the end of each quarter</u>; and</li> <li>ii. Any other technical data/reports related to the system that the Office may consider necessary, from time to time.</li> </ul>
2	Sewage Flow	<ul style="list-style-type: none"> <li>i. Sewage flow measurements and reports on sewage flow analyses, which shall be included in the quarterly Technical Reports to the OUR.</li> </ul>
3	Environment Requirements	<ul style="list-style-type: none"> <li>i. Copies of any licenses, or special permits issued by NEPA/NRCA to the company, from time to time.</li> </ul>
7	System Operation	<ul style="list-style-type: none"> <li>i. A Guidance Framework/Action Plan including, requirements pertaining to system planning, operations, maintenance of facilities, network diagrams, and risk assessment. This shall be submitted to the OUR, within three (3) months after the effective date of this Determination Notice.</li> <li>ii. Operating policies and procedures for long-term operation of the system, with focus on the critical infrastructure/equipment, which shall be included in the requested Framework/Action Plan.</li> </ul>
8	Maintenance	<ul style="list-style-type: none"> <li>i. Policies and procedures to guide the maintenance of the sewerage infrastructure, which shall be included in the requested Framework/Action Plan.</li> <li>ii. An overall Maintenance Plan for the sewerage infrastructure for three (3) years in advance. The plan shall take into account OEMs' recommendations for equipment maintenance, schedule for sewer system cleaning &amp; inspections, schedule of major maintenance activities, contingency equipment &amp; replacement inventories, and statutory maintenance requirements, where applicable. The company shall submit the Maintenance Plan to the OUR three (3) months after the effective date of this Determination Notice.</li> <li>iii. Thereafter, the plan shall be reviewed annually and updated as necessary, then submitted to the OUR in January of each year, for the remaining period of the Licence.</li> </ul>
	Risk Management	<ul style="list-style-type: none"> <li>i. Risk Management/Resilience Strategy to assess and mitigate potential risks to the sewerage system, which shall be addressed in the requested Framework/Action Plan.</li> </ul>