

Office of Utilities Regulation

Water and Sewerage Sector Report

January – December 2010



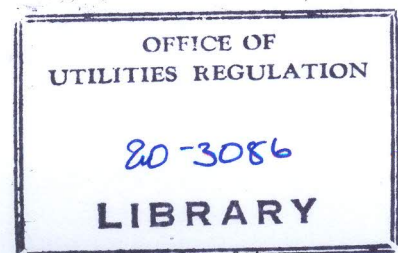
OFFICE OF UTILITIES REGULATION

July 2011

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Chapter 1: Introduction

Jamaica's water and/or sanitation services are provided by municipal or national utilities and by some small, private providers. Over the reporting period, there were nine licensed water and/or sewerage service providers. They are as follows:

- The National Water Commission (NWC)
- Four Rivers Development Company (FRDC)
- Runaway Bay Water Company Limited (RBWC)
- Dairy Spring Limited (DSL)
- Can-Cara Development Limited (CANCARA)
- Dynamic Environmental Management Limited (DEML)
- Rose Hall Utilities Company Limited (RHUCL)
- Drax Hall Utilities Limited (DHUL)
- Hampstead Citizen's Association Benevolent Society (HCABS)

Table one outlines the type of licence issued to each provider in the sector.

Table 1: Type of services provided by players in the sector

Company	Type of Licence		
	Water Licence	Sewerage Licence	Both
NWC			■
FRDC	■		
RBWC	■		
DSL	■		
CANCARA			■
DEML			■
RHUCL		■	
DHUL	■		
HCABS	■		

The National Irrigation Commission (NIC) is the major provider of irrigation water. The policy of the NIC is to transfer ownership of new and rehabilitated irrigation systems to Water Users Associations which will then have the responsibility to handle the day to day operations.

The Office of Utilities Regulation (OUR) continues to monitor the operations of all water and wastewater companies on an ongoing basis, with a view to ensuring that they strive to improve their overall efficiency. This report gives an analysis of the operations in the Water and Sewerage sector for the year 2010.

Chapter 2: Analysis of operations

Potable Water Production

The National Water Commission (NWC) is the major supplier of water across Jamaica, producing more than 90% of Jamaica's potable water. More than 70% of water supplied is via house connections and the remaining 30% is supplied using standpipes, water trucks, wayside tanks etc. Small providers such as DEML, DSL, RBWC and FRDC produce and supply less than 1% of the nation's water.

Table 2 depicts water production during the year 2010.

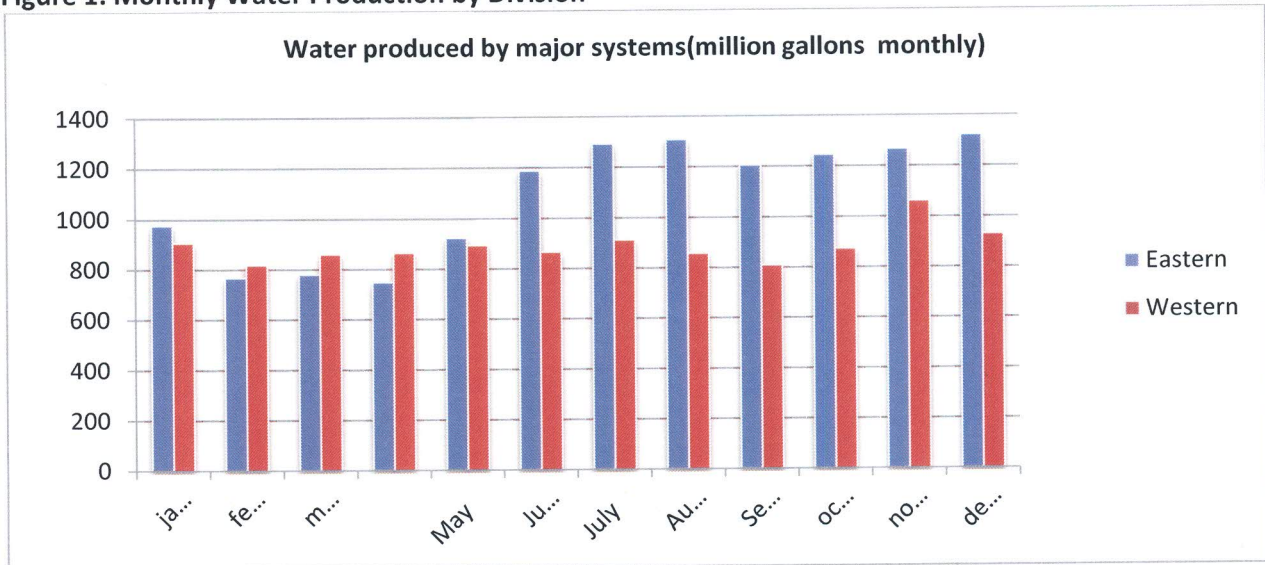
Table 2: water production for the year 2010

Water production	1st quarter	2nd quarter	3rd quarter	4th quarter	TOTAL 2010
NWC (million gallons)	15133	15134	16182	16064	62513
DEML (million gallons)	24	23	31	28	106
RBWC(million gallons)					483
DSL	18	14	8	7	47

There are thirteen major water supply systems located across the island and all are owned by the NWC. The Constant Spring Filter Plant Tap, Mona Filter Plant Tap and the Great River Treatment Plant are the three highest producing supply systems owned and operated by the NWC.

Figure 1 shows the quantity of water produced by the NWC's thirteen major water supply systems which are located in seven parishes across Jamaica.

Figure 1: Monthly Water Production by Division



Potable Water Consumption

Water consumed over the year 2010 is shown in table three below

Water Consumption as measured by the major water suppliers in the industry is outlined in table three below.

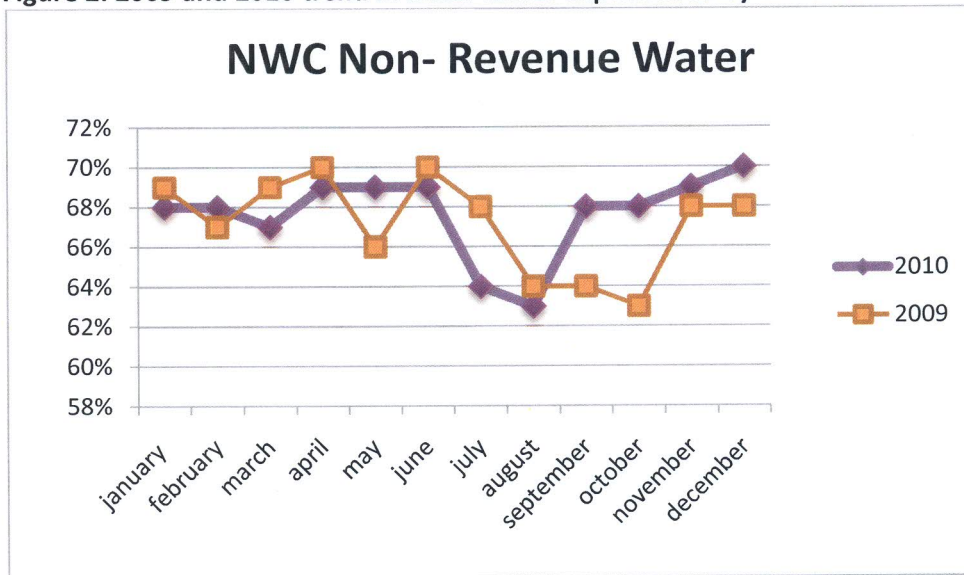
Table 3: Water consumption for the year 2010

water consumption	1st quarter	2nd quarter	3rd quarter	4th quarter	TOTAL 2010
NWC (million gallons)	5109	5084	5856	5072	21122
DEML (million gallons)	17	19	19	17	72
RBWC (million gallons)					463
DSL	17	13	7	6	43

Non- Revenue Water (NRW)

Figure 2 shows a trend in the percentage NRW recorded by the NWC over the years 2009 and 2010¹.

Figure 2: 2009 and 2010 trend in water losses experienced by the NWC

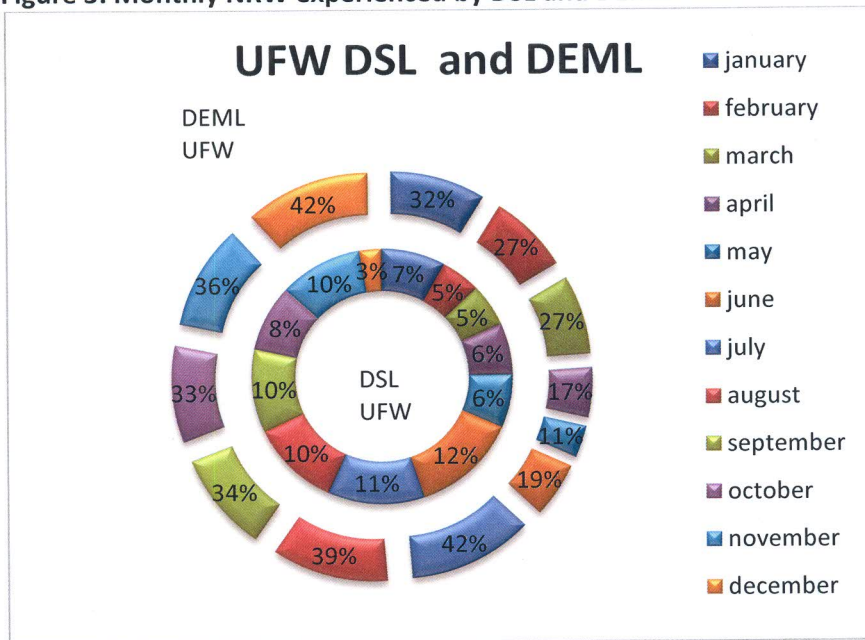


Non Revenue Water report for Small Providers

The Runaway Bay Water Company reported that 4.13% of its water was unaccounted for during the year 2010. DEML reported NRW as high as 42% in July of 2010. Figure three outlines the trend in NRW for DEML and DSL.

¹ NRW percentages were held constant for the months of May and June as no data was provided by the NWC.

Figure 3: Monthly NRW experienced by DSL and DEML



Potable Water Quality

The Ministry of Health (MOH) sets water quality standards and all water suppliers are required to comply with those standards. The National Water Commission and the small water providers indicated that they conduct independent water quality testing and provide the reports to the MOH. Water quality is also frequently tested by the Ministry of Health.

Table 4 outlines the NWC's Parish Water Quality Monitoring Report

NATIONAL WATER COMMISSION							
PARISH WATER QUALITY (12 – MONTH MOVING AVERAGE) MONITORING							
October - December 2010							
Performance Measure	Target	Division	Area	oct – 10	nov– 10	dec– 10	
Water Quality	95% of Sample meet IJAM Water Quality Standards **	EASTERN	St. Catherine	97%	97%	97%	
			KSA/St.Thomas	94%	94%	94%	
			Portland/St.Mary	93%	93%	95%	
			Clarendon	94%	93%	93%	
			Total	94%	94%	95%	
			WESTERN	St. Ann			
				Trelawny/St. James	98%	97%	98%
				Hanover/Westmoreland	97%	97%	98%
				St. Elizabeth/Manchester	95%	95%	95%
			Total	97%	97%	97%	
NWC	96%	95%	96%				

***= (# of samples negative for coliform +# of samples positive for residual chlorine)

Wastewater Treatment

The types of sewage treatment facilities operated across Jamaica include oxidation ditch, activated sludge and waste stabilization ponds. There are approximately 73 wastewater treatment plants across the island of which 68 are owned and operated by the NWC. RHUCL, DEML and CANCARA also engage in wastewater treatment services.

The OUR's overall standards for sewerage services is that sewage effluent should be within the standards specified by the National Environment and Planning Agency (NEPA). In the NWC's 2008 Tariff Determination Notice the OUR approved a K-factor charge to create a fund to assist with the rehabilitation and/or upgrade of sewage treatment plants. NEPA also stipulated that there are forty four (44) priority sewage treatment plants that the Commission must address in the shortest possible time.

In its K-factor report of October 2010 the Commission reported that work had started on a number of the sewage treatment plants on NEPA's priority list: Elletson Flats, Ensom City, College Green to Barbican Trunk Sewer and the Harbour View Waste Water Treatment Plant, among others.

There are also small operators providing sewage collection and treatment services. RHUCL indicated in its 2010 sewerage report that the total volume of sewage collected was 135 million US Gallons while total volume of sewage treated was 140 million US Gallons. The company indicated that volume of sewage treated was greater than that which was collected due to re-circulation.

Table 5: RHUCL Compliance with NEPA's Environmental Quality Standards

	Inflow Q <i>m</i> ³	2010 Average Effluent Monitoring Results & Regulatory Limits								
		B OD ₅	TSS	COD	N	P	pH	F.Colif	Residu	O&G
		mg/L	mg/L	rng/L	mg/L	mg/L	Std.	MPN	tng/L	rng/L
2010 Average	511.2	4.0	1.6	13.5	3.2	3.1	7.8	1.9	0.2	1.4
<i>NEPA Permit Limits</i>		15	15	< 100	10	4	6 to 9	12	1.5	10

Customer base

Figure 2 shows the total number of connections for both water and sewage services.

Table 6: Total Customer Base

Customer base Dec 2010	Column1
NWC	430,248
RHUCL	8
DEML	2126
Runaway Bay Water Company	429
Four Rivers	13
Dairy spring	6

National Irrigation Commission

The National Irrigation Commission (NIC) is still the major supplier of irrigation water in Jamaica. The NIC has commissioned a number of flagship projects and continues to increase its involvement in the streamlining of various projects that is a part of its National Irrigation Development Plan. Over the period under review, the NIC has supplied the Office with information pertaining to setting irrigation rates for its Hounslow scheme which is located in St. Elizabeth. A public consultation with the farmers at Hounslow was held and the farmers were informed about the proposed rate change.

The Office made a Determination on the rates in October 2010 and suggested that the NIC can choose to apply an economic rate or a subsidised rate.

Financial Performance

Profitability

Based on its quarterly performances the NWC continues to make a loss, even though, its revenues have increased marginally when compared with revenues of 2009.

Table 7 gives a summary of the revenues and costs that are associated with the Commission's operations for the years ending March 2009 and March 2010.

Table 7: NWC Financial performance 2009 and 2010

Details	Year ending March 2009 ('000)	Year ending March 2010('000)
Revenue	13,590,500	14,121,485
Total operating cost	14,144,788	15,083,936
Operating Profit (loss)-	(554,288)	(962,451)
Net loss for the year	(3,111,900)	(2,733,698)

Operating expenses have been increasing at a faster rate than revenues collected resulting in increasing losses. Staff costs at 40% and electricity cost at 28% of overall costs leave insufficient funds to cover leakage and uncollectables which are between 50 and 60% of operating costs.

Chapter 3: Summary of NWC's Targets and performances

The following targets were set for the NWC throughout its tariff review period. Table 8 gives a synopsis of NWC's actual performance against targets.

Table 8: The National Water Commission Targets and performance

		Target	Actual Performance
	Financial targets		
1	Days of sales outstanding < 45days	45 Days	91 Days
2	Employee cost as a percentage of operating revenue	35%	36.30%
3	Employees per 1000 accounts	4.5	4.85
4	Bad debt	5%	11% YTD over billing period
	Operational Targets		
5	Non-revenue water	Should be at most 55% by 2011/2012	70%
6	# of accounts with functioning meter	90%	Data not available
7	Water Quality Standards	Comply with Ministry of Health standards.	Achieved
8	Sewage plants must be 100% compliant with NEPA standards	NEPA's priority list.	Ongoing
9	Inactive Accounts	Revisit disconnected accounts within 90 days	Data not available

Chapter 4 QUALITY OF SERVICE STANDARDS

The Guaranteed Standards are a minimum service level agreement between the OUR and the service providers to ensure value to the customer. The Guaranteed Standards scheme has a mechanism to compensate consumers for sub-standard service delivery by the providers. The compensation associated with the breach of a standard may be automatically credited to the affected account by the provider or for certain categories of standards; it may require the submission of a claim by the consumer. Unlike the Guaranteed Standards, the Overall Standards take into consideration the general delivery of specific services to consumers and have attached targets to be achieved by the companies. Both types of standards are revised at the time of a utility provider's rate review.

The NWC's report on its performance against the two categories of quality of service standards is detailed below:

Table 9: NWC's performance against its Overall Standards

FOCUS	TARGET	% Compliance											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Water Pressure	range 20 -60 psi	74%	80%	79%	86%	92%	93%	95%	50%	44%	56%	75%	55%
Reliability of Supply	≥ 12 hours notice for planned interruptions of duration ≤ 4hrs	100%	85%	33%	93%	92%	94%	100%	96%	100%	98%	80%	95%
	≥ 24 hours notice for planned interruptions of duration > 4hrs	100%	80%	92%	82%	100%	40%	87%	87%	75%	80%	100%	100%
	% of unplanned lock-offs restored within 24 hours -Urban areas	21%	50%	26%	65%	66%	54%	83%	62%	52%	41%	34%	53%
	% of unplanned lock-offs restored within 48 hours -Rural areas	37%	48%	32%	39%	55%	51%	47%	60%	14%	20%	22%	25%
Sewerage	% of sewerage flooding corrected within 24hrs of being informed	68%	74%	80%	70%	72%	89%	81%	82%	62%	76%	89%	73%
Leak Repairs	≤ 5 days to repair leaks	100%	100%	100%	-	-	-	-	-	-	-	-	-

As it relates to the table above, the NWC had an average compliance of 72% for the period under review with regard to acceptable water pressure supplied to customers. The OUR notes the current rehabilitation works and water production projects underway, which should result in improvements in this area.

The Commission currently has an average compliance of 77% in correcting sewage overflows within 24 hours of notification. Given the health risks associated with sewage flooding, it is the OUR's view that NEPA, under the relevant statutes, should hold the NWC accountable in instances where sewage overflows are not addressed within the specified timeline.

In terms of leak repairs, the NWC did not provide the OUR with information regarding its compliance with the set target of repairs within 5 days. However, in the previous period (January – March) the NWC reported a 100% compliance with this target as it took an average of 4.6 days to repair leaks. As a means of reducing the current level of NRW, the NWC, as at the year 2011, must achieve a 90% target for the repair of leaks within 3 days.

NWC's Performance - The Guaranteed Standards Scheme

In its report, the NWC indicated that approximately 30,000 breaches were committed during the calendar year January – December 2010. The primary area of non compliance was meter readings (estimated billings), which accounted for approximately 75% of the infringements. The total breaches attracted a potential compensation of approximately \$58 million. The Commission however only reportedly applied credit to affected accounts totalling approximately \$600,000. These credits were mainly associated with the automatic mechanism as the number of claims submitted by customers for breaches with non automatic compensation remains low.



Chapter 5: K- Factor Programme Report for the period April – October 2010.

In the April 2008 Determination Notice the NWC was granted a K-factor charge. The charge was created with the following objectives.

- To fund capital intensive projects of efficiency improvement inclusive of mains replacement and other Non Revenue Water reduction activities
- To fund capital rehabilitation programmes that will not yield any significant increase in revenues for the NWC but are required to comply with a specific regulatory direction
- Incorporate the expansion of the collection network for wastewater so as to better utilise Soapberry Wastewater Treatment Plant.

The proceeds from the K-Factor have funded significant infrastructure capital projects in relation to wastewater treatment and the reduction of non-revenue water. For the period April 2010 to October 2010 the applicable K-factor was 20%. The deemed K-factor billing for the period was \$1,408.80M.

Value of Work to Date

The total amount spent on works undertaken on projects that qualify for K-factor funding between the reporting periods was \$256.01M comprising:

Activities	Amount spent \$ Million
Non- Revenue Activities	\$124.56
Sewering of KSA	\$7.39
Sewage rehabilitation	\$121.23
PIU	\$2.83

Project Status

Consultations held with NEPA and the OUR identified 44 wastewater projects that were to be treated as priority projects. At the end of the period eight of NEPA's priority projects are works in progress while two projects have been completed.

Other sewerage projects

In an effort to maximize the sewage flow to the Soapberry Treatment Plant, the NWC has completed eight additional projects to improve and expand the sewerage infrastructure of Kingston and St. Andrew.

Non Revenue Water (NRW) Reduction Projects-

Five NRW Projects have been completed and at least 30 more are works in progress.

Table 10: List of Completed NRW Projects

Project Category	Project	Project Start Date	Expected Completion Date	Estimated project Cost (\$M)	Actual expenditure (\$M)	Comments
NRW	Kellits Water Supply & Rehabilitation	Nov-08	Jul-09	23.94	16.57	In Maintenance period
NRW	Luana to Sandy Ground	Dec-08	Sep-09	10.05	9.05	Nine. (9) months maintenance period ended without any defects being identified.
NRW	Mammee Bay	Apr-07	Aug-08	73.68	9.12	Nine (9) months maintenance period ended without any defects being identified.
NRW	Bird Hill	Mar-08	Jul-09	87.45	22.10	Nine (9) months maintenance period ended without any defects being identified.
NRW	Coopers Hill Tank	Feb-08	Feb-10	8.23	6.82	Contract executed. Damage more than was originally estimated. Project to be re-tendered.

REQUEST FOR OFFICE DECISION

SECTOR: Water & Sewerage

SUBJECT MATTER: Annual water and sewerage sector report.

DECISION REQUIRED: Approval of Report

BACKGROUND: It was decided by members of the Office that a water and sewerage sector report should be issued to the public twice per year.

RESEARCH AND ANALYSES Annual Water and Sewerage Sector Report for the period January 2010 - December 2010.

FINDINGS AND CONCLUSIONS: _____

RECOMMENDATIONS: _____

CLEARED BY AND INITIALED:

Please check the relevant box (es)

General Counsel

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Legal Counsel

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Director - Regulation & Policy

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[Handwritten initials]

Director - CPA

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Director - Utility Monitoring

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Director - HR/Admin

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AUTHORIZED SIGNATURE: _____

SIGNED BY:

SECRETARY TO THE OFFICE

COMMENTS & DECISION

DIRECTOR GENERAL

COMMENTS & DECISION

DEPUTY DIRECTOR GENERAL

COMMENTS & DECISION

DEPUTY DIRECTOR GENERAL