THE JAMAICA PUBLIC SERVICE CO. LTD.

ANNUAL TARIFF ADJUSTMENT

SUBMISSION FOR 2015

June 22, 2015

Preamble

This submission is made in relation to the annual Performance-Based Rate-Making (PBRM) tariff adjustment filing for 2015, in accordance with the All Island Electric Licence 2001 (the Licence), Schedule 3, section 4, which states:

"The Licensee shall make annual filings to the Office at least sixty (60) days prior to the Adjustment Date. These filings shall include the support for the performance indices, the CPI indices, and the proposed Non-Fuel Base Rates for electricity, and other information as may be necessary to support such filings…."

In accordance with the Licence, the OUR's January 7, 2014 Determination Notice and Determination Notice Addendum 1, the 2015 annual non-fuel tariff adjustment will incorporate changes in relation to the annual inflation adjustment, the resetting of the base foreign exchange rate and the X factor adjustment, however, it will not include any adjustments for either the Q factor or the Z factor.

For the 2015 annual tariff submission, we wish to note that system losses continues to be one of the primary challenges facing JPS and it presents a threat to the Company's viability and to energy security for Jamaica. JPS remains steadfast in its belief that the reduction of electricity theft is a national problem that must be tackled jointly by the Government through legislation and targeted social intervention, the Regulator through supportive and proactive regulation and the utility through effective loss reduction initiatives. Based on the proximity of this filing to the OUR's Determination notice of January 7, 2015 in which the target was adjusted and the fact that the Determination is under appeal, JPS is not requesting a review of the system losses target at this annual adjustment. The Company however reiterates and maintains the view that the target is unreasonable and bears no relation to the reality of the losses experience in Jamaica.

In this tariff submission JPS is once again proposing a rate for the Community Renewal Programme as we strongly believe that it is through these types of strategic partnerships that we can achieve sustainable and holistic solutions to the problem of electricity theft. The OUR indicated in the January 7 Determination Notice that in principle, it was in agreement with the aims of the programme but could not make a determination on the proposed tariff. In the Regulator's view JPS had not presented sufficient details to make such a determination. JPS has worked with our stakeholders to further develop the scope of the programme and has included in this filing additional information and analyses that we believe will enable the OUR to make a determination of the proposed tariffs. The success of the programme is, among other things, very much dependent on the level of regulatory support that it receives.

JPS' has recognised and accepted that there were inconsistencies and errors in the billing determinants that were submitted with the 2014 Rate Case Application. As a result, following a request from the JPS, the OUR subsequently issued Determination Notice Addendum 1 to correct for the inconsistency in the Rate 10 billing determinants. The JPS has since identified that errors in the Rate 20 and Rate 50 billing determinants in particular, will significantly impair the Company's ability to earn its approved revenue requirement. JPS is therefore requesting that the OUR gives due consideration to our alternative tariff proposal which

includes an additional adjustment factor to account for the shortfall which arose as a result of the errors in the billing determinants submitted during the 2014 Rate Case Application.

Glossary

ABNF	-	Adjusted Non-fuel base rate
CIS	-	Customer Information System
CPI	-	Consumer Price Index
CRP	-	Community Renewal Programme
EDF	-	Electricity Disaster Fund
EEIF	-	Energy Efficiency Improvement Fund
GDP	-	Gross Domestic Product
GOJ	-	Government of Jamaica
GWh	-	Gigawatt-hours
IPP	-	Independent Power Purchase
kVA	-	Kilo Volt Amperes
kWh	-	Kilowatt-hours
Licence	-	The All Island Electric Licence 2001
MVA	-	Mega Volt Amperes
MW	-	Megawatt
MWh	-	Megawatt-hours
NWC	-	National Water Commission
O&M	-	Operating and Maintenance
OCC	-	Opportunity Cost of Capital
PATH	-	Programme of Advancement through Health and Education
PIOJ	-	Planning Institute of Jamaica
PBRM	-	Performance Based Rate-Making Mechanism
RAMI	-	Residential Advanced Metering Infrastructure
REP	-	Rural Electrification Programme Limited
RPD	-	Revenue Protection Department
T&D	-	Transmission & Distribution
TOU	-	Time of Use

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1.1 Overview

Exhibit 1 in the Licence states:

"The Non-Fuel Base Rate for each customer class shall be adjusted on an annual basis, commencing June 1, 2004, *(Adjustment Date)*, pursuant to the following formula:

$$\mathbf{ABNF_y = ABNF_{y-1}(1 + dPCI)}$$

Where:

$ABNF_y$	= Adjusted Non-Fuel Base Rate for Year "y"
$ABNF_{y-1}$	= Non-Fuel Base Rate prior to adjustment
dPCI	= Annual rate of change in the non-fuel electricity prices as defined below
PCI	= Non-fuel Electricity Pricing Index

"The annual PBRM filing will follow the general framework where the annual rate of change in non-fuel electricity prices (dPCI) will be determined through the following formula:

$$\mathbf{dPCI = dI - X \pm Q \pm Z}$$

Where:

dI	=	the annual growth rate in an inflation and devaluation measure;
X	=	the offset to inflation (annual real price increase or decrease) resulting from productivity changes in the electricity industry;
Q	=	the allowed price adjustment to reflect changes in the quality of service provided to customers; and
Z	=	the allowed rate of price adjustment for special reasons not captured by the other elements of the formula.

Specifically, in its Determination Notice of January 7, 2015 (Document Number: 2014/ELE/008/DET.004), the OUR determined that the annual growth rate adjustment formula that shall be used by the JPS to adjust the non-fuel base rates at each annual tariff adjustment during the 2015-2019 price cap period is as follows:

$$\mathbf{dI = USP \times \left(\frac{EX_n - EX_b}{EX_b}\right)(1 + USAF \times INF_{US}) + (USP \times USAF \times INF_{US}) + (1 - USP) \times INF_J}$$[1]

[1] This replaces the following formula that was used for the 2009-2014 price cap period:

$\mathbf{dI = [0.76 \times \Delta e + 0.76 \times 0.922 \times \Delta e \times i_{us} + 0.24 \times i_J]}$

Where:

Δe	= percentage change in the Base Exchange Rate
i_{US}	= US inflation rate (as defined in the Licence)
i_j	= Jamaican inflation rate (as defined in the Licence)

Where:

EX_b = Base US Exchange Rate

EX_n = Applicable US Adjustment Rate at Adjustment Date

INF_{US} = US Inflation Rate as defined in the Legal and Regulatory Framework

INF_J = Jamaican Inflation Rate as defined in the Legal and Regulatory Framework

USP = 0.8 (US portion of total non-fuel expenses)

USAF = 0.45 (the US Adjusted Factor which represents that portion of the US component of total non-fuel expenses that is subject to US inflation adjustment)

1.2 Current year annual inflation adjustment factor (dI – X)

The annual adjustment allows JPS to adjust its rates to reflect general movements in inflation, improvements in productivity, changes in service quality, changes in the base foreign exchange rate and where applicable an adjustment for unforeseen occurrences beyond management control not captured in the other elements of the PBRM. The following outlines JPS' proposal in relation to the components of the non-fuel electricity prices adjustment factor (dPCI) and its application to the non-fuel tariffs for 2015.

The application of the annual escalation adjustment formula (dI - X) will result in an increase of 2.30% to the non-fuel tariff basket, derived using the following factors:

- Jamaica's point-to-point inflation rate (INF_J) as at February 28, 2015 of 4.53%, derived from the CPI data[2] published by Statin (see Appendix I);
- U.S. point-to-point inflation rate (INFUS) as at February 28, 2015 of -0.03%, derived from the U.S. Department of Labor statistical data[3] (see Appendix I); and
- The 3.13% increase in the Base Exchange Rate $\left(\frac{\mathbf{EX_n - EX_b}}{\mathbf{EX_b}}\right)$ from J$112: US$1 to J$115.50: US$1.

Table 1-1 below sets out the details of the annual escalation adjustment factor that amounts to a 2.30% increase for 2015.

1.3 Application of the Annual Inflation Adjustment Factor

Based on Table 1-1, an annual adjustment factor of 2.30% will be applied to the total tariff basket. The adjustment in each tariff will be weighted, therefore the adjustment across rates will be dependent on their relative weights in relation to the total tariff basket. The tariff basket, shown in Table 1-2 below, is derived using the 2014 billing determinants[4] and the

f_{US} = US factor = 0.76

f_I = Local (Jamaica) factor = 0.24

[2] Obtained from the Statistical Institute of Jamaica.

[3] Obtained from U.S. Bureau of Labor Statistics website, http://data.bls.gov/cgi-bin/surveymost

[4] The data corresponds exactly to the earnings sheet value for Rate 20 and 60 Customers. For Rate 10, 40 and 50 the data is derived from CIS data obtained in February 2014. Since the CIS system is an open item system, there were minor variances from the earning sheets total in the order of 0.1%.

approved non-fuel tariffs arising from the OUR's January 7, 2014 Determination Notice adjusted by Determination Notice Addendum 1 (see Table 1-4 for the approved 2014-15 tariffs) which became effective March 1, 2015.

Table 1-1: Escalation Factor

Annual Adjustment Clause Calculation			
ESCALATION FACTOR (dl) based on point to point data as at February 2015			
Line	Description	Formula	Value
L1	Base Exchange Rate		112.00
L2	Proposed Exchange Rate		**115.50**
L3	Jamaican Inflation Index		
L4	CPI @ Feb 2015		221.5
L5	CPI @ Feb 2014		211.9
L6	US Inflation Index		
L7	CPI @ Feb 2015		234.7
L8	CPI @ Feb 2014		234.8
L9	Exchange Rate Factor	(L2-L1)/L1	3.13%
L10	Jamaican Inflation Factor	(L4-L5)/L5	4.53%
L11	US Inflation Factor	(L7-L8)/L8	-0.03%
L12	Escalation Factor	0.8*L9*(1+0.45*L11)+(.8*.45*L11)+0.2*L10	3.40%
L13	Productivity (or X) Factor		-1.10%
L14	**Escalation Adjustment net of X-Factor**	**(L12-L13)**	**2.30%**

The tariff basket excludes the EEIF component of the tariffs as determined in Document Number: 2014/ELE/008/DET.004 and Determination Notice Addendum 1.

The weights of each tariff, relative to the total tariff basket shown in Table 1-2, are shown in Table 1-3.

Table 1-2: Total Non-Fuel Tariff Basket

Rate Class		Block/ Rate Option	12 Months 2014 Customer Revenue	Energy Revenue	Demand (KVA) revenue				Total Demand Revenue	Total Revenue
					Std.	Off-Peak	Part Peak	On-Peak		
Rate 10	LV	<100 -	1,092,565,260	4,125,008,023					**0**	5,217,573,283
Rate 10	LV	>100 -	1,493,877,360	9,636,828,256					**0**	11,130,705,616
Rate 20	LV	-	655,512,000	9,753,731,917					-	10,409,243,917
Rate 40	LV - Std	-	120,974,400	3,271,453,200	3,603,017,100				3,603,017,100	6,995,444,700
Rate 40	LV - TOU	-	8,704,800	596,688,872		23,082,849	230,416,271	233,928,616	487,427,736	1,092,821,408
Rate 50	MV - Std	-	9,225,600	1,967,114,292	1,587,998,262				1,587,998,262	3,564,338,154
Rate 50	MV - TOU	-	1,785,600	450,179,951		20,948,057	194,169,006	190,821,537	405,938,600	857,904,151
Rate 60	LV	-	9,240,000	1,517,324,983					-	1,526,564,983
TOTAL			3,391,885,020	31,318,329,494	5,191,015,362	44,030,906	424,585,277	424,750,153	6,084,381,698	40,794,596,212
TOTAL EEIF				1,423,074,617						
TOTAL			3,391,885,020	32,741,404,111	5,191,015,362	44,030,906	424,585,277	424,750,153	6,084,381,698	42,217,670,829

Table 1-3: Non-Fuel Tariff Basket Weights

Class		Block/ Rate Option	Customer Charge	Energy- J$/kWh	Demand-J$/KVA				Total
					Std.	Off-Peak	Part Peak	On-Peak	
Rate 10	LV	<100	2.68%	10.11%	0.00%	0.00%	0.00%	0.00%	12.79%
Rate 10	LV	>100	3.66%	23.62%	0.00%	0.00%	0.00%	0.00%	27.28%
Rate 20	LV		1.61%	23.91%	0.00%	0.00%	0.00%	0.00%	25.52%
Rate 40	LV - Std		0.30%	8.02%	8.83%	0.00%	0.00%	0.00%	17.15%
Rate 40	LV - TOU		0.02%	1.46%	0.00%	0.06%	0.56%	0.57%	2.67%
Rate 50	MV - Std		0.02%	4.82%	3.89%	0.00%	0.00%	0.00%	8.73%
Rate 50	MV - TOU		0.00%	1.10%	0.00%	0.05%	0.48%	0.47%	2.10%
Rate 60	LV		0.02%	3.72%	0.00%	0.00%	0.00%	0.00%	3.74%
TOTAL			8.31%	76.76%	12.72%	0.11%	1.04%	1.04%	100.0%

Table 1-4 below shows the rates that were approved by the OUR and presented in Table 2.1 of its Determination Notice-Addendum 1 (Document No: 2015/ELE/003/ADM.001). These non-fuel base rates were determined at a Base Exchange rate of J$112: US$1.

Table 1-4: OUR approved Non-Fuel Tariffs for 2014-5

Class		Block/ Rate Option	Customer Charge	Energy- J$/kWh	Demand-J$/KVA			
					Std.	Off-Peak	Part Peak	On-Peak
Current Rates								
Rate 10	LV	<100	395.0	8.42				
Rate 10	LV	>100	395.0	19.60				
Rate 20	LV		880.0	16.24				
Rate 40	LV - Std		6,200.0	5.06	1,587.07			
Rate 40	LV - TOU		6,200.0	5.06		66.92	698.32	894.12
Rate 50	MV - Std		6,200.0	4.88	1,421.81			
Rate 50	MV - TOU		6,200.0	4.88		63.40	618.68	793.78
Rate 60	LV		2,500.0	21.50				

It should also be noted that as the billing determinants vary, the proportion of fixed to variable revenue recovered through the tariff changes. Owing to the fact that there has been a general downward trend in kWh consumption, JPS failed to recover the determined revenue requirement and the tariff effectiveness is eroded. The erosion is more pronounced in the variable component of the tariff as customers reduce their average consumption. This makes it impossible to maintain the 23% recovery of revenues through fixed charges stipulated by the OUR in the January 7th Determination Notice, as maintaining the ratio would necessitate a reduction in customer and demand charges as total revenues fall. JPS is therefore recommending changes to the tariff basket to marginally improve fixed cost recovery.

Table 1-5 below shows how JPS proposes to apply the 2015 price adjustment factor of 2.30% to the individual non-fuel tariffs with some level of tariff rebalancing between the rate classes.

Table 1-5: Proposed Annual Non-Fuel Price Adjustment per tariff

Class		Block/Rate Option	Customer Charge	Energy-J$/kWh	Demand-J$/KVA			
					Std.	Off-Peak	Part Peak	On-Peak
Rate 10	LV	--100	4.970%	2.400%				
Rate 10	LV	> 100	4.970%	2.400%				
Rate 20	LV		4.970%	2.340%				
Rate 40A	LV							
Rate 40	LV - Std		4.970%	0.950%	2.990%			
Rate 40	LV - TOU		4.970%	0.950%		2.990%	2.990%	2.990%
Rate 50	MV - Std		4.970%	0.430%	2.990%			
Rate 50	MV - TOU		4.970%	0.430%		2.990%	2.990%	2.990%
Rate 60	LV		4.970%	-0.660%				

Proof that the weighted adjustment factor proposed by JPS is equal to 2.30% is shown in Table 1-6 below.

Table 1-6: Weighted Non-Fuel Inflation Adjustment

Class		Block/Rate Option	Customer Charge	Energy-J$/kWh	Demand-J$/KVA				
					Std.	Off-Peak	Part Peak	On-Peak	
Weighted increase									TOTAL
Rate 10	LV	--100	0.13%	0.24%	0.00%	0.00%	0.00%	0.00%	0.37%
Rate 10	LV	> 100	0.18%	0.57%	0.00%	0.00%	0.00%	0.00%	0.75%
Rate 20	LV		0.08%	0.56%	0.00%	0.00%	0.00%	0.00%	0.64%
Rate 40A	LV		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Rate 40	LV - Std		0.01%	0.08%	0.26%	0.00%	0.00%	0.00%	0.35%
Rate 40	LV - TOU		0.00%	0.01%	0.00%	0.00%	0.02%	0.02%	0.05%
Rate 50	MV - Std		0.00%	0.02%	0.12%	0.00%	0.00%	0.00%	0.14%
Rate 50	MV - TOU		0.00%	0.00%	0.00%	0.00%	0.01%	0.01%	0.02%
Rate 60	LV		0.00%	-0.02%	0.00%	0.00%	0.00%	0.00%	-0.02%
TOTAL			0.40%	1.46%	0.38%	0.00%	0.03%	0.03%	2.30%

Table 1-7 shows the proposed rates for 2015/16 after resetting the Base Exchange rate and after application of the proposed non-fuel price adjustments shown in Table 1-5.

Table 1-7: Summary of Proposed 2015/16 Non-Fuel Tariffs

Class		Block/Rate Option	Customer Charge	Energy-J$/kWh	Demand-J$/KVA			
					Std.	Off-Peak	Part Peak	On-Peak
Rate 10	LV	--100	414.63	8.62	-	-	-	-
Rate 10	LV	> 100	414.63	20.07	-	-	-	-
Rate 20	LV		923.74	16.62	-	-	-	-
Rate 40A	LV					-	-	-
Rate 40	LV - Std		6,508.1	5.11	1,634.52	-	-	-
Rate 40	LV - TOU		6,508.1	5.11	-	68.92	719.20	920.85
Rate 50	MV - Std		6,508.1	4.90	1,464.32	-	-	-
Rate 50	MV - TOU		6,508.1	4.90	-	65.30	637.18	817.51
Rate 60	LV		2,624.3	21.36	-	-	-	-

While there is an overall 2.30% increase in the non-fuel tariffs, this includes the impact of resetting the Base Exchange rate from J$112: US$1 to J$115.50: US$1. The increase

attributable to the resetting of the Base Exchange rate is already reflected in customer bills through the foreign exchange adjustment clause. Accordingly, the incremental impact of the annual price adjustment factor is an average decrease of 0.02%.

We are proposing that the EEIF rate be adjusted by the annual inflation adjustment factor of 2.30% and that will result in the rate being moved from J$0.4886/kWh to J$0.4998/kWh for all rate classes.

A detailed analysis of the non-fuel tariff adjustment for 2015/16 and the total bill impact for the typical JPS customer in each rate class has been provided in Appendix II. This demonstrates that the total bill impact of the proposed tariff increase for the typical JPS residential customer will result in an increase of 0.2%. Additionally, it shows that for commercial customers there will be a range of adjustments from an increase of 0.0% for Rate 20 customers and to a decrease of 1.8% for Rate 60 customers.

Section 1.4 discusses JPS' proposal for an incremental adjustment to the 2015/2016 tariff basket to account for corrections related to billing determinant errors in the 2014 Tariff Filing that were identified subsequent to the issuance of Determination Notice Addendum 1 by the OUR.

Section 1.5 discusses some additional requested changes as part of the annual tariff adjustment application. These include proposed adjustment to the 2014/2015 approved prepaid rates for Rate 10 and 20 customers. Post-paid and pre-paid rates for customers to be enrolled in the community renewal programme are also presented in this section.

1.4 Alternative Rate Proposal for the 2015/2016 Tariff Period

In a letter submitted to the OUR on April 1, 2014, JPS indicated that there were anomalies in the billing determinant data that was submitted as part of its 2014 Tariff Filing. The billed consumption data for rate classes 20 and 50 in the Auditor source-certified data was materially different from the consumption data submitted in JPS' 2014 rate case filing, and consequently included in the Determination Notice of January 7, 2015. As expressed in that letter, it is JPS' view that the Auditor source-certified data more accurately reflects the billed consumption for the test year.

JPS indicated in the letter that the discrepancy is material and will significantly affect its ability to realize the revenue requirement awarded in the determination and subsequent Addendum. Based on our calculations, the revenue deficiency occasioned by the use of the incorrect billing determinants submitted in JPS' 2014 rate case filing, is J$310M (or US$2.8M per annum) being 0.75% of the revenue requirement (excluding EEIF). It is important to note that the 0.75% shortfall assumes that the full test year consumption for Rate 60 is applied and does not take into account the impact of the replacement of street lighting with LED fixtures. We believe that given the level of uncertainty in the timing and final outcome of the programme, it is prudent to wait until the LED replacement proposal is finalised before incorporating the resultant changes in the tariff.

JPS' proposal is that correction be made as part of the 2015 annual tariff adjustment to allow for the 0.75% shortfall in the 2014 revenue requirement. Therefore, in addition to the application of the annual inflation adjustment formula, JPS is proposing that an adjustment of

0.7672% be implemented to account for the revenue deficit. The adjustment factor of 0.7672% is derived from the 0.75% revenue shortfall adjustment for 2014 compounded by the 2015 annual inflation adjustment factor of 2.30%. Taken together this results in a gross adjustment factor of 3.07% (2.30% plus the additional factor of 0.7672%) for 2015.

Table 1-8 below shows how JPS proposes to apply the 2015 price adjustment factor of 3.07% to the individual non-fuel tariffs.

Table 1-8: Proposed Annual Non-Fuel Price Adjustment per tariff for Alternative Tariff

Class		Block/Rate Option	Customer Charge	Energy-J$/kWh	Demand-J$/KVA			
					Std.	Off-Peak	Part Peak	On-Peak
Rate 10	LV	--100	7.540%	2.970%				
Rate 10	LV	> 100	7.540%	2.970%				
Rate 20	LV		7.540%	2.620%				
Rate 40A	LV							
Rate 40	LV - Std		7.540%	2.000%	3.520%			
Rate 40	LV - TOU		7.540%	2.000%		3.520%	3.520%	3.520%
Rate 50	MV - Std		7.540%	2.000%	3.520%			
Rate 50	MV - TOU		7.540%	2.000%		3.520%	3.520%	3.520%
Rate 60	LV		7.540%	-0.530%				

Proof that the weighted adjustment factor proposed by JPS is equal to 3.07% is shown in Table 1-9 below.

Table 1-9: Weighted Non-Fuel Inflation Adjustment for Alternative Tariff

Class		Block/Rate Option	Customer Charge	Energy-J$/kWh	Demand-J$/KVA				
					Std.	Off-Peak	Part Peak	On-Peak	
Weighted increase									TOTAL
Rate 10	LV	--100	0.20%	0.30%	0.00%	0.00%	0.00%	0.00%	0.50%
Rate 10	LV	> 100	0.28%	0.70%	0.00%	0.00%	0.00%	0.00%	0.98%
Rate 20	LV		0.12%	0.63%	0.00%	0.00%	0.00%	0.00%	0.75%
Rate 40A	LV		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Rate 40	LV - Std		0.02%	0.16%	0.31%	0.00%	0.00%	0.00%	0.49%
Rate 40	LV - TOU		0.00%	0.03%	0.00%	0.00%	0.02%	0.02%	0.07%
Rate 50	MV - Std		0.00%	0.10%	0.14%	0.00%	0.00%	0.00%	0.24%
Rate 50	MV - TOU		0.00%	0.02%	0.00%	0.00%	0.02%	0.02%	0.06%
Rate 60	LV		0.00%	-0.02%	0.00%	0.00%	0.00%	0.00%	-0.02%
TOTAL			0.62%	1.92%	0.45%	0.00%	0.04%	0.04%	3.07%

Table 1-10 shows the proposed rates for 2015/16 including the incremental tariff related to the correction of the billing determinant errors for 2014 after resetting the Base Exchange rate. The table shows the application of the proposed non-fuel price adjustments shown in Table 1-8.

Table 1-10: Summary of Proposed 2015/16 Proposed Alternative Non-Fuel Tariffs

Class		Block/Rate Option	Customer Charge	Energy-J$/kWh	Demand-J$/KVA			
					Std.	Off-Peak	Part Peak	On-Peak
Rate 10	LV	--100	424.78	8.67	-	-	-	-
Rate 10	LV	> 100	424.78	20.18	-	-	-	-
Rate 20	LV		946.35	16.67	-	-	-	-
Rate 40A	LV					-	-	-
Rate 40	LV - Std		6,667.5	5.16	1,642.93	-	-	-
Rate 40	LV - TOU		6,667.5	5.16	-	69.28	722.90	925.59
Rate 50	MV - Std		6,667.5	4.98	1,471.86	-	-	-
Rate 50	MV - TOU		6,667.5	4.98	-	65.63	640.46	821.72
Rate 60	LV		2,688.5	21.39	-	-	-	-

A detailed analysis of the proposed non-fuel tariff adjustment for 2015/16 and the total bill impact for the typical JPS customer in each rate class has been provided in Appendix III. This demonstrates that the total bill impact of the proposed tariff increase for the typical JPS residential customer will result in an increase of 0.6%. Additionally, it shows that for commercial customers there will be a range of adjustments from an increase of 0.2% for Rate 20 customers and to a decrease of 1.7% for Rate 60 customers.

1.5 Pre-paid Rates

In this section adjusted prepaid rates for residential (rate 10) and small commercial (rate 20) customers are presented alternately.

1.5.1 Rate 10 Prepaid Rates

In Determination-Notice Addendum 1, the OUR determined that the approved prepaid tariff for Rate 10 Customers was J$12.86/kWh for the first 100kWh within a thirty (30) day consumption cycle and J$20.38 for each additional kWh within the same 30 day consumption cycle. This tariff was the approved tariff for 2014/2015 and was computed, as illustrated in Table 1-11 below, on the basis of consumptions bands that were obtained from the 2013 billing determinant data. Table 1-11 also highlights the financial impact this proposed tariff could have on JPS if all customers were to switch from post-paid to pre-paid. The table shows that if all customers consuming less than 100 kWh switched to the prepaid service, JPS stands to lose J$399M in non-fuel revenues per annum. If all Rate 10 customers switched to prepaid service, the revenue loss faced by JPS would reduce to J$255M per annum. The probability of the latter scenario occurring is low as the incentive to switch only exists for customers consuming between 0 to 100 kWh. By any measure, this exposure is significant and further increases the risk profile of the company especially given the challenges in meeting certain financial covenants.

The dataset that was used for the computation in Table 1-11 excluded customers with zero or negative consumption in 2013. Should this data be adjusted to include customers who were either zero and/or negative billed in 2013, the loss is starker as shown in Table 1-12. These consumption bands legitimately forms a part of the consumption profile of our customers and therefore should be included in any rate derivation computation.

Table 1-11: Impact of OUR Approved Pre-paid Tariff for Rate 10

Customer Bands	Customer Count	Test Year Demand (MWh)	Average Consumption (kWh/month)	Post-paid Rate	Pre-paid Rate	Monthly Post-paid Revenue	Monthly Pre-paid Revenue	Monthly Variance	Annual Variance
0-50 kWh	79,191	22,438	23.61	25.64	12.86	47,938,189.95	24,046,127.35	(23,892,062.60)	(286,704,751.17)
50-100 kWh	103,607	95,857	77.10	14.03	12.86	112,087,244.86	102,726,759.26	(9,360,485.60)	(112,325,827.18)
100-200 kWh	189,965	330,707	145.07	15.10	15.20	416,275,843.78	418,797,537.22	2,521,693.44	30,260,321.32
200-300 kWh	75,738	219,436	241.44	17.09	17.27	312,588,976.67	315,721,228.75	3,132,252.07	37,587,024.89
300-400 kWh	26,017	106,856	342.27	17.98	18.18	160,072,473.22	161,912,810.10	1,840,336.88	22,084,042.53
400-500 kWh	10,391	55,335	443.78	18.46	18.69	85,121,129.52	86,163,514.17	1,042,384.65	12,508,615.78
500- 1000 kWh	11,105	87,615	657.50	18.99	19.24	138,643,005.44	140,448,552.83	1,805,547.39	21,666,568.73
>1000 kWh	3,033	70,115	1,926.56	19.71	19.99	115,183,362.83	116,798,037.82	1,614,674.99	19,376,099.90
Total						**1,339,972,036.32**	**1,342,568,440.15**	**(21,295,658.77)**	**(255,547,905.21)**

Table 1-12: Impact of OUR Approved Pre-paid Tariff for Rate 10 (Zero and Negative Billed Customers Included)

Customer Bands	Customer Count	Test Year Demand (MWh)	Average Consumption (kWh/month)	Post-paid Rate	Pre-paid Rate	Monthly Post-paid Revenue	Monthly Pre-paid Revenue	Monthly Variance	Annual Variance
0-50 kWh	118,847	22,438	15.73	34.01	12.86	63,602,013.70	24,046,127.35	(39,555,886.35)	(474,670,636.17)
50-100 kWh	103,607	95,857	77.10	14.03	12.86	112,087,244.86	102,726,759.26	(9,360,485.60)	(112,325,827.18)
100-200 kWh	189,965	330,707	145.07	15.10	15.20	416,275,843.78	418,797,537.22	2,521,693.44	30,260,321.32
200-300 kWh	75,738	219,436	241.44	17.09	17.27	312,588,976.67	315,721,228.75	3,132,252.07	37,587,024.89
300-400 kWh	26,017	106,856	342.27	17.98	18.18	160,072,473.22	161,912,810.10	1,840,336.88	22,084,042.53
400-500 kWh	10,391	55,335	443.78	18.46	18.69	85,121,129.52	86,163,514.17	1,042,384.65	12,508,615.78
500- 1000 kWh	11,105	87,615	657.50	18.99	19.24	138,643,005.44	140,448,552.83	1,805,547.39	21,666,568.73
>1000 kWh	3,033	70,115	1,926.56	19.71	19.99	115,183,362.83	116,798,037.82	1,614,674.99	19,376,099.90
Total						**1,339,972,036.32**	**1,342,568,440.15**	**(36,959,482.52)**	**(443,513,790.21)**

The post-paid residential (Rate 10) rate is essentially a three-tiered tariff structure with the customer charges being the first tier, the lifeline rate being the second tier and the rate for consumption over 100kWh being the third, so it is not possible for a two tiered pre-paid structure to exactly replicate the post-paid tariff rates without either a net loss/gain to JPS or the customer. Ideally, Rate 10 prepaid tariffs should be three tiered to ensure revenue neutrality for JPS and cost neutrality for customers. We accept the increased complexity of the three-tiered structure and given that JPS will only be able to convert 2,000 customers to prepaid service for the 2015/2016 period (and thus, the potential loss is extremely small), we are proposing that the two tiered structure be retained for this period. We would, however, like to state that the rate structure should aim for revenue neutrality as the prepaid programme evolves and thus, serious consideration must be given to a three-tiered tariff structure that is cost reflective in future annual tariff adjustment filings.

The proposed prepaid tariffs are presented below based on the application of the inflationary adjustment before correction for the 2014 billing determinant errors and after correction for those errors.

Rate 10 Prepaid tariff before correction for 2014 Billing Determinant Errors

The design of the prepaid tariff is based on the approved post-paid rates. The proposal for the pre-paid tariff assuming the base inflationary adjustment presented in Table 1-7 is described below.

Using the proposed post-paid tariffs in Table 1-7 as the basis of our calculation, we are proposing the following non-fuel tariff for the Rate 10 prepaid customers:

- $14.4311/kWh for the first 119kWh in a 30 day cycle
- $20.5719/kWh for every kWh above 119kWh in a 30 day cycle

Table 1-13 provides an illustration of the analysis for the proposed rate. This shows that JPS will suffer a shortfall of over J$293.4M if customers in the 0-100kWh band were to switch to pre-paid service but is revenue neutral for other consumption levels. This level of loss is unsustainable for JPS and is only acceptable for the remainder of the prepaid pilot programme since the number of customers on the programme would be fairly minimal.

Table 1-13: Analysis of JPS Proposed Prepaid Rate for Rate 10 Customers

Customer Bands	Customer Count	Test Year Demand (MWh)	Average Consumption (kWh/month)	Post-paid Rate	Pre-paid Rate	Monthly Post-paid Revenue	Monthly Pre-paid Revenue	Monthly Variance	Annual Variance
0-50 kWh	82,318	23,198	23.48	26.78	14.43	51,761,097.42	27,890,688.42	(23,870,409.00)	(286,444,908.00)
50-100 kWh	107,635	99,575	77.09	14.50	14.43	120,314,941.18	119,734,110.42	(580,830.76)	(6,969,969.12)
100-200 kWh	191,779	333,100	144.74	15.52	15.52	430,805,594.98	430,805,594.98	-	-
200-300 kWh	73,908	214,056	241.35	17.54	17.54	312,873,184.33	312,873,184.33	-	-
300-400 kWh	25,288	103,833	342.17	18.44	18.44	159,557,539.06	159,557,539.06	-	-
400-500 kWh	10,016	53,326	443.67	18.92	18.92	84,076,671.78	84,076,671.78	-	-
500- 1000 kWh	11,000	86,806	657.62	19.46	19.46	140,770,137.20	140,770,137.20	-	-
>1000 kWh	3,173	78,751	2,068.26	20.22	20.22	132,695,549.18	132,695,549.18	-	-
Total						**1,381,093,618**	**1,380,512,787**	**(24,451,240)**	**(293,414,877)**

Rate 10 Prepaid tariff after correction for 2014 Billing Determinant Errors

Assuming the OUR accepts JPS' alternative tariff proposal in Table 1-10, then the following is the proposed alternative non-fuel tariff for the Rate 10 prepaid customers:

- $14.6750/kWh for the first 121kWh in a 30 day cycle
- $20.6824/kWh for every kWh above 121kWh in a 30 day cycle

The impact of the proposed alternative Rate 10 pre-paid rate is shown in Table 1-14 below. In this case, JPS would suffer a shortfall of J$291.8M if all customers consuming 0-50kWh were to switch to pre-paid service.

Table 1-14: Analysis of JPS Proposed Alternative Prepaid Rate for Rate 10 Customers

Customer Bands	Customer Count	Test Year Demand (MWh)	Average Consumption (kWh/month)	Post-paid Rate	Pre-paid Rate	Monthly Post-paid Revenue	Monthly Pre-paid Revenue	Monthly Variance	Annual Variance
0-50 kWh	82,318	23,198	23.48	27.26	14.68	52,688,854.21	28,373,895.08	(24,314,959.13)	(291,779,509.56)
50-100 kWh	107,635	99,575	77.09	14.68	14.68	121,808,505.96	121,808,505.96	-	-
100-200 kWh	191,779	333,100	144.74	15.66	15.66	434,691,727.92	434,691,727.92	-	-
200-300 kWh	73,908	214,056	241.35	17.67	17.67	315,192,084.79	315,192,084.79	-	-
300-400 kWh	25,288	103,833	342.17	18.56	18.56	160,595,874.46	160,595,874.46	-	-
400-500 kWh	10,016	53,326	443.67	19.04	19.04	84,609,927.63	84,609,927.63	-	-
500- 1000 kWh	11,000	86,806	657.62	19.58	19.58	141,638,195.60	141,638,195.60	-	-
>1000 kWh	3,173	78,751	2,068.26	20.33	20.33	133,417,433.96	133,417,433.96	-	-
Total						**1,391,953,750**	**1,391,953,750**	**(24,314,959)**	**(291,779,510)**

1.5.2 Rate 20 Prepaid Rates

As for the design of pre-paid rates for Rate 10 Customers, the pre-paid design for Rate 20 customers is dependent on the approved post-paid tariffs.

Rate 20 Prepaid tariff before correction for 2014 Billing Determinant Errors

Using the proposed post-paid tariffs in Table 1-7 as the basis of our calculation, we are proposing the following non-fuel tariff for the Rate 20 prepaid customers:

- $109.498/kWh for the first 10kWh in a 30 day cycle
- $17.118/kWh for every kWh above 10kWh in a 30 day cycle

The analysis of this proposal is shown in Table 1-15 below. This tariff structure retains revenue neutrality for JPS for the Rate 20 customer class.

Table 1-15: Analysis of JPS Proposed Prepaid Rate for Rate 20 Customers

Customer Bands	Customer Count	Test Year Demand (MWh)	Average Consumption (kWh/month)	Post-paid Rate	Pre-paid Rate	Monthly Post-paid Revenue	Monthly Pre-paid Revenue	Monthly Variance	Annual Variance
(0-50] kWh	5,120	2,717	44.22	38.01	38.01	8,605,707.26	8,605,707.26	-	-
(50-100] kWh	10,362	6,885	55.37	33.80	33.80	19,392,545.17	19,392,545.17	-	-
(100-1000] kWh	24,775	119,767	402.85	19.41	19.41	193,723,615.84	193,723,615.84	-	-
(1000-7500] kWh	13,396	275,093	1,711.29	17.66	17.66	404,845,625.23	404,845,625.23	-	-
>7500 kWh	7,664	210,419	2,287.96	17.52	17.52	307,211,893.71	307,211,893.71	-	-

Rate 20 Prepaid tariff after correction for 2014 Billing Determinant Errors

Contingent on the acceptance of JPS' alternative tariff proposal shown in Table 1-10, JPS proposes the following alternative pre-paid tariff for Rate 20 Customers.

- $111.783/kWh for the first 10kWh in a 30 day cycle
- $17.170/kWh for every kWh above 10kWh in a 30 day cycle

The analysis of this alternative proposal is shown in Table 1-16 below. This tariff structure retains revenue neutrality for JPS for the Rate 20 customer class.

Table 1-16: Analysis of JPS Alternative Proposed Prepaid Rate for Rate 20 Customers

Customer Bands	Customer Count	Test Year Demand (MWh)	Average Consumption (kWh/month)	Post-paid Rate	Pre-paid Rate	Monthly Post-paid Revenue	Monthly Pre-paid Revenue	Monthly Variance	Annual Variance
(0-50] kWh	5,120	2,717	44.22	38.57	38.57	8,732,494.85	8,732,494.85	-	-
(50-100] kWh	10,362	6,885	55.37	34.26	34.26	19,656,467.38	19,656,467.38	-	-
(100-1000] kWh	24,775	119,767	402.85	19.52	19.52	194,821,482.80	194,821,482.80	-	-
(1000-7500] kWh	13,396	275,093	1,711.29	17.72	17.72	406,221,091.68	406,221,091.68	-	-
>7500 kWh	7,664	210,419	2,287.96	17.58	17.58	308,263,989.24	308,263,989.24	-	-

1.6 Community Renewal Programme

JPS introduced the implementation of a Community Renewal Programme (CRP) in its 2014 Rate Case Filing. JPS' proposal included the implementation of a special tariff for persons eligible to sign on to the programme. The OUR in its Determination, did not approve the proposed tariffs on the grounds that JPS had not provided sufficient details about the programme for the OUR to make a determination on a tariff for the CRP.

In this section, JPS will address the OUR's concern by providing additional detail on the objectives of the programme, its expected benefits to customers and JPS' role and

responsibilities in a multi-stakeholder partnership, which we believe will be sufficient to facilitate the Regulator making a determination of rates applicable to the CRP.

1.6.1 Objectives of the Community Renewal Programme

The debilitating impact of electricity theft was brought to the forefront of national attention in May 2014, precipitated by an energy curtailment exercise that was conducted by JPS. Subsequently, the Prime Minister established a task force, chaired by the Hon State Minster Julian Robinson, to enable consultation with multiple stakeholders who have a direct interest in reducing non-technical electricity losses. A direct output of the committee meetings has been the development of a multi-faceted, multi-sectorial approach. Solutions identified include the on-boarding5 of customers and the implementation of social intervention in an integrated manner.

The Community Renewal Programme (CRP) – an output of the deliberations of this committee is designed to address the problem of Non-Technical Losses (NTLs) through the development and implementation of a sustainable model that integrates both technical and social elements. This approach is a departure from the previous strategies which included the identification and prosecution of illegal users and the disconnection of street lights. Countries such as Brazil, India, Colombia and the Dominican Republic have implemented similar programs with considerable success as measured by reduction in losses, increased billed sales and improvement in the general livelihood of affected communities.

The programme's aim is to on-board, through partnership with governmental agencies, at least 4,000 - 5,000 customers per annum over an initial period of 4 years. The proposal is for these customers to be on-boarded through a combination of options including:

- Provision of a sustainable solution to non-technical losses through the implementation of SMART metering systems, and
- Community Facilitation and Social Intervention partnerships.

To address the issue of affordability, several strategies will be pursued to assist customers including:

- The promotion of Energy Conservation/Management, and
- The introduction of innovative payment options (Daily, weekly, etc.), or prepaid metering.

Throughout the programme, JPS' strategy will be to tackle communities served by the High Loss Feeders and where social intervention programmes are being pursued by the GOJ or NGOs. The Company will also implement a pilot programme in 2015 to enable it to further refine its assumptions and strategies related to the programme going forward. To this end, we have entered into a Public Private Partnership with the Government through JSIF. An MOU was signed by JPS and JSIF, outlines the terms and conditions of a JPS Funded Pilot project called "STEP UP".

1.6.2 Programme Stakeholders

[5] On-boarding of customers refers to acquisition of new customer through a relationship building process.

JPS will work in close partnership with JSIF, REP and the Ministry of Labour through its PATH programme. The role of these agencies will be described in the ensuing sections:

Jamaica Social Investment Fund (JSIF)

The Government of Jamaica received a loan from the World Bank in the amount of US$42million for the implementation of the Integrated Community Development Project (ICDP). The Jamaica Social Investment Fund is the implementing agency for the project which is scheduled to run from May 2014 to May 2020. The ICDP aims to promote public safety and transformation through the delivery of basic infrastructure and social services in 18 communities. Project components will include:

- Improvement to Basic Infrastructure
- Road rehabilitation
- Improvement of storm water drainage
- Installation of water supply and sanitation household connections
- Promotion of behaviour change related to water supply, sanitation, Electrical connection and solid waste management
- Improvement of electricity connection and lighting in communities
- Extension of electricity network and regularization of illegal connections
- Rehabilitation of Educational Facilities
- Construction of community Integrated spaces
- Solid Waste Management
- Improvement in Public Safety
- Implementation of Youth Livelihood Projects
- Institutional Strengthening for Urban Management and Safety.

Over the next four years, JPS will work in conjunction with JSIF-ICDP in the communities that are targeted to maximize the impact that the benefits from the social intervention programmes could have on users of illegal electricity. JSIF has committed to assisting with the wiring of at least one hundred (100) houses per community for the duration of ICDP.

The communities identified are as follows:

- Clarendon – York Town, Treadlight, Curatoe Hill/ Canaan Heights.
- Kingston & St. Andrew - Hannah Town ,Tivoli Gardens & Rose Town, Greenwich Town / Newport West, Wilton Gardens / Rema & Maxfield Park
- St. Ann - Steer Town, St. Catherine, Spanish Town Central (specific focus on
- Ellerslie Pen)
- St. James - Retirement, Anchovy, Barrett Town & Granville
- Westmoreland - Russia

Rural Electrical Programme Ltd (REP)

The Rural Electrification Programme (REP) is mandated by the Government to provide house wiring solutions to communities with no access to electricity. This was reinforced by the Energy Minister in his speech at the JEF-CEO breakfast on March 18, 2015, where he stated

that the REP will be facilitated through a Fund sanctioned by the Government to provide low cost house wiring solutions to vulnerable communities. The partnership will harmonize the efforts of JSIF and the REP to optimize the on-boarding of customers.

Programme of Advancement through Health and Education (P.A.T.H.)

PATH, a social assistance initiative, serves as the core of the social safety net by providing benefits for the most vulnerable in society. Its specific objectives are:

- To increase educational attainment and improve health outcomes among poor Jamaicans.
- To reduce child labour by requiring an 85% school attendance among children between the ages of 6 and 17 years.
- To reduce poverty by increasing the value of benefits to the poor.
- To serve as a safety net for poor families.

A positive correlation has been established between areas with high system losses and poverty, thus, the question of affordability must be addressed in the community renewal programme. In this regard, we are proposing a special rate to be applied to customers that are beneficiaries of the PATH programme in the communities we are targeting for regularization. We will also be advocating that persons found stealing electricity should lose their PATH benefit.

1.6.3 JPS' Role

JPS will provide support to the partnership by improving power distribution infrastructure and implementing SMART metering in the targeted communities. This will include extension of the electricity network as needed and where necessary. We will also assist with energy conservation and management efforts in the targeted communities by providing advice on energy conservation and assistance with the distribution of energy efficient lighting. Table1-17 shows the major components of the CRP and the corresponding responsible agencies.

Table1-17: Project Components and Responsible Agencies

Initiatives	Component Owner
Primary & Secondary Distribution System Upgrade	JPS
ASMART Metering Infrastructure	JPS
Pre and post regularization door to door visits by community agents	JPS
Replacement of inefficient light bulbs with LED and Fluorescent light bulbs	JSIF /GOJ
Refrigerator Assessments	JSIF
Replacement of damaged refrigerator seals	JSIF
Household Rewiring	JSIF/REP/JPS

1.6.4 Benefits to Existing Customers and the Country

System loss as at February 2015 was 26.92% with non-technical losses (NTLs) accounting for 18.32% (57,528 MWh). It is estimated that of the 18.32%, over 50% is due to unmetered consumers.[6]

The CRP is expected to restrict over 72 GWh of electricity losses and improve bill sales by 29GWh over the initial four (4) year period.[7] This is equivalent to approximately 0.37% reduction in system losses annually. That level of loss reduction in 2014 would have led to approximately J$205 million dollars in fuel savings for the country and a reduction in fuel rates by approximately 0.93 Jamaican ₵ per kWh. This would have resulted in our customers saving up to $28M in 2014. Thus, there are significant and tangible benefits to be gained if the programme achieves the success that is envisioned.

Of course, there will be other intangible benefits that are difficult to quantify. For example, there will be a greater awareness of the impact of system losses, improved awareness of energy conservation and improvement to public safety and system reliability. Finally, the social intervention efforts should bear fruit in improving the culture that contributes to electricity theft.

1.6.5 The Proposed Pilot Programme – PROJECT STEP UP

Project Step UP is the JPS proposed pilot programme which will target seven communities, viz, McGregor Gardens, Denham Town, Arnette Gardens, Payne Ave, Whitfield Town, Tower Hill and Majesty Gardens. Some of the project's major objectives are to educate customers in the targeted communities on energy and bill management and to introduce more flexible payment options (e.g. payment arrangements & pre-paid metering). This is to be achieved through partnership with stakeholders such as JSIF, PATH and the Members of Parliament for the selected communities. The project will finance the delivery of infrastructure, services, and civil works relevant to the provision of legal electricity connections. Table1-18 provides a profile of the targeted communities.

The losses figures noted in the table reflect that of the entire community and not the specific areas within these communities that are selected for the pilot programme. Total meters are currently being installed to capture the level of losses in the targeted areas, however, the losses for the community provides an insight of the level of loss reduction that can be expected from the pilot areas.

[6] It has also been estimated that there are approximately 180,000 unmetered users of electricity contributing to 9.85% of our total losses.

[7] Restricting 72 GWh of losses over 4 years (300kwh x 5'000 = 18 GWh p.a.)
Improve billed Sales by 29 GWh over 4 years (120kwh x 5,000= 7.2 GWh p.a.).

This analysis is derived from data collected from JPS total meter installations which shows that, on average, customers prior to regularization use a minimum of 300kWh and 120kWh after regularization. This method of calculation does not show the cumulative effect of forward billing on bill sales

Table1-18: Community Profiles

Community	[8]Population	Housing Infrastructure	% Unemployed	[9]Losses (% of Billed Sales)	Nos. of Existing Customer	Potential Customers/ Users
McGregor Gardens	450-500	Majority Concrete	70%	90%	14	197
Denham Town	6,279	Majority Concrete	46.3%	83%	2,146	583
Arnette Gardens	1500	Exclusively Concrete	75%	82%	1283	255
Whitfield Town	13,690	Majority wood based	31%	79%	1,325	840
Payne Ave	3,500	Majority Concrete	50%	40%	1,422	544
Tower Hill	1,500	Exclusively Concrete	60%	55%	2,834	272
Majesty Gardens	3,168	Majority wood based		81%	14	175

The core objectives of the programme are to:

a. Facilitate the conversion two 2,000 consumers (illegal users) of electricity to customers.

b. Reduce system losses by 0.25% and recover 2.9 GWh of electricity sales for the first year of the programme.

c. To aid participation in the programme, house wiring will be included. McGregor Gardens and Majesty Gardens are the only two areas to benefit from this activity.

d. GEI certification of households affected by the programme. These include:

   (i) Premises that have been disconnected for more than one year, and

   (ii) Premises wired by a private electrician and certification affordability is an obstacle.

e. Beneficiaries will also receive new billing and payment options, including prepaid metering.

f. Establishment of seven (7) JPS satellite offices in the selected communities. These offices will be managed by Trained Community Facilitators and will allow for closer project monitoring and evaluation during and after project implementation, as well as closer contact with the project beneficiaries to facilitate project communication and improve the relationship between JPS and the beneficiaries.

g. Skills training and employment opportunities for community residents of McGregor Gardens and Majesty Gardens in:

[8] The population count is for the general area and not the areas targeted for Community Renewal Programme.
[9] The losses figure is representative of the general community and not the targeted area only.

(i) Electrical Installation

(ii) House wiring

(iii) Refrigeration assessments and installation of Gaskets

h. Social marketing and public education component for all communities, which includes training in energy conservation, meter reading and electricity bill literacy.

(i) The Project seeks to pilot and test various methodologies to improve customers' ability to pay electricity bills, through reduction in consumption and increased information provision about electricity usage. The community facilitators, as part of their role, will be identifying conservation opportunities (Light bulb replacements and refrigerator repairs) and making recommendations for continued improvements in customer consumption patterns and programme execution.

i. Distribution of LED and Fluorescent light bulbs to select households in the pilot areas.

j. Assessment and replacement of refrigerator gaskets.

Key performance Indicators

	Measure	Targets
Financial Viability		
Billed Customers	# of Billed Customers	2,000
Changes in Billed Sales	MWh Billed	240 MWh per month
Infrastructure Improvements		
STS Meters Installed	# of Meters Installed	218
Enclosures YYP Installed	# of Enclosures	41
Total Meters commissioned	# of Total Meters Installed	21
Non-Technical Losses		
Converted Consumers	# of customers	2,000
Losses Recovery	KWh per customer	120 KWh per month
Social Intervention		
House wiring	N# of Houses Wired	250
Recertification	N# of Houses Recertified	1,200
Refrigerator Assessments	N# Assessments	2,000
Replacement of Refrigerator Gaskets	# of Gaskets Replaced	155
Light Bulb Distribution	# of Bulbs Distributed	3,107

Budget

Capital Budget

The pilot projects will utilize a capital expenditure of US$800,000 in 2015. This will facilitate:

- Construction of new lines and installation of Smart Meters in Maxfield Ave, McGregor and Majesty Gardens.
- The correction of all communication issues that would affect billing in all other project areas.

The pilot seeks to engage and convert 2,000 users from communities with different requirements and as such the cost to convert each user will vary. The average cost per customer is determined largely by the geography and size of the area chosen as well as the type of meter solution implemented. The estimated cost of the metering options that will be pursued is shown in Table1-19.

Table1-19: Metering Infrastructure Cost

Metering Solution	Cost per metering Point (Connection)
Next Grid	US$674
YPP Metering	US$1,560
STS Metering	US$456

O & M Budget

The O & M budget will facilitate all activities related to the social intervention and the operations of the seven satellite offices. These activities will include:

Social Intervention

- Refrigerator assessment and replacement.
- Skills Training through Heart NTA
- LED Light Bulb Swap
- House wiring
- Recertification Fees

Office Operations

- Utilities
- Rental Charges
- Facilitator Salaries
- Apprenticeship Training
- Community Meetings
- JSIF Administrative Fees

1.6.6 Community Renewal Programme Rate Proposal

The success of the CRP is highly contingent on the affordability of electricity for residents in the targeted communities. These are communities with high levels of unemployment and with a large percentage of people earning minimum wage. We are therefore proposing a special rate for selected beneficiaries of the programme up to a maximum usage of 150kWh/month. Customers who exceed 150kWh/month will be required to pay for the excess at the regular

Rate 10 rates. The selection of those eligible for special rates will be done through the PATH programme, however, JPS is proposing as a primary conditionality that only new customers or customers who have been inactive for more than one (1) year be eligible for special rates.

While we recognize that affordability will be a key element of the rate design for participants in the community renewal programme, we also recognise that the proposed rate should not be unduly discriminatory to other rate payers even though they will derive benefits from the programme as highlighted in Section 1.6.4. This indicates that participants in the Community Renewal Programme should not pay a rate that is less than marginal cost. In its 2014 rate case submission, JPS had proposed a model for computing marginal costs per rate class. Using this model and the Revenue Requirement approved by the OUR, the marginal cost for Rate 10 Customers was established at US$0.04 per kWh. At a billing exchange rate of J$112: US$1 established in the 2014 determination notice, this rate translates to J$4.48/kWh. Since this is based on the revenue requirement established for 2014, it should be subject to the 2015 annual inflation adjustment. Applying the 2.30% annual inflationary adjustment factor to this rate results in a tariff of $4.57/kWh. We are, however, cognizant of the fact that there might be an incentive for current customer to seek to access the CRP tariff, since the tariff is far below the tariffs for existing Rate 10 customer. We are therefore proposing that the tariff be maintained at the Rate 10 lifeline level for up to 150kWh. To improve affordability, we are willing to forego the customer charges for participants in the programme. Thus, our proposal for the CRP tariff is a flat rate of $8.62/kWh for consumption up to 150kWh. This would be the same tariff applicable under the pre-paid programme. Persons consuming more than 150kWh per month will pay the regular prepaid or post-paid rate, whichever is applicable, for incremental consumption.

Should the OUR accept JPS' proposal for a correction of the 2014 billing determinants, the proposed tariff for the CRP programme would be $8.67/kWh for consumption up to 150kWh. Persons consuming more than 150kWh per month will pay the approved prepaid or post-paid rate, whichever is applicable, for incremental consumption.

This special rate will be offered to participants in the programme provided that they continue to qualify for benefits under the PATH programme.

The success of CRP is predicated on the assumption that the company and its partners will maintain the strategic thrust toward the initiative and the continued provision of support through funding. The residents' participation in the programme is highly dependent on affordability and regulatory support of the proposed rate is crucial. We are confident that a successful social intervention programme implemented by the various stakeholders should bear greater fruits than that achieved from stand-alone technical solutions.

Section 2. Overview of Fuel Efficiency Mechanism

2.1 Introduction

Currently, the recovery of fuel cost is subject to two efficiency measures: Heat Rate and System Losses. In its 2014 Determination notice, the OUR proposed a change to the fuel recovery mechanism that existed previously. In its determination the OUR proposed that:

- Net generation from non-combustible renewables such as wind, hydro and solar shall not be included in the JPS' generating units heat rate calculation and
- The Independent Power Producers' (IPPs) fuel cost shall only be adjusted for efficiency by the system losses factor: $\frac{(1-\text{System Losses Actual})}{(1-\text{System Losses Target})}$

Consequently, the fuel cost formula that shall be applied by JPS in the Fuel Rate Adjustment Mechanism is:

$$\text{Pass Through Cost} = \left[\text{IPPs Fuel Cost} + \left(\text{JPS Fuel Cost} \times \left(\frac{\text{JPS Heat Rate Target}}{\text{JPS Heat Rate Actual}}\right)\right)\right] \times \left(\frac{1-\text{Losses Actual}}{1-\text{Losses Target}}\right)$$

The OUR also determined that:

- JPS' generating heat rate target shall be 12,010 kJ/kWh for the period January 2015 – May 2019.
- The indicative technical losses ceiling for period January 2015 – May 2019 shall be 8.4%.
- JPS' non-technical loss target ceiling for the period January 2015 – May 2019 shall be 10.8%.
- The technical and non-technical losses and heat rate target will be reviewed by the Office at each Annual Tariff Adjustment during the price cap period, 2015 – 2019

JPS began applying this new fuel rate adjustment mechanism in its March 2015 billing, however, notwithstanding this we have formally stated our objections to the design of this mechanism. As the matter is also the subject of appeal and the Company reserves further comment.

2.2 System Losses target

System losses continue to be a tremendous challenge for JPS despite significant investment and initiatives undertaken to reduce the problem. In 2014, system loss, particularly non-technical loss, was once again a major threat to JPS's viability. JPS incurred US$52M in fuel penalty resulting from system loss impairment. At the same time, the investment made in system losses reduction initiatives amounted to just over US$15M for the same period. The table below shows the investment made to reduce system losses over the last five years.

Table 2-1: Investment in System Loss Reduction for the last 5 years

Systems Losses Reduction Expenditure							5 Years
	2009	2010	2011	2012	2013	2014	2010-2014
Capital Expenditure	6,759	13,384	16,994	10,596	7,005	8,025	56,004
O&M Expenditure	2,867	13,410	14,237	14,128	7,384	7,038	56,197
Total Expenditures US$'000	9,626	26,794	31,231	24,724	14,389	15,063	112,201

JPS maintains the position that electricity theft, which is the largest contributor to system losses, is a crime which primarily arises from widespread socio-economic challenges and to tackle it, requires a coordinated effort from the GOJ, NGOs, Social Intervention Agencies, the Regulator and the utility. JPS continues to make the appeal for greater involvement of all stakeholders to address this persistent threat especially against the background of a challenging macro-economic environment.

2.2.1 Summary of 2014 Losses Performance and Initiatives

The rolling system losses average for 2014 was 26.65%. This represents a 0.01% increase in system losses when compared to the previous year of 26.64%. Figure 1 provides an illustration of JPS system losses performance over the past year. The energy loss spectrum as at December 2014 is presented in Figure 2-2.

It is important to note that there was yet another decline in billed sales and net gen for 2014. Although on a percentage basis system losses increased by 0.01%, there was a reduction in actual GWh system losses in 2014 when compared to 2013. Losses for 2014 totalled 1,093GWh when compared to 1,103GWh in 2013. This is a reduction of 9.67GWh or approximately 0.24% of net generation. This highlights the impact of declining sales in a challenging macro-economic environment and its effect on system losses.

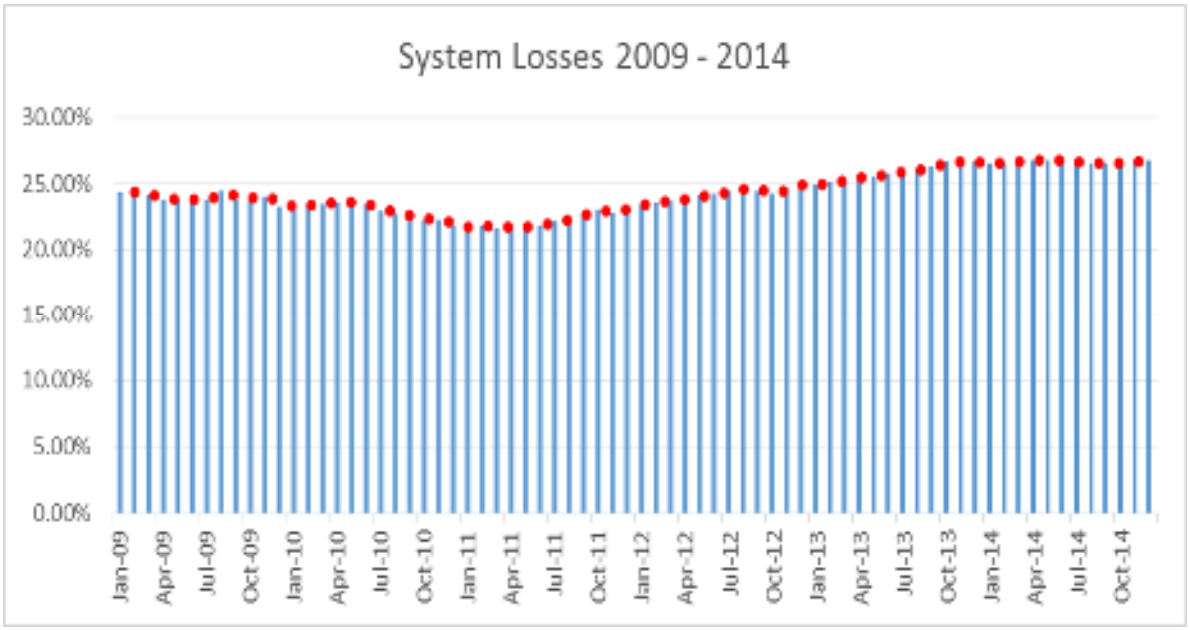
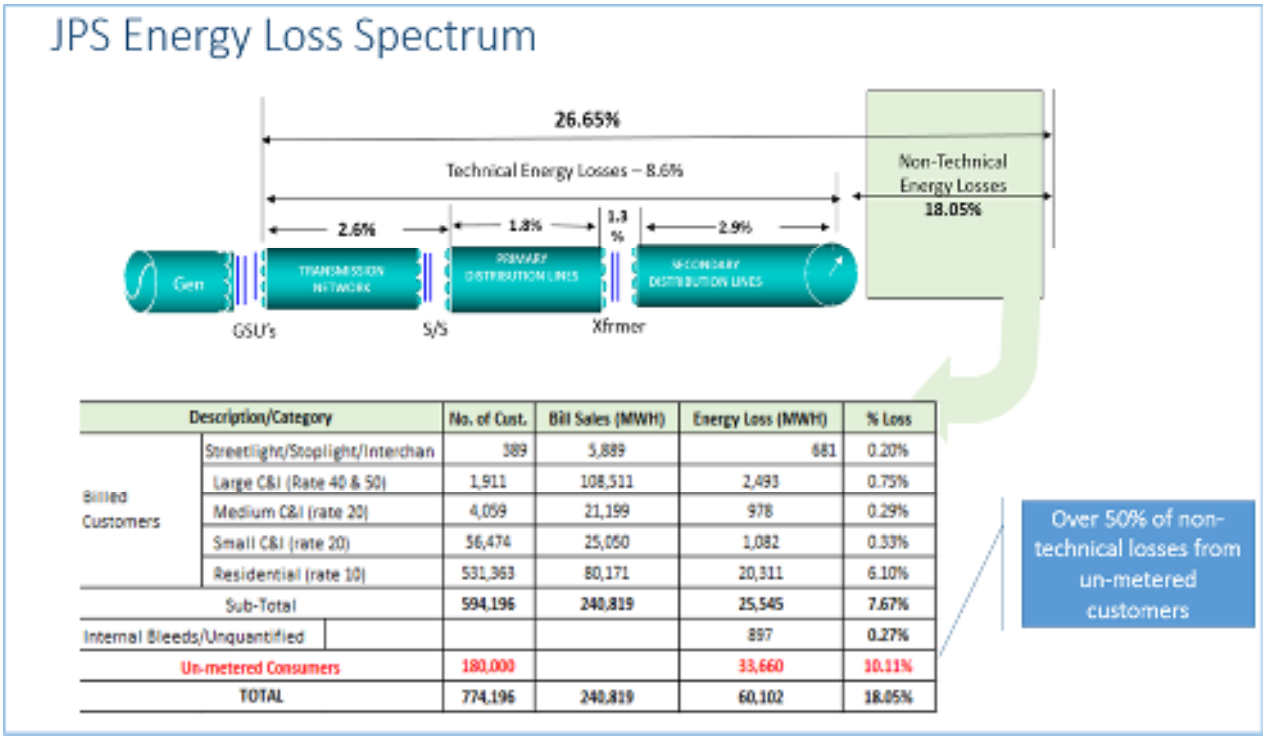


Figure 2-1: System Losses Performance



Description/Category		No. of Cust.	Bill Sales (MWH)	Energy Loss (MWH)	% Loss
Billed Customers	Streetlight/Stoplight/Interchan	389	5,889	681	0.20%
	Large C&I (Rate 40 & 50)	1,911	108,511	2,493	0.75%
	Medium C&I (rate 20)	4,059	21,199	978	0.29%
	Small C&I (rate 20)	56,474	25,050	1,082	0.33%
	Residential (rate 10)	531,363	80,171	20,311	6.10%
Sub-Total		594,196	240,819	25,545	7.67%
Internal Bleeds/Unquantified				897	0.27%
Un-metered Consumers		180,000		33,660	10.11%
TOTAL		774,196	240,819	60,102	18.05%

Figure 2-2: Energy Loss Spectrum

2.2.2 Loss Recovery from Initiatives in 2014

Appendix IV presents a detailed description of JPS' loss recovery initiatives in 2014 and the plans for 2015-2019. The table below provides a summary of loss reduction from the initiatives in 2014.

Initiatives	Approximate Recovery for 2014
RAMI	2.68GWh
CAAMI	0.59GWh
Nansen change out	0.06GWh
Audits	6.31GWh
Power Factor Correction	0.82GWh
Phase balancing	0.05GWh
Other (Naggo Head Upgrade, Special Projects)	0.02GWh*
TOTAL	10.53GWh

Overall gross impact of 0.26% reduction in losses

2.2.3 Proposal for System Losses Target

JPS maintains the position that system losses, in particular non-technical losses is a socio-economic problem that must be tackled through a national effort with GOJ, the regulator and other stakeholders. JPS alone cannot perform the task of addressing a socio-economic problem to the extent of achieving system loss reduction reflective of the target proposed of 19.2%.

JPS has already put forward the case that external studies and benchmarking suggests that the present mechanism used to determine system losses target poses a significant sales risk. JPS' disagreement with the OUR's treatment of system losses forms part of our appeal against the OUR's January 7, 2014 Determination Notice. It is on this basis, along with the late implementation of the approve tariffs and fuel recovery mechanism, that we have made a decision not to propose a revised target for system losses at this time.

2.3 Heat Rate target

The System Heat rate continued to improve in 2014 as evidenced by its fall by 260 kJ/kWh when compared to 2013; a 2.6% improvement in performance. The major drivers of this improved efficiency was US$21M in major maintenance investments along with the addition of 7.2 MWs of hydro from Maggotty, steam turbine overhaul Hunts Bay Unit #B6, Improved efficiency from Bogue CC after hot gas path works on GT#12, de-silting of Rio Bueno Hydro intake, Old Harbour Unit #4 boiler chemical clean, Rockfort Engine #2 overhaul. The improvement in JPS' Thermal Heat also improved by 4.7% from 12,013kJ/kWh in 2013 to 11,451kJ/kWh in 2014 as a result of the improvements to our thermal units. The system-wide and JPS Thermal Heat rate performance are illustrated in the Figure 2-3 and

Table 2-2: Monthly System and JPS Thermal Heat Rate Performance below.

Figure 2-3: JPS Thermal and System Monthly Heat Rate Performance

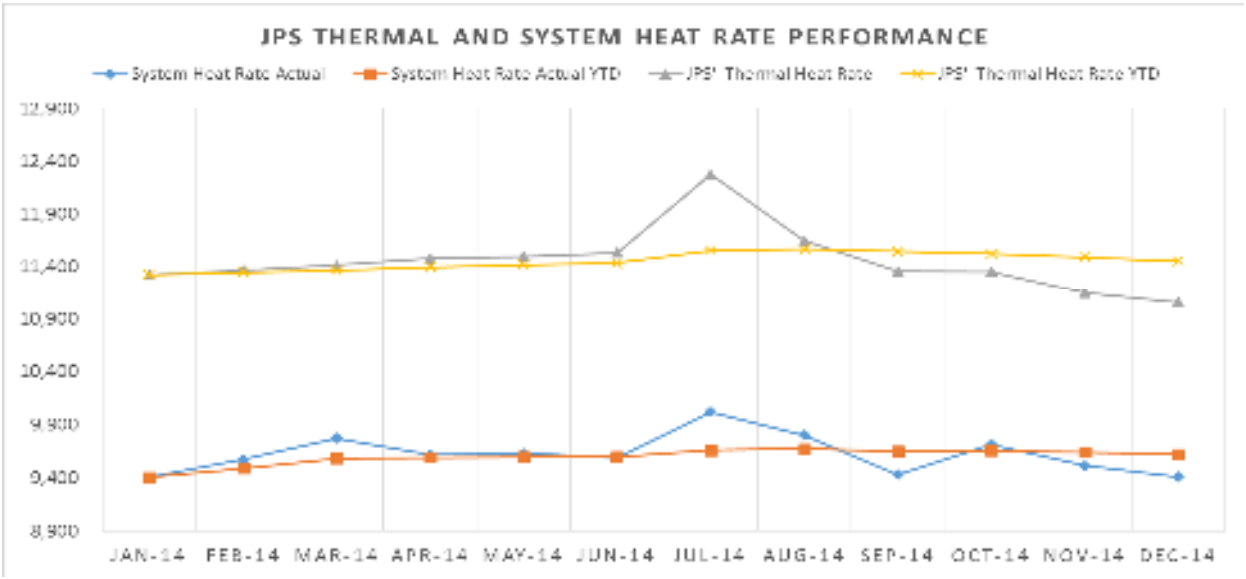


Table 2-2: Monthly System and JPS Thermal Heat Rate Performance

	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14
System Heat Rate Actual	9,406	9,573	9,772	9,617	9,631	9,593	10,022	9,803	9,432	9,717	9,516	9,411
System Heat Rate Actual YTD	9,406	9,490	9,584	9,592	9,600	9,599	9,659	9,677	9,650	9,657	9,644	9,624
JPS' Thermal Heat Rate	11,322	11,363	11,410	11,476	11,496	11,531	12,276	11,645	11,352	11,349	11,142	11,054
JPS' Thermal Heat Rate YTD	11,322	11,342	11,365	11,393	11,413	11,433	11,553	11,565	11,541	11,522	11,488	11,451

2.3.1 Proposal for Heat Rate Target

The system heat rate performance over the period will depend on several factors affecting the economic dispatch which include the:

1. Growth in system demand
2. The addition of new generating units and the installed reserve margin (OUR);
3. Heat rate improvements made to existing generating units (JPS);
4. Availability and reliability of JPS generators (JPS);
5. Availability and reliability of IPP generators (IPPs);
6. Absolute and relative fuel prices for JPS and the IPPs and the impact on economic dispatch;
7. Spinning reserve policy (JPS & OUR); and
8. Network constraints and contingencies (JPS).

While all the above factors influence the resultant system heat rate, JPS has sole direct control over only a few. We would like to reiterate that given the impact of the overall system operation and performance on JPS' Thermal Heat Rate performance, the heat rate target should continue to be based on the total generating units throughout the system (both JPS and IPPs), since fuel optimization through economic dispatch seeks to optimize overall system variable cost. This is similar to the approach used in setting the 2009 –2014 heat rate target where average performance was considered indicative of future performance subject to the addition of new capacity or the retirement of existing ones. In this analysis, the effect of some of the heat rates influencing factors are not properly accounted for since average performance does not exactly mimic the cumulative effect of the actual monthly heat rate penalty/reward system. Average heat rate performance for a year does not fully capture the effect that a wide range of monthly heat rate values would have on a monthly penalty/reward calculation, especially given the monthly variation in fuel prices and foreign exchange rates throughout a given year. In this regard, it is JPS' view that the heat rate target must consider the effect that the likely changes to the influencing factors, which are outside JPS' control, would have on the actual monthly heat rate value.

Notwithstanding the foregoing continuing objection to the use of the JPS' Thermal Heat Rate, based on the planned mix of generating units, including IPPs, their projected availability and dispatch, and the foregoing discussion of heat rate affecting variables and the possible variation in heat rate performance for reasons beyond JPS' control, at this time, JPS is not

proposing a revised heat target for the 2015/2016 tariff period. Our decision not to make a proposal is based on two pertinent factors:

- The late implementation of the 2014 rate schedule and fuel recovery mechanism subsequent to the OUR's January 7, 2015 Determination Notice and Determination Notice Addendum 1.
- The known disagreements between the OUR and JPS as adumbrated by JPS' appeal against aspects of OUR's Determination Notice.

Section 3. Ensuring Quality of Service - The Q-Factor

3.1 Introduction

The third element under the PBRM is the Q-factor, i.e., the allowed price adjustment factor to reflect changes in the quality of service provided to customers. Specifically:

$$dPCI = dI \pm X \pm Q \pm Z$$

JPS and the OUR have agreed in principle that the Q-factor should meet the following criteria:

- The Q-factor should provide the proper financial incentive to encourage JPS to continually improve service quality. It is important that random variations should not be the source of reward or punishment;
- The measurement and calculation of the Q-factor should be accurate and transparent without undue cost of compliance;
- It should provide fair treatment for factors affecting performance that are outside of JPS's control, such as those due to disruptions by the independent power producers; natural disasters; and other *Force Majeure* events, as defined under the licence; and
- It should be symmetrical in application, as stipulated in the License.

In the 2004 Tariff Review Determination the OUR stipulated that the Q-factor should be based on three quality indices:

- SAIFI—this index is designed to give information about the average frequency of sustained interruptions per customer over a predefined area.

$$SAIFI = \frac{\text{Total number of customer interruptions}}{\text{Total number of customers served}}$$

(Expressed in number of interruptions (Duration >5 minutes) per year)

- SAIDI—this index is referred to as customer minutes of interruption and is designed to provide information about the average time that customers are interrupted.

$$SAIDI = \frac{(\Sigma \text{ Customer interruption durations})}{\text{Total number of customers served}}$$

(Expressed in minutes)

- CAIDI— this index represents the average time required to restore service to the average customer per sustained interruption. It is the result of dividing the duration of the average customer's sustained outages (SAIDI) by the frequency of outages for that average customer (SAIFI).

$$CAIDI = \frac{(\Sigma \text{ Customer interruption durations})}{\text{Total number of interruptions}} \text{ or } \frac{SAIDI}{SAIFI}$$

(Expressed in minutes per interruption *(Duration >5 minutes)*)

The OUR had previously considered including MAIFI in the Q factor but in its January 7, 2015 Determination Notice stipulated that while MAIFI will not be a part of the Q factor, JPS should commence monthly reporting of MAIFI.

MAIFI measures the average frequency of momentary interruptions per customer over a predefined area. Momentary interruptions are interruptions with duration less than or equal to 5 minutes.

$$\text{MAIFI} = \frac{\text{Total number of customer interruptions}}{\text{Total number of customers served}}$$

(Expressed in number of interruptions (Duration ≤ 5 minutes) per year)

The OUR has determined that the quality of service performance should be classified into three categories, with the following point system:

- Above Average Performance (Greater than 10% below benchmark) — would be worth 3 Quality Points on either SAIFI, SAIDI or CAIDI;
- Dead Band Performance (+ or – 10%) — would be worth 0 Quality Points on either SAIFI, SAIDI or CAIDI; and
- Below Average Performance (Greater than 10% above target) — would be worth -3 Quality Points on SAIFI, SAIDI or CAIDI.

The OUR further stated the adjustment factors that would be assigned to cumulative quality points scores for the three reliability indices as follows. If the sum of quality points for:

- SAIFI, SAIDI, and CAIDI is 9, then Q = +0.50%
- SAIFI, SAIDI, and CAIDI is 6, then Q = +0.40%
- SAIFI, SAIDI, and CAIDI is 3, then Q = +0.25%
- SAIFI, SAIDI, and CAIDI is 0, then Q = 0.00%
- SAIFI, SAIDI, and CAIDI is -3, then Q = -0.25%
- SAIFI, SAIDI, and CAIDI is -6 then Q = -0.40%
- SAIFI, SAIDI, and CAIDI is -9 then Q = -0.50%

In the OUR's January 7, 2015 Determination, the OUR determined that the Q factor for the 2014/2015 period shall be zero but requires that JPS submit a calibrated dataset to enable it to establish the benchmark so that a value for Q factor can be set for the 2015/2016 tariff period. The dataset is provided as an Appendix to this submission. An explanation of how the reliability indices for 2014 are computed from this dataset is provided in the next sub-section. JPS will not propose targets for the performance indices at this time until the baseline has been established with the OUR.

3.2 Benchmarking the Reliability Indices

In its January 7, 2015 Determination notice, the OUR determined (Determination 3) that JPS shall submit a twelve month system outage data set with the 2015 Annual Tariff Adjustment filing. The dataset and computed performance indices are included in Appendix A – G of this submission. The collection and reporting of the reliability performance indices is consistent with the requirements laid out in the KEMA Reliability Manual.

The outage data set was produced by Ventyx Outage Management System (OMS) which was commissioned in December 2013. Since its implementation, the OMS has generally been meeting JPS' expectations but as with all IT implementation, the system required post cut-

over monitoring, recalibration and data integrity verifications. Additionally, staff training is required on an ongoing basis to improve the efficiency during the outage management process.

The evaluation period was reported to be completed in March 2014. However, data validation and users interface have revealed that more time is required for fixing system glitches and improving GIS data set to arrive at the desired improvements needed to guarantee accurate reliability reporting.

3.2.1 12 Month Dataset – OMS

The 12 month dataset for the period of January 1, 2014 to December 31, 2014 is submitted with the following caveats:

- Raw outage dataset as generated by OMS excludes non-reportable outages due to data and outage processing inaccuracies.
- IEEE 2.5beta methodology consistent with section 9.2.6 of the 2014-2019 determination notice, Major Event Days (MEDs) were computed with 12 months of data, instead of the 5 years of sequential data required by IEEE Standard.

The generated dataset is compliant with KEMA's recommendation for the recording of each event oractivity and restoration stages separately, as indicated in the following table:

No.	Ventyx OMS Outage Record Information	Compliant
1	Record ID: An unique number for the data record	Yes
2	Interruption ID: An unique number for the interruption	Yes
3	Whether the interruption is sustained or momentary	Yes
4	Number of restoration stages	Yes
5	Restoration stage ID	Yes
6	Stage starting date and time	Yes
7	Stage ending date and time	Yes
8	Duration of the stage	Yes
9	Number of customers affected	Yes
10	Customer minutes lost	Yes
11	Whether the interruption is Forced or Planned	Yes
12	Whether the interruption is Section or Feeder related	Yes
13	The interruption class (Generation, Transmission, Distribution, or Force Majeure)	Yes

3.2.2 Reliability Calculation

The reliability statistics are calculated based on the outage data obtained from the OMS. In some cases allowances were made for process inefficiencies in the use of the Ventyx OMS and the accuracy of the base GIS data.

The issues that were addressed when recalibrating the data are as follows:

1. There were instances in which there were indications that a large number of customers on a single transformer were affected in an outage when this did not actually occur. This error was due to inaccuracies in the customer to transformer mapping in the GIS system. To remove the inaccuracy, the number of customers affected by a transformer outage was normalized based on the KVA rating of the transformer.
2. The removal of inaccurate outage records where OMS data inappropriately reflected outages due to inaccurate processing of switching events such as live load transfers, use of mobile transformer, etc.
3. Adjustment of outage start time and restoration time due to the following reasons:
    a. The outage restoration time shown in OMS was significantly later than the crew's reported completion time due to inefficiencies in closing work orders arising from the manual recording system that was being used at the time. Subsequently, a system of electronically closing work orders in the field by technicians was implemented.
    b. There were cases in which the outage start time in OMS was before the time reported by SCADA due to OMS merging upstream outages with the earlier downstream outages. The outage start time was taken by the system as the earliest outage that already existed on the feeder. This was corrected to use the time reported by the SCADA system.
    c. In other cases, outage start time in OMS was before the reported device operation time. Again this arose due to OMS merging upstream outages with the earlier downstream outages. The outage start time was corrected to reflect the operation time of the device that the outage occurred on.

3.3 2014 Performance

Based on the recalibrated dataset derived from the raw data generated by the OMS system, JPS performance for 2014 is indicated in Table 3-1.

Table 3-1: Summary of 2014 JPS Reliability Performance

Indicator	Unit	Category	Generation	Transmission	Distribution	Force Majeure	Total
SAIDI	Minutes/Customer	Forced	86.411	100.540	2,217.458	0.000	2,404.408
		Planned	0.050	6.077	90.294	0.000	96.422
		Total	86.461	106.617	2,307.752	0.000	2,500.830
SAIFI	Interruptions/Customer	Forced	3.439	0.862	17.473	0.000	21.774
		Planned	0.005	0.013	0.292	0.000	0.310
		Total	3.444	0.875	17.766	0.000	22.084
CAIDI	Minutes/Customer	Forced	25.130	116.639	126.905	0.000	110.426
		Planned	9.500	483.547	309.054	0.000	311.016
		Total	25.106	121.912	129.901	0.000	113.242
MAIFI	Interruptions/Customer	Forced	4.394	1.052	28.595	0.000	34.041
		Planned	0.000	0.008	0.126	0.000	0.134
		Total	4.394	1.060	28.721	0.000	34.175

3.4 2015 Reliability Improvement Plan

JPS will continue its thrust towards improving the reliability of service to its customers. The implementation of the OMS was a major initiative geared at improving reliability measurement. We continue to invest in the rehabilitation and reinforcement of the T&D network. In 2014, US$7.2M was invested in a number of projects aimed at improving the quality of service to customers. . JPS has more than doubled that budget to US$16.4M towards projects geared at reliability improvement in 2015.

2015 System Reliability Objectives:

Figure 3-1 provides an illustration of JPS 2015 initiatives that are geared towards improving reliability and measurement. Specifically, our objectives are detailed as follows:

SAIFI:

- Reduction in the number of outages through cost effective approaches
    - Procurement of additional Washer Units to address T&D Live Line washing in targeted contaminated zones
    - Installation of contamination sensors in targeted areas
    - Improved engineering support on the selected worst performing T&D lines

- Minimize the impact of outages (No. of customer affected per outage) through the expected benefit of distribution automation and fuse coordination

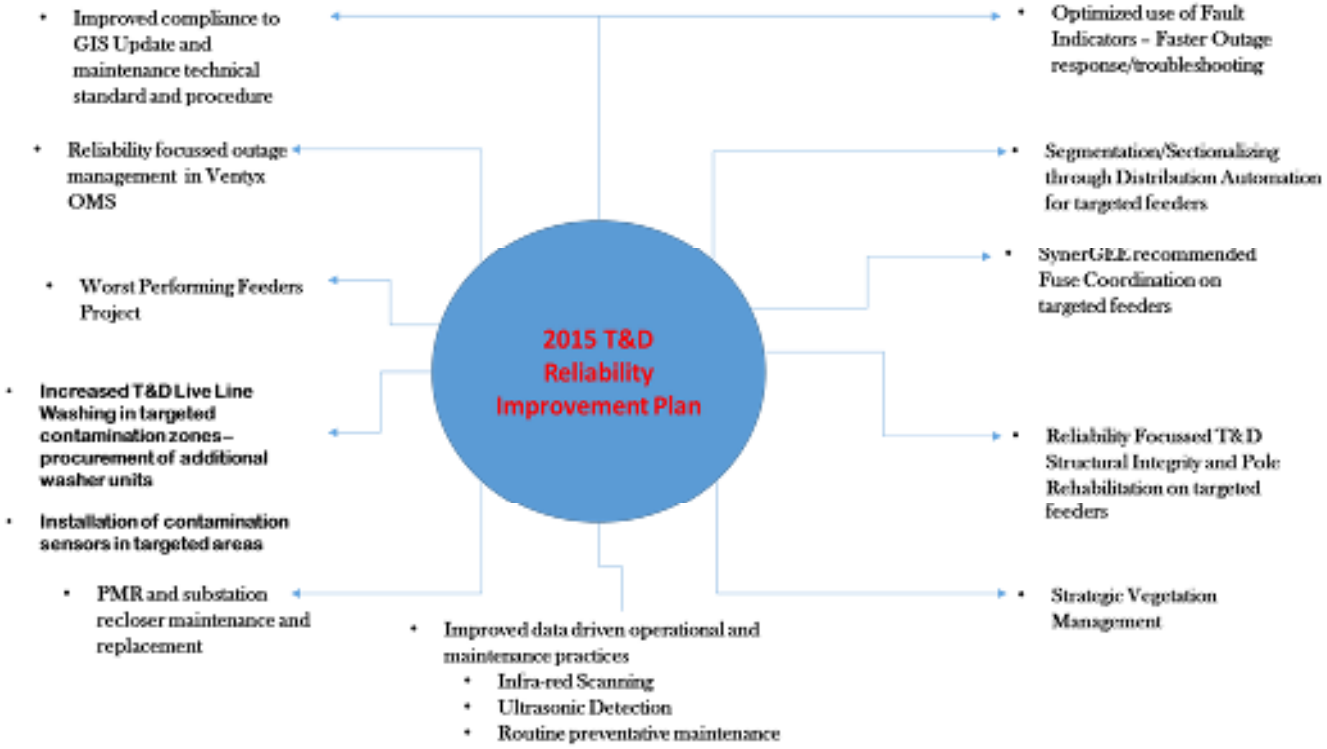
Reduction in CAIDI (Response Time):

- Maximize Use of OMS - Quicker response to outages
- Faster outage trouble shooting - Optimize use of Fault Circuit Indicators
- Implementing automatic call-out of crews/trouble-shooters for faster outage restoration
- Increasing crew availability and hours of coverage
- Promoting a culture of “restore before repair”

Other strategies being undertaken in our reliability improvement plans are:

- GIS clean-up and updating process improvements
- Focal point enhancements to get crew productivity and automatic reliability indices
- Further modification to OMS system to improve reliability reporting accuracy
- Development of additional reports and frequency of key operational reports
- Roll-out of reliability culture initiatives throughout the organization
- Expanded organization access to reliability information (executive dashboards, etc)
- Procurement of additional GIS devices for improved mapping
- Process improvements and fuse coordination exercise
- Roll out of Distribution Automation program
    - 40 Distribution Automated Switches installed in 2014
    - 35 Distribution Automated Switches installations targeted for 2015
    - Integration of Distributed Automated Switches in SCADA
    - Implementation of SCADA down to the section level (Pole-mounted Reclosers)
- Wood Pole Rehabilitation (specialize techniques employed to prevent failures)
    - Eliminate in-service pole failures
    - Reduce planned outages required to change defective structures
- Continued training to optimize the operations of the various technologies

Figure 3-1: 2015 Reliability Improvement Plan



3.5 JPS' Proposal

As previously reported, the initial post OMS evaluation was completed in March 2014. Further evaluation and use of the system has uncovered additional challenges regarding data validation and users interface. Industry experience has shown that implementation of OMS systems, are accompanied by an initial adverse impact on the reliability indices. This was clearly highlighted in IEEE paper entitled "Effect of Outage Management System Implementation on Reliability Indices" written by M. McGranaghan, Senior Member IEEE. The paper describes the impact that automated Outage Management Systems can have on the accuracy of reliability indices. The studies revealed that following the implementation of OMS, many utilities have reported that recorded SAIDI and SAIFI have increased. The apparent deterioration in the indicators is explained as the result of more accurate measurement of the indices and not due to actual deterioration in system reliability.

As part of the company's effort to take full advantage of the OMS application, FocalPoint user interface was procured and the asset reliability module will be implemented by September 30, 2015. The FocalPoint is a series of graphical, intuitive dashboards displaying reliability information necessary to effectively manage the business. This business intelligence solution will enable the generation of reliability statistics and reports automatically, without user interface.

To meet the deadline for the introduction of FocalPoint, the following steps are being undertaken to resolve data issues identified.

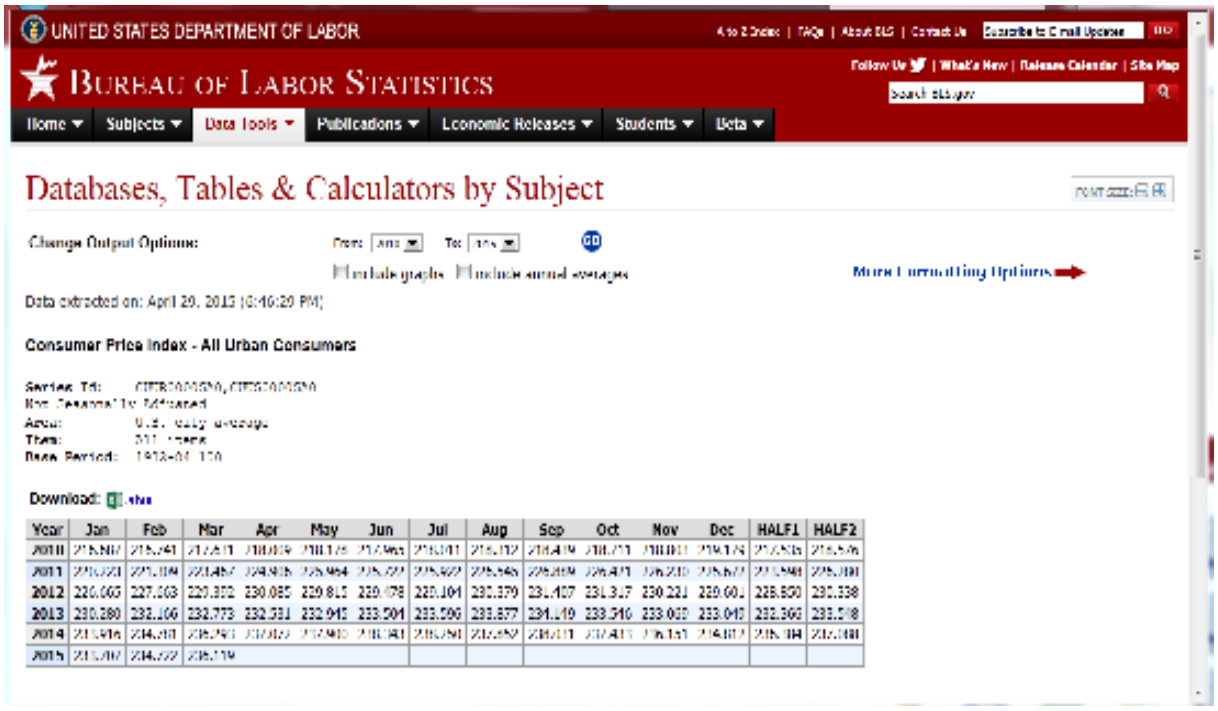
1. Procurement of handheld devices and correction of GIS mapping/field validation, to improve GIS data quality
    a. Mapping and validation of customer to transformer to improve accuracy of the number of customers affected by an outage.
    b. Mapping and validation of switch locations to enable the improvement of the stage restoration accuracy.
    c. Validation of feeder configuration to improve load transfer data accuracy at the feeder level.
2. Ongoing additional/refresher training for JPS teams (System Control, Dispatch and Field Crews).
3. Continued correction of outage data inaccuracies due to errors inherent to Ventyx OMS (Outage restoration time mismatch with crew completion time, incorrect merging of outages, etc).

In addition to resolving data inaccuracy issues, efforts are being made to optimize the use of the OMS application through:

1. Implementation of SCADA/OMS down to the section level.
2. Integration of OMS with the Distribution Automation program.
3. Integration of SynerGee recommended Fuse Coordination in OMS through which the fuse replacement activities are guided in the field.

The 2014 dataset is included in this filing as required for the OUR's review and subsequent establishment of the Q-factor baseline by the OUR after consultation with JPS.

Appendix I. U.S. and Jamaican Consumer Price Indices

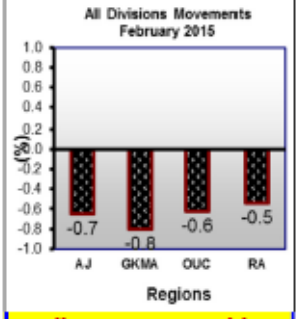


Consumer Price Index

The Statistical Institute of Jamaica, 7 Cecelio Avenue, Kingston 10, Jamaica.

Inflation at a Glance:
February 2015

All Jamaica	-0.7%
Greater Kingston Metropolitan Area	-0.8%
Other Urban Centres	-0.6%
Rural Areas	-0.5%



All Jamaica Monthly Movements:

MONTH	YEAR	(%)
February	2015	-0.7
January	2015	-0.5
December	2014	-0.3
November	2014	-0.5
October	2014	+0.1
September	2014	+2.1
August	2014	+1.1
July	2014	+1.4
June	2014	+0.1
May	2014	+1.0
April	2014	-0.3
March	2014	+1.1
February	2014	+0.1

Release Date: Monday, March 16, 2015

February 2015

In February 2015 there was a 0.7 per cent decline in the All Jamaica "All Divisions" Consumer Price Index (CPI) which was 221.5. This followed the fall of 0.5 per cent that was recorded for the month of January 2015.

The main contributor to this decline was the 3.6 per cent decrease in the index for the division 'Housing, Water, Electricity, Gas and Other Fuels', resulting from lower rates for electricity and water. Within this division, these movements were tempered by an upward movement in the wages for carpenters, masons, plumbers, painters and electricians during the month. Also contributing to this month's decline was a 0.6 per cent fall in the index for the highest weighted division 'Food and Non-Alcoholic Beverages'. All other divisions recorded movements of below 0.4 per cent.

The rate of inflation for the calendar year-to-date was –1.1 per cent, the point-to-point rate 4.5 per cent and the fiscal year-to-date rate was 3.4 per cent.

All Jamaica 'All Divisions' and Division Indices and Movements

Table I (Base period December 2006 = 100)

DIVISIONS	Feb 2015 Index	Jan 2015 Index	Past Month	Year to Date	Point to Point	Fiscal Year 14/15
ALL DIVISIONS - ALL ITEMS	221.5	223.0	-0.7	-1.1	4.5	3.4
01 Food and Non-Alcoholic Beverages	268.0	269.6	-0.6	-0.8	8.5	8.1
02 Alcoholic Beverages and Tobacco	273.7	273.0	0.3	0.6	6.0	5.9
03 Clothing and Footwear	223.9	223.3	0.2	1.2	5.2	4.8
04 Housing, Water, Electricity, Gas and Other Fuels	209.1	216.9	-3.6	-6.9	-8.3	-12.1
05 Furnishings, Household Equipment and Routine Household Maintenance	218.1	217.4	0.3	0.6	5.4	4.9
06 Health	140.6	140.1	0.4	0.6	3.5	3.4
07 Transport	205.5	205.3	0.1	-1.5	2.7	1.9
08 Communication	66.9	66.9	0.0	0.0	0.0	0.0
09 Recreation and Culture	178.3	177.8	0.3	0.4	5.0	4.6
10 Education	173.1	173.1	0.0	0.0	3.9	3.9
11 Restaurants and Accommodation Services	184.6	184.5	0.0	2.5	6.5	5.1
12 Miscellaneous Goods and Services	210.8	210.4	0.2	0.8	6.3	5.0

Appendix II. Estimated Bill impact of Annual Tariff Adjustment

Bill Comparison for a Typical Rate 10 Customer

Enter your usage here Energy (kWH) **150.0**

Exchange Rate	**116.1223**	JMD/USD
EEIF	**0.4886**	JMD
EEIF (proposed	**0.4998**	JMD

	Before May 2015 Bill			After May 2015 Bill			Change May 2015 Bill	
Description	**Usage**	**Rate**	**Charges (J$)**	**Usage**	**Rate**	**Charges (J$)**	**Charges (J$)**	**%**
Base/Exchange Rate	112	116.1223		115.50	116.1223			
Non-Fuel Charges								
Energy 1st	100	8.42	842.00	100	8.62	862.00	20.00	2.4%
Energy Next	50	19.60	980.00	50	20.07	1,003.50	23.50	2.4%
EEIF Charges	150	0.4886	73.29	150	0.4998	74.97	1.68	2.3%
Customer Charge		395.00	395.00		414.63	414.63	19.63	5.0%
Sub Total			2,290.29			2,355.10	64.81	2.8%
F/E Adjustment			67.44			10.15	(57.29)	
Fuel & IPP Charges	150	16.499	2,474.80	150	16.499	2,474.80	-	0.0%
Early Payment Incentive		-	-		-	-	-	0.0%
Bill Total			4,832.53			4,840.05	7.52	0.2%

Bill Comparison for a Typical Rate 20 Customer

Enter your usage here	Energy (kWH)	797.0	Exchange Rate	116.1223	JMD/USD
			EEIF	0.4886	JMD
			EEIF (proposed	0.4998	JMD

	Before			After			Change	
	May 2015 Bill			May 2015 Bill			May 2015 Bill	
Description	Usage	Rate	Charges (J$)	Usage	Rate	Charges (J$)	Charges (J$)	%
Base/Exchange Rate	112	116.1223		115.50	116.1223			
Non-Fuel Charges								
Energy	797	16.24	12,943.28	797	16.62	13,246.14	302.86	2.3%
EEIF Charges	797	0.4886	389.41	797	0.4998	398.34	8.93	2.3%
Customer Charge		880.00	880.00		923.74	923.74	43.74	5.0%
Sub Total			14,212.69			14,568.22	355.53	2.5%
F/E Adjustment			418.49			62.79	(355.70)	
Fuel & IPP Charges	797	16.499	13,149.43	797	16.499	13,149.43	-	0.0%
Bill Total			27,780.62			27,780.44	(0.17)	0.0%

Bill Comparison for a Typical Rate 60 Customer

Enter your usage here	Energy (kWH)	197,134.6		Exchange Rate	116.1223	JMD/USD
				EEIF	0.4886	JMD
				EEIF (proposed	0.4998	JMD

Before				After			Change	
May 2015 Bill				May 2015 Bill			May 2015 Bill	
Description	**Usage**	**Rate**	**Charges (J$)**	**Usage**	**Rate**	**Charges (J$)**	**Charges (J$)**	**%**
Base/Exchange Rate	112	116.1223		115.50	116.1223			
Non-Fuel Charges								
Energy	197,135	21.50	4,238,394	197,135	21.36	4,210,795	(27,599)	-0.7%
EEIF Charges	197,135	0.4886	96,320	197,135	0.4998	98,528	2,208	2.3%
Customer Charge		2,500.00	2,500		2,624.30	2,624	124	5.0%
Sub Total			4,337,214			4,311,947	(25,267)	-0.6%
F/E Adjustment			127,709			18,586	(109,123)	
Fuel & IPP Charges	197,135	15.839	3,122,358	197,135	15.839	3,122,358	-	0.0%
Bill Total			7,587,280			7,452,890	(134,390)	-1.8%

Bill Comparison for a Typical Rate 40 Standard Customer

Enter your usage here	Energy (kWH)	33,135		Exchange Rate	116.1223	JMD/USD
	Demand kVA	116		EEIF	0.4886	JMD
	Load Factor	39%		EEIF (proposed	0.4998	JMD

	Before			After			Change	
	May 2015 Bill			May 2015 Bill			May 2015 Bill	
Description	Usage	Rate	Charges (J$)	Usage	Rate	Charges (J$)	Charges (J$)	%
Base/Exchange Rate	112	116.1223		115.50	116.1223			
Non-Fuel Charges								
Demand	116	1,587.07	184,100.12	116	1,634.52	189,604.32	5,504.20	3.0%
Energy	33,135	5.06	167,664.54	33,135	5.11	169,321.30	1,656.76	1.0%
EEIF Charges	33,135	0.4886	16,189.90	33,135	0.4998	16,561.01		
Customer Charge		6,200.00	6,200.00		6,508.10	6,508.10	308.10	5.0%
Sub Total			374,154.56			381,994.74	7,840.18	2.1%
F/E Adjustment			11,016.98			1,646.51	(9,370.47)	
Fuel & IPP Charges	33135.284	15.839	524,820.16	33135.284	15.839	524,820.16	-	0.0%
Bill Total			909,991.70			908,461.41	(1,530.29)	-0.2%

Bill Comparison for a Typical Rate 40 TOU Customer

Enter your usage here

OnP Demand (kVA)	186.3
PaP Demand (kVA)	234.5
OffP Demand (kVA)	245.7
OnP Energy (kWh)	8,707
PaP Energy (kWh)	36,865
OffP Energy (kWh)	38,418
Load Factor	52%

Exchange Rate	116.1223	JMD/USD
EEIF	0.4886	JMD
EEIF (proposed)	0.4998	JMD

	Before						Change	
	May 2015 Bill			May 2015 Bill			May 2015 Bill	
Description	Usage	Rate	Charges ($)	Usage	Rate	Charges ($)	Charges ($)	%
Base/Exchange Rate	112	116.1223		115.50	116.1223			
Non-Fuel Charges								
On-Peak Demand	186	894.12	166,616	186	920.85	171,597	4,981.04	3.0%
Pa-Peak Demand	235	698.32	163,764	235	719.20	168,661	4,896.60	3.0%
Off-Peak Demand	246	66.92	16,441	246	68.92	16,932	491.36	3.0%
Energy	83,991	5.06	424,992	83,991	4.90	411,554	(13,438.48)	-3.2%
EEIF Charges	83,991	0.4886	41,038	83,991	0.4998	41,978	940.694	2.3%
Customer Charge		6,200.00	6,200		6,508.10	6,508	308.10	5.0%
Sub Total			819,051			817,230	(1,821)	-0.22%
F/E Adjustment			24,117			3,523	(20,594.44)	
Fuel & IPP Charges -OnP	8,707	21.481	187,040	8,707	21.481	187,040	-	0.0%
Fuel & IPP Charges -PaP	36,865	17.225	634,987	36,865	17.225	634,987	-	0.0%
Fuel & IPP Charges -OffP	38,418	13.199	507,080	38,418	13.199	507,080	-	0.0%
Bill Total			2,172,274			2,149,859	(22,415)	-1.0%

Bill Comparison for a Typical Rate 50 Standard Customer

Enter your usage here	Energy (kWH)	**268,731**		Exchange Rate	**116.12**	JMD/USD
	Demand kVA	**744.6**		EEIF	**0.4886**	JMD
	Load Factor	**49%**		EEIF (proposed	**0.4998**	JMD

	Before			After			Change	
	March 2015 Bill			March 2015 Bill			March 2015 Bill	
Description	Usage	Rate	Charges (J$)	Usage	Rate	Charges (J$)	Charges (J$)	%
Base/Exchange Rate	112	116.1223		115.50	116.1223			
Non-Fuel Charges								
Demand	744.5902867	1,421.81	1,058,665.92	745	1,464.32	1,090,318.45	31,652.53	3.0%
Energy	268,731	4.88	1,311,409.42	268,731	4.90	1,316,784.05	5,374.63	0.4%
EEIF Charges	268,731	0.4886	131,302.18	268,731	0.4998	134,311.97	3,009.79	2.3%
Customer Charge		6,200.00	6,200.00		6,508.10	6,508.10	308.10	5.0%
Sub Total			2,507,577.52			2,547,922.57	40,345.05	1.6%
F/E Adjustment			73,835.62			10,982.32	(62,853.30)	
Fuel & IPP Charges	268,731	15.839	4,256,359.36	268,731	15.839	4,256,359.36	-	0.0%
Bill Total			6,837,772.50			6,815,264.25	(22,508.25)	-0.3%

Bill Comparison for a Typical Rate 50 TOU Customer

Enter your usage here

OnP Demand (kVA)	834.7
PaP Demand (kVA)	1,089.7
OffP Demand (kVA)	1,147.3
OnP Energy (kWh)	38,062
PaP Energy (kWh)	141,090
OffP Energy (kWh)	141,160
Load Factor	43%

Exchange Rate	116.12	JMD/USD
EEIF	0.4886	JMD
EEIF (proposed)	0.4998	JMD

	Before						Change	
	March 2015 Bill			March 2015 Bill			March 2015 Bill	
Description	Usage	Rate	Charges ($)	Usage	Rate	Charges ($)	Charges ($)	%
Base/Exchange Rate	112	116.1223		115.50	116.1223			
Non-Fuel Charges								
On-Peak Demand	835	793.78	662,574	835	817.51	682,381	19,807.59	3.0%
Pa-Peak Demand	1,090	618.68	674,199	1,090	637.18	694,359	20,160.15	3.0%
Off-Peak Demand	1,147	63.40	72,736	1,147	65.30	74,916	2,179.80	3.0%
Energy	320,312	4.88	1,563,125	320,312	4.90	1,569,531	6,406.25	0.4%
EEIF Charges	320,312	0.4886	156,505	320,312	0.4998	160,092	3,587.50	2.3%
Customer Charge		6,200.00	6,200		6,508.10	6,508	308.10	5.0%
Sub Total			3,135,338			3,187,788	52,449	1.7%
F/E Adjustment			92,320			13,740	(78,579.71)	
Fuel & IPP Charges -OnP	38,062	21.481	817,621	38,062	21.481	817,621	-	0.0%
Fuel & IPP Charges -PaP	141,090	17.225	2,430,219	141,090	17.225	2,430,219	-	0.0%
Fuel & IPP Charges -OffP	141,160	13.199	1,863,165	141,160	13.199	1,863,165	-	0.0%
Bill Total			8,338,663			8,312,533	(26,130)	-0.3%

Appendix III. Estimated Bill impact of Alternative Tariff Proposal

Bill Comparison for a Typical Rate 10 Customer

Enter your usage here	Energy (kWH)	150.0	Exchange Rate	116.1223	JMD/USD
			EEIF	0.4886	JMD
			EEIF (proposed	0.4998	JMD

	Before			After			Change	
	May 2015 Bill			May 2015 Bill			May 2015 Bill	
Description	Usage	Rate	Charges (J$)	Usage	Rate	Charges (J$)	Charges (J$)	%
Base/Exchange Rate	112	116.1223		115.50	116.1223			
Non-Fuel Charges								
Energy 1st	100	8.42	842.00	100	8.67	867.00	25.00	3.0%
Energy Next	50	19.60	980.00	50	20.18	1,009.00	29.00	3.0%
EEIF Charges	150	0.4886	73.29	150	0.4998	74.97	1.68	2.3%
Customer Charge		395.00	395.00		424.78	424.78	29.78	7.5%
Sub Total			2,290.29			2,375.75	85.46	3.7%
F/E Adjustment			67.44			10.24	(57.20)	
Fuel & IPP Charges	150	16.499	2,474.80	150	16.499	2,474.80	-	0.0%
Early Payment Incentive		-	-		-	-	-	0.0%
Bill Total			4,832.53			4,860.79	28.26	0.6%

Bill Comparison for a Typical Rate 20 Customer

Enter your usage here	Energy (kWH)	797.0	Exchange Rate	116.1223	JMD/USD
			EEIF	0.4886	JMD
			EEIF (proposed	0.4998	JMD

	Before			After			Change	
	May 2015 Bill			May 2015 Bill			May 2015 Bill	
Description	Usage	Rate	Charges (J$)	Usage	Rate	Charges (J$)	Charges (J$)	%
Base/Exchange Rate	112	116.1223		115.50	116.1223			
Non-Fuel Charges								
Energy	797	16.24	12,943.28	797	16.67	13,285.99	342.71	2.6%
EEIF Charges	797	0.4886	389.41	797	0.4998	398.34	8.93	2.3%
Customer Charge		880.00	880.00		946.35	946.35	66.35	7.5%
Sub Total			14,212.69			14,630.68	417.99	2.9%
F/E Adjustment			418.49			63.06	(355.43)	
Fuel & IPP Charges	797	16.499	13,149.43	797	16.499	13,149.43	-	0.0%
Bill Total			27,780.62			27,843.17	62.56	0.2%

Bill Comparison for a Typical Rate 60 Customer

Enter your usage here	Energy (kWH)	197,134.6	Exchange Rate	116.1223	JMD/USD
			EEIF	0.4886	JMD
			EEIF (proposed	0.4998	JMD

	Before			After			Change	
	May 2015 Bill			May 2015 Bill			May 2015 Bill	
Description	Usage	Rate	Charges (J$)	Usage	Rate	Charges (J$)	Charges (J$)	%
Base/Exchange Rate	112	116.1223		115.50	116.1223			
Non-Fuel Charges								
Energy	197,135	21.50	4,238,394	197,135	21.39	4,216,709	(21,685)	-0.5%
EEIF Charges	197,135	0.4886	96,320	197,135	0.4998	98,528	2,208	2.3%
Customer Charge		2,500.00	2,500		2,688.50	2,689	189	7.5%
Sub Total			4,337,214			4,317,925	(19,288)	-0.4%
F/E Adjustment			127,709			18,612	(109,098)	
Fuel & IPP Charges	197,135	15.839	3,122,358	197,135	15.839	3,122,358	-	0.0%
Bill Total			7,587,280			7,458,894	(128,386)	-1.7%

Bill Comparison for a Typical Rate 40 Standard Customer

Enter your usage here	Energy (kWH)	33,135		Exchange Rate	116.1223	JMD/USD
	Demand kVA	116		EEIF	0.4886	JMD
	Load Factor	39%		EEIF (proposed	0.4998	JMD

	Before			After			Change	
	May 2015 Bill			May 2015 Bill			May 2015 Bill	
Description	Usage	Rate	Charges (J$)	Usage	Rate	Charges (J$)	Charges (J$)	%
Base/Exchange Rate	112	116.1223		115.50	116.1223			
Non-Fuel Charges								
Demand	116	1,587.07	184,100.12	116	1,642.93	190,579.88	6,479.76	3.5%
Energy	33,135	5.06	167,664.54	33,135	5.16	170,978.07	3,313.53	2.0%
EEIF Charges	33,135	0.4886	16,189.90	33,135	0.4998	16,561.01		
Customer Charge		6,200.00	6,200.00		6,667.50	6,667.50	467.50	7.5%
Sub Total			374,154.56			384,786.46	10,631.90	2.8%
F/E Adjustment			11,016.98			1,658.55	(9,358.43)	
Fuel & IPP Charges	33135.284	15.839	524,820.16	33135.284	15.839	524,820.16	-	0.0%
Bill Total			909,991.70			911,265.16	1,273.47	0.1%

Bill Comparison for a Typical Rate 40 TOU Customer

Enter your usage here

OnP Demand (kVA)	186.3
PaP Demand (kVA)	234.5
OffP Demand (kVA)	245.7
OnP Energy (kWh)	8,707
PaP Energy (kWh)	36,865
OffP Energy (kWh)	38,418
Load Factor	52%

Exchange Rate	116.1223 JMD/USD
EEIF	0.4886 JMD
EEIF (proposed)	0.4998 JMD

	Before						Change	
	May 2015 Bill			May 2015 Bill			May 2015 Bill	
Description	Usage	Rate	Charges ($)	Usage	Rate	Charges ($)	Charges ($)	%
Base/Exchange Rate	112	116.1223		115.50	116.1223			
Non-Fuel Charges								
On-Peak Demand	186	894.12	166,616	186	925.59	172,480	5,864.32	3.5%
Pa-Peak Demand	235	698.32	163,764	235	722.90	169,528	5,764.29	3.5%
Off-Peak Demand	246	66.92	16,441	246	69.28	17,021	579.80	3.5%
Energy	83,991	5.06	424,992	83,991	4.98	418,273	(6,719.24)	-1.6%
EEIF Charges	83,991	0.4886	41,038	83,991	0.4998	41,978	940.694	2.3%
Customer Charge		6,200.00	6,200		6,667.50	6,668	467.50	7.5%
Sub Total			819,051			825,948	6,897	0.84%
F/E Adjustment			24,117			3,560	(20,556.86)	
Fuel & IPP Charges -OnP	8,707	21.481	187,040	8,707	21.481	187,040	-	0.0%
Fuel & IPP Charges -PaP	36,865	17.225	634,987	36,865	17.225	634,987	-	0.0%
Fuel & IPP Charges -OffP	38,418	13.199	507,080	38,418	13.199	507,080	-	0.0%
Bill Total			2,172,274			2,158,615	(13,659)	-0.6%

Bill Comparison for a Typical Rate 50 Standard Customer

Enter your usage here	Energy (kWH)	**268,731**		Exchange Rate	**116.12**	JMD/USD
	Demand kVA	**744.6**		EEIF	**0.4886**	JMD
	Load Factor	**49%**		EEIF (proposed	**0.4998**	JMD

	Before			After			Change	
	March 2015 Bill			March 2015 Bill			March 2015 Bill	
Description	Usage	Rate	Charges (J$)	Usage	Rate	Charges (J$)	Charges (J$)	%
Base/Exchange Rate	112	116.1223		115.50	116.1223			
Non-Fuel Charges								
Demand	744.5902867	1,421.81	1,058,665.92	745	1,471.86	1,095,932.66	37,266.74	3.5%
Energy	268,731	4.88	1,311,409.42	268,731	4.98	1,338,282.57	26,873.14	2.0%
EEIF Charges	268,731	0.4886	131,302.18	268,731	0.4998	134,311.97	3,009.79	2.3%
Customer Charge		6,200.00	6,200.00		6,667.50	6,667.50	467.50	7.5%
Sub Total			2,507,577.52			2,575,194.70	67,617.18	2.7%
F/E Adjustment			73,835.62			11,099.87	(62,735.75)	
Fuel & IPP Charges	268,731	15.839	4,256,359.36	268,731	15.839	4,256,359.36	-	0.0%
Bill Total			6,837,772.50			6,842,653.93	4,881.43	0.1%

Bill Comparison for a Typical Rate 50 TOU Customer

Enter your usage here

OnP Demand (kVA)	834.7
PaP Demand (kVA)	1,089.7
OffP Demand (kVA)	1,147.3
OnP Energy (kWh)	38,062
PaP Energy (kWh)	141,090
OffP Energy (kWh)	141,160
Load Factor	43%

Exchange Rate	116.12	JMD/USD
EEIF	0.4886	JMD
EEIF (proposed)	0.4998	JMD

	Before						Change	
	March 2015 Bill			March 2015 Bill			March 2015 Bill	
Description	Usage	Rate	Charges ($)	Usage	Rate	Charges ($)	Charges ($)	%
Base/Exchange Rate	112	116.1223		115.50	116.1223			
Non-Fuel Charges								
On-Peak Demand	835	793.78	662,574	835	821.72	685,895	23,321.71	3.5%
Pa-Peak Demand	1,090	618.68	674,199	1,090	640.46	697,933	23,734.49	3.5%
Off-Peak Demand	1,147	63.40	72,736	1,147	65.63	75,295	2,558.39	3.5%
Energy	320,312	4.88	1,563,125	320,312	4.98	1,595,156	32,031.25	2.0%
EEIF Charges	320,312	0.4886	156,505	320,312	0.4998	160,092	3,587.50	2.3%
Customer Charge		6,200.00	6,200		6,667.50	6,668	467.50	7.5%
Sub Total			3,135,338			3,221,039	85,701	2.7%
F/E Adjustment			92,320			13,884	(78,436.38)	
Fuel & IPP Charges -OnP	38,062	21.481	817,621	38,062	21.481	817,621	-	0.0%
Fuel & IPP Charges -PaP	141,090	17.225	2,430,219	141,090	17.225	2,430,219	-	0.0%
Fuel & IPP Charges -OffP	141,160	13.199	1,863,165	141,160	13.199	1,863,165	-	0.0%
Bill Total			8,338,663			8,345,928	7,264	0.1%

Appendix IV. System Losses Initiatives

LOSSES INITIATIVES

Technical Losses

Power Factor (PF) Correction

Over 240 MVARs or 400 pole-mounted capacitor banks are presently installed on the 110 feeders island-wide. This is aimed at maintaining a minimum of 0.95 PF for each feeder during peak and off peak load conditions. The PF of 0.95 is the optimal point at which the greatest return on investment is achieved. This is achieved by the use and application of both switched and fixed pole-mounted capacitor banks to address the VAR demands during peak and off peak VAR demands respectively.

At the end of 2014 there were a total of 87 feeders or approximately 81% of feeders above 0.95 power factor. A total of 44 feeders were corrected and improved throughout the year to bring these feeders within acceptable power factor levels.

Bulk Bank Capacitor Installation

In an effort to further reduce technical losses for the year 2014, JPS installed and commissioned four (4) containerized bulk capacitor banks:

1. One (1) 5.0 MVAR Capacitor Bank located at Naggo Head Substation on June 21, 2014
2. One (1) 5.0 MVAR capacitor bank for New Twickenham substation on Wednesday December 24, 2014.
3. One (1) 5.0 MVAR capacitor bank at Tredegar Substation on Wednesday December 31, 2014.
4. One (1) 5.0 MVAR capacitor bank on Wednesday December 31, 2014 at the Washington Boulevard Substation.

Feeder Phase Balancing

Feeder phase balancing is essential in maintaining good voltage quality and reliability of supply by ensuring the neutral current for the 3 phase system to be less than 10% of the feeder average current. Phase imbalance above 20% translates into energy loss due to increased line current and voltage drop, it also makes economic sense to prioritize and improve these to below 10%.

At the end of 2014 only 5 feeders had phase imbalance above 20%. This means that over 95% of feeders were corrected and/or maintained within acceptable levels.

Non-Technical Losses

Meter Site Audits & Investigations

Audit and investigations seek to identify accounts with potential irregularities to allow for the auditing of these accounts during field investigations. Suspected irregularities include meter tampering, direct connections, meter by-pass, etc. JPS continued its investigation of large and small accounts guided by data and intelligence. The application of energy measurement at the pole-mounted transformer level is expected to improve the strike rate for audits and investigations.

The number of audits and investigations conducted in 2014 is shown in Table 2.

Table IV-1: Breakdown of audits and Investigations for 2014

Audit & Investigations	Planned	Q1	Q2	Q3	Q4	Total
Annual meter /site Audits (RT50)	100	48	26	27	40	141
Annual meter /site Audits (RT40)	1132	541	321	338	290	1,490
Audits - Rate 10 and 20 customers	75,000	30,531	23,288	23,540	23,128	100,487

RAMI

The RAMI project involved the installation of anti-theft AMI solutions for residential customers. In 2014 there was a shift in focus from "red zones" to "yellow zone" communities.

Red zone communities are those in which normal commercial operations are limited and non-existent due primarily to socio-economic challenges, crime and violence. The level of losses in these communities are in excess of 70% with the main form of illegal abstraction being throw-ups. Most residents in these communities are unemployed and do not have a steady income stream. Road blockages, open sewage, poor road conditions and tenement settlement add to overall poor infrastructure in these communities.

Yellow zone communities on the other hand are those with a low propensity for throw-ups, with illegal abstraction credited to more sophisticated means, such as meter bypass and meter tampering. Residents in yellow zones are for the most part employed with a steady income stream, which lends itself to more sustainable and cost effective solution. Through the application of technology with AMI Total (aggregate) metering at pole-mounted transformer locations, energy loss at the micro level in yellow zone communities are measured. An average of 35% energy loss or average monthly loss of 7.3MWh are measured for over 1,000 locations. Intervention after the implementation of RAMI solutions reduced losses to 1.5%-3%.

A total of 7,098 customer installations were done in high loss yellow zone areas and an additional 678 done in sub divisions for 2014. This brings the total installations for 2014 to 7,776 with 6,109 customers successfully connected and transferred. Table 3 below shows a breakdown of the installations.

Table IV-2: Smart Meter Solution Installation.

Parish	Installed	Transferred	Comments
Yellow Zones			
St. Thomas	348	153	Springfield, Friendship Pen
St. Mary	405	150	Boscobel
KSAN	695	363	Zaidie Gardens, Boone Hall
KSAS	1429	1429	Hagley Park, Cassia Park, Wakefield
Westmoreland	300	195	Paradise Road
St. James	1029	579	West Gate Hills, Irvin
St. Catherine	1803	1803	Ensom, Sydenam, Riverside, Horizon Park, Innswood
Clarendon	314	299	Lionel Town, Rocky Point, Gayle
St. Ann	775	460	Steer Town
Total Yellow Zones	*7098*	*5431*	

Parish	Installed	Transferred	Comments
Sub Division			
Spanish Town	192	192	Jacaranda, New Harbour Village
Portmore	15	15	West Meade, Country Club
Montego Bay	79	79	Irwin Meadows
May Pen	339	339	Longville Park
Falmouth	53	53	
Total Sub-Division	*678*	*678*	
Grand Total	7776	6109	

RAMI provided additional benefits such as, remote meter reading, remote connection/disconnection and automatic monitoring of energy consumption.

CAAMI

The aim of the CAAMI (Commercial Anti-theft AMI) meter installation project is to provide a loss reduction metering solution for small commercial customers. CAAMI was designed similar to the RAMI Solution, but for commercial entities and allows for remote meter reading, connection and disconnection of meter supply. The system also allows quick transfer of small and medium commercial customer unto the AMI System for efficient monitoring and tracking.

A total of 1662 CAAMI installations were done in 2014, of which 1532 customers were successfully connected and transferred. Table 4 shows the breakdown of CAAMI installations for 2014.

Table IV-3: Breakdown of CAAMI installation for 2014

Parish	Installed	Transferred	Comments
St. Thomas	33	33	Morant Bay Town
KSAN	71	51	Duhaney Park, Lawrence Tavern
KSAS	236	236	Hagley Park
St. James	385	275	Montego Bay
St. Catherine	537	537	Spanish Town. Linstead, Willowdene
Clarendon	75	75	Lionel Town
St. Ann	325	325	Ochi Town
TOTAL	1662	1532	

It should be noted that type approval testing of CAAMI meters (for medium commercial customers) from the Bureau of Standards of Jamaica (BSJ) was still incomplete at the end of 2014. The BSJ indicated that the delays were due to resource limitation as well as failure to receive technical documentation from manufacturer in a timely manner.

Nansen Meter Change out

This project involved the replacement of Nansen meters that are deemed to be defective by the nature and type of materials (plastic gears) utilized in the meter. These meters were procured over 10 years ago and found to be failing due to the wear and tear of the plastic gears. The

replacement of these meters were prioritized around low consumption accounts. Therefore special consideration was given to the replacement of these meters on an annual basis.
A total to 23,975 or just over 99% of the 24,000 targeted for December 2014 over the 18 month period were changed. Visits were made to 562 additional premises to conduct meter replacement however replacements were not completed due to the following reasons: Defective supply, irregularities, premises found locked or meter was found disconnected.

TECHNOLOGICAL & PROCESS SUPPORT SOLUTIONS

Meter Data Management System

The Meter Data Management (MDM) system, Multi-vendor 90 (MV90) was successfully implemented on August 5th, 2014 at a cost of US$42,000, which replaced the SerViewCom software utilized over the past 6 years. This system was used to centralize and improve the collation and reporting of data from all AMI meters previously used in SerViewCom.

Sub-Feeder Metering

The application of sub feeder meters is a major shift in the use of measurement and empirical data to drive efficiency and effectiveness in our loss reduction efforts. This information is readily utilized to target loss reduction solutions and to monitor the performance of initiatives and interventions to reduce energy loss on a sustained basis. Two types of sub feeder meters are employed namely the primary meter and pole-mounted transformer 'Total' meters.

Sub-Feeder (Primary) Metering

These are primary meters installed downstream on feeders at the 24kV medium voltage level. A shift was made towards reducing the number of sub feeder (primary) meters and significantly increasing the number of sub feeder 'Total' meter at the low voltage level (220V) of pole-mounted transformers in 2014.

Sub Feeder ('Total') Metering

The total meter project involves the installation of what is described as 'Total' meters at select pole mounted transformer locations island-wide. They are aggregate meters that are used to measure the total energy delivered and determine energy loss sources at a transformer level. A total of 1256 'total' meters were installed at transformer locations for 2014. The average energy loss measured in the installed areas was 7.3MWh monthly. The 'Total' meter solution was used to guide the RAMI and CAAMI installations for 2014 as well as increase the strike rate in audits and investigations leading to multiple arrests.

OTHER NON-TECHNICAL SOLUTIONS

Strike Force Operation (Removal of Throw-Ups)

Illegal 'Throw-up' connections are an on-going problem that has been difficult for JPS to eradicate. JPS' plan aims to frustrate these consumers to the point where they will want to regularize their supply. Strike Force teams comprising of linemen, technicians and police work together to identify and, where applicable, arrest guilty parties in all areas through raids over an extended period. The areas targeted are communities served by the highest loss feeders in the island.
In 2014 the strike force operations within the parishes helped to deter energy theft and reinforced physical presence. There were in excess of 1000 arrests and court summons, and the removal of over 180,000 illegal connections done during 2014.

Table IV-4: Quarterly Strike Force Activities 2014

Quarterly Summary of Strike Force Activities - 2014						
Quarter	**Actual Throw-ups**	**Removal of Idle Service**	**Audited Meters**	**Arrests Made**	**Court Summons**	**No. of Cust. Regularized**
Q1	42,417	537	3219	171	24	84
Q2	44,409	1,929	3329	339	51	277
Q3	40,985	1,817	1385	195	19	460
Q4	59,150	519	1610	218	59	397
TOTAL	186,961	4,802	9573	922	153	1218
Total Arrest & Court Summons				1075		

SOCIAL INTERVENTION

Community Renewal

JPS commenced its pilot Community Renewal Programme called the "Step Up" on July 15, 2014 in six communities namely McGregor Gully, Denham Town, Olympic Gardens, Payne Land, Trench/Jones Town and Whitfield Town with an estimated budget of US$370,472.82. Since the pilot project commenced, the Community Renewal Programme is driving towards a strong partnership with JSIF. The Partnership was formalized in November 2014 and gave way to multi-lateral funding support which is expected to improve with the determination from the OUR and the partnership with the Government.

The MOU with JSIF was signed on November 17th, 2014. Since the MOU signing the following has been underway:

- House wiring outsourced to JSIF.
- Tender sent out for Contractor.
    - Expected selection of Contractor by Feb 28, 2015.
- House wiring to be completed by April 2015.
    - 100 Houses to be wired in McGregor Gully.
- JPS to issue each customer 2 LED light bulbs.
- Expected recovery of 12MWh per month

Direct Subsidy (PATH Programme)

Pursue PATH to give a benefit of cash transfer based on means testing. The first meeting with JPS, Minister of Labour, Path officials and Minister Robinson is scheduled for January 29th 2015.

Skills Training (HEART INTA/RADA)

Training of 4 community members from McGregor Gully at the Operation Friendship in electrical installation. Trainees will also get on the Job Training in House Wiring. This cost paid includes stipend, tuition, uniform and stationery/books.

Customer education

Customer Education will be done by way of Community Meetings, Issuing Information Flyers, and Energy Management training and Door to Door visits by 8 Community Facilitators in

collaboration with JSIF. Customer education started December 2014, through Community meetings and Door to Door visits. Work has started in Bay Farm Villa.

LOSS RECOVERY FROM INITIATIVES IN 2014

The table below provides a summary of loss reduction from the initiatives described in the previous sections.

Initiatives	Approximate Recovery for 2014
RAMI	2.68GWh
CAAMI	0.59GWh
Nansen change out	0.06GWh
Audits	6.31GWh
Power Factor Correction	0.82GWh
Phase balancing	0.05GWh
Other (Naggo Head Upgrade, Special Projects)	0.02GWh*
TOTAL	10.53GWh

Overall gross impact of 0.26% reduction in losses

JPS Plans for system losses 2015 – 2019

	2015			2016			2017			2018			2019			Grand Total		
Initiatives	**Qty**	**Impact**	**Budget (US$ '000)**	**Qty**	**Impact**	**Budget (US$ '000)**	**Qty**	**Impact**	**Budget (US$ '000)**	**Qty**	**Impact**	**Budget (US$ '000)**	**Qty**	**Impact**	**Budget (US$ '000)**	**Qty**	**Impact**	**Budget (US$' 000)**
NON-TECHNICAL																		
RAMI new installation	6000	0.10%	3,000	7000	0.16%	3,500	7000	0.26%	3,500	7000	0.41%	3,500	7000	0.66%	3,500	34000	1.58%	17,000
CAAMI new installation	1500	0.05%	1,500	1500	0.08%	1,500	2000	0.13%	2,000	2000	0.20%	2,000	2000	0.33%	2,000	9000	0.79%	9,000
Feeder/Sub-feeder/transformer metering	1200	0.06%	1,020	1200	0.06%	1,020	1200	0.06%	1,020	1200	0.06%	1,020	1200	0.06%	1,020	6000	0.30%	5,100
RAMI and CAAMI Rehabilitation			600			550			300			300			300			2,050
RAMI and CAAMI Reliability Improvement	10000	0.10%	750	6000	0.08%	350	3000	0.06%	150	3000	0.06%	150	3000	0.06%	150	25000	0.36%	1,550
Small Account Audits	75000	0.16%	150	75000	0.16%	150	75000	0.16%	150	75000	0.16%	150	75000	0.16%	150	375000	0.80%	750
Large Account Audits	All	0.17%	200	All	0.17%	200	All	0.17%	200	All	0.17%	200	All	0.17%	200	0	0.85%	1,000
Community Renewal	2000	0.01%	800	2000	0.01%	800	2000	0.01%	800	2000	0.01%	800	2000	0.01%	800	10000	0.05%	4,000
Total Non-Technical		***0.65%***	***8,020***		***0.72%***	***8,070***		**0.84%**	**8,120**		**1.07%**	**8,120**		**1.44%**	**8,120**		**4.73%**	**40,450**

	2015			2016			2017			2018			2019			Grand Total		
Initiatives	**Qty**	**Im-pact**	**Budget (US$ '000)**	**Qty**	**Im-pact**	**Budget (US$ '000)**	**Qty**	**Im-pact**	**Budget (US$ '000)**	**Qty**	**Im-pact**	**Budget (US$ '000)**	**Qty**	**Im-pact**	**Budget (US$ '000)**	**Qty**	**Impact**	**Budget (US$'000)**
TECHNICAL																		
Power Factor Correction	Maintain 90% of feeders above 0.95 pf	0.06%	360	Maintain 90% of feeders above 0.95 pf	0.06%	360	Maintain 90% of feeders above 0.95 pf	0.06%	360	Maintain 90% of feeders above 0.95 pf	0.06%	360.00	Maintain 90% of feeders above 0.95 pf	0.06%	360		0.30%	1,800
Phase Balancing	Maintain 90% of feeders below 20% phase imbalance	0.02%	200	Maintain 90% of feeders below 20% phase imbalance	0.02%	200	Maintain 90% of feeders below 20% phase imbalance	0.02%	200	Maintain 90% of feeders below 20% phase imbalance	0.02%	200.00	Maintain 90% of feeders below 20% phase imbalance	0.02%	200		0.10%	1,000
Total Technical		***0.08%***	***560***		***0.08%***	***560***		**0.08%**	**560**		**0.08%**	**560**		**0.08%**	**560**		**0.40%**	**2,800**
Total		**0.73**			**0.8**			**0.92**			**1.1**			**1.5**			**5.13**	

		%	**8,580**		**0%**	**8,630**		**%**	**8,680.00**		**5%**	**8,680.00**		**2 %**	**8,680.00**		**%**	**43,250.00**

Note: The total percentage reduction of 5.13% for the 5 years is the gross impact of loss initiatives i.e. the total impact of losses (recovery) expressed as a percentage of net generation. This figure is independent of sales. The net reduction of losses will be the impact of losses (recovery), plus the increase/decrease in sales, expressed as a percentage of net generation.