Office of Utilities Regulation

Jamaica Public Service Company Limited
Annual Tariff Adjustment 2013

Determination Notice

OFFICE OF UTILITIES REGULATION

June 25, 2013

DOCUMENT TITLE AND APPROVAL PAGE

DOCUMENT NUMBER: 2013/ELE/007/DET.001

DOCUMENT TITLE: Jamaica Public Service Company Limited Annual Tariff Adjustment for 2013 - Determination Notice

PURPOSE OF DOCUMENT:
This document sets out the Office's decisions on issues related to the annual price adjustment (2013) under the price control regime that became effective under the 2009 Tariff review. See Jamaica Public Service Company Limited – Tariff Review for Period 2009 – 2014, Determination Notice: Ele 2009/4: Det/03

APPROVAL

This document is approved by the Office of Utilities Regulation and this Determination becomes effective as of July 01, 2013.

On behalf of the Office:

Maurice Charvis
Director General

June 25, 2013

Acronyms and Abbreviations

ABNF	-	Adjusted Base-rate Non-Fuel
CAMI	-	Commercial Automated Metering Infrastructure
CAIDI	-	Customer Average Interruption Duration Index
CIS	-	Customer Information System
CPI	-	Consumer Price Index
CT	-	Current Transformer
dI	-	The annual growth rate in an inflation and devaluation measure
EGS	-	Electricity Guaranteed Standard
EOS	-	Electricity Overall Standard
FCRA	-	Fuel Cost Recovery Adjustment
GCT	-	General Consumption Tax
GDP	-	Gross Domestic Product
GOJ	-	Government of Jamaica
GIS	-	Geographic Information System
IPP	-	Independent Power Producer
JEP	-	Jamaica Energy Partners Limited
JPS/JPS Co	-	Jamaica Public Service Company Limited
KVA	-	Kilo Volt Amperes
KWh	-	Kilowatt-hours
LC	-	Letter of Credit
Licence	-	The Amended and Restated All-Island Electric Licence, 2011
MAIFI	-	Momentary Average Interruption Frequency Index
MVA	-	Mega Volt Amperes
MW	-	Megawatt

MWh	-	Megawatt-hours
OCC	-	Opportunity Cost of Capital
O&M	-	Operating and Maintenance
OUR	-	Office of Utilities Regulation
PPA	-	Power Purchase Agreement
PBRM	-	Performance Based Rate-Making Mechanism
RAMI	-	Residential Automated Metering Infrastructure
SAIDI	-	System Average Interruption Duration Index
SAIFI	-	System Average Interruption Frequency Index
T&D	-	Transmission & Distribution
TFP	-	Total Factor Productivity
TOU	-	Time of Use
WKPP	-	West Kingston Power Plant
WT	-	Wholesale Tariff

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Introduction

Jamaica Public Service Company Limited ("JPS") is regulated by the Office of Utilities Regulation ("OUR") based on a price cap regime introduced through the Amended and Restated All-Island Electric Licence, 2011 (the "Licence"). Under the price cap regime the non-fuel base rates are set once every five (5) years. This regime allows for the non-fuel base rates to be adjusted annually by a component to incorporate a Performance Based Rate-making Mechanism (PBRM). A monthly adjustment is also allowed to account for movements in the monetary exchange rate between the United States Dollar and the Jamaican Dollar.

In the Jamaica Public Service Company Limited Tariff Review for Period 2009 – 2014 Determination Notice (Ele 2009/4: Det/03), which came into effect on October 01, 2009 ("Tariff Determination Notice, 2009 (Ele 2009/4: Det/03)") the Office established the average non-fuel rate for JPS at J$9.78/kWh for the Review Period 2009 – 2014. In the said Determination the Office directed that the price cap be applied on a global basis.

Specifically, the annual adjustment resulting from changes in the inflation offset index including efficiency gains and changes in quality of service is to be applied to the tariff basket instead of the individual tariffs. JPS is allowed to adjust the tariffs for each rate class on such a basis that the weighted average increase of the tariff basket does not exceed the price adjustment.

The annual adjustment calculates the movement in the base rates charged by JPS. Given that JPS is allowed to make interim monthly adjustments to take into account movements in the foreign exchange rate, the effective change in rate at the annual adjustment for the average customer would therefore be the value of the annual adjustment of the base less the accumulated value of the foreign exchange adjustments over the preceding year.

1. Legislative and Regulatory Framework

This Determination is being issued pursuant to Sections 11 and 12 of the Office of Utilities Regulation Act, 1995 (the OUR Act) and Condition 15 and Schedule 3 of the Licence.

Sections 11 and 12 of the OUR Act provide as follows:

> ***"11.Power to fix rates***
>
> *11. (1) Subject to subsection (3), the Office may, either of its own motion or upon application made by a licensee or specified organization (whether pursuant to subsection (1) of section 12 or not) or by any person, by order published in the Gazette prescribe the rates or fares to be charged by a licensee or specified organization in respect of its prescribed utility services.*
>
> *(2) For the purposes of this section, the Office may conduct such negotiations as it considers desirable with a licensee or specified organization, industrial, commercial or consumer interests, representatives of the Government and such other persons or organizations as the Office thinks fit.*
>
> *(3) The provisions of subsections (1) and (2) shall not apply in any case where an enabling instrument specifies the manner in which rates may be fixed by a licensee or specified organization.*
>
> ***12. Application by approved organization to fix rates.***
>
> *12. (1) Subject to subsection (2), an application may be made to the Office by a licensee or specified organization by way of a proposed tariff specifying the rates or fares which the licensee or specified organization proposes should be charged in respect of its prescribed utility services and the date (not being earlier than the expiration of thirty days after the making of the application) on which it is proposed that such rates should come into force (hereinafter referred to as the specified date).*
>
> *(2) Where an application by way of a proposed tariff is made under subsection (1) notice of such application and, if so required by the Office, a copy of such tariff, shall be published in the Gazette and in such other manner as the Office may require.*
>
> *(3) A notice under subsection (3) shall specify the time (not being less than fourteen days after the publication of the notice in the Gazette) within which objections may be made to the Office in respect of the proposed tariff to which the notice relates.*
>
> *(4) Subject to the provisions of this Act, the Office may, after the expiration of the time specified in the notice under subsection (3), make an order either -*
>
> > *(a) confirming the proposed tariff without modifications or with such modifications as may be specified in the order; or*

(b) rejecting the proposed tariff.

(5) If, after publication of notice of an application in accordance with subsection [3], no order under subsection (5) has been made prior to the specified date, the proposed tariff shall come into force on the specified date.

(6) An order confirming a proposed tariff shall not bring into operation any rates or fares on a date prior to the date of such order."

Condition 2, paragraph 3 of the Licence provides as follows:

"Subject to the provisions of this Licence the Licensee shall provide an adequate, safe and efficient service based on modern standards, to all parts of the island of Jamaica at reasonable rates so as to meet the demands of the island and to contribute to economic development."

Condition 15 of the Licence provides as follows:

"***Condition 15: Price Controls***

(1) The Licensee is subject to the conditions in Schedule 3.

(2) The prices to be charged by the Licensee in respect of the supply of electricity shall be subject to such limitation as may be imposed from time to time by the Office."

Schedule, 3 Paragraph 2 (A) (B) and (C) of the Licence provides as follows:

"..(A) ***The rates for electric power shall consist of the following components:***

(i) A Non-Fuel Base Rate ("Non-Fuel Base Rate") which is adjusted annually by a component to incorporate a PBRM.

(ii) A Fuel Rate which is adjusted monthly to reflect fluctuations in fuel costs.

(iii) Both (i) and (ii) above are adjusted monthly to account for movement in the monetary exchange rate between the US Dollar and Jamaican Dollar.

(iv) Other extraordinary costs related to Government imposed obligations.

(B) ***Initial Non-Fuel Rates from the Effective Date through May 31, 2004***

Prices will be controlled and fixed by the tariff regime which effective February 1, 2001; with the proviso that –

(i) The Office will annually review the efficiency level (system losses and heat rate) and where appropriate adjust these in the tariff.

(ii) The Licensee co-operates with the Office to conduct a cost of service study, the results of which will form the basis for rebalancing the tariffs in order to remove cross subsidies across rate classes.

(C) ***Rates Post May 31, 2004***

Non-Fuel Base Rate*: The Licensee shall submit a filing with the Office no later than March 1, 2004 and thereafter on each succeeding fifth anniversary, with an application for the recalculation of the Non-Fuel Base Rates. The new Non-Fuel Base Rate will become effective ninety (90) days after acceptance of the filing by the Office. This filing shall include an annual non-fuel revenue requirement calculation and specific rate schedules by customer class. The revenue requirement shall be based on a test year in which the new rates will be in effect and shall include efficient non-fuel operating costs, depreciation expenses, taxes, and a fair return on investment. The components of the revenue requirement which are ultimately approved for inclusion will be those which are determined by the Office to be prudently incurred and in conformance with the OUR Act, the Electric Lighting Act and subsequent implementing rules and regulations. The revenue requirement shall be calculated using the following formula unless such formula is modified in accordance with the rules and regulations prescribed by the Office*

Non-Fuel Revenue Requirement *= non-fuel operating costs + depreciation + taxes + return on investment…"*

The Test Year is defined in the said Schedule 3 of the Licence as comprising:

"… the latest twelve months of operation for which there are audited accounts and the results of the test year adjusted to reflect:

(i) Normal operational conditions, if necessary;

(ii) Such changes in revenues and costs as are known and measurable with reasonable accuracy at the time of filing and which will become effective within twelve months of the time of filing. Costs, as used in this paragraph, shall include depreciation in relation to plant in service during the last month of the test period at the rates of depreciation specified in the Schedule to this Licence. Extraordinary or Exceptional items as defined by The Institute of Chartered Accountants of Jamaica shall be apportioned over a reasonable number of years not exceeding five years; and

(iii)Such changes in accounting principles as may be recommended by the independent auditors of the Licensee…."

Schedule 3, Paragraph 4 of the Licence provides as follows:

"4. ***Annual Performance-Based Rate-making Filings for Electric Tariffs***

The process to be used by the Office in the implementation and management of the incentive regulation process is set out in detail in Exhibit 1 ……..

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. The annual data for the performance indices will be reflective of the twelve (12) months ending sixty (60) days prior to the Adjustment Date. In the absence of an order from the Office upon the expiry of sixty (60) days of the filing by the Licensee -

(a) rejecting the rates proposed by the Licensee on the merits;

(b) approving the rates proposed by the Licensee; OR

if the Office issues an order rejecting or modifying any portion of the Licensee' proposed rates, then upon the occurrence of any of the said events, the Licensee may refer the matter to the Appeal Tribunal as established under Condition 32 to finally settle and the parties hereby agree to be bound by the decision of the Tribunal.

In the event that the Tribunal rules in favour of the Licensee in any of the three events the decision of the Tribunal shall become effective on the day of the Tribunal's ruling.

Exhibit 1 of Schedule 3 of the Licence provides as follows:

"Annual Growth Rate for Non-Fuel Base Rates

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:

$$ABNFy = ABNFy_{-1}\,(1 + \delta PCI)$$

Where:

$ABNF_y$ = *Adjusted Non-Fuel Base Rate for Year "y"*

$ABNF_{y-1}$ = *Non-Fuel Base Rate prior to adjustment*

δPCI = *Annual rate of change in non-fuel electricity prices as defined below*

PCI = Non-fuel Electricity Pricing Index"

*The Annual Performance-Based Rate Making (PBRM) filing follow the general framework where the **annual rate of change in non-fuel base electricity prices (dPCI)** is determined through the following formula:*

$$\delta PCI = dI \pm X \pm Q \pm Z$$

Where:

δPCI = annual rate of change in non-fuel base electricity prices;

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 the customers; and,

Z = the allowed rate of price adjustment for special reasons not captured by the other elements of the formula."

Pursuant to Schedule 3, Paragraph 4 of the Licence, JPS submitted its annual tariff adjustment application for the recalculation of the Non-Fuel Base Rates to the Office on April 03, 2013.

Pursuant to Tariff Determination Notice, 2009 (Ele 2009/4: Det/03) the Price Index (PCI) is to be adjusted utilizing the following formula:

$$\mathbf{PCI_y = PCI_{y-1}(1+ dPCI)}$$

The price cap is to be applied on a global basis. Specifically, the annual adjustment factor (1 + dPCI) is to be applied to the tariff basket instead of the individual tariffs for each rate class. Each rate class attracts a specific weighting and the weighted average increase of the tariff basket must not exceed the global price adjustment factor (1 + dPCI).

At any time the actual price index (API) must be less than PCI

$$\mathbf{dI = [0.76 * \delta e + (0.76 * 0.922 * \delta e * i_{us}) + (0.76 * 0.922 * i_{us}) + 0.24 * i_j]}$$

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)
0.76	=	US factor
0.24	=	Local (Jamaica) factor

In accordance with Sections 11 and 12 of the OUR Act as well as Condition 15 and Schedule 3 of the Licence, the Office hereby **MAKES THE FOLLOWING DETERMINATIONS.**

2. Executive Summary

2.1. Annual Inflation and Devaluation Growth Rate (dI)

In making the annual filings to the Office, JPS requested and has provided support for adjustments to the following consumer price indices:

- The Jamaican twelve-month point-to-point inflation rate to February 28, 2013 of **8.15%**, derived from the most recent CPI data[1] (i_j)
- The U.S. twelve-month point-to-point inflation rate to February 28, 2013 of **1.98%,** derived from the US Department of Labour statistical data[2] (i_{us})

The Office has verified the above movement in the indices. The Office has also determined that there is an increase of the base for the foreign exchange rate from US$1: J$87.50 to **US$1: J$98.50**.

dI is determined to be 13.07%

2.2. Annual Offset to Inflation (*X-Factor)*

X is determined to be 2.72%

Consistent with Tariff Determination Notice, 2009 (Ele 2009/4: Det/03).

2.3. Allowed Price Changes to Reflect Service Quality *(Q-Factor)*

Q is determined to be 0%

In accordance with Tariff Determination Notice, 2009 (Ele 2009/4: Det/03) the Q-factor adjusts the annual escalation rate to reflect changes in quality of service provided to customers by JPS.

2.4. Allowed Price Escalation to Reflect Special Circumstances (*Z-Factor*)

Z is determined to be 0%

There were no special circumstances warranting this adjustment in the review period.

2.5. Total Non - Fuel Adjustment

The annual adjustment of the base non-fuel tariffs approved by the Office to become effective **July 01, 2013** is **10.35%**

[1] Obtained from the Statistical Institute of Jamaica, CPI Statistical Bulletin February 2013

[2] Obtained from US Bureau of Labour Statistics website, http://data.bls.gov/cgi-bin/surveymost

The effective change to the Non-Fuel Rate is **0.80%.** This reflects the net impact of inflation (domestic and foreign (dI = 13.07%)), the productivity factor (X= -2.72%) and the pre-adjusted foreign exchange movement (-9.55%). The details of the current annual inflation adjustment are set out in Table 2.1 below. While Table 2.2 below summarizes the inflation adjusted base non-fuel tariffs to be applied in the current year.

Table 2.1: Details of Annual Inflation Adjustment (2013)

Annual Adjustment	
dI - Inflation and devaluation growth rate	13.07%
X - Productivity Factor	-2.72%
Q - Quality of Service	0.00%
Z - Exogenous Factor	0.00%
Total dPCI	10.35%
Total change in Non-Fuel Base Rates	**10.35%**
Less pre-adjusted F/X Base Rate movement (Already accounted for monthly on customers' bills)	**-9.55%**
Effective change in Non-Fuel Rates	**0.80%**

As provided for in the Licence, this adjustment is applied to the basket of tariffs and JPS may adjust individual rates in the schedule, so long as the average does not exceed the overall adjustment of 10.35%.

Table 2.2: Inflation Adjusted Base Non-Fuel Tariffs (dI ± X ± Q+Z)

Class					Demand-J$/KVA			
		Block/Rate Option	Customer Charge	Energy J$/kWh	Std.	Off-Peak	Part Peak	On-Peak
Rate 10	LV	--100	387.00	6.98				
Rate 10	LV	> 100	387.00	15.96				
Rate 20	LV		851.40	13.63				
Rate 40A	LV							
Rate 40	LV - Std		6,192.0	3.89	1,466.12			
Rate 40	LV - TOU		6,192.0	3.89		62.23	645.10	825.45
Rate 50	MV - Std		6,192.0	3.69	1,319.52			
Rate 50	MV - TOU		6,192.0	3.69		58.64	571.79	733.06
Rate 60	LV		2,322.0	14.73				

2.6. Fuel Cost Adjustment Factor – Heat Rate

The system heat rate target shall remain at **10,200kJ/kW** for the annual review period 2013 – 2014 and is subject to review during the 2014-2019 Tariff Reset.

2.7. Fuel Cost Adjustment Factor – System Losses

The target for system losses shall remain at **17.50%** for period 2013-2014. Subsequent targets are to be determined during the 2014-2019 Tariff Review.

2.8. Fuel Cost Recovery Adjustment

A one-time Fuel Cost Recovery Adjustment (FCRA) totalling twenty million United States dollars (US$20M) to be recovered in equal amounts monthly (US$1.67M/month) over twelve (12) months commencing in the month of July 2013 (August billing). Subject to:

a. JPS' providing the Office within seventeen (17) days of the date of this Determination Notice a eighteen month schedule (July 2013 – December 2014) for the implementation of the investments and initiatives set out in its Loss Reduction Plan and summarized in the sheets designated "Appendix: Supplementary Tables on Loss Reduction Activities 2013 -2014 and which are annexed to this Determination Notice as Appendix 4; and
b. JPS' demonstrated compliance on a quarterly basis with the schedule provided at (a) above.

2.9. Bill Impact

It is estimated that with the determinations set out herein, on the average, there will be a marginal increase to the total on overall consumers' bills. This is resulting from the effect of:

a) the 10.35% increase in the **base non-fuel rates** (effectively 0.80% given that bills have already been adjusted monthly by 9.55% for foreign exchange differential);
b) a one-time F**uel Cost Recovery Adjustment**; and
c) adjustment to the **fuel weights** for commercial and industrial customer classes.

The total bill impact across all rate classes is an overall average increase of approximately 0.6% and is summarized in Table 2.3 below. The impact is as follows:

- Typical Rate 10 customer = 2.30% (Increase)
- Typical Rate 20 customer = 1.90% (Increase)
- Typical Rate 40 customer = -0.90% (Decrease)
- Typical Rate 50 customer = -1.00% (Decrease)

Table 2.3: Estimated Bill Impact of Annual Tariff Adjustment

Rate Class	Typical Usage (kWh)	Demand (kVA)	Bill Impact (%)	J$ Change
Residential [10]	200	-	2.3	$ 172
Small Commercial [20]	1,000	-	1.9	$ 873
Large Com. Low Voltage [40]	35,000	100	-0.9	$ (12,399)
Large Com. Medium Voltage [50]	500,000	1,500	-1.0	$ (187,644)
System Heat Rate Target	**System Losses Target**			
10200 kJ/kWh	17.50%	Average Increase	0.6%	

2.10. Fee Early Payment Incentive/Late Payment Fee

The OUR gives its no objection to the introduction of a Late Payment Fee provided that this fee does not apply to customers who are disconnected by JPS. Customers who have been disconnected should only pay the reconnection fee plus GCT for reconnection to the service.

2.11. Disconnection/Reconnection

Effective the 1st July 2013 standard disconnection/reconnection fee shall increase to $1,650 (plus GCT) and is subject to annual review.

3. Summary of JPS' Annual Rate Adjustment Proposal

3.1. Current year annual inflation adjustment factor (dI – X)

JPS submitted an application dated April 03, 2013 under confidential cover which at the Office request was removed and the application resubmitted on April 11, 2013. Pursuant to the annual adjustment clause contained in the rate schedule, JPS, in its submission, sought approval for an increase of **10.35%** on the base non-fuel tariffs for 2013 through the application of the annual adjustment formula (dI – X).

The weighted average increase in the inflation adjustment includes the productivity factor of 2.72% (*X*-factor). There were no requests for adjustments for quality of service (*Q*-factor) neither were there any unforeseen events outside of the company's control that would have warranted adjustments through the *Z*-factor.

The requested annual adjustment in the base rates of 10.35% includes the foreign exchange component that is already reflected in customers' bills.

Tables 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7 and 3.8 below summarizes the computation of the adjustment factor (dI – X) and its application to consumers' customer charge, demand charge, energy charge and the overall non-fuel revenue of the company.

JPS has proposed to introduce a Wholesale Tariff ("WT") for qualifying customers hence the inclusion of tables to show the effect/computation with and without the new WT proposal.

Table 3.1 Annual Adjustment Factor (dI - X)

Annual Adjustment Clause Calculation			
Line	Description	Formula	Value
L1	Base Exchange Rate		87.50
L2	Proposed Exchange Rate		**98.50**
L3	Jamaican Inflation Index		
L4	CPI @ Feb 2013		195.0
L5	CPI @ Feb 2012		180.3
L6	US Inflation Index		
L7	CPI @ Feb 2013		232.2
L8	CPI @ Feb 2012		227.7
L9	Exchange Rate Factor	(L2-L1)/L1	12.57%
L10	Jamaican Inflation Factor	(L4-L5)/L5	8.15%
L11	US Inflation Factor	(L7-L8)/L8	1.98%
L12	Escalation Factor	0.76*(L9*(1+0.922*L11)+0.922*L11)+0.24*L10	13.07%
L13	Prodcutivity (or X) Factor		-2.72%
L14	Escalation Adjustment net of X-Factor	(L12-L13)	10.35%

Table 3.2 below displays the number of customers across the rate classes and the respective demand charges and energy charges derived using the 2012 billing determinants.

Table 3.2 Customer Information 2012

Class		Block/ Rate Option	December 2012 Customer	Energy kWh Std.	Demand-KVA Std.	Off-Peak	Part Peak	On-Peak
Rate 10	LV	<100	209,267	114,707,447				
Rate 10	LV	>100	314,724	910,448,038				
Rate 20	LV		61,097	600,501,047				
Rate 40	LV - STD		1,586	669,981,733	2,283,780			
Rate 40	LV - TOU		124	128,089,310		372,224	356,087	285,538
Rate 50	MV -STD		122	408,237,219	855,192			
Rate 50	MV -TOU		27	113,766,263		608,934	593,163	493,174
Rate 60	STREETLIGHTS		253	70,060,156				
Total			587,200	3,015,791,213	3,138,972	981,158	949,250	778,712

Table 3.3 Proposed Non-Fuel Tariff Basket Weights

Class		Block/ Rate Option	Customer Charge	Energy-J$/kWh	Demand-J$/KVA Std.	Off-Peak	Part Peak	On-Peak	Total
Rate 10	LV	<100	2.323%	2.089%	0.000%	0.000%	0.000%	0.000%	4.41%
Rate 10	LV	>100	3.493%	37.912%	0.000%	0.000%	0.000%	0.000%	41.41%
Rate 20	LV		1.492%	21.389%	0.000%	0.000%	0.000%	0.000%	22.88%
Rate 40	LV - Std		0.282%	6.802%	8.729%	0.000%	0.000%	0.000%	15.81%
Rate 40	LV - TOU		0.022%	1.300%	0.000%	0.060%	0.599%	0.614%	2.60%
Rate 50	MV - Std		0.022%	3.934%	2.942%	0.000%	0.000%	0.000%	6.90%
Rate 50	MV - TOU		0.005%	1.096%	0.000%	0.093%	0.884%	0.943%	3.02%
Rate 60	LV		0.017%	2.960%	0.000%	0.000%	0.000%	0.000%	2.98%
TOTAL			7.656%	77.482%	11.671%	0.153%	1.483%	1.557%	100.0%

Table 3.4 Proposed Non-Fuel Tariff Basket Weights (Incl. Wholesale Tariffs)

Class		Block/ Rate Option	Customer Charge	Energy-J$/kWh	Demand-J$/KVA				Total
					Std.	Off-Peak	Part Peak	On-Peak	
Rate 10	LV	<100	2.32%	2.09%	0.00%	0.00%	0.00%	0.00%	4.41%
Rate 10	LV	>100	3.49%	37.91%	0.00%	0.00%	0.00%	0.00%	41.40%
Rate 20	LV		1.41%	18.20%	0.00%	0.00%	0.00%	0.00%	19.61%
Rate 20	WT		0.08%	3.19%	0.00%	0.00%	0.00%	0.00%	3.27%
Rate 40	LV - Std		0.21%	4.78%	8.54%	0.00%	0.00%	0.00%	13.53%
Rate 40	LV - TOU		0.01%	0.25%	0.19%	0.06%	0.56%	0.57%	1.64%
Rate 40	WT - TOU		0.09%	3.07%	0.00%	0.00%	0.04%	0.05%	3.25%
Rate 50	MV - Std		0.02%	1.29%	2.74%	0.00%	0.00%	0.00%	4.05%
Rate 50	MV - TOU		0.00%	0.24%	0.20%	0.09%	0.86%	0.91%	2.30%
Rate 50	WT - TOU		0.01%	3.50%	0.00%	0.00%	0.03%	0.03%	3.57%
Rate 60	LV		0.02%	2.96%	0.00%	0.00%	0.00%	0.00%	2.98%
TOTAL			7.66%	77.48%	11.67%	0.15%	1.49%	1.56%	100.0%

Table 3.5 Proposed 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	387.00	6.98				
Rate 10	LV	> 100	387.00	15.96				
Rate 20	LV		851.40	13.63				
Rate 40A	LV							
Rate 40	LV - Std		6,192.0	3.89	1,466.12			
Rate 40	LV - TOU		6,192.0	3.89		62.23	645.10	825.45
Rate 50	MV - Std		6,192.0	3.69	1,319.52			
Rate 50	MV - TOU		6,192.0	3.69		58.64	571.79	733.06
Rate 60	LV		2,322.0	14.73				

Table 3.6 Proposed Non-Fuel Tariffs (Incl. Wholesale Tariffs)

Class		Block/ Rate Option	Customer Charge	Energy-J$/kWh	Demand-J$/KVA			
					Std.	Off-Peak	Part Peak	On-Peak
Rate 10	LV	--100	387.00	7.22				
Rate 10	LV	> 100	387.00	16.51				
Rate 20	LV		851.40	14.13				
Rate 20	WT		851.40	9.94				
Rate 40	LV - Std		6,192.0	4.03	1,532.77			
Rate 40	LV - TOU		6,192.0	4.03	1,532.77	65.06	674.42	862.97
Rate 40	WT - TOU		6,192.0	2.66		65.06	674.42	862.97
Rate 50	MV - Std		6,192.0	3.82	1,379.49			
Rate 50	MV - TOU		6,192.0	3.82	1,379.49	61.31	597.78	766.38
Rate 50	WT - TOU		6,192.0	2.52		61.31	597.78	766.38
Rate 60	LV		2,322.0	14.73				

Table 3.7 Proposed Revenue from Tariff

		Block/ Rate Option	12 Months 2012/13 Customer Revenue	Energy Revenue	Demand (KVA) revenue				Total Demand Revenue	Total Revenue
					Std.	Off-Peak	Part Peak	On-Peak		
Rate 10	LV	<100	971,835,948	800,657,980						1,772,493,928
Rate 10	LV	>100	1,461,578,256	14,530,750,686						15,992,328,942
Rate 20	LV		624,215,830	8,184,829,271						8,809,045,101
Rate 40	LV - Std		117,846,144	2,606,228,941	3,348,295,534				3,348,295,534	6,072,370,619
Rate 40	LV - TOU		9,213,696	498,267,416		23,163,500	229,711,724	235,697,342	488,572,566	996,053,678
Rate 50	MV - Std		9,065,088	1,506,395,338	1,128,442,948				1,128,442,948	2,643,903,374
Rate 50	MV - TOU		2,006,208	419,797,510		35,707,890	339,164,672	361,526,132	736,398,694	1,158,202,412
Rate 60	LV		7,049,592	1,031,986,098						1,039,035,690
TOTAL			3,202,810,762	29,578,913,240	4,476,738,482	58,871,390	568,876,396	597,223,474	5,701,709,742	38,483,433,744

Table 3.8 Proposed Revenue from Tariff (Incl. Wholesale Rate Classes)

		Block/ Rate Option	12 Months 2012/13 Customer Revenue	Energy Revenue	Demand (KVA) revenue				Total Demand Revenue	Total Revenue
					Std.	Off-Peak	Part Peak	On-Peak		
Rate 10	LV	<100	971,835,948	828,187,767						1,800,023,715
Rate 10	LV	>100	1,461,578,256	15,031,497,107						16,493,075,363
Rate 20	LV		592,053,343	7,219,110,074						7,811,163,417
Rate 20	WT		32,162,486	890,568,932						922,731,418
Rate 40	LV - Std		86,861,376	1,898,083,272	3,422,591,108				3,422,591,108	5,407,535,756
Rate 40	LV - TOU		3,863,808	98,647,408	77,918,363	22,928,185	225,836,956	228,291,810	554,975,314	657,486,530
Rate 40	WT - TOU		36,334,656	804,927,632		1,288,708	14,315,239	18,118,918	33,722,865	874,985,153
Rate 50	MV - Std		6,761,664	511,078,178	1,100,701,968				1,100,701,968	1,618,541,810
Rate 50	MV - TOU		1,263,168	96,859,133	79,026,844	36,199,325	344,434,260	364,971,615	824,632,044	922,754,345
Rate 50	WT - TOU		3,046,464	914,401,124		1,134,419	10,146,718	12,987,075	24,268,212	941,715,800
Rate 60	LV		7,049,592	1,031,986,098						1,039,035,690
TOTAL			3,202,810,761	29,325,346,725	4,680,238,283	61,550,637	594,733,173	624,369,418	5,960,891,511	38,489,048,997

3.2. Proposed Introduction of Wholesale Tariffs

JPS has proposed the introduction of a new WT class for qualifying rate 20, 40 and 50 customers. The proposal is for a volume discount for the largest users of energy and demand on the network. JPS asserts that the discount is intended for customers with demand exceeding one (1) MVA and should be an incentive for these customers with the potential to self-generate to remain on the grid thereby keeping downward pressure on per unit cost for all other customers using the network.

3.3. Fuel Cost Adjustment Factor – Heat Rate

The System Heat Rate is reported in kJ/kWh and represents the efficiency with which fuel (chemical energy) is converted to electrical energy.

JPS has requested a suspension of the system heat rate target. This request JPS states, is as a result of the substantial uncertainty with regards to the reliability and availability of approximately 292 MWs of capacity that were expected to be retired in 2014. JPS further

goes on to state that there can be no assurance that these plants will continue to be available for the near future and in any event to keep them running will cost significant amounts in capital expenditure and maintenance costs.

3.4. Fuel Cost Adjustment Factor – System Losses

JPS makes the case that all other things being equal, losses penalty on non-fuel tariffs has grown to more than US$20 million per annum in 2012. Losses penalty as it relates to the actual recovery of fuel cost also increases as sales shrink, since fuel is the straight variable cost of production and represents 65% of the total cost of energy. In this regard, JPS requested the OUR to consider granting one of the following:

1. A full pass through of fuel costs as this, JPS argues, is essential to ensure the viability of the utility company.
2. Raising the losses target closer to the actual level of losses.
3. Imposing a cap of US$500,000 per month on the fuel penalty incurred by JPS when JPS fail to meet the efficiency targets.

On the problem of electricity theft, JPS outlined a programme that has been designed in collaboration with the Planning Institute of Jamaica (PIOJ) and in partnership with the National Water Commission, to introduce an element of social intervention, education and skills training, as well as providing some direct but time bound subsidies to assist persons in obtaining legal access to electricity and water. Additionally, JPS is proposing that the Government introduce tougher criminal sanctions for the theft of electricity to create an effective deterrence.

Further loss reduction initiatives were outlined by JPS in a System Loss Reduction Plan which was submitted to the OUR on June 10, 2013 and is summarized below.

Technical Loss Reduction Initiatives (at proposed investment of US$2M over eighteen months) are:

1. Continuous monitoring and re-evaluating of the technical loss values on all sections of the spectrum
2. Identification of the activities to correct the technical loss on each section
3. Implementation of cost-effective programs to optimize the losses

Non-Technical Loss Reduction initiatives being pursued (at proposed investment of US$44.39M over eighteen months) are:

1. Meter Data Management System
2. Revenue Intelligence
3. Mobile Workforce Systems
4. Smart Metering
5. Prepaid Metering
6. Comprehensive Energy Balance Metering
   - 64 Meters will be installed in 2013
   - Pole-mounted transformers will be metered where required
   - Installation of an additional 50 meters will be installed in 2014
7. Sustained Field Activities

- Group Investigation - Blitz & Block Audit
- Flexible Audit Schedule such as night-time audits or surprise visits outside of regular working hours.
- Feeder Investigation via routes

8. Internal Systems and Process Improvements
   - Improvement in identification and processing of negative reads/consumption
   - Timely follow up on meter reading exceptions

3.5. Other Annual Tariff Adjustments Proposals

3.5.1. Early Payment Incentive/Late Payment Fee

JPS has proposed the introduction of an early payment incentive/late payment fee of $250 for residential customers only.

JPS outlined in its submission that *"Residential customers who pay their bills in full and on time will receive the early payment incentive. This will be applied to their bills in the following month. Those customers who pay their bill after the due date will be charged the late payment fee, also to be applied to their bill in the following month. This creates a $500 incentive to pay on time."* Additionally, JPS has proposed to provide up to fifteen (15) days grace before resorting to disconnections for residential customers who have an adequate security deposit in place (i.e. equal to one month's electricity consumption). Consideration will be given to customers with an excellent past payment record at the company's discretion.

3.5.2. Bill Payment Notification & Payment Channels

JPS now has a database of telephone numbers or email addresses for 60% of its customers and utilizes a text alert system to remind customers to pay their bill by the due date.

JPS has re-launched its website to facilitate on-line bill payments and bill query, so customers can easily check their bill balance and due date. Beyond the late payment fee a customer who anticipates a difficulty making a payment on time and in full can enter a payment arrangement through the Customer Care Centre, or at a parish office, to avoid disconnection.

3.5.3. Increase in the Standard Disconnection Fee

JPS requested a 10% increase in the disconnection fee from $1,500 to $1,650 (plus GCT) reasoning that the cumulative Jamaican inflation adjustment for the last three (3) annual tariff applications (2010 to 2013) is approximately 23%.

3.5.4. Illegal Reconnection Fee

JPS proposed to charge a fee of $2,000 to customers who have not paid their outstanding balance within thirty (30) days of the due date and whom are found to be illegally reconnected to the network.

3.5.5. Adjustment to the Fuel Weights

All customers currently pay the same standard fuel rate except for TOU customers who pay adjusted rates based on their actual time of use. The adjusted fuel weights for the three buckets of energy use (off-peak, partial-peak and on-peak) are 0.869, 1.044 and 1.302, respectively. An amount greater than 1 implies a premium is being charged while an amount less than one (1) implies a discount is being given.

JPS proposed two changes to the fuel weights with a view to giving a volume discount for the largest users of electricity (and thus fuel) on the grid, as well as to incentivize more production in the off-peak time band.

The proposals are:

1. Amending the off-peak weight from 0.869 to 0.800.

2. Amending the standard fuel rate from 1 to 0.96 for all rate 40 and 50 customers (including the wholesale customers).

3.6. Ensuring Quality of Service: Q-Factor

JPS requested that the Q-Factor be set at 0% for the 2013 to 2014 period. This request accords with the consultants KEMA Inc who were engaged by the OUR to conduct a review of the measurement and calculation of the reliability indices to inform the target-setting of the baseline and Q-Factor targets.

3a. Summary of Consumer Advisory Committee on Utilities (CACU) Comments on JPS Submission

On May 31, 2013 CACU submitted a response to JPS' submission which is summarized below.

- CACU opines that it is reasonable to consider an adjustment at this time, given the impact of the global recession and inflation on developing economies such as Jamaica.
- CACU supports the introduction of a Wholesale Tariff for qualified customers and the ensuing benefits not only to those customers but to consumers in general.
- CACU supports the Early Payment Incentive/Late Payment Fee proposal. If JPS is going to collect late payment fee then a grace period of two (2) weeks maybe be more appropriate.
- Due consideration should be given to itemize Fuel and IPP charges separately for the sole purpose of transparency in the billing process.
- CACU is not averse to an increase in the Standard Disconnection Fee at this time however this should be reviewed in the 2014 tariff review.
- CACU supports the approval of a more punitive Illegal Reconnection Fee in order to try to reduce the incidence of this illegal activity/criminal act which is outside the remit of the utility.

- The Heat Rate target should be reviewed to reflect one which holds the JPS accountable for the generation under its direct control.
- An amendment to the regulations regarding expansion/additional power generation assets versus replacement of existing power generation assets. Recent history clearly demonstrates that consumers have not benefitted from having the same set of rules apply in both contexts.
- JPS should not be held fully accountable for the long standing social problem of electricity theft. The CACU strongly supports the notion of a combined approach by both JPS and NWC (in conjunction with the relevant and respective authorities) to solving theft of both electricity and water.

4. OUR's Analysis of the Proposal

4.1. Annual growth rate in inflation and devaluation

The annual growth rate in inflation and devaluation factor dI is calculated by the formula -

$$\mathbf{dI = [0.76 * \delta e + (0.76 * 0.922 * \delta e * i_{US}) + (0.76 * 0.922 * i_{US}) + 0.24 * i_j]}$$

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)
0.76	= US factor
0.24	= Local (Jamaica) factor

The 2013- 2014 annual adjustment factor of **10.35%** was derived by applying to the formula the following factors:

- The Jamaican twelve-month point-to-point inflation rate to February 28, 2013 of **8.15%,** derived from the most recent CPI data[3]

- The U.S. twelve-month point-to-point inflation rate to February 28, 2013 of **1.98%,** derived from the US Department of Labour statistical data[4]

- The base exchange rate was adjusted from US$1.00 : JA$87.50 to **US$1.00 : JA$98.50**

[3] Obtained from the Statistical Institute of Jamaica, CPI Statistical Bulletin February 2013)
[4] Obtained from US Bureau of Labour Statistics website, http://data.bls.gov/cgi-bin/surveymost

Annual inflation adjustment (dI - X) calculation

The annual inflation adjustment (dI) calculation from which the escalation factor is derived is shown in Table 4.1 below:

Table 4.1

Annual Adjustment Clause Calculation			
Line	Description	Formula	Value
L1	Base Exchange Rate		87.50
L2	Adjusted Base Exchange Rate		**98.50**
L3	Jamaican Inflation Index		
L4	CPI @ Feb 2013		195.0
L5	CPI @ Feb 2012		180.3
L6	US Inflation Index		
L7	CPI @ Feb 2013		232.2
L8	CPI @ Feb 2012		227.7
L9	Exchange Rate Factor	(L2-L1)/L1	12.57%
L10	Jamaican Inflation Factor	(L4-L5)/L5	8.15%
L11	US Inflation Factor	(L7-L8)/L8	1.98%
L12	Escalation Factor	0.76*(L9*(1+0.922*L11)+0.922*L11)+0.24*L10	13.07%
L13	Prodcutivity (or X) Factor		-2.72%
L14	Escalation Adjustment net of X-Factor	(L12-L13)	10.35%

4.2. *X-Factor* Component of PBRM

The *X-Factor* is based on JPS' expected productivity gains. The *X-Factor* equals the difference in the expected total factor productivity growth of the Licensed Business and the general total factor productivity growth of firms whose price index of outputs reflect the escalation measure 'dI'.

The *X-Factor* applicable for this review period is 2.72**%**. This accord with the JPS Tariff Determination Notice, 2009 (Ele 2009/4: Det/03).

4.3. *Q-Factor* Component of PBRM

The *Q-factor* is the allowed price adjustment which accounts for changes in the quality of service provided to customers and is based on 3 quality indices:

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

$$\text{SAIFI} = \frac{Total\ number\ of\ customer\ interruptions}{Total\ number\ of\ customers\ served}$$ *(expressed in number of interruptions per year)*

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

$$\text{SAIDI} = \frac{\sum Customer\ interruption\ durations}{Total\ number\ of\ customers\ served}$$ *(expressed in minutes)*

3. CAIDI – this index represents the average time required to restore service to the average customer per sustained interruption. It is the result of dividing SAIDI by SAIFI.

$$\text{CAIDI} = \frac{\sum Customer\ interruption\ durations}{Total\ number\ of\ interruptions}$$ *(expressed in minutes per interruption)*

Subsequent to the adoption of the above three measures MAIFI was included as a fourth quality measure.

MAIFI – this index is designed to give information about the frequency of momentary outages (those of durations of 5 minutes or less) per customer over a predefined area.

- $\text{MAIFI} = \frac{Total\ number\ of\ custome\ interruptions\ (for\ durations\ of\ 5\ minutes\ or\ less)}{Total\ number\ of\ customers\ served}$
  (expressed in number of interruptions per year)

The OUR engaged the services of the consulting firm, KEMA Inc., ("KEMA") to carry out an audit of the Q-Factor performance indicators, data and data collection methods & procedures of JPS. The objective of the review was to inform regulatory decisions with respect to the appropriate baseline indices against which future performance would be measured. The Consultants commenced their work on the 11th April, 2012 and a final report dated 27th August 2012 was submitted to the OUR.

Among other comments and recommendations, the Consultant made the following two recommendations:

1. The OUR should not make use of the existing reported data by JPS for application to the Q-factor.

2. The result of the process audit showed that JPS has made considerable efforts to implement a reliability measurement system but there is still scope for improvement in terms of formalizing and extending the system to assure a more complete capturing of reliability performance data. In this light, KEMA recommended that JPS prepare and implement a process description and a process flow chart of the Q-factor process together with the introduction of the new OMS system which can interface with GIS, SCADA and the Call Center Outage Log. When describing the new processes, the relevant functionalities of the software tools involved, and also roles, responsibilities and accountability of employees involved in the Q-factor, must clearly be defined. Responsibilities, accountability and competencies needed should also be defined in job descriptions (or otherwise) of employees involved in the Q-factor process. Furthermore, guidance must be

provided on necessary checks and review, while processes for internal validation and internal audits must be described and implemented.

Following on OUR's request for an update on the status report on the OMS system, JPS responded on December 28th 2012 advising as follows:

1. *"The application has failed some of the critical tests and could not be implemented as developed as it could not provide the long term dependable and sustainable solution we all seek.*
2. *Subsequently, we have reviewed our complete IT needs for an Outage Management System and have decided to acquire an "off the shelf" solution from the widely available and mature product offerings available. Recognizing that time is of the essence, we have adopted an aggressive, "fast track" approach and have issued a Request for Proposal to the market on December 5, 2012 with responses due from vendors by January 15, 2013. We estimate that by the late Q1 2013 to early Q2 2013, we will commence phased regional implementation with full implementation by late Q3 2013. We are confident that the approach will yield the results and will be consistent with industry best practices."*

JPS projects that a full roll out of the new OMS package will take place in December 2013. As such, if JPS actually delivers on the roll out of the OMS, completes the inputting of customer data into the system and ties it into its Geographic Information System, then it should have a possible three months of reliable Q-factor data prior to their 2014 Tariff Review Application.

Indeed the OUR is resolved to have the Q-factor component of the tariff activated as a part of the upcoming Rate Review scheduled for 2014. The activation of the Q-factor in JPS rates, if done properly, would ensure that the prices paid by customers would better reflect the quality of service delivered by the utility.

The *Q-Factor* adjustment applicable for this review period remains within the dead band and is therefore **0%**. This accord with Tariff Determination Notice, 2009 (Ele 2009/4: Det/03).

4.4. *Z-Factor* Component of PBRM

The *Z-Factor* is the allowed rate of price adjustment for special reasons not captured by the other Components of the PBRM.

The *Z-Factor* applicable for this review period is **0%**. There were no qualifying events under this component.

4.5. Proposed Introduction of Wholesale Tariffs

The proposed introduction of the new WT for qualifying rate 20, 40 and 50 customers is, as stated by JPS a proposal for a tariff rebalancing. In principle the OUR is not averse to JPS wanting to give a volume discount to the tariffs for the largest users of energy and demand on its network.

The WT discount is intended for customers with demand exceeding one (1) MVA. JPS has argued that this should be an incentive for customers with the potential to self-generate to remain on the grid. It is instructive however that in the past that a principle observed in its application is to have rates set below the cost of self-generation. As stated by JPS in the 2009 submission, *"In the case of electricity supply, the consumer's demand is closely related to the cost of the Best Alternative Option (BAO). Indeed, electricity will be demanded only if its price is equal or less than the BAO, provided that this opportunity is an acceptable substitute. For example, the Company cannot charge a price higher than the cost of self-generation."*[5]

JPS proposal on the surface seems to be a cross-subsidy from primarily the residential customer class, to a qualifying group of small commercial and industrial customers. With the application of the 10.35% annual adjustment without the introduction of the proposed WT the increase tariff charged to the residential rate class would be $6.98/kWh and $15.96/kWh for the life line and other residential customer class respectively. With the introduction of the proposed WT the residential rate class would see rates being pushed further upwards to $7.22/kWh and $16.51/kWh for the life line and other residential customer class respectively (see Table 4.5 below). The tariff for the unqualified Rate 20, Rate 40 and Rate 50 customers would also see an additional 4% increase with the introduction of the proposed WT.

Table 4.5

Customer Class		Block/Rate Option	Energy-J$/kWh With WT	Energy-J$/kWh Without WT
Rate 10	LV	--100	7.22	6.98
Rate 10	LV	> 100	16.51	15.96
Rate 20	LV		14.13	13.63
Rate 20	WT		9.94	
Rate 40	LV - Std		4.03	3.89
Rate 40	LV - TOU		4.03	3.89
Rate 40	WT - TOU		2.66	
Rate 50	MV - Std		3.82	3.69
Rate 50	MV - TOU		3.82	3.69
Rate 50	WT - TOU		2.52	
Rate 60	LV		14.73	14.73

Taking a quotation from JPS's own 2013 submission; "*Higher electricity prices and a stagnating economy have put upward pressure on all customer classes. This in turn has triggered conservation efforts, the increasing take up of off-grid alternative energy and pushing marginal customers to theft resulting in lower sales that translate into higher reported system loss."* JPS' proposal in view of this statement appears to be contradictory.

[5] JPS 2009 Tariff Submission: section 7.2.2.1 page 143.

The OUR is very concerned about the effect of any additional increases to any rate class and more so the residential customers who are the most vulnerable.
Changing price structures or rebalancing as it is often called could, but do not necessarily, involve cross-subsidies. For example, if one generator is used to supply power to both residential and industrial customers; it is not possible to say exactly what part of the cost of the common asset is attributable to each customer class. As a result, one customer class can pay more than another without necessarily subsidizing the other. A cross-subsidy exists if and only if the tariff charged to the residential rate class is greater than its stand-alone cost[6] and the benefits passed to those customers who would qualify for WT in other rate classes and who would pay less than their incremental costs[7].

The existing tariff structure (Two Part Tariff) was approved by the OUR in Tariff Determination Notice, 2009 (Ele 2009/4: Det/03). This Two Part Tariff design saw tariff charges being derived from marginal costs, to which a fixed monthly charge per customer is added, the Network Access Charge (NAC). This mechanism ensures that the different types of users pay according to their willingness to pay. Additionally, JPS indicated in their 2009 tariff application that "the Two Part Tariff design becomes a useful structure that will help JPS and the Government to tackle the non-technical losses issue and ensures JPS revenue equal to the revenue requirement while mitigating the customers' loss of welfare."

JPS further stated in their 2009 tariff application that:

> *"Not all users have the same willingness to pay for electric service, i.e. not all of them have the same demand curve. Rather, it depends in the case of residential users on the size of the household, the stock of appliances and the socio-economic status. Regarding the latter, the level of total household income is a crucial determinant of the willingness to pay. The reality indicates that the poorest families must spend a higher proportion of their income to pay for the electric bill than families with higher incomes. For this reason, it is not possible to divide the revenue gap between the total numbers of customers, but the customer base should be analysed separately in different categories and sub-categories, so the willingness to pay of each subcategory can be taken into account. In addition, it must be considered that each subcategory might have different substitutes to electricity (i.e. different avoided cost options).*
>
> *To illustrate this, think that self-generation could be a reasonable substitute of network electricity for families with medium or high income, while kerosene lamps, candles and LPG or kerosene refrigerators could be reasonable substitutes in the case of low income families. Although the tariff increase is very similar between the categories, the two part tariff design approach carried out allowed the Company to distribute the increase within each category, taking into account the socio-economic conditions of the users where one assumed a high correlation between family income and electricity consumption.*

[6] The stand-alone cost is the cost that JPS would incur producing for the residential rate class but not for any other rate class.

[7] The incremental cost is the additional cost incurred producing for the other rate classes given that JPS is already producing for the residential rate class.

....The [ ]results[presented] by range of consumption which demonstrates that customers will pay above their marginal cost - there are no subsidized consumers - ***and that no customer will pay above their best alternative opportunity, which would drive them away from JPS [Emphasis added]****. The latter is very healthy for everybody because the Company has the ability to retain the customers within the system which redounds to the benefit of all customers."*

It is well understood that in the performance based rate-making process, the fundamental tenet is to follow the principle of cost causality from a **cost of service study**. The "cost causer pays" rule says that costs should be assigned to customers so that the party that causes a cost to be incurred will pay for those costs. Failure to reflect cost causation in the tariff structure would result in cross-subsidies, whereby some customers would subsidize other customers. Perpetuating cross-subsidies undermines both competition and efficiency goals.[8]

Schedule 3, Section 3(B) of the Licence allows JPS to submit to the Office every five (5) years a proposal for new baseline values for the performance indicators contained in the Performance Based Rate-making Mechanism. JPS also have the option of proposing new performance indicators or mechanisms for the Office's consideration.

We are currently in a five (5) year price cap period of which this is the fourth annual adjustment. The Annual Performance–Based Rate-making Filings for Electric Tariffs follows a framework which is set out in Schedule 3 section 4 of the Licence, which the OUR is obliged to adhere to its scope. The Annual Filings 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.

Provisions were not made in the Licence for the review of proposed changes to the tariff structure at the Annual Filings. Additionally, the appropriate cost of service study would be required for careful review and evaluation. In this regard the Office, given the existing constraints to adhere to the regime specified in the Licence, is not in a position to consider the proposal to introduce this form of WT and to make a determination at this time.

If JPS is minded however, to immediately grant special pricing to a qualifying group of small commercial and industrial customers instead of waiting until 2014, it could consider entering into special contracts with customers pursuant to Section 14 of OUR Act and Condition 14 of the Licence.

4.6. Fuel Cost Adjustment Factor – Heat Rate

The heat rate target for the electricity generation system is a prudent and necessary measure which permits the efficient pass-through of fuel related expenses incurred by JPS to its customers. The target is carefully set by the OUR in order to ensure that electricity customers are provided with fair and reasonable fuel rates. This regulatory mechanism also

[8] JPS Rate Case Submission March 9 2009 Section 7.2, Page 133

provides JPS with the incentives to improve the overall energy conversion efficiency of its power generating system. Targets are reasonably and prudently set with sufficient clearance to absorb the effect of adverse system conditions which may occur from time to time.

The heat rate target further seeks to ensure that the Grid Operator (JPS) endeavors to minimize the total cost of production and supply of electricity. This is achieved by the economical dispatch of available generating units subject to system constraints.

The following principles are applied in setting the system heat rate target:

1. The target should hold the JPS accountable for the factors which are under its direct control;
2. The target should reflect legitimate system constraints provided that the JPS is taking reasonable action to mitigate these constraints and;
3. The establishment of the target shall be in accordance with the applicable provisions of the licence.

In the Tariff Determination Notice, 2009 (Ele 2009/4: Det/03) the Office in consultation with JPS agreed that the system heat rate target should be reviewed and reset annually, and to take into account new generation facility additions to the grid. The target heat rate was set at 10,400kJ/kWh in 2009.

The first reset of the system heat rate was done in the 2011-2012 annual tariff adjustment when the target was revised to 10,350kJ/kWh with a second reset to 10,200kJ/kWh done in the 2012-2013 annual tariff adjustment. This is the third adjustment to the target since the determination in October 2009. The target remains unchanged at **10,200kJ/kWh**.

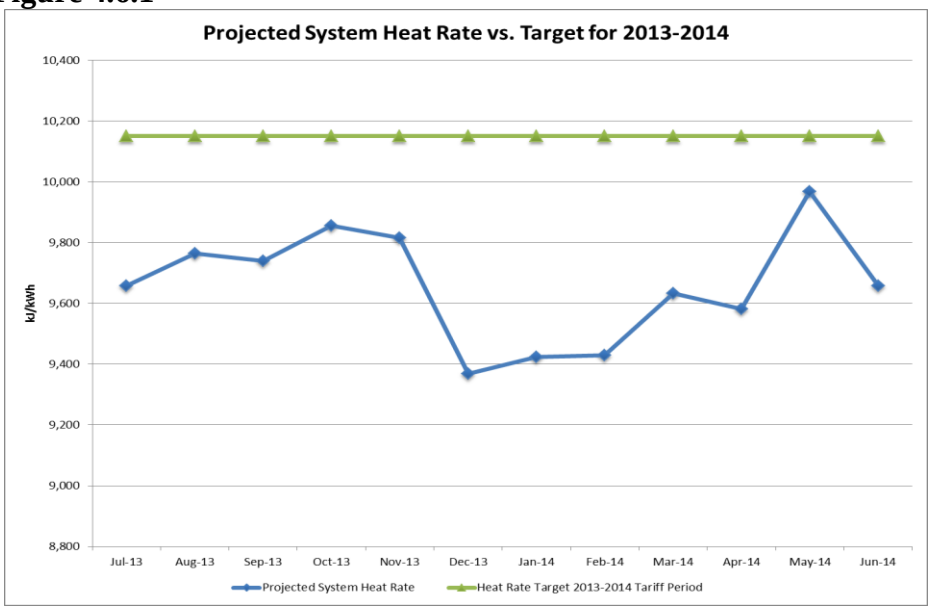
In setting the system heat rate target the following were considered:

1) The downward adjustment of 50kJ/kWh representing the reversal of a temporary allowance in the system target heat rate of 10,200kJ/kWh set in the 2012 Annual Adjustment for the period July 2012 to June 2013.
    - This 50kJ/kWh heat rate component was allowed by the OUR in the 2012-2013 JPS Annual Tariff Adjustment Determination to offset a commensurate decrease in System efficiency due to the removal of the existing Maggotty 6 MW hydro power plant from service for a period of five months (Jan-May, 2013).The plant was removed from service to facilitate construction of the new 6.4 MW hydro power plant (Maggotty Hydro Phase II) at the power station.
    - The existing Maggotty Hydro plant was expected back in service June 1, 2013.

Assuming similar system configuration and generating plant performance for July, 2013 – June, 2014 to that of July, 2012 – June, 2013, the monthly average system heat rate

projected for 2013-2014 is shown in Figure 4.6.1 below. A comparison of the projected system heat rate versus the target heat rate for the period is also shown.

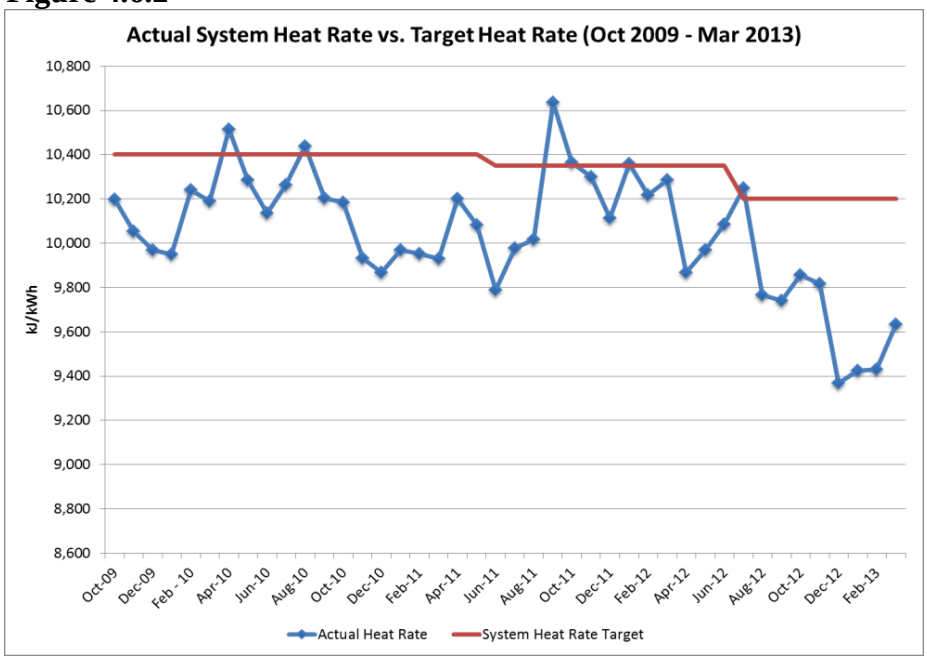
Figure 4.6.1



As illustrated in the figure above the system heat rate target can be comfortably achieved in all billing periods from July, 2013 to June, 2014.

In JPS' 2013 annual adjustment submission the company requested a suspension of the system heat rate target. This request JPS states is as a result of the substantial uncertainty with regards to the reliability and availability of approximately 292 MWs of capacity that was expected to be retired in 2014. JPS further posited that there can be no assurance that the plants in question will continue to be available for the near future and in any event to keep them running will cost significant amounts in capital expenditure and maintenance costs.

Figure 4.6.2



In principle, the OUR does not support JPS' position of a suspension of the system heat rate target based on the decisions set out in the JPS Tariff Review 2009 – 2014 Determination Notice.

From a regulatory and system operation perspective, the OUR has been and continues to be consistent in setting achievable performance targets for the electricity system. Targets are reasonably and prudently set with sufficient clearance to absorb the effect of adverse system conditions which may occur from time to time. The graph in Figure 4.6.2 above depicts the actual system heat rate against the target heat rate for the period January 2009 to March 2013 indicating that JPS has bettered the target in almost every billing period.

Specifically, as it relates to the reliability and availability of the 292MW capacity expected to be retired over the medium term, the following is highlighted:

- The actual system heat rate should be derived based on economic scheduling and dispatch of units.

- It is the responsibility of the grid operator to project the heat rate performance of each unit based on the unit's capability and the maintenance strategy.

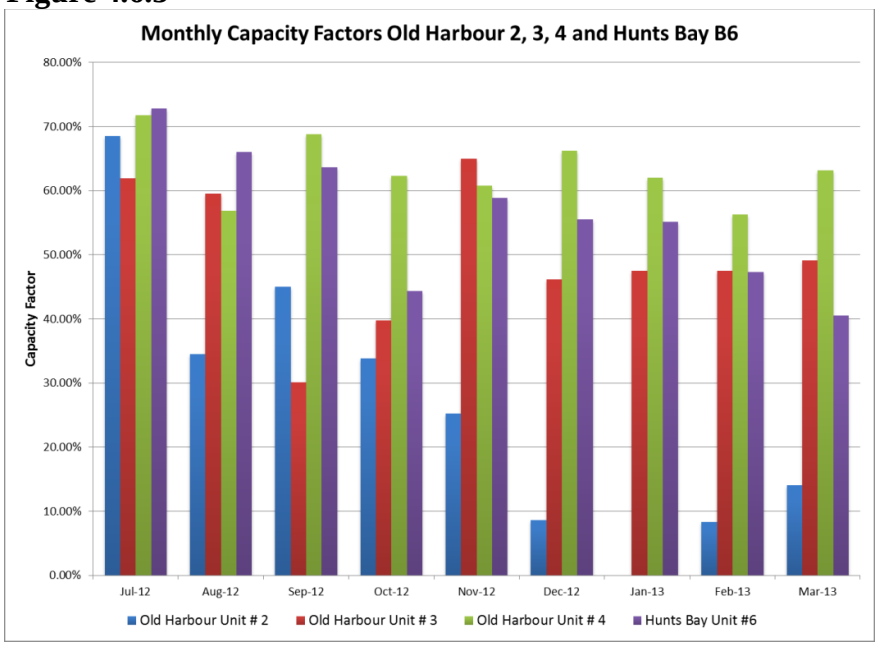
- Old Harbour Units 3 and 4; and Hunts Bay Unit B6 which comprise a significant percentage of the 292 MW indicated by JPS have shown marked improvement in heat rate performance based on information provided by JPS in April, 2013.

Significantly, Old Harbour Unit 1, which is a part of the 292 MW of aged generating capacity, has been out of commission since 2008. Furthermore, Old Harbour Units 2, 3 and

4; and Hunts Bay Unit B6 have capacity factors of 27%, 50%, 63% and 56% respectively over the period July, 2012 – March, 2013 and do not dominate the heat rate calculation. Their monthly capacity factors in fact have been reducing over the stated period as shown in Figure 4.6.3 below.

In this regard the OUR does not accept JPS' position that the system heat rate target should be suspended for the reasons stated. A comprehensive review of the overall System efficiency will however, be done as part of the upcoming 2014-2019 Tariff Review.

Figure 4.6.3



In comments to the OUR on the draft JPS Annual Tariff Adjustment 2013 Determination Notice, JPS objected to the downward adjustment of 50 kJ/kWh which represents the reversal of a temporary allowance in the system heat rate target to allow for the existing Maggotty hydro plant being offline for a period of five months. JPS objects on the grounds that the existing Maggotty hydro plant will be out of service for a longer period than planned due to armed robbery of construction material on the 22nd of April, 2013, an event JPS has characterized as Force Majeure. The information was provided in a Project Report (#16) on the New 6.3MW Maggotty Hydro Project to the OUR on May 03, 2013 (the "Maggotty Project Report").

The JPS in the Maggotty Project Report stated that at approximately 1:00 am, Monday 22nd April 2013 four men armed with hand guns and equipped with a crane truck entered the cement batching plant yard and workshop area. The armed men overpowered, bound, gagged and blindfolded the two security guards on duty and stole significant quantities of fibreglass material, resin, materials for the fabrication of the glass reinforced pipe (GRP), specials, sections and joints such as elbows, Tees and Y-sections.

As a result of the robbery several sections of the work including the fabrication of the special pipe sections were disrupted and could not proceed as planned. JPS has reported

that it has ordered replacement material but it will take two (2) months to be delivered. The estimated impact of the robbery on the return to service of the existing hydro plant is a two-month delay from the original proposed date of July 30th to September 30th, 2013.

In order for an event or circumstance to qualify as Force Majeure under the Licence that event or circumstance must meet the specified criteria laid out in the Licence. The Licence defines "Force Majeure" as

"any event or circumstance or combination of such events or circumstances that:

(a) occurs inside Jamaica, except as provided for otherwise in the Licence;
(b) is outside the reasonable control of the Licensee;
(c) cannot be prevented or overcome by the exercise of reasonable diligence; and
(d) *materially and adversely affects the performance by the licensee of its obligation under the Licence, to the extent that such event(s) or circumstance(s) meet the foregoing requirements (i) though (iv), including…."*

This provision of the Licence was intended to include unavoidable happenings, acts, circumstances or risks that are beyond the reasonable control of a party, not incurred as a result of negligence, and which act or circumstances renders it impossible for the Licensee to comply with its obligations.

Based on an analysis of the account of the incident in the Maggotty Report, arms and irresistible force was used to effect the robbery. It would appear that at the time, JPS had taken the necessary precautions commonly used relative to a construction site in attempting to secure the premises and there is no want of diligence on its part for failing to take positive measures to protect the construction site. Consequently, the event referred to by JPS does satisfy the stipulated conditions or circumstances of Force Majeure set forth in the Licence.

As such, the OUR accepts JPS claim of a circumstance of Force Majeure regarding the situation at Maggotty Power Station and that the 50 kJ/kWh allowance in the system heat rate target should be extended as a result.

The OUR nevertheless wishes to point out that it is in the interest of all stakeholders and by extension the country that JPS exercise its best efforts to return the existing 6MW Maggotty hydro plant to service as quickly as possible in order to ensure optimal operation of the system. To emphasize this point, the additional fuel cost that will be incurred as a result of the delay in returning the plant to operation on schedule is US$2.7M. Additionally, the impact of the delay on total monthly fuel cost is shown in Table 4.6.1 below.

Table 4.6.1

MTh.-Yr.	Estimated Net Gen (Thermal Plants) - kWh	Results if Existing Maggotty Hydro Was in Service		
		Estimated Net Gen (Existing 6MW Maggotty) - kWh	Estimated Net Gen (Thermal Plants) - kWh	Potential Fuel Cost Savings – US$
Jun-13	322,265,261	3,769,509	318,495,753	697,500
Jul-13	338,467,239	3,371,060	335,096,179	624,000
Aug-13	338,444,157	3,686,572	334,757,585	682,500
Sep-13	332,108,036	3,677,695	328,430,341	680,500
Total				**2,684,500**
Avg./MTh				**671,125**

System Heat Rate Target – Summary Considerations

1. The System Heat Rate target is consistent with the technical capabilities of the electricity generating system and provides a reasonable incentive for efficiency improvement going forward.

2. The target represents a reasonable limit for which the cost of fuel consumed in the generation of electricity is allowed to be passed on to JPS customers**.**

DETERMINATION:
The permitted Billing Heat Rate for the period July 2013 to May 2014 is 10,200kJ/kWh.

4.7. Fuel Cost Adjustment Factor – System Losses

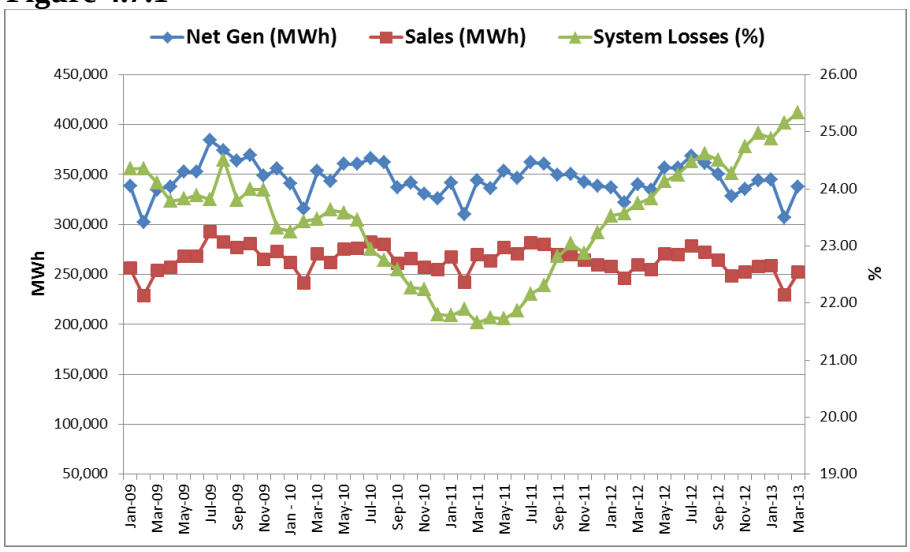
System losses continue to increase to unsustainable levels and JPS attributes this mainly due to non-technical losses represented primarily by theft of electricity. JPS claims that despite its best efforts the company is unable to prevent the rising trend in losses over the last decade which has sharply accelerated over the last two (2) years. JPS is further claiming that the theft of its electricity is a social problem and one that requires the concerted efforts of several government agencies including the Police, PIOJ, REP, PATH and the NWC working in conjunction with JPS together with the all-important will and commitment of GOJ demonstrated through strong legislative and regulatory support.

The OUR is indeed aware of JPS' challenges in addressing the chronic problem of electricity theft which is also severely impacting the paying consumers. In this regard and arising from the 2009 tariff submission, in which JPS proposed to reduce system losses from 22.9% recorded at the end of 2008 to 16.3% over the five-year rate cap period primarily as a result of its ongoing loss reduction initiatives, the OUR gave approval for the establishment of the Electricity Efficiency Improvement Fund (the "Fund").

The main objective of the Fund is to provide an additional pre-tax revenue stream of 0.4US¢/kWh (approximately US$13M annually) to augment JPS' expenditure on loss reduction activities. This initiative is ongoing and up to September 30, 2012 the cumulative amount that flowed into the fund was **US$24.7M** (net of taxes).

Notwithstanding these initiatives system losses after making a positive down turn in year 2010 reverted to trending upward to a 12month rolling average record high of 25.34% in March 2013 as shown in Figure 4.7.1

Figure 4.7.1



JPS is now requesting a full pass-through of fuel costs and argues that this is essential to ensure the viability of the company. This would effectively mean a relaxation of the system losses and heat rate targets.

The implications of the full pass through of fuel cost would result in higher electricity prices and would put upward pressure on all customer classes. This in turn will trigger conservation efforts, increased take up of off-grid alternative energy and push marginal customers to theft with resulting lower sales and higher reported system loss.

The OUR is therefore not in favour of JPS' request for any of the following:

a. A full pass-through of fuel costs
b. Raising the losses target closer to the actual level of losses
c. Imposing a cap of US$500,000 per month on the fuel penalty incurred by JPS when JPS fails to meet the efficiency targets.

The OUR believes that JPS' proposal would significantly reduce the company's incentives to increase and sustain its efforts to arrest and aggressively reduce system losses. Additionally the proposal to allow a full pass-through of fuel costs appears counter-productive in an environment in which JPS claims, that increased rates and a declining economy are among the factors militating against the success of its lost management programme.

DETERMINATION:

The Office determines that the system losses target for the 2013 to 2014 period shall be held at 17.50% subject to review at the 2014/19 tariff reset.

JPS in its submission makes the case that… *"As a result of the significant under-recovery of fuel costs experienced in 2011 and 2012 (exceeding US$30 million in 2012 alone), JPS has been in financial breach of certain loan covenants since March 2012. That breach is still on-going as at the end of March 2013 and has resulted in the auditors issuing a qualified audit opinion in the audited financial statements of the Company, which casts severe doubt about the ability of the utility to continue as a viable operation. As explained in more detail in the auditors' opinion to the audited financial statements, this financial breach provides our lenders with the right to demand the immediate repayment of the loan balances (principal and accrued interest) amounting to US$430 million. If this were to happen, the Company would go bankrupt and require the support of its shareholders."*

The OUR has had extensive discussions with representatives of JPS (at both the Board and Executive management levels) since the submission of its application for annual adjustment). In those meeting JPS has sought to impress upon the Office that the company is at risk of default and that there is need for relief from losses that it claims are resulting from the constraint on fuel recovery. The OUR has in turn insisted that:

1. the matter of losses and fuel pass-through are properly to be addressed in a rate review;
2. JPS needs to provide and commit to a credible loss reduction strategy;
3. The current financial state of the company is largely the results of past management decision and in particular the dividend policy that has been pursued.

Resulting from the above discussions and engagement JPS has provided the Office with a submission which includes what it has designated as an interim loss reduction plan to be implemented over an eighteen-month period. In this submission the company maintains the view that a review of the regulatory treatment of losses is necessary as the current mechanism is penalizing the company for losses beyond the established target, has proven to be ineffective in reducing losses and has placed the company at significant financial and safety risk. JPS has also indicated that its shareholders are prepared to inject additional equity in the company but are reluctant to do so without some variation on the regime for losses and/or fuel recovery.

For its part, OUR remains of the view that whilst there is no perfect mechanism to treat with system losses, JPS with the said mechanism has, since the inception of the regime, over-recovered on fuel, has recorded on the average reasonable levels of profits and shareholders have seen reasonable returns on their investments. The power sector represents long term investment in which there will be peaks and troughs and as such the current financial situation of JPS does not provide an automatic justification for revisiting the regulatory regime and certainly not outside of a full-blown rate review. Moreover, it is for the equity holders who have benefitted from the company in time when the returns were positively favorable, to play their part and provide support in times of difficulties.

Nonetheless, the Office considers the reduction of losses as an imperative and is prepared to provide such support as it considers within its remit provided that the company is willing to commit to a credible path for pursuing loss reduction.

In this regard the Office has taken note of the commitments given by JPS in its loss reduction plan, viz:

1. JPS will invest US$2.0M over the next eighteen (18) month period on technical loss reduction with the objective of reducing losses by 0.6% or 9.6GWh
2. JPS will install 13,000 RAMI solutions during the next eighteen (18) month period
3. JPS will install 3,800 CAMI solutions during the next eighteen (18) month period
4. JPS will change 12,000 Nansen type meters for the period 2013-2014 at a cost of US$480k
5. JPS will invest US$34.6M over the next eighteen (18) months in an effort to control commercial losses to yield loss reduction of approximately 2%
6. JPS will offer a prepaid service option for which a full pilot project is scheduled to commence in the fourth quarter of 2013 subject to regulatory approval

In consideration of the above commitments, the expressed intention to provide equity support for the company and being cognizant of the challenges that the company is experiencing in its attempts to reduce system losses, the Office now approves an adjustment to the amount that is recovered for fuel costs.

The Fuel Cost Recovery Adjustment (FCRA) shall be a total amount of Twenty Million United States dollars (US$20M). This represents approximately twelve (12) months expenditure of the actions that JPS has committed to. To this end, equal amounts of US$1.67M is to be adjusted on the fuel rate that is to be passed through to consumers on a monthly basis and shall not exceed twelve (12) months of recovery. The FCRA shall be reported as a separate line item in Schedule A of the monthly fuel rate calculation and continued recovery of the monthly sum shall be contingent on:

1. JPS honoring its commitment to inject additional capital into the company
2. JPS undertakes to be bound by the commitments given in its system loss reduction plan
3. That on or before July 12, 2013 JPS shall submit a comprehensive budget and timetable for the eighteen (18) month loss reduction plan. The budget should show quarterly milestones with the first quarter commencing July 01, 2013 and must include but not be limited to:
    a. Expected date/s and amount/s of capital injection. This new injection should be at least US$40M
    b. The amounts and the locations of the RAMI, CAMI and Nansen meters to be installed
    c. Projected capital expenditure
4. On or before the 15th of the month immediately following the end of each quarter, JPS shall submit a quarterly progress report to the OUR. The first report is due on October 15, 2013 and shall include but not be limited to:
    a. Profiles of system losses in areas before metering infrastructure installations and subsequent monthly profiles
    b. New customer additions in areas where meters have been installed
5. JPS expediting the return of the existing Maggotty 6MW hydro power plant which was removed from service to facilitate construction of the new plant; and

6. The commissioning of the new 6.4MW hydro power plant (Maggotty Hydro Phase II) by month ending November 2013.

The OUR reserves the right to suspend the FRCA should JPS fails to honor any of its obligations/commitments. The Office is cognizant that its regulatory remit does not extend to prescribing JPS management decisions regarding its dividend policy. However, given the assistance through FCRA to alleviate the company's financial situation, the OUR expects that the board of management and equity holders going forward, would adopt a dividend policy that is reflective of the times of difficulty being faced.

The OUR is concerned that notwithstanding the efforts and regulatory support to tackle systems losses and in particular non-technical losses, the results continue to trend in the upward direction with the consequential negative impact on fuel costs and its recovery. In the 2009-2014 tariff review the OUR approved significant funding to JPS' loss reduction initiatives and on the eve of 2014 review the OUR is again called on to do likewise. In an effort to better understand the true cost of the fuel that is passed through to the consumer an audit of Jamaica's power system fuel management policies and practices was recently commissioned by the OUR.

The report on this audit should be with the OUR by month ending August 2013. In like manner the OUR proposes to commission an audit of the operations of JPS, this will inter alia examine the operations of the company to include financial operations and management decisions such as dividend management etc., that would have contributed to the claimed adverse financial position that the company is now experiencing. This is in an effort to get a better understanding of what factors continue to account for the financial position of the company. It is anticipated that both the results of the fuel audit and the operational audit will inform the 2014 tariff review.

DETERMINATION:

A one-time Fuel Cost Recovery Adjustment of Twenty Million United States Dollars (US$20M) to be recovered in equal amounts (US$1.67M) monthly over twelve (12) months commencing in the month of July 2013 (August billing) contingent on:

1. JPS honoring their commitment to inject additional capital into the company;
2. JPS being bound by the commitments given in its system loss reduction plan;
3. JPS on or before July 12, 2013 submitting a comprehensive budget and timetable for the 18-month loss reduction plan. The budget should show quarterly milestones with the first quarter commencing July 01, 2013 and must include but not be limited to:
    a. Expected date/s and amount/s of the capital injection. This new injection should be at least US$40M
    b. The amounts and the locations of the RAMI, CAMI and Nansen meters to be installed
    c. Projected capital expenditure

4. JPS, on or before the 15th of the month subsequent to the end of each quarter submitting a quarterly progress report to the OUR. The first report is due on October 15, 2013 and shall include but not be limited to:
    a. Profiles of system losses in areas before metering infrastructure installations and subsequent monthly profiles
    b. New customer additions in areas where meters have been installed
5. JPS expediting the return of the existing Maggotty 6MW hydro power plant which was removed from service to facilitate construction of the new plant; and
6. The commissioning of the new 6.4MW hydro power plant (Maggotty Hydro Phase II) by month ending November 2013.

4.8. Other Annual Tariff Adjustment Proposal

4.8.1. Early Payment Incentive/Late Payment Fee

The OUR has no objection to JPS introducing an early payment incentive/loyalty reward to its customers providing that this reward does not in any way change the approved tariff or tariff structure. JPS' disconnection/reconnection policy states that:

"*Your electricity service is liable for immediate disconnection without notice for any balance brought forward which is overdue and unpaid. If you are disconnected, you will be required to pay a reconnection fee ($1,500.00 + GCT), deposit increase (where applicable), plus all outstanding amounts in full, before electricity can be restored. Reconnections are done within 24 hours after all payments are made, and JPS notified (especially where payments are made via a collections agency)"*

In practice, JPS allows at its own discretion a period of about five (5) days prior to disconnecting its customers for overdue and unpaid balances. JPS is now proposing to impose a $250 direct charge to "customers who are tardy" and to introduce a seven (7) days grace period for customers who are late with their bill payments before the company resort to disconnections. Additionally, JPS is proposing to provide up to fifteen (15) days grace before resorting to disconnections for residential customer who have an adequate security deposit in place (i.e. equal to one month's electricity consumption).

DETERMINATION:
The OUR gives its no objection to the introduction of a Late Payment Fee provided that this fee does not apply to customers who are disconnected by JPS. Customers who have been disconnected should only pay the reconnection fee plus GCT for reconnection to the service.

4.8.2. Bill Payment Notification & Payment Channels

The OUR recognizes JPS' revenue collection efforts in the re-launching of its website to facilitate on-line bill payments and bill query, so customers can easily check their bill balance and due date.

4.8.3. Increase in the Standard Disconnection Fee

The Office in its Tariff Determination Notice, 2009 (Ele 2009/4: Det/03) determined that the reconnection fee should be $1,500 subject to annual review. JPS is now requesting a 10% increase from $1,500 to $1,650 (plus GCT) reasoning that the cumulative Jamaican inflation adjustment for the last three (3) annual tariff applications (2010 to 2013) is approximately 23%. The Office finds that the proposal is reasonable.

DETERMINATION:
The Office approves the increase and determines that the standard disconnection fee shall be $1,650 (plus GCT) subject to annual review.

4.8.4. Illegal Reconnection Fee

JPS is proposing to charge a fee of $2,000 to customers who have not paid their outstanding balance within thirty (30) days of the due date and who are found to be illegally reconnected to the network. This activity seems to be referring to the illegal abstraction of electricity, and if so, it is captured under the current back-billing policy and should be treated accordingly. Therefore, no additional charges should apply. The Office rejects JPS' proposal to introduce another fee for illegal reconnection. JPS should take all the necessary and sufficient steps to protect its property including its meter when customers are disconnected.

4.8.5. Adjustment to the Fuel Weights

The proposed adjustment in fuel weights is to give a volume discount for JPS' largest users of electricity (and thus fuel) on the grid, as well as to incentivize more production in the off-peak time band. The OUR has no objection to JPS adjusting the two fuel weights proposed (rate 40 and 50 customers) on the basis that these discounts will not adversely impact the fuel rates for the other customers.

5. Tariff Basket Compliance

JPS is required to increase the weighted average of prices by less than or equal to the increase in the electricity price escalation index PCI. The PCI sets the limits for movements in the base tariffs. On a monthly basis, adjustments are made for the effects of movements in the Foreign Exchange rate. The effective change in the non-fuel rates is the δPCI less the cumulative movements due to Foreign Exchange rate changes.

The weights used are the 2012 revenue shares.

The tariff basket compliance must satisfy the following formulae:

$PCI \geq API$; where

API is the weighted average price of the actual tariff basket prices

The annual adjustment factor for the non-fuel base rate of 10.35% [derived from $\delta PCI = (dI = 13.07\%) - (X = 2.72\%) \pm (Q = 0\%) \pm (Z = 0\%)$] is applied to the total basket. The

adjustment in each tariff is weighted and hence the adjustment across rates is dependent on the relative weights in relation to the total tariff basket as shown in Table 5.1 below.

Table 5.1 Total 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	2.32%	2.09%	0.00%	0.00%	0.00%	0.00%	4.41%
Rate 10	LV	>100	3.49%	37.91%	0.00%	0.00%	0.00%	0.00%	41.41%
Rate 20	LV		1.49%	21.39%	0.00%	0.00%	0.00%	0.00%	22.88%
Rate 40	LV - Std		0.28%	6.80%	8.73%	0.00%	0.00%	0.00%	15.81%
Rate 40	LV - TOU		0.02%	1.30%	0.00%	0.06%	0.60%	0.61%	2.60%
Rate 50	MV - Std		0.02%	3.93%	2.94%	0.00%	0.00%	0.00%	6.90%
Rate 50	MV - TOU		0.01%	1.10%	0.00%	0.09%	0.88%	0.94%	3.02%
Rate 60	LV		0.02%	2.96%	0.00%	0.00%	0.00%	0.00%	2.98%
TOTAL			7.66%	77.48%	11.67%	0.15%	1.48%	1.56%	100.0%

Table 5.2 shows the OUR approved annual adjustment factor to be applied to each rate class and category. The OUR will allow the 20.0% increase of the customer charge as requested by JPS. The company is now adjusting its tariff structure to be more cost reflective and is now recovering more of its fixed costs through the fixed customer charge.

Table 5.2 Annual Non-Fuel Inflation Adjustment per Tariff, net of (dI-X)

Class		Block/Rate Option	Customer Charge		Demand-J$/KVA			
					Std.	Off-Peak	Part Peak	On-Peak
Rate 10	LV	--100	20.000%	9.950%				
Rate 10	LV	> 100	20.000%	9.950%				
Rate 20	LV		20.000%	9.750%				
Rate 40A	LV							
Rate 40	LV - Std		20.000%	9.750%	10.000%			
Rate 40	LV - TOU		20.000%	9.750%		10.000%	10.000%	10.000%
Rate 50	MV - Std		20.000%	9.750%	10.000%			
Rate 50	MV - TOU		20.000%	9.750%		10.000%	10.000%	10.000%
Rate 60	LV		20.000%	0.000%				

It is a requirement that when aggregated, the weighted adjustment proposed by JPS should equate to the annual adjustment factor (10.35%). Confirmation of this is shown in Table 5.3 below.

Table 5.3 Weighted Non-Fuel Inflation Adjustment (dI – X)

Class		Block/Rate Option	Customer Charge		Demand-J$/KVA				
					Std.	Off-Peak	Part Peak	On-Peak	
Weighted increase									TOTAL
Rate 10	LV	--100	0.46%	0.21%	0.00%	0.00%	0.00%	0.00%	0.67%
Rate 10	LV	> 100	0.70%	3.77%	0.00%	0.00%	0.00%	0.00%	4.47%
Rate 20	LV		0.30%	2.09%	0.00%	0.00%	0.00%	0.00%	2.39%
Rate 40	LV - Std		0.06%	0.66%	0.87%	0.00%	0.00%	0.00%	1.59%
Rate 40	LV - TOU		0.00%	0.13%	0.00%	0.01%	0.06%	0.06%	0.26%
Rate 50	MV - Std		0.00%	0.38%	0.29%	0.00%	0.00%	0.00%	0.67%
Rate 50	MV - TOU		0.00%	0.11%	0.00%	0.01%	0.09%	0.09%	0.30%
Rate 60	LV		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL			**1.52%**	**7.35%**	**1.16%**	**0.02%**	**0.15%**	**0.15%**	**10.35%**

The non-fuel base rates approved by the Office in the 2012 Annual Tariff Adjustment, which were used to derive the 2012 non-fuel basket, are shown in Table 5.4 below.

Table 5.4 Current Non-Fuel Tariffs approved in 2012

Class		Block/Rate Option	Customer Charge	Energy J$/kWh	Demand-J$/KVA			
					Std.	Off-Peak	Part Peak	On-Peak
Rate 10	LV	--100	322.50	6.35	-	-	-	-
Rate 10	LV	> 100	322.50	14.52	-	-	-	-
Rate 20	LV		709.50	12.42	-	-	-	-
Rate 40A	LV					-	-	-
Rate 40	LV - Std		5,160.0	3.54	1,332.84	-	-	-
Rate 40	LV - TOU		5,160.0	3.54	-	56.57	586.45	750.41
Rate 50	MV - Std		5,160.0	3.36	1,199.56	-	-	-
Rate 50	MV - TOU		5,160.0	3.36	-	53.31	519.81	666.42
Rate 60	LV		1,935.0	14.73	-	-	-	-

Table 5.5 below shows the inflation and X-factor adjusted rates after applying the individual tariff increases determined by the tariff basket weights. This essentially captures the annual inflationary and efficiency change (dI - X) in the non-fuel electricity prices.

Table 5.5 Approved Non-Fuel Tariffs for 2013-2014

Class		Block/Rate Option	Customer Charge		Demand-J$/KVA			
					Std.	Off-Peak	Part Peak	On-Peak
Rate 10	LV	--100	387.00	6.98				
Rate 10	LV	> 100	387.00	15.96				
Rate 20	LV		851.40	13.63				
Rate 40A	LV							
Rate 40	LV - Std		6,192.0	3.89	1,466.12			
Rate 40	LV - TOU		6,192.0	3.89		62.23	645.10	825.45
Rate 50	MV - Std		6,192.0	3.69	1,319.52			
Rate 50	MV - TOU		6,192.0	3.69		58.64	571.79	733.06
Rate 60	LV		2,322.0	14.73				

The rates shown in Table 5.5 are consistent with the price cap tariff compliance constraint and represent the maximum allowed under the cap, that is, the weighted average increase of the tariff basket is exactly equal to the price adjustment factor, (1+ δPCI), and hence there is no unused portion of the adjustment to be carried forward to the following year.

Table 5.6 Summary of Non-Fuel Tariff Basket Revenue for 2012

		Block/ Rate Option	12 Months 2012 Customer Revenue	Energy Revenue	Demand (KVA) revenue				Total Demand Revenue	Total Revenue
					Std.	Off-Peak	Part Peak	On-Peak		
Rate 10	LV	<100	809,863,290	728,392,288						1,538,255,578
Rate 10	LV	>100	1,217,981,880	13,219,705,512						14,437,687,392
Rate 20	LV		520,179,858	7,458,223,004						7,978,402,862
Rate 40	LV - Std		98,205,120	2,371,735,335	3,043,913,335				3,043,913,335	5,513,853,790
Rate 40	LV - TOU		7,678,080	453,436,157		21,056,712	208,827,221	214,270,571	444,154,504	905,268,741
Rate 50	MV - Std		7,554,240	1,371,677,056	1,025,854,116				1,025,854,116	2,405,085,412
Rate 50	MV - TOU		1,671,840	382,254,644		32,462,272	308,332,059	328,661,017	669,455,348	1,053,381,832
Rate 60	LV		5,874,660	1,031,986,098						1,037,860,758
TOTAL			2,669,008,968	27,017,410,094	4,069,767,451	53,518,984	517,159,280	542,931,588	5,183,377,303	34,869,796,365

Table 5.6 above is derived using the 2012 billing determinants and the approved non-fuel tariffs arising out of the Jamaica Public Service Company Limited Annual Tariff Adjustment 2012 (Ele 2012001_DET001) dated June 01, 2012 which came into effect on July 01, 2012. The application of the weighted annual adjustment factor of 10.35% to each tariff yields the increased non-fuel revenue in Table 5.7 below.

Table 5.7 Non-Fuel Tariff Basket 2013-2014 (Revenue from new Tariff)

					Demand (KVA) revenue					
		Block/ Rate Option	12 Months 2013/14 Customer Revenue	Revenue	Std.	Off-Peak	Part Peak	On-Peak	Total Demand Revenue	Total Revenue
Rate 10	LV	<100	971,835,948	800,657,980						1,772,493,928
Rate 10	LV	>100	1,461,578,256	14,530,750,686						15,992,328,942
Rate 20	LV		624,215,830	8,184,829,271						8,809,045,101
Rate 40	LV - Std		117,846,144	2,606,228,941	3,348,295,534				3,348,295,534	6,072,370,619
Rate 40	LV - TOU		9,213,696	498,267,416		23,163,500	229,711,724	235,697,342	488,572,566	996,053,678
Rate 50	MV - Std		9,065,088	1,506,395,338	1,128,442,948				1,128,442,948	2,643,903,374
Rate 50	MV - TOU		2,006,208	419,797,510		35,707,890	339,164,672	361,526,132	736,398,694	1,158,202,412
Rate 60	LV		7,049,592	1,031,986,098						1,039,035,690
TOTAL			3,202,810,762	29,578,913,240	4,476,738,482	58,871,390	568,876,396	597,223,474	5,701,709,742	38,483,433,744

Table 5.8 Estimated Bill Impact of JPS Proposed Annual Tariff Adjustment

Rate Class	Typical Usage (kWh)	Demand (kVA)	Bill Impact (%)	J$ Change
Residential [10]	200	-	4.4	$ 330
Small Commercial [20]	1,000	-	4.2	$ 1,920
Large Com. Low Voltage [40]	35,000	100	1.3	$ 16,678
Large Com. Medium Voltage [50]	500,000	1,500	1.2	$ 215,755
System Heat Rate Target	**System Losses Target**			
0	0.00%	Average Increase	2.8%	

Table 5.8 above shows the average bill impact across rate classes for the average customer in each rate class who would not have benefitted from the WT.

If JPS' request was fully accepted by the OUR, other things being constant, customers would have experienced on the average a 2.8% increase on their bills.

JPS' request was for:

1. Annual inflation adjustment of 10.35%,
2. Full pass-through of fuel cost, or
   a. Raising the losses target closer to the actual level of losses, or
   b. Imposing a cap of US$500,000 per month on the fuel penalty incurred by JPS should JPS fail to meet the efficiency targets.
3. Wholesale Tariff to qualifying customers
4. Reduction in fuel weights from 1.0 to 0.96 for rates 40 & 50 customers.

Table 5.9 Estimated Bill Impact of OUR Determined Annual Tariff Adjustment

Rate Class	Typical Usage (kWh)	Demand (kVA)	Bill Impact (%)	J$ Change
Residential [10]	200	-	2.3	$ 172
Small Commercial [20]	1,000	-	1.9	$ 873
Large Com. Low Voltage [40]	35,000	100	-0.9	$ (12,399)
Large Com. Medium Voltage [50]	500,000	1,500	-1.0	$ (187,644)
System Heat Rate Target	**System Losses Target**			
10200 kJ/kWh	17.50%	Average Increase	0.6%	

Table 5.9 above shows the average bill impact across rate classes.

With the OUR approved parameters, all other things including fuel prices remaining constant, customers' overall will experience on the average a 0.6% **increase** on their bills[9]. Residential and Small Commercial customers combined will see an average **increase** of 2.1% while Large Commercial and Industrial customers combined will see an average **reduction** of 1.0% due mainly to a reduction in the fuel weights.

The OUR Determinations are as follows:

1. **Annual inflation adjustment applicable to the base rates of 10.35%**
2. **Incorporation of the movement to date in the Foreign Exchange rate of 9.55% into the base rates**
3. **System heat rate target of 10,200 kJ/kWh and;**
4. **System losses target of 17.50%**
5. **Reduction in fuel weights from 1.0 to 0.96 for rates 40 & 50 customers**
6. **Fuel Cost Recovery Adjustment of US$1.67M/month for 12 months**
7. **It gives its no objection to the introduction of a Late Payment Fee provided that this fee does not apply to customers who are disconnected by JPS. Customers who have been disconnected should only pay the reconnection fee plus GCT for reconnection to the service.**
8. **The standard disconnection fee shall be $1,650 (plus GCT) subject to annual review.**

[9] The analysis was done on the results of JPS March 2013 performance indicators. I.E. the effect on March 2013 consumption billed April 2013.

6. Appendix

6.1 Appendix 1: U.S. and Jamaican Consumer Price Indices

6.1.1 U.S. Consumer Price Index

U.S. Consumer Price Index - All Urban Consumers

Series Id: CUUR0000SA0
Not Seasonally Adjusted
Area: U.S. city average
Item: All items
Base Period: 1982-84=100

The Consumer Price Index (CPI-U) is compiled by the Bureau of Labor Statistics and is based upon a 1982 Base of 100. A Consumer Price Index of 168 indicates 68% inflation since 1982. The commonly quoted inflation rate of say 3% is actually the change in the Consumer Price Index from a year earlier.

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	HALF1	HALF2
2000	168.8	169.8	171.2	171.3	171.5	172.4	172.8	172.8	173.7	174.0	174.1	174.0	172.2	170.8	173.6
2001	175.1	175.8	176.2	176.9	177.7	178.0	177.5	177.5	178.3	177.7	177.4	176.7	177.1	176.6	177.5
2002	177.1	177.8	178.8	179.8	179.8	179.9	180.1	180.7	181.0	181.3	181.3	180.9	179.9	178.9	180.9
2003	181.7	183.1	184.2	183.8	183.5	183.7	183.9	184.6	185.2	185.0	184.5	184.3	184.0	183.3	184.6
2004	185.2	186.2	187.4	188.0	189.1	189.7	189.4	189.5	189.9	190.9	191.0	190.3	188.9	187.6	190.2
2005	190.7	191.8	193.3	194.6	194.4	194.5	195.4	196.4	198.8	199.2	197.6	196.8	195.3	193.2	197.4
2006	198.3	198.7	199.8	201.5	202.5	202.9	203.5	203.9	202.9	201.8	201.5	201.8	201.6	200.6	202.6
2007	202.4	203.5	205.4	206.7	207.9	208.4	208.3	207.9	208.5	208.9	210.2	210.0	207.3	205.7	209.0
2008	211.1	211.7	213.5	214.8	216.6	218.8	220.0	219.1	218.8	216.6	212.4	210.2	215.3	214.4	216.2
2009	211.1	212.2	212.7	213.2	213.9	215.7	215.4	215.8	216.0	216.2	216.3	215.9	214.5	213.1	215.9
2010	216.7	216.7	217.6	218.0	218.2	218.0	218.0	218.3	218.4	218.7	218.8	219.2	218.1	217.5	218.6
2011	220.2	221.3	223.5	224.9	226.0	225.7	225.9	226.5	226.9	226.4	226.2	225.7	224.9	223.6	226.3
2012	226.7	**227.7**	229.4	230.1	229.8	229.5	229.1	230.4	231.4	231.3	230.2	229.6	229.6	228.8	230.3
2013	230.3	**232.2**													

Source: United States Department of Labour Bureau of Labor Statistics Bureau of Labor Statistics Data

6.1.2 Jamaican Consumer Price Index

Ja. Consumer Price Index

The Index numbers listed in the table: Consumer Price Index for 2007-2011, are based on the revised calculations using the new series that have been derived by using data from the HES conducted between June 2004 and March 2005. For the years prior to 2007 the data is linked to the 1988 series of the CPI using a link factor.

These index numbers provide an historical series of the CPI on a monthly basis. The monthly indexes are given for the 12 months of the calendar year while the arithmetic mean of the data for the 12 months is used to arrive at an annual average index. The Percentage Changes calculated from these averages represent average annual changes for the year.

Consumer Price Index for 2002-2013

Month	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
January	64.80	74.60	84.10	94.70	101.00	119.40	136.00	152.60	167.80	178.90	193.80
February	64.40	75.00	84.50	94.80	101.30	121.50	137.10	155.90	167.10	**180.30**	**195.00**
March	64.70	75.40	85.30	94.90	102.50	122.90	138.20	156.60	168.90	181.20	
April	65.70	75.70	86.90	96.00	102.90	124.80	138.80	158.70	169.70	181.90	
May	66.80	76.20	88.70	96.30	104.30	127.80	140.00	159.70	171.00	182.80	
June	68.50	76.80	90.00	97.60	105.10	130.30	142.00	160.70	172.30	183.80	
July	69.50	77.60	91.40	98.90	106.10	134.00	143.30	161.30	173.60	183.20	
August	70.40	78.60	91.50	99.20	107.20	135.60	143.90	162.00	174.60	184.10	
September	71.50	79.00	93.80	99.90	108.90	136.50	146.30	162.80	175.91	187.60	
October	72.70	81.60	94.30	99.80	110.40	136.90	147.50	164.00	176.70	189.40	
November	73.40	83.60	94.60	99.60	114.00	136.40	148.70	165.70	177.50	190.60	
December	73.90	84.10	94.60	100.00	116.80	136.50	150.40	168.10	178.20	192.50	
Annual Average	**68.90**	**78.20**	**90.00**	**97.60**	**106.70**	**130.20**	**142.70**	**160.68**	**172.78**	**184.69**	
Annual Inflation Rate	**13.80**	**13.70**	**12.60**	**5.70**	**16.80**	**16.80**	**10.20**	**11.80**	**6.00**	**8.00**	

Source: Statistical Institute of Jamaica

6.2 Appendix 2: Estimated Bill Impact of Annual Tariff Adjustment

6.2.1 Bill Comparison for a Typical Rate 10 Consumer with consumption up to 200kWh

Usage 200 kWh

Rate 10	Before			After				
	2012 Rates J$			2013 Rates J$			Change	
Description	Base F/X Rate	Billing F/X Rate		Base F/X Rate	Billing F/X Rate		J$	%
	87.50	98.89		98.50	98.89			
	Usage kWh	Rate		Usage kWh	Rate			
Energy 1st	100	6.35	635.00	100	6.98	698.00	63.00	9.92%
Energy Next	100	14.52	1,452.00	100	15.96	1,596.00	144.00	9.92%
Customer Charge			322.50			387.00	64.50	20.00%
Sub Total			**2,409.50**			**2,681.00**	**271.50**	**11.27%**
F/E Adjust		0.099	238.37		0.003	8.07	- 230.31	
Fuel & IPP	200	24.351	4,870.20	200	25.003	5,000.69	130.49	2.68%
Bill Total			**J$ 7,518.07**			**J$ 7,689.76**	**171.69**	**2.28%**

6.2.2 Bill Comparison for a Typical Rate 20 Consumer

Usage 1,000 kWh

Rate 20	Before			After				
	2012 Rates J$			2013 Rates J$			Change	
Description	Base F/X Rate	Billing F/X Rate		Base F/X Rate	Billing F/X Rate		J$	%
	87.50	98.89		98.50	98.89			
	Usage kWh	Rate		Usage kWh	Rate			
Energy	1000	12.42	12,420.00	1000	13.63	13,630.00	1,210.00	9.74%
Customer Charge			709.50			851.40	141.90	20.00%
Sub Total			**13,129.50**			**14,481.40**	**1,351.90**	**10.30%**
F/E Adjust		0.099	1,298.91		0.003	43.58	- 1,255.33	
Fuel & IPP	1000	24.351	24,351.00	1000	25.003	25,003.45	652.45	2.68%
Bill Sub-Total			**38,779.41**			**39,528.43**	**749.02**	**1.93%**
GCT @16.5%		0.165	6,398.60		0.165	6,522.19	123.59	1.93%
Bill Total			**J$ 45,178.01**			**J$ 46,050.62**	**872.61**	**1.93%**

6.2.3 Bill Comparison for a Typical Rate 40 Consumer

Usage 35,000 kWh

Demand 100 kVA

Rate 40	Before			After				
	2012 Rates J$			2013 Rates J$			Change	
Description	Base F/X Rate	Billing F/X Rate		Base F/X Rate	Billing F/X Rate		J$	%
	87.50	98.89		98.50	98.89			
	Usage	Rate		Usage kWh	Rate			
Energy kWh	35000	3.54	123,900.00	35000	3.89	136,150.00	12,250.00	9.89%
Demand kVA	100	1332.84	133,284.00	100	1466.12	146,612.00	13,328.00	
Customer Charge			5,160.00			6,192.00	1,032.00	20.00%
Sub Total			**262,344.00**			**288,954.00**	**26,610.00**	**10.14%**
F/E Adjust		0.099	25,953.77		0.003	869.50	- 25,084.26	
Fuel & IPP	35000	24.351	852,285.00	35000	24.003	840,115.97	- 12,169.03	-1.43%
Bill Sub-Total			**1,140,582.77**			**1,129,939.47**	**- 10,643.29**	**-0.93%**
GCT @16.5%		0.165	188,196.16		0.165	186,440.01	- 1,756.14	-0.93%
Bill Total			**J$ 1,328,778.92**			**J$ 1,316,379.49**	**- 12,399.44**	**-0.93%**

6.2.4 Bill Comparison for a Typical Rate 50 Customer

Usage 500,000 kWh

Demand 1,500 kVA

Rate 50	Before			After				
	2012 Rates J$			2013 Rates J$			Change	
Description	Base F/X Rate	Billing F/X Rate		Base F/X Rate	Billing F/X Rate		J$	%
	87.50	98.89		98.50	98.89			
	Usage	Rate		Usage kWh	Rate			
Energy kWh	500000	3.36	1,680,000.00	500000	3.69	1,845,000.00	165,000.00	9.82%
Demand kVA	1500	1199.56	1,799,340.00	1500	1319.52	1,979,280.00	179,940.00	
Customer Charge			5,160.00			6,192.00	1,032.00	20.00%
Sub Total			**3,484,500.00**			**3,830,472.00**	**345,972.00**	**9.93%**
F/E Adjust		0.099	344,722.58		0.003	11,526.42	- 333,196.17	
Fuel & IPP	500000	24.351	12,175,500.00	500000	24.003	12,001,656.73	- 173,843.27	-1.43%
Bill Sub-Total			**16,004,722.58**			**15,843,655.15**	**- 161,067.43**	**-1.01%**
GCT @16.5%		0.165	2,640,779.23		0.165	2,614,203.10	- 26,576.13	-1.01%
Bill Total			**J$ 18,645,501.81**			**J$ 18,457,858.25**	**- 187,643.56**	**-1.01%**

6.3 Appendix 3: Fuel Weights

6.3.1 Existing Weights

FUEL & IPP RATE SUMMARY - March 2013				
(Implemented April 2013)				
BILLING EXCHANGE RATE J$98.8865 = US$1.00				
Fuel Weights Applicable				
Class	Std.	Off Peak	Partial Peak	On Peak
Rate 10				
1st. 100 kWh	1.000			
Over 100 kWh	1.000			
Rate 20	1.000			
Rate 40 LV	1.000	0.869	1.044	1.302
Rate 40A LV	1.000			
Rate 50 MV	1.000	0.869	1.044	1.302
Rate 60	1.000			
Traffic Signal	1.000			
Actual Fuel & IPP Rate for March 2013 [USc/kWh]				24.625
Billing Exchange Rate for March 2013				98.89
Fuel & IPP Rates for March 2013 [J$/kWh]				
Class	Std.	Off Peak	Partial Peak	On Peak
Rate 10				
1st. 100 kWh	24.351			
Over 100 kWh	24.351			
Rate 20	24.351			
Rate 40 LV	24.351	21.150	25.432	31.695
Rate 40A LV	24.351			
Rate 50 MV	24.351	21.150	25.432	31.695
Rate 60	24.351			
Traffic Signal	24.351			

6.3.2 Approved Weights

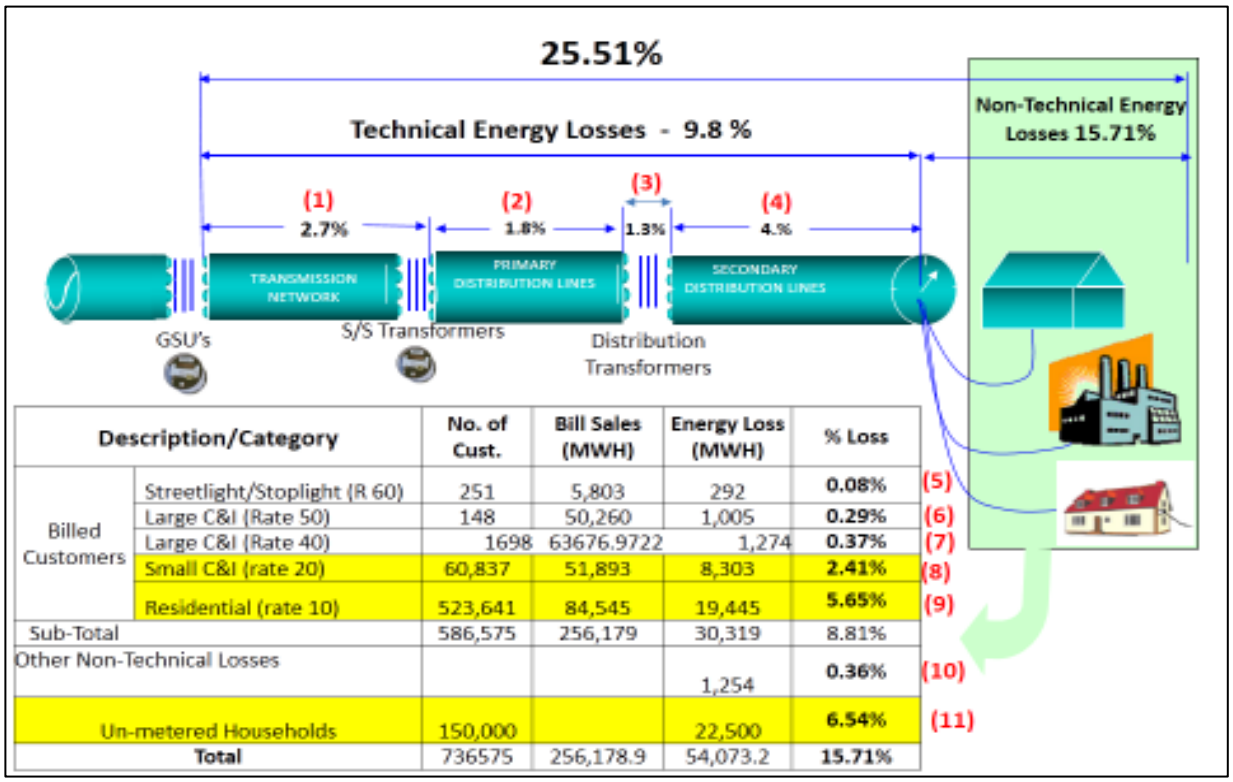
FUEL & IPP RATE SUMMARY - March 2013				
(Approved Changes) April 2013)				
BILLING EXCHANGE RATE J$98.8865 = US$1.00				
Fuel Weights Applicable				
Class	**Std.**	**Off Peak**	**Partial Peak**	**On Peak**
Rate 10				
1st. 100 kWh	1.000			
Over 100 kWh	1.000			
Rate 20	1.000			
Rate 40 LV	0.960	0.800	1.044	1.302
Rate 40A LV	0.960			
Rate 50 MV	0.960	0.800	1.044	1.302
Rate 60	0.960			
Traffic Signal	0.960			
Actual Fuel & IPP Rate for March 2013 [USc/kWh]				25.285
Billing Exchange Rate for March 2013				98.89
Fuel & IPP Rates for March 2013				
Class	**Std.**	**Off Peak**	**Partial Peak**	**On Peak**
Rate 10				
1st. 100 kWh	25.003			
Over 100 kWh	25.003			
Rate 20	25.003			
Rate 40 LV	24.003	20.003	26.114	32.544
Rate 40A LV	24.003			
Rate 50 MV	24.003	20.003	26.114	32.544
Rate 60	24.003			
Traffic Signal	24.003			

6.4 Appendix 4: APPENDIX: SUPPLEMENTARY Tables on Loss Reduction Activities 2013-14

Figure 1: JPS Loss Spectrum

The tables in this Appendix provide information on key loss reduction initiatives and assessment to be done over the period.

Table 1



Description/Category		No. of Cust.	Bill Sales (MWH)	Energy Loss (MWH)	% Loss	
Billed Customers	Streetlight/Stoplight (R 60)	251	5,803	292	0.08%	(5)
	Large C&I (Rate 50)	148	50,260	1,005	0.29%	(6)
	Large C&I (Rate 40)	1698	63676.9722	1,274	0.37%	(7)
	Small C&I (rate 20)	60,837	51,893	8,303	2.41%	(8)
	Residential (rate 10)	523,641	84,545	19,445	5.65%	(9)
Sub-Total		586,575	256,179	30,319	8.81%	
Other Non-Technical Losses				1,254	0.36%	(10)
Un-metered Households		150,000		22,500	6.54%	(11)
Total		736575	256,178.9	54,073.2	**15.71%**	

At the end of April 2013, the System Loss performance was 25.51%. This is a combination of both technical and non-technical losses, which was 9.8% and 15.71% respectively. (See **Error! Reference source not found.**1 above)
The greatest areas of concern are Un-metered Households (6.54%), Residential Rate 10 (5.65%) and Small Commercial Rate 20 (2.41%).

Table 2: Technical Loss Initiatives and assessment:

Technical Energy Loss Category		Impact Assessment				18 Months Initatives (July 2013 to Dec 2014) To Reduce Technical Losses						
		Name	Quantity	Completed	Cost (USM)	Power System	Existing % Loss	Estimated % Losses after Initaitive	Investment - US$M	YTD Schedule /Cumulative Total	% Reduction	Loss Reduction Initiatives
1	Transmission Network:					Transmission	2.7	2.6	1.5	2013 Q4 - 1 banks	0.10%	Installation of Bulk bank Capacitors in 6 substations (0.1%)
		Transmission loss Field Investigation Programme	12 Sub-stations	Q2, 2014	0.008					2014 Q2 - 2 banks		
		System VAR Study	54 Sub Station, 1187 Km lines	Q3, 2014	0.04					2014 Q4 - 4 banks		
						Primary Distribution	1.8	1.4	0.3	2013 Q4 - 10 feeders	0.30%	Power Factor Correction (a total of 0.3% reduction from correction on 47 feeders)
2	Primary Distribution Lines:	Primary line loss Investigation	9 circuits	Q3, 2014	0.061					2014 Q2 - 30 feeders		
		Distribution Voltage Standardisation Programme	30 Feeders	Q3,2014	0.02					2014 Q4 - 47 feeder		
		Feeder line Reconfiguration Study	All Feeders	Q4, 2014	0.02				0.2	2013 Q4 - 10 feeders	0.10%	Feeder Phase Balancing (a total of 0.1% over the period)
		Phase Balancing Study	30 feeders	Q4, 2014	0.01					2014 Q2 - 30 feeders		
										2014 Q4 - 40 feeders		
3	Distribution Transformers:	Distribution transformer loss Investigation	45 Circuits	Q3, 2014	0.056	Pole & Pad-mounted Transformers	1.3	1.3	-		0	Continue installing Low loss trfrs
4	Secondary Distribution Lines:					Secondary & Service	4	3.9	Cost (US$16.3M) covered in RAMI Project outline	2013 Q4 - 6,800 RAMI/CAMI	0.10%	Reduction in Secondary circuits as a result RAMI and CAMI (0.1% over the period)
		Secondary line loss Investigation	45 Secondary Circuits	Q3, 2014	0.05					2014 Q2 - 4,000 RAMI/CAMI		
										2014 Q4 - 6,000 RAMI/CAMI		
			Sub-Total Cost	US$M	**0.265**	**Sub-TOTAL**	**9.8**	**9.2**	**2.00**		**0.6%**	

A total of **2.26 million** USD will be used to carry out a series of impact assessment and fund technical loss reduction initiatives for the period 2013-2014.

This represents the key initiatives to be undertaken at this time, which, based on the cost benefit, will help to reduce electricity tariffs for our customers.
We believe while there is the potential to reduce technical losses further, that, the high capital cost of doing such projects does not make it economically feasible at this time, as it would not result in lower electricity tariffs for our customers.

Table 3: Non-Technical Loss Initiatives and assessment:

Energy Loss Category		Impact Assessment				18 Months Initatives (July 2013 to Dec 2014) To Reduce non-Technical Losses					
NON-TECHNICAL		Name	Quantity	Completion	Cost	Name	Quantity	Completed	Cost (USM)	% Reduction	Benefit (MWh)
5	Streetlight/Stoplight (Rate 60)					JPS & MLG Joint Street Light	97000	Q1, 2013	0.05	0.01%	500
6	Large C&I Rt50	Remote Desktop Analysis using Revenue tool				Annual meter /site Audits	148	Q4, 2014	0.3	0.05%	2,033
7	Large C&I Rt 40	Remote Desktop Analysis using Revenue tool				Annual meter /site Audits	1698	Q4, 2014	0.6	0.12%	5,000
8	Small C&I (Rt 20)	CAMI Pilot Study	800 CAMI	Q4, 2013		CAMI	3800	Q4, 2014	4.82	0.12%	4,828
						Meter Change Initiative	24000	Q4, 2014	0.96	0.06%	2,544
						Commer Audits		Q4,2014	1.27	0.37%	15,067
9	Residential (Rt 10)	Smart Metering Pilot (RAMI)				RAMI	10000		8.87	0.21%	8,529
						Res Audits		Q4, 2014	2.00	0.55%	22,600
						Meter Change Initiative	12000	Q4, 2014	0.48	0.03%	1,272
10	Other Non-Technical loss	**Technological Solutions**									
		Prepaid Application Management System PAMS	>1000 Customers	Q4, 2013	0.289						
		Mobile Field Force Management Systems		Q1,2014	1.572						
		Revenue Intelligence Software		Q3, 2014	0.999						
		Meter Data Management System		Q4, 2014	0.9						
		Sub-Feeder Metering-Reclosers	64 Meters & 50 Reclosers	Q4, 2014	1.05						
11	Un-Metered Households	**Social Intervention:**				Strike Force Operation		Q4, 2014	2	0.001%	41
		House Wiring		Q4,2014	6.5	Energy Limiting Initaitive - RELI		Q4, 2014	0.29	0.18%	7,611
		Direct Subsidy (PATH Programme)		Q4,2014	3	RAMI	3000		2.66	0.33%	13,647
		Skills Training (HEART NTA/RADA)		Q4,2014	1.5						
		Community Renewal/Customer Education		Q4,2014	0.5						
		Security		Q4,2014	1.5						
			Sub-total	**US$M**	**17.810**		**Sub-total**	**US$M**	**24.31**	**2.0%**	**83,672**
Total Cost							**TOTAL**	**USSM**	**44.39**	**2.6%**	

A series of varying solutions have been identified by JPS to stem the challenges faced with losses. Smart metering solution through RAMI/CAMI will be used to:
a. Engage new customers
b. Stabilize energy loss in both residential and commercial communities.

A total of 44.39 million USD has been earmarked to fund these activities for the period 2013-2014.

Table 4: Summary of Loss Reduction Initiative:

Description/Category			No. of Cust.	Bill Sales (MWH)	Energy Loss (MWH)	% Loss	Initiatives Targeted
1	Transmission					2.7%	Infrared Scanning & installation of Bulk Bank Capacitors
2	Primary Distribution					1.8%	Infrared Scanning, Feeder Power factor Correction, Phase balancing and line reconfiguration
3	Pole & Pad Mounted Transformers					1.30%	Continue with low loss transformers
4	Secondary & Service Wire					4.0%	Infrared Scanning, Secondary Rehab, RAMI & CAMI
	Sub-Total: Technical					**9.80%**	
5	**Billed Customers**	Streetlight/Stoplight(R 60)	251	5,803	292	0.08%	Joint JPS and Ministry Local Government audit
6		Large C&I (Rate 50)	148	50,260	1005	0.29%	Annual site visit, remote audit
7		Large C&I (Rate 40)	1,698	63,677	1274	0.37%	Annual site visit, remote audit
8		Small C&I (rate 20)	60,837	51,893	8,303	2.41%	Audit, meter change project and CAMI
9		Residential (rate 10)	523,641	84,545	19,445	5.65%	Audit, Meter Change project and RAMI
	Sub-Total		586,575	256,178	30,319	8.81%	
10	**Other Non-Technical Losses**				1254	0.36%	Technological solution: Mobile work force management
11	**Un-metered Consumers**		150,000		22,500	6.54%	RAMI, Strike Force and Recloser energy limiting initiative, social intervention
	Total		736575	256,178.9	54,073.2	**15.71%**	
Total						**25.51%**	

We believe the social intervention project with the PIOJ, JCIF, REP and Police will be the main way forward in addressing losses, particularly as it relates to un-metered consumers (and customers) in troubled communities. The PIOJ and JCIF have identified over 100 communities island-wide whom they are targeting with a community renewal program (CRP) with a key objective of transforming these informal settlements, which today have poor infrastructure, high unemployment and high levels of crime. They have successfully accessed some World Bank funding to partly fund the CRP for the next 5 years and believe a partnership with JPS and NWC will allow them to address all of the key needs of these residents. They have already had great success to date in a few communities. They warn that the social intervention initiative is the key element to success and, that, without educating and improving the skill sets of the people in these communities they will not be able to regularize such communities. The same will be true for any attempt to regularize their utility service and a key feature of our new approach will be customer education, skills training and house wiring (to make access affordable). Additionally, the incorporation of the social intervention experts who will remain in these communities during the transition period (1 year) will be a key feature of this program supported by increased law enforcement. We are confident that together we can regularize 10,000 new customers per annum for the next 3 to 5 years. An ongoing assessment would be made each year (and after the completion of each community/project) with a view to continually improving the program and possibly increasing the rate of regularization after the first 3 years. We believe this program would be necessary for at least the next 10 years, if we are to regularize the 150,000 un-metered consumers identified in over 100 communities across the island.