Office of Utilities Regulation

Jamaica Public Service Company Limited
Annual Tariff Adjustment 2012

Determination Notice

OFFICE OF UTILITIES REGULATION

June 01, 2012

DOCUMENT TITLE AND APPROVAL PAGE

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DOCUMENT TITLE: Jamaica Public Service Company Limited Annual Tariff Adjustment for 2012 - Determination Notice

PURPOSE OF DOCUMENT:
This document sets out the Office's decisions on issues related to the annual price adjustment (2012) 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 Determination is approved by the Office of Utilities Regulation and becomes effective as of **July 01, 2012.**

On behalf of the Office:

Ahmad Zia Mian
Director General

June 01, 2012

Acronyms and Abbreviations

ABNF	-	Adjusted Base-rate Non-Fuel
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
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
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

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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 set the average non-fuel rate at J$9.78/kWh. It also 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

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

The Minister in exercise of the powers conferred by Section 3 of the Electric Lighting Act and having regard to the recommendations of the Office of Utilities Regulation ("the Office") pursuant to Section 4 of the OUR Act granted the Licence to JPS authorizing it to generate transmit, distribute and supply electricity for public and private purposes within Jamaica upon the terms and conditions set out in the said 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 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 on April 05, 2012 submitted to the Office its annual tariff adjustment application for the recalculation of the Non-Fuel Base Rates.

In the Tariff Determination Notice 2009, (Ele 2009/4: Det/03) the Office determined that the average non-fuel rate to be J$9.78/kWh and also directed therein, inter alia, that the price cap be applied on a global basis.

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

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

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 and in the furtherance of the powers vested in the Office pursuant to 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** contained in this Determination Notice**.**

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 which the OUR, has verified:

- The Jamaican twelve-month point-to-point inflation rate to February 29, 2012 of **7.9%**, derived from the most recent CPI data[1] (i_j)
- The U.S. twelve-month point-to-point inflation rate to February 29, 2012 of **2.87%,** derived from the US Department of Labour statistical data[2] (i_{us})

The Office determines that the base foreign exchange rate be increased from US$1: J$86.50 to **US$1: J$87.50**.

dI is determined to be 4.81%

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

X is determined to be 2.72%

This is in accordance with the JPS Tariff Determination Notice, 2009 (Ele 2009/4: Det/3).

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

The Q-factor adjusts the annual escalation rate to reflect changes in quality of service provided to customers by JPS.

Q is determined to be 0%

This is in accordance with the JPS Tariff Determination 2009-2014 (Ele 2009/4: Det/03) which came into effect on October 01, 2009.

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

As defined in Schedule 3, Exhibit 1 of the Licence:

The *Z-factor* is the allowed percentage increase in the price cap index due to events that:

- affect the Licensee's costs;
- are not due to the Licensee's managerial decisions; and

[1] Obtained from the Statistical Institute of Jamaica, CPI Statistical Bulletin February 2012
[2] Obtained from US Bureau of Labour Statistics website, http://data.bls.gov/cgi-bin/surveymost

- are not captured by the other elements in the price cap mechanism.

There were no such qualifying events for consideration during the year under review.

Z is determined to be 0%

2.5 Total Non - Fuel Adjustment

The annual adjustment of the base non-fuel tariffs approved by the Office effective **July 01, 2012** is **2.09%**

The effective change to the Non-Fuel Rate is **1.21%.** This reflects the net impact of inflation (domestic and foreign (dI = 4.81%)), the productivity factor (X= 2.72%) and the pre-adjusted foreign exchange movement (0.88%).

Table 2.1 below provides the details of the current year annual inflation adjustment.

Table 2.1: Details of Annual Inflation Adjustment (2011)

Annual Adjustment	
dI - US and Jamaica Inflation	4.81%
X - Productivity Factor	-2.72%
Q - Quality of Service	0.00%
Z - Exogenous Factor	0.00%
Total dPCI	2.09%
Total change in Non-Fuel Base Rates	**2.09%**
Less pre-adjusted F/X Base Rate movement (Already accounted for monthly on customers' bills)	**-0.88%**
Effective change in Non-Fuel Rates	**1.21%**

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 2.09%.

Table 2.2 summarizes the inflation adjusted base non-fuel tariffs to be applied in the current year.

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	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	-	-	-	-

2.6 Fuel Cost Adjustment Factor – Heat Rate

The OUR DETERMINES the following:

1. The system heat rate target shall be set at **10,200kJ/kW** (a reduction of **270kJ/kW**) for the annual review period 2012 – 2013 and is subject to review and reset at the next annual review on the addition of new generation capacity to the grid during the price cap period.

2. The new target includes:
    1) The downward adjustment of **120kJ/kWh** which represents the special provision that was allowed in order to facilitate the establishment of the Letter of Credit fund for the 65.5MW West Kingston Power Plant. The facility commenced in June 2011 and expires in May 2012.

    2) The downward adjustment of **150kJ/kWh** representing the effect of the addition of new generation to the grid as follows:
        (i) The contracted Heat Rate for the JEP/WKPP 65.5MW generation Complex as per Power Purchase Agreement (2010) with JPS.
        (ii) The scheduled outage of JPS Maggoty hydro power plant for a period of five (5) months (January to May 2013) during the 2012/13 tariff period to facilitate the expansion of its generation capacity by 6.4 MW.
        (iii) The capabilities of the existing thermal and renewable generating units in terms of their capacity (Maximum Continuous Rating -MCR), availability, capacity factor and operating efficiency.

2.7 Fuel Cost Adjustment Factor – System Losses

In keeping with the goals established in the JPS Tariff Determination Notice, 2009 (Ele 2009/4: Det/03) the Office now determines that the target for system losses will be remain at **17.50%** for period 2012-2013. Subsequent targets are to be determined at the annual tariff adjustment exercises in accordance with the JPS Tariff Determination Notice, 2009 (Ele 2009/4: Det/03).

2.8 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 the consumers' bill. This is resulting from the effect of:

a) the 2.09% increase in **non-fuel rates** (effectively 1.21% given that bills have already been adjusted monthly by 0.88% for foreign exchange differential) and;
b) the inclusion of the **fuel cost adjustments** for system losses and heat rate.

The potential total bill impact across as a result of the determination is a **reduction** of approximately 1.4% and is summarized in Table 2.3 below. This is the combined impact of both the non-fuel effective increase of 1.21% and the approximately 2.6% reduction in fuel charges. The bill impact[3] is 30% of the non-fuel charges and 70% the fuel charges resulting in the following:

- Typical Rate 10 (up to 200kWh)[4] customer = -1.4% decrease
- Typical Rate 10 (above 200kWh) customer = -1.4% decrease
- Typical Rate 20 customer = -1.4% decrease
- Typical Rate 40 customer = -1.4% decrease
- Typical Rate 50 customer = -1.5% decrease

Table 2.3: Estimated Bill Impact of Annual Tariff Adjustment

Rate Class	Typical Usage (kWh)	Demand (kVA)	Bill Impact (%)
Residential [10]	200	-	-1.4
Residential [10]	300	-	-1.4
Small Commercial [20]	1,000	-	-1.4
Large Com. Low Voltage [40]	35,000	100	-1.4
Large Com. Medium Voltage [50]	500,000	1,500	-1.5
System Heat Rate Target	**System Losses Target**		
10,200	17.50%	Average Decrease	-1.4%

[3] 30% x1.21 + 70% x -2.6 = 0.4 - 1.8 = **- 1.4**.

[4] At the time of writing the Minister of Finance in his budget speech said that, as of June 1, 2012, no GCT will be charged on the first 300kWh of electricity consumed, up from 200kWh. Additionally, the tax will move from 10 to 16.5 per cent.

2.9 Guaranteed Service Standards

In keeping with the provisions in the Tariff Determination Notice, 2009 (Ele 2009/4: Det/03) which allows for a mid tariff review of guaranteed standards the Office determines the following:

1. EGS 1 (a) Access – amended to be as follows: New service installations within five (5) working days after establishment of contract.

2. EGS 1 (b) Access – amended to be as follows: Connections within four (4) working days after establishment of contract where supply and meter are already on premises.

3. EGS 6 – Reconnection - amended to be as follows: Reconnection within twenty four (24) hours of payment of overdue amount and reconnection fee.

4. EGS 14 – Compensation - amended to be as follows: Accounts should be credited within thirty (30) working days of verification of breach.

5. Breaches of the standards will attract payments for six (6) periods of non-compliance.

3. Summary of JPS' Annual Rate Adjustment Submission

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

In compliance with the Licence, JPS filed an application, dated April 03, 2012, for the annual rate adjustment with the Office. Pursuant to the annual adjustment clause contained in the rate schedule, JPS, in its submission, sought approval for an increase of **2.09%** on the non-fuel tariffs for 2012 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 inflation adjustment does not take into account the movement through the foreign exchange adjustment clause that is already reflected in customers' bills.

Tables 3.1, 3.2, 3.3, 3.4 and 3.5 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.

Table 3.1 Annual Adjustment Factor (dI - X)

Annual Adjustment Clause Calculation			
Line	Description	Formula	Value
L1	Base Exchange Rate		86.50
L2	Proposed Exchange Rate		**87.50**
L3	Jamaican Inflation Index		
L4	CPI @ Feb 2012		180.3
L5	CPI @ Feb 2011		167.1
L6	US Inflation Index		
L7	CPI @ Feb 2012		227.7
L8	CPI @ Feb 2011		221.3
L9	Exchange Rate Factor	(L2-L1)/L1	1.16%
L10	Jamaican Inflation Factor	(L4-L5)/L5	7.90%
L11	US Inflation Factor	(L7-L8)/L8	2.87%
L12	Escalation Factor	0.76*(L9*(1+0.922*L11)+0.922*L11)+0.24*L10	4.81%
L13	Prodcutivity (or X) Factor		-2.72%
L14	Escalation Adjustment net of X-Factor	(L12-L13)	2.09%

Table 3.2 below displays the number of customers across the rate classes and the respective demand charges and energy charges derived using the 2011 billing determinants.

Table 3.2 Customer Information 2011

Class		Block/ Rate Option	December 2011 Customer	Energy kWh Std.	Demand-KVA Std.	Off-Peak	Part Peak	On-Peak
Rate 10	LV	<100	191,347	109,251,080	-	-	-	-
Rate 10	LV	>100	319,925	941,969,285	-	-	-	-
Rate 20	LV		59,266	643,615,490	-	-	-	-
Rate 40	LV - STD		1,542	665,163,407	2,284,981	-	-	-
Rate 40	LV - TOU		129	137,193,790	-	542,129	382,811	293,068
Rate 50	MV -STD		117	406,481,710	880,074	-	-	-
Rate 50	MV -TOU		28	111,094,202	-	594,488	583,367	497,247
Rate 60	STREETLIGHTS		220	71,127,716	-	-	-	-
Total			572,574	3,085,896,680	3,165,055	1,136,617	966,178	790,315

Table 3.3 Requested 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	1.96%	1.95%	0.00%	0.00%	0.00%	0.00%	3.91%
Rate 10	LV	>100	3.28%	38.53%	0.00%	0.00%	0.00%	0.00%	41.81%
Rate 20	LV		1.34%	22.52%	0.00%	0.00%	0.00%	0.00%	23.86%
Rate 40	LV - Std		0.25%	6.63%	8.26%	0.00%	0.00%	0.00%	15.14%
Rate 40	LV - TOU		0.02%	1.37%	0.00%	0.08%	0.61%	0.60%	2.68%
Rate 50	MV - Std		0.02%	3.84%	2.86%	0.00%	0.00%	0.00%	6.72%
Rate 50	MV - TOU		0.00%	1.05%	0.00%	0.09%	0.82%	0.90%	2.86%
Rate 60	LV		0.01%	2.98%	0.00%	0.00%	0.00%	0.00%	2.99%
TOTAL			6.88%	78.87%	11.12%	0.17%	1.43%	1.50%	100.0%

Table 3.4 Requested 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	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 3.5 Requested Revenue from Tariff

		Block/ Rate Option		12 Months 2010/11 Customer Revenue	Energy Revenue	Demand (KVA) revenue				Total Demand Revenue	Total Revenue
						Std.	Off-Peak	Part Peak	On-Peak		
Rate 10	LV	<100	-	740,512,890	693,744,358					-	1,434,257,248
Rate 10	LV	>100	-	1,238,109,750	13,677,394,018					-	14,915,503,768
Rate 20	LV		-	504,590,724	7,993,704,386					-	8,498,295,110
Rate 40	LV - Std		-	95,480,640	2,354,678,461	3,045,514,076				3,045,514,076	5,495,673,177
Rate 40	LV - TOU		-	7,987,680	485,666,017		30,668,238	224,499,511	219,921,158	475,088,907	968,742,604
Rate 50	MV - Std		-	7,244,640	1,365,778,546	1,055,701,567				1,055,701,567	2,428,724,753
Rate 50	MV - TOU		-	1,733,760	373,276,519		31,692,155	303,240,000	331,375,346	666,307,501	1,041,317,780
Rate 60	LV		-	5,108,400	1,047,711,257					-	1,052,819,657
TOTAL			-	2,600,768,484	27,991,953,562	4,101,215,643	62,360,393	527,739,511	551,296,504	5,242,612,051	35,835,334,097

3.2 Fuel Cost Adjustment Factor – Heat Rate

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

In the Jamaica Public Service Company Limited Annual Tariff Adjustment 2011 (Ele 2011002_DET002) dated May 20, 2011, the OUR approved a heat rate target of 10,470 kj/kWh. JPS is requesting an adjustment of the target from 10,470kj/kWh to **10,300kj/kWh** based on the following:

a) Reduction of 120kJ/kWh which represented a special adjustment which commenced in June 2011 for the 65.5MW West Kingston Power Plant. The period for the special provision expires in May 2012.
b) An overall improvement of 100kj/kWh to the system-wide heat rate when the West Kingston Power Plant comes on line.
c) A temporary deterioration in the system-wide heat rate with an annual impact of 50kj/kWh when the Maggotty hydro power plant is taken off-line for six months to facilitate the expansion of its generation capacity by 6.4MW.

The proposal is for a net reduction in the system heat rate of 170kj/kWh.

Details of JPS' proposal are more clearly demonstrated in Table 3.6 and Figure 3.1

Date	12-Jun	12-Jul	12-Aug	12-Sep	12-Oct	12-Nov	12-Dec	13-Jan	13-Feb	13-Mar	13-Apr	13-May
Target HR (kJ/kWh)	10,300	10,300	10,300	10,300	10,300	10,300	10,300	10,300	10,300	10,300	10,300	10,300
Ave. System HR (kJ/kWh)	10,025	9,920	9,958	9,696	9,768	9,916	10,002	10,011	9,811	9,844	9,783	10,167
Variance (kJ/kWh)	275	380	342	604	532	384	298	289	489	456	517	133
Variance (%)	2.70%	3.80%	3.40%	6.20%	5.40%	3.90%	3.00%	2.90%	5.00%	4.60%	5.30%	1.30%

Table 3.6: JPS proposed Heat Target and projected System Heat Rate for the period June 2012 to May 2013

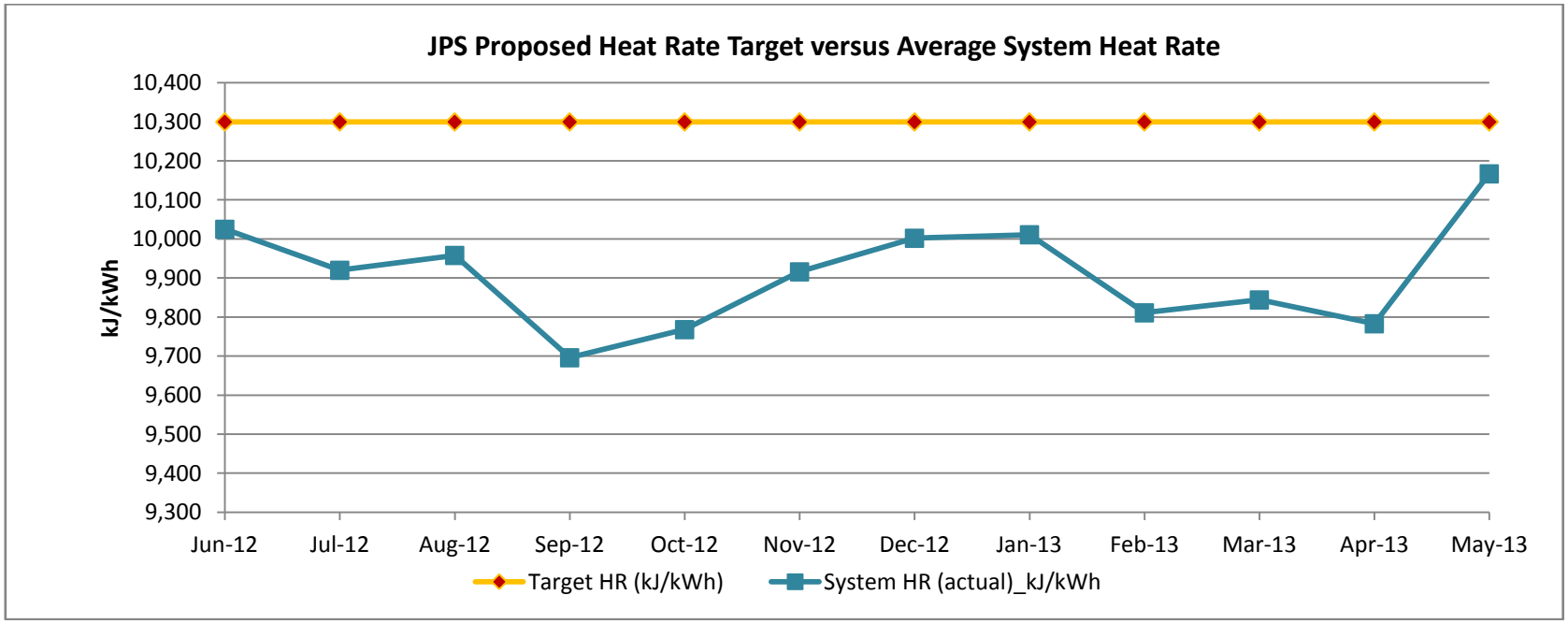


Figure 3.1: Illustration of JPS Proposed Heat Rate Target compared with the Expected Average System Heat Rate for the period June 2012 to May 2013
Data Source: JPS

3.3 Fuel Cost Adjustment Factor – System Losses

JPS contends that in the context of a fuel challenge (currently US$65M per month and climbing) and marginal profits, when one considers the level of receivables that the company is necessarily carrying in this difficult macro-economic environment that consideration be given for the following changes:

1. ***"Revising the System Losses target to 18.5%*** *– JPS estimates that the impact of this change would be minimal on the fuel tariff but it would reduce the potential penalty during 2012 by approximately US$5 Million. Given, the expected reduction in the heat rate target, there would still be an overall 0.39% reduction to the fuel tariff after allowing for this adjustment.*

2. ***Setting a maximum Fuel Penalty/Reward*** *– JPS believes the fuel pass through is fundamental to the viability of the business given that fuel represents more than 65% of total costs. JPS is not in the business of profiting on fuel costs but at the same [time] recognizes the importance of an incentive based system to encourage efficiency. However, we are concerned that the penalty/reward in its current form is far too punitive and would request that a reasonable cap be established of US$1.5 Million per month. This still sends a very strong signal to the utility while not exposing it to possible financial duress, bearing in mind that a maximum annual penalty of US$18 Million does represent more than 50% of the profit recorded for 2011.*

3. ***Providing the gross up for taxes to the loss reduction funding*** *– we believe the objective of the 2009 Determination was to in fact fund the losses campaign by J$1.1Billion per annum at the base exchange rate of J$89:US$1. However, the impact of taxation means that approximately one third of those funds are being lost to taxation. As a result, in 2011, approximately US$4.3 Million was not available for the purposes of supporting the loss reduction activities. We estimate that with an additional J$0.118 per kWh that we would be able to increase our fight against system losses by approximately US$4.3 Million."*

3.4 Ensuring Quality of Service: Q-Factor

JPS has given its commitment to the continuous improvement in the service quality delivered to customers and stated that the company will continue to make the requisite investments necessary to continually improve service quality. In this regard JPS has proposed adjustments to the reliability indices as follows:

"CAIDI be removed from the PBRM for the reasons already well documented. Notwithstanding this proposed omission, JPS is committed to the continuous improvement in the service quality delivered to customers and as such will continue to make the requisite investments necessary to continually improve the quality of service for our customers as reflected in the SAIDI and SAIFI indices.

MAIFI

JPS commenced the monitoring of MAIFI in 2011. The measured value of MAIFI for 2011 is 109. The Company will continue to monitor MAIFI but reiterates the position that it is inappropriate to include this measure in the "Q" Factor adjustment. MAIFI is very seldom used as a service quality indicator with attendant incentive/penalty even in mature electricity markets. The difficulty of determining the appropriate level of MAIFI, the value customers place on this type of interruption versus the investment required to reduce it has engendered far less consensus on the value of this measure for the purposes of driving reliability performance. JPS is proposing that the next 2 years be used as test years to gather sufficient performance information from which a performance target for MAIFI can be derived at the 2014 tariff review and this index be included in the Company's Overall Standards for ongoing monitoring and reporting.

2012 Performance Target

JPS therefore proposes that the performance targets for 2012 shall be based on the 2010 benchmark adjusted for 3% improvement for both of the indices (SAIDI and SAIFI). The actual performance targets for 2012 are shown in table 4.6 below:

	2010 Actual	Adjustment factor	2012 Target
SAIDI	2,577	* (1 – 0.05)	= 2,448
SAIFI	29.11	* (1 – 0.05)	= 27.65
CAIDI	89.00	* (1 – 0.05)	= 84.55

"

4. OUR's Analysis of the Submission

4.1 Annual growth rate in inflation and devaluation

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

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

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 2012- 2013 annual adjustment factor of **2.09%** was derived by applying to the formula the following factors:

- The Jamaican twelve-month point-to-point inflation rate to February 29, 2012 of **7.09%,** derived from the most recent CPI data[5]

- The U.S. twelve-month point-to-point inflation rate to February 29, 2012 of **2.87%,** derived from the US Department of Labour statistical data[6]

- The base exchange rate was adjusted from US$1.00 : JA$86.50 to **US$1.00 : JA$87.50**

[5] Obtained from the Statistical Institute of Jamaica, CPI Statistical Bulletin February 2012)
[6] 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			
ESCALATION FACTOR (dI) based on point to point data as at February 2012			
Line	**Description**	**Formula**	**Value**
L1	Base Exchange Rate		86.50
L2	Adjusted Base Exchange Rate		87.50
L3	Jamaican Inflation Index		
L4	CPI @ Feb 2012		180.30
L5	CPI @ Feb 2011		167.10
L6	US Inflation Index		
L7	CPI @ Feb 2012		227.66
L8	CPI @ Feb 2011		221.31
L9	Exchange Rate Factor	(L2-L1)/L1	1.16%
L10	Jamaican Inflation Factor	(L4-L5)/L5	7.90%
L11	US Inflation Factor	(L7-L8)/L8	2.87%
L12	Escalation Factor	0.76*{L9*(1+0.922*L11)+0.922*L11}+0.24*L10	4.81%
L13	Prodcutivity (or X) Factor		-2.72%
L14	**Escalation Adjustment net of X-Factor**	**(L12-L13)**	**2.09%**

4.2 *X-Factor* Component of PBRM

The *X-Factor* is based on the expected productivity gains of JPS. 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 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 has engaged the services of the consulting firm, KEMA Inc., to carry out an audit of the Q-Factor performance indicators, data and data collection methods & procedures of JPS. The objective of the review is to inform regulatory decisions with respect to the appropriate baseline indices against which future performance will be measured. The consultants commenced their work on the 11th April, 2012 and are scheduled to conclude by mid June 2012. The Office will, after a due consultation with JPS, make a determination on the Q-factor performance benchmarks. JPS will be advised of the baseline indices and performance targets under separate cover by 30th June, 2012 as the OUR, anticipates that the process should by then be completed.

The *Q-Factor* adjustment applicable for this review period remains within the dead band and is therefore **0%**. This accord with the 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 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 OUR to ensure that electricity customers are provided with fair and reasonable fuel rates. This regulatory mechanism also provides JPS with the incentives to improve the overall energy conversion efficiency of its power generating system. In setting the target, a degree of flexibility is allowed which captures any adverse system conditions which may occur and are beyond the control of JPS.

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

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

1. The target should hold the utility company accountable for the factors which are under its direct control;
2. The target should reflect legitimate system constraints provided that the utility company 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 license.

In the Tariff Determination Notice, 2009 (Ele 2009/4: Det/03) the Office in consultation with JPS agreed that the target system heat rate should be reviewed and reset annually, and to take into account new generation facility additions to the grid. The target rate was set at 10,400 kJ/ 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 to10, 350kJ/ kWh. This is the second adjustment to the target since the determination in October 2009. The new target is now reset to **10,200kJ/ kWh.**

Outline below is a summary of the reasons for this adjustment:

4.5.1 Analysis and Evaluation of New Generation Facility Additions

4.5.1.1 Analysis

In setting the new system heat rate target, the OUR, undertook a comprehensive review, evaluation and analysis of past performance of the system heat rate in addition to the system heat rate projections for 2012/13.

The exercise took into account the following conditions:

1. The net energy output from Wigton II additional 4 MW which was approved in 2011. The facility is now approved as an 18MW facility up from 14MW.
2. The contracted Heat Rate for the JEP/WKPP 65.5MW generation Complex as per Power Purchase Agreement (2010) with JPS.
3. Spinning Reserve[7] Requirement for the JEP/WKPP 65.5 MW generation Complex.
4. The scheduled outage of JPS Maggoty hydro power plant for a period of five (5) months (January to May 2013) during the 2012/13 tariff period to facilitate the expansion of its generation capacity by 6.4 MW.
5. The capabilities of the existing thermal and renewable generating units in terms of their capacity (Maximum Continuous Rating -MCR), availability, capacity factor and operating efficiency.

The derived system heat rate is consistent with the technical capabilities of the electricity generating system and provides a reasonable incentive for efficiency improvement.

System Constraints

The energy projections for all the generating units used in the System Heat Rate calculation are based on Generator Scheduling and Dispatch simulations/scenarios carried out by JPS subject to network constraints and planned generation outages.

Some common conditions that normally impose constraints on the generation dispatch process are:

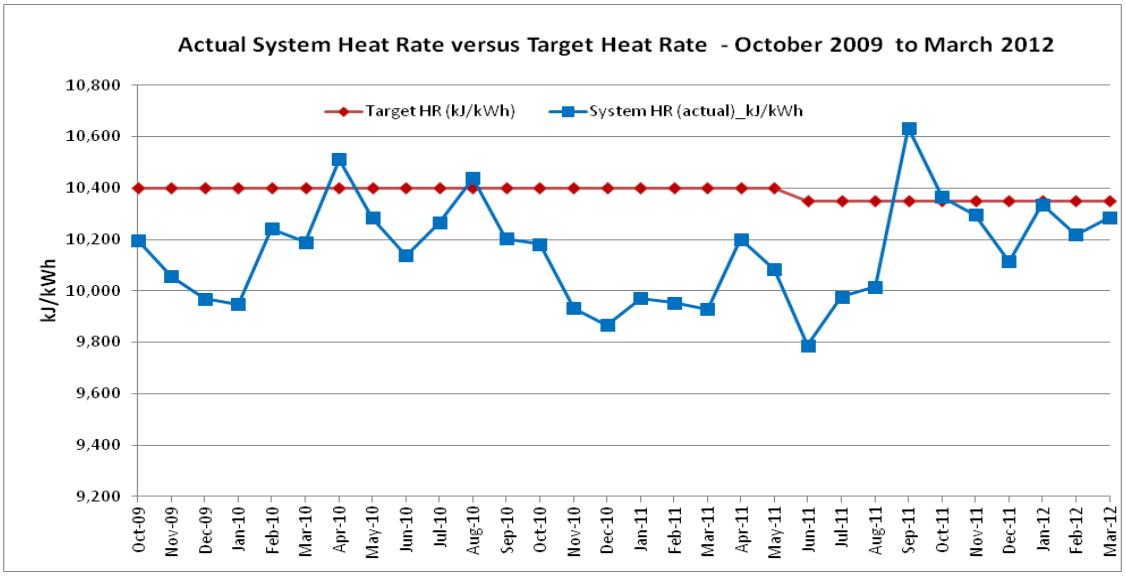
1. Line loading Limit (power transfer capability)
2. System Security Constraints (line loading levels based on N-1 contingency)
3. Spinning Reserve Requirements
4. Intermittency and Variability of Renewable Generation

Historical System Heat Rate Performance (2009 – 2012)

Figure 4.1 below shows the comparison between actual system heat rate reported by JPS and the target system heat rate set by the OUR between the period October 2009 and March 2012.

[7] The **spinning reserve** is the extra generating capacity that is available by increasing the power output of generators that are already connected to the power system.

Figure 4.1: Comparison between System Heat Rate Achieved and Target Heat Rate – October 2009 to March 2012



On all but two (2) of the thirty (30) months since October 2009 to March 2012, JPS recorded actual system heat rate performance mostly below and with good margin of the target set by the OUR.

In setting the target system heat rate for this review period the OUR made the following two assumptions:

1. **Energy Input**

The dispatch of the thermal generating units is a critical factor that impacts the system heat rate performance for a given period of operation. The utilization levels of the generating units as dictated by the dispatch process to a large extent determine the quantity of energy produced by the units. The total electrical energy output together with the fuel energy input represents the independent variables in the heat rate equation.

The net-generation assumptions used in the determination of the system heat rate projection and target for the period June 2012 to May 2013 are based on the projected net energy output from the individual generating units that forms part of the system heat rate equation.

Table 4.2 below summarizes the net-generation over the tariff period.

Table 4.2 Projected Net Generation for JPS and IPP Plants (June 2012 –May 2013)

Plants	Period Net Generation (kWh)
JPS plants (Thermal)	2,498,686,807
JPS Hydro	129,781,099
JPS Wind	2,878,000
JPS Net Gen	**2,631,345,906**
IPP Plants (firm capacity)	1,384,149,859
Wigton I	79,881,000
Wigton II	47,826,000
IPP Net Gen	**1,511,856,859**
Total Net Generation	**4,143,202,765**

In assessing the system generation requirement for a given period, the following factors, among other things must be considered:

- System peak and energy demand
- Generating units MCR (maximum continuous rating), availability, capacity factor
- Availability and capability of the network

It is important to note that the projected net generation for each generating unit used in the evaluation is based on Generator Scheduling and Dispatch simulations done by JPS, which took into account the factors listed above.

The net energy output assumptions and the respective efficiencies of each thermal generating unit included in the System Heat Rate calculation were used to determine the total energy input from the various fuel sources that will be consumed to produce the total electrical energy demanded by the system.

2. Plant Heat Rates

The heat rate of a generating unit is a measure of the fuel energy input per energy output, based on the lower heating value (LHV) of the fuel consumed.

Service-related degradation in plant heat rate and power output may occur over the lifecycle of the plant due to normal equipment wear and deterioration. This however can be remedied during scheduled maintenance for interim and major overhaul. In some instances replacing old parts with upgraded components or retrofitting new technology design improvements during a major overhaul can surpass original performance and durability.

The average System Heat Rate for a given billing period is largely dependent on the average heat rate of each generating unit involved in the calculation.

Usually, the average heat rate of a generating unit is determined based on its operation along its Input – Output Curve. The average heat rate at a level of generation is equal to the corresponding input energy in fuel divided by the power generated.

The projected average monthly heat rates for JPS plants and contracted heat rates for IPP plants supplying firm capacity to the Grid were used to estimate the total fuel energy input in kilojoules (kJ) needed to produce the expected total net generation in kilowatt-hours (kWh) demanded by the system. The heat rates for existing IPPs used in the analysis are shown in Table 4.3 below.

Table 4.3 IPP Plants contracted Heat Rate

IPP Plants	Heat Rate (kJ/kWh)
JEP 74MW	8,615
JEP 50MW	8,615
JPPC	7,850
WKPP	8,568

New Capacity Additions

- **Wigton Wind Farm Phase II – 4MW**

During the period June 2011 to May 2012, an additional 4 MW of renewable generating capacity for the Wigton Wind Farm Phase II project was approved for the supply of electrical energy to the grid bringing the total installed capacity to 18 MW.

The additional net generation from this 4 MW capacity was not featured in the Heat Rate target set for 2011/2012; however the energy is presently included in the monthly System Heat Rate calculation.

Considering the impact of renewable generation on the Heat Rate calculation, the OUR in this 2012/13 tariff adjustment has included the additional net energy contribution from the full 18 MW wind farm facility in the derivation of the System Heat Rate target for the period June 2012 to May 2013.

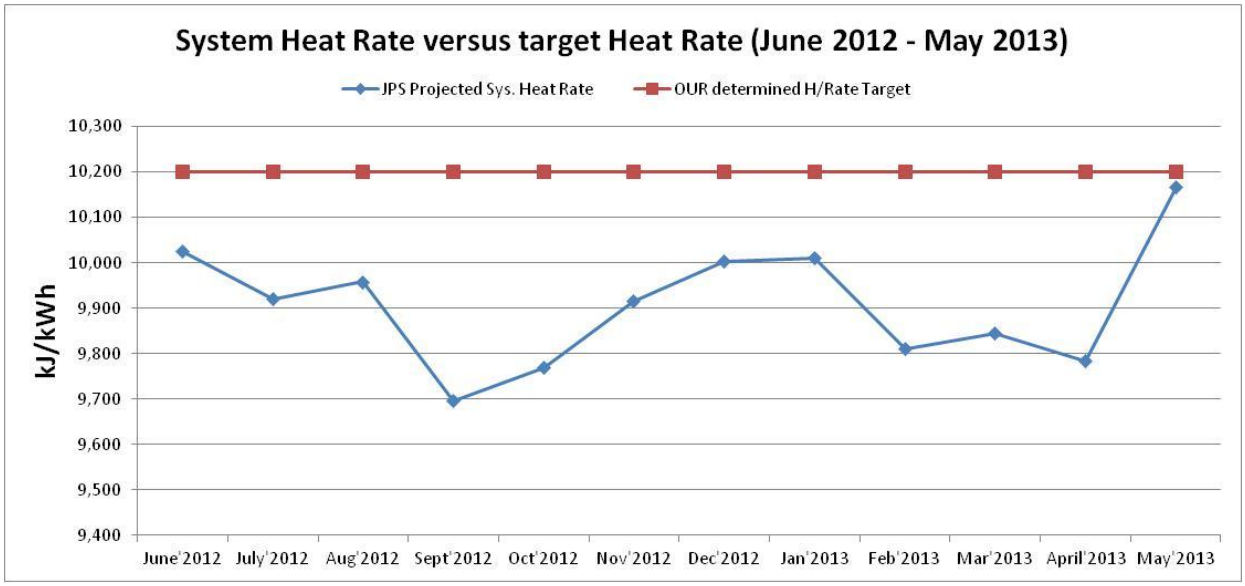
- **Jamaica Energy Partners WKPP – 65.5MW Project**

In the realization of the OUR's generation capacity procurement objective and implementation schedule, the 65.5 MW of land-based Medium Speed Diesel capacity located in West Kingston, Jamaica is planned for commissioning before the end of June 2012. The power generation complex is owned by the West Kingston Power Producers (WKPP) an affiliate of the Jamaica Energy Partners (JEP). The complex has a guaranteed heat rate of 8,568kJ/kWh and it is expected to operate at relatively high capacity factors

particularly in the early years of operation. The resultant effect is that of proving the thermal and conversion efficiencies to the country's electricity generating system.
Plant parameters such as, availability, dependable capacity and utilization levels were also taken into account in estimating the monthly System Heat Rates and the Heat Rate target for the 2012/2013 period.

Projected System Heat Rate Performance (June 2012 – May 2013)
Figure 4.2 below shows the comparison between the OUR projected system heat rate and the target system heat rate now being set by the OUR, for the period June 2012 to May 2013. The graph indicates that the system should comfortable perform below the target now being set but for May 2013. The projection for May 2013 performance is based on information received from JPS and could be a factor of the JPS dispatch schedule.

Figure 4.2: Projected System Heat Rate versus Target Heat Rate – June 2012 to May 2013



4.5.1.2 Evaluation

As previously indicated, in setting the new target, a comprehensive review, analysis and evaluation of the System Heat Rate previous performance and projections for 2012/13 was undertaken by the OUR. System Heat Rate is calculated by dividing the total fuel energy input for JPS and IPP thermal plants by the total net generation (this includes the net energy output from JPS thermal plants, IPPs supplying firm capacity and Renewable Plants).

In arriving at the new heat rate target, the average system heat rate for the system was established for each month for the period June 2012 to May 2013. Having obtained these results, the OUR then performed a number of simulations which examined the effect of the

target relative to the monthly System Heat Rates so as to measure the impact on the cost of fuel that JPS will pass through to its customers on a monthly basis.

A comparison of the monthly System Heat Rate for the period June 2011 to May 2012 and those projected for June 2012 to May 2013 is shown in Table 4.4 below. As indicated, a reduction in average system heat rate of approximately **300kJ/kWh** is expected over the twelve month period. With all renewable generation facilities in full operation throughout the period, it can be deduced that the lower System Heat Rate projection is due to the fact that the new 65.5 MW generation facility with relatively low conversion efficiency was incorporated in the generation dispatch.

The impact of the facility on the average System Heat Rate is estimated to be over 300kJ/kWh.

Table 4.4 below also shows that with Maggotty Hydro power plant being out of service for the last five months in the 2012/13 period, the generation system would have achieved an average reduction in Heat Rate of approximately **253kJ/kWh** for the same twelve month period. This reflects an average impact of approximately **50kJ/kWh** with Maggotty Hydro plant out of operation for the stated period.

Table 4.4 Average Monthly System Heat Rate achieved in 2011/2012 and Projections for 2012/13

Month	System Heat Rate - 2011/12	System Heat Rate - 2012/13 (Maggotty Hydro in service)	Change (kJ/kWh)	System Heat Rate - 2012/13 (Maggotty Hydro out of service Jan.2012)	Change (kJ/kWh)
June	9,788	10,025	237	10,025	237
July	9,977	9,920	-57	9,920	-57
August	10,015	9,958	-57	9,958	-57
September	10,634	9,696	-938	9,696	-938
October	10,365	9,768	-597	9,768	-597
November	10,296	9,916	-380	9,916	-380
December	10,114	10,002	-112	10,002	-112
January	10,336	9,860	-476	10,011	-325
February	10,218	9,653	-565	9,811	-407
March	10,286	9,688	-598	9,844	-442
April	10,053	9,727	-326	9,783	-270
May	9,852	10,042	190	10,167	315
Average	**10,161**	**9,854**	**-307**	**9,908**	**-253**

The heat rate evaluation also indicates that the additional 4 MW capacity at Wigton Wind Farm would have resulted in a reduction of approximately 20kJ/kWh in the heat rate target if it was included in the calculation during the last review.

Considering the efficiency improvements of the generating system in previous periods and the heat rate impact of the above mentioned conditions, the System Heat Rate target

derived for the 2012/13 tariff period is **10,200kJ/kWh.** This reflects a reduction of 150kJ/kWh (1.4%) in the target of 10,350kJ/kWh, which was set June 2011.

A comparison of the projected System Heat Rate and the Heat Rate target for the 2012/13 period is illustrated in Figure 4.3 below.

Given the capability of the power generation system, historical performance of Generators, and planned capacity addition, JPS is expected to reasonably achieve the target despite conditions of seasonality and variability in renewable generation, network constraints and unplanned generation outages that may occur from time to time.

On average, the application of the new Heat Rate target over the tariff period offers JPS a reasonable degree of flexibility. The purpose of this slack is mainly to provide JPS the latitude to allow it to absorb deviations in generation dispatch that may occur during operation that are not directly within its control.

As indicated in Table 4.5 below, even with a 1% deviation in System Heat Rate on the high side, on an average basis the company is still able to pass through the fuel cost without attracting recovery related penalties.

Figure 4.3 Projected System Heat Rate versus Target Heat Rate – June 2012 to May 2013

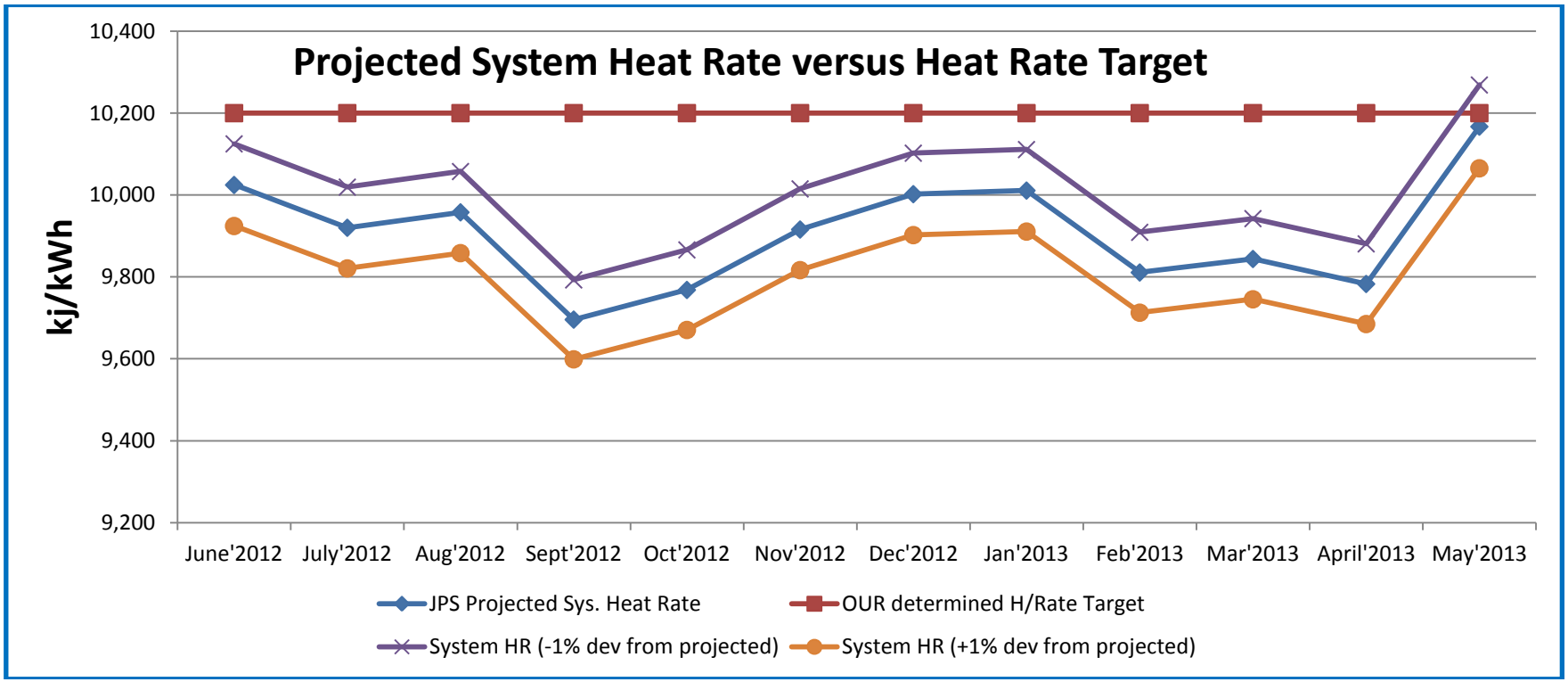


Table 4.5 Projected System Heat Rate showing deviations versus Target Heat Rate – June 2012 to May 2013

Date	12-Jun	12-Jul	12-Aug	12-Sep	12-Oct	12-Nov	12-Dec	13-Jan	13-Feb	13-Mar	13-Apr	13-May	Average
JPS Projected Sys. Heat Rate	10,025	9,920	9,958	9,696	9,768	9,916	10,002	10,011	9,811	9,844	9,783	10,167	**9,908**
OUR determined H/Rate Target	**10,200**	10,200	10,200	10,200	10,200	10,200	10,200	10,200	10,200	10,200	10,200	10,200	**10,200**
Variance (kJ/kWh)	-175	-280	-242	-504	-432	-284	-198	-189	-389	-356	-417	-33	-292
System HR (-1% dev from projected)	10,125	10,019	10,057	9,793	9,866	10,015	10,102	10,111	9,909	9,942	9,881	10,269	**10,008**
Variance (kJ/kWh)	-75	-181	-143	-407	-334	-185	-98	-89	-291	-258	-319	69	-192
System HR (+1% dev from projected)	9,924	9,821	9,858	9,599	9,671	9,817	9,902	9,911	9,713	9,746	9,685	10,065	**9,809**
Variance (kJ/kWh)	-276	-379	-342	-601	-529	-383	-298	-289	-487	-454	-515	-135	-391

4.5.1.3 Discussion

Since the publication of Tariff Determination Notice, 2009 (Ele 2009/4: Det/03) by the OUR, JPS monthly System Heat Rate performance has improved markedly, and for the most part except for a few occasions, exceeding the target of 10,400 kJ/kWh set in 2009. This improvement is largely attributable to the addition of 21 MW of renewable generating capacity to the system over the period, the constituents of which are 3 MW of wind power at Munro owned by JPS, commissioned in 2010 and the 18 MW expansion of the wind farm at Wigton. These plants aggregately supply an average monthly net-generation of just over 10,700 MWh to the grid which is reflected in the System Heat Rate calculation, hence the improvement in the overall efficiency of conversion.

Bogue Combined Cycle Unit

While there have been noticeable improvements in monthly System Heat Rate over the past two (2) years, the heat rate situation on a unit by unit basis is different, a typical example is the Bogue Combined Cycle unit. In 2008, the OUR, gave approval to JPS's proposal for upgrading the unit capacity from 108 MW to 118 MW with an expected improvement in heat rate from 9,250 kJ/kWh to 9,000 kJ/kWh. The expected benefits from the unit upgrade, according to JPS, were lower operational cost and improvement in system reliability. Since the commissioning of the upgraded facility in 2009, the unit has failed to deliver on these parameters and outcomes. The unit heat rate in particular has deteriorated since and in certain months has exceeded 10,000kJ/kWh. The proposed increase in capacity on the other hand, has not been realized which obviously impacts the net energy output of the unit. Improvement in the operating parameters of the Bogue combined cycle plant could result in better heat rate performance of the unit and consequently, lower System Heat Rate on average. From a regulatory perspective, this matter will be examined more closely in light of the fact that capital investment was committed and placed in the rate base and the expected benefits are not being realized.

Peaking Units

There are also issues associated with the utilization of peaking units. In some instances, capacity factors are way in excess of the normal acceptable range. The adoption of better maintenance strategies and economic operation of generating units could result in more favourable performance levels.

Impact of Renewable Generation

With the net generation from renewable plants included in the denominator of the System Heat Rate equation, there is a potential for inefficient operation of thermal plants to be compensated with the renewable generation component, which essentially, does not require any fuel energy input. This type of maneuver could yield a relatively low overall System Heat Rate despite inefficient generation being dominant in the system. As part of the regulatory monitoring framework, the OUR has embarked on a very intense dispatch monitoring programme and will continue providing oversight of the process going forward. This is to ensure that generation dispatch and Heat Rate computations are administered by the utility in a fair and transparent manner.

While there is scope for higher system efficiency with renewable generation, the OUR has also recognized that increased renewable participation in the energy supply mix, can pose problems in the dispatching of generators to satisfy system load. The intermittent and variable nature of the renewable resources can create problems in the dispatch process. This is so particularly when the system is balanced by deploying reserve capacity. Sometimes marginal generators are utilized and this is occasioned by the unavailability of renewable generation at critical points on the load curve. These alterations can result in sub-optimal operation of efficient generating units and the generating system as a whole.

The OUR in its evaluation has examined these renewable energy related issues in setting the new System Heat Rate target. The OUR also maintains the view, that within the limits of system constraints, the Grid Operator should at all times exercise reasonable effort to execute the dispatch of generating units in the most appropriate manner and consistent with industry best practices.

Spinning Reserve Requirement -JEP/WKPP 65.5MW Complex

As per the PPA between JPS and JEP for the 65.5MW Complex, Spinning Reserve was agreed as a contractual requirement of the plant. Consequently, the operation of the Complex in Spinning Reserve mode could have an adverse effect on the plant heat rate and by extension the monthly System Heat Rate performance. In consideration of this situation, the OUR has factored the impact of any possible deterioration in the plant heat rate due to spinning reserve requirement in the computation of the System Heat Rate target.

Dispatch Deviation

As indicated earlier, the System Heat Rate for a given period is largely dependent on the dispatch of the available generating units. From time to time, abnormal power system and environmental conditions may impose adverse effects on the dispatch process resulting in slight deviations from schedule. While recognizing the possibility of such deviations, the OUR, is of the view that these deviations on average should be restricted to a minimum.

Given the likelihood that the dispatch process may encounter some deviation from schedule, the OUR has examined different scenarios with deviations of at least 1% (plus/minus) in setting the System Heat Rate target. In all the scenarios investigated, the System Heat Rate compared favourably with the target. Refer to Figure 4.3 and Table 4.5 above.

System Losses/Fuel Recovery Penalty

Regarding system losses/fuel recovery penalty posited by JPS, the OUR wishes to point out that the Heat Rate target for the Electricity Generating System is an independent and unrelated component to the system loss factor which is also applied in the fuel cost pass through mechanism. Having regard to the above and fair and transparent regulatory practices, the OUR makes it absolutely clear that the System Heat Rate target cannot and will not be set with the notion of it being utilized as a compensating measure to offset poor system loss performance, thereby providing a means of averting or avoiding fuel cost recovery penalties related to system losses.

JPS' Heat Rate Request

JPS in its submission requested that the system heat rate target be revised to **10,300kJ/kWh**.

After careful analysis and evaluation of the proposal, it was observed that the proposed system heat rate target of 10,300kJ/kWh would impose significant fuel cost burden on the electricity rate-payers. This kind of situation cannot be encouraged, especially in this high cost energy environment.

Figure 3.1 and Table 3.6 above indicate the profile of JPS Heat Rate proposal. As shown, the variance between the average System Heat Rate and the target each month is significant. This would allow JPS to benefit tremendously from the accumulated Heat Rate gains to the detriment of the customers.

Estimates of the monthly fuel costs for electricity generation based on current fuel oil prices and future price projections indicate that the aggregate Heat Rate benefit required by JPS as per proposal would translate into excessive fuel cost to customers over the tariff period. In strict adherence to the fundamental regulatory principles of fairness and reasonableness, acceptance of such a proposal would be extremely difficult to justify.

OUR Determination - System Heat Rate Target

1. The OUR is of the view that the revised 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 OUR is of the view that 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: Based on all the factors taken into consideration as described above, the OUR has determined that the permitted Billing Heat Rate for the period July 2012 to May 2013 is 10, 200kJ/kWh.

4.5.2 Letter of Credit Fund (LCF)

In the annual determination, Jamaica Public Service Company Limited Annual Tariff Adjustment 2011 (Ele 2011002_DET002) dated May 20, 2011 the Office approved an increase of **120kJ/kWh** to the heat rate target to facilitate the establishment of a Letter of Credit (LC) facility a prerequisite for the commercial operations of West Kingston Power Plant (WKPP). This 120 kJ/kWh adjustment to the heat rate target was expected to yield US$7 million which is the amount required over a 12 month period expiring in May 2012.

In the computation of the 120 kJ/kWh adjustment corporate tax at the rate of 33.33% was not contemplated. Consequently, if the tax is to be accommodated in the twelfth (12^{th}) month (May 2012), which is intended to be the final month to collect from the consumer, JPS would be required to pass through the amount of approximately US$2.389M to make up the total of US$7M(after taxes).

The OUR, is of the view that any such adjustment to accommodate for taxes will be an undue burden to the consumers. In this regard and in accordance with the Jamaica Public Service Company Limited Annual Tariff Adjustment 2011 dated May 20, 2011 in the 12^{th} month after the LC Funding has been introduced, JPS shall compute the amount required and adjust the fuel rate by the residual in order to ensure that no more or no less than the gross amount of US$7 million is collected from the electricity consumers.

Bearing in mind that these funds are contributions from the rate-paying consumers and not in any way payment for goods and or services provided by JPS, the company should employ the appropriate mechanism to reflect this reality. It should be pointed out that JEP has never drawn on the letter of credit facility relative to its 124MW plant and in this regard, the OUR is of the view that the consumers should not be asked to bear any additional burden pertaining to this LC facility.

DETERMINATION: The Office therefore determines that the LC should be established for no more than the gross amount of US$7M.

For the final contribution in May 2012, JPS shall compute the amount required ensuring that no more or no less than the gross amount of US$7 million is collected. It is evident that JPS will be collecting more than the US$7 million and by June 30, 2012 JPS shall advise the OUR, of the excess amount and an appropriate method to refund this amount to the consumers. All other terms and conditions regarding the fund as outlined in the Jamaica Public Service Company Limited Annual Tariff Adjustment 2011 (Ele 2011002_DET002) dated May 20, 2011 remain unchanged.

4.6 Fuel Cost Adjustment Factor – System Losses

In the Tariff Determination Notice, 2009 (Ele 2009/4: Det/03) JPS stated that it had not been able to achieve a system loss reduction target in fifteen (15) years and went on to

mention that the situation is reflecting the ingrained and pervasive nature of the crime that thrives in Jamaica's challenging socioeconomic environment. Nevertheless, the company's stated intention was to intensify its battle against losses on both the technical loss and commercial loss sides. JPS' expectation was to reduce system losses from 22.9% at the end of 2008 to 18.3% (16.3% stretched target) over the rate cap period primarily as a result of its ongoing loss reduction initiatives (see Table 4.6 below). As a result of a proposed cumulative CAPEX and O&M spend of approximately US$45M, JPS proposed a reduction in system losses of approximately one percentage (1%) point per annum for the 2009 to 2014 price cap period.

Table 4.6 JPS 2009 Proposed Losses Target

	Actual	Forecast					
	Dec-08	Jun-09	Jun-10	Jun-11	Jun-12	Jun-13	Jun-14
Projected System Losses	22.90%	22.50%	21.50%	20.50%	19.70%	18.90%	18.30%
Stretch target		2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Proposed Losses Target		**20.50%**	**19.50%**	**18.50%**	**17.70%**	**16.90%**	**16.30%**

The Office, against the background of the unsatisfactory level of system losses and in support of JPS' five year loss reduction program (that is, to reduce the losses by almost one per cent (1%) per annum with a stretch of two per cent (2%) per annum as shown in the table above) made the decision to:

a) Increase the system loss target from 15.80% to 19.50%; and
b) Allow the amount of 0.4US¢/kWh to be set aside for a special Electricity Efficiency Improvement Fund (EEIF) to be used specifically for the implementation of Advanced Metering Infrastructure and other anti-theft technologies.

The Office then and still is of the view that proper application of the increased revenues accruing from these two initiatives should result in the acceleration of the rate of reduction in system losses. The Office in the said Determination made the decision that the system losses target would be adjusted downwards in 2011/12 from 19.5% to 17.5%. Targets subsequent to the 2011/12 annual review were to be determined during the Annual Tariff Adjustments exercise.

For the period under review JPS reported that system losses rolling 12 month average has increased from 21.79% recorded as at December 2010 to 23.22% as at December 2011 when calculated using the company's billed sales. With the use of the sales data, system losses marginally declined from 22.95% to 22.26% over the same period as shown in Table 4.7 below.

Table 4.7 JPS 2009-2011 System Losses Actual

Year	Net Generation (GWh)	Sales (GWh)	Billed Sales (GWh)	System Losses (Rolling 12 Month %)	
				based on sales	based on billed sales
2009	4,214	3,204	3,231	23.98	23.22
2010	4,137	3,187	3,235	22.95	21.79
2011	4,137	3,216	3,176	22.26	23.22

EEIF contribution as at December 2011 – **US$27.7M** (US$18.5M net of taxes)

In its 2012 Annual Tariff Submission, JPS requested an upward revision of the system losses target from 17.5% to 18.5% stating among other things that its "current sustainable loss reduction efforts such as meter centers and RAMI projects require significant time and capital to address and that the Company in fact experience a penalty of US$18.8 Million in 2011 as a result of the 30% increase in oil prices".

The OUR is cognizant of both the global economic and the local socio-economic conditions in and through which JPS operates. Most of these conditions were in existence in 2009 when the aforementioned Determination was made by the Office. The OUR again reiterates that the rate of reduction in system losses should be accelerated as it was against this understanding that the system losses target was increased to 19.5% and the EEIF established in order to aid the process.

DETERMINATION: In keeping with the goals established in the Tariff Determination Notice, 2009 (Ele 2009/4: Det/03) the Office now determines that the target for system losses will remain at 17.50% for period 2012-2013.

JPS should be reminded that the target for system losses for the period 2004 to 2009 was at 15.8%. JPS is therefore urged to make best use of the opportunity it is now afforded and endeavor to get within previous targets given that the next tariff reset is in 2014. The OUR recognizes that JPS is not short on ideas as in the past the company has made suggestions regarding the treatment of non-technical losses in an effort to deter the illegal abstraction of electricity. JPS stated that, *"One suggestion, for example is the imposition of a penalty on the value of electricity stolen, which reflects actual loss and has a punitive component. JPS is committed to working with the GOJ and its affiliate organizations (such as the REP and the NWC) to encourage the development of proper housing infrastructure for such persons, to mitigate the need for the illegal access of water and light by these inhabitants."*

In fact, the former CEO Damian Obiglio was quoted in the Sunday Observer of January 16, 2011 saying *"We have a very aggressive program to reduce the losses at two per cent per year. To reduce losses...most of the cases require that you build infrastructure and this is what we are doing in Tivoli Gardens right now,"* Obiglio said.

"Even though the overall loss from the theft of electricity has declined this year (2010) by 1.58 per cent, Obiglio said the company intends to continue to reduce the non-technical losses by two per cent per year until the 4.7 per cent target is achieved. He said this target is consistent with the expectation of electricity theft given Jamaica's socio-economic situation."

DETERMINATION: JPS' request for: a) Setting a maximum Fuel Penalty/Reward and; b) Providing the gross up for taxes to the loss reduction funding has not been accepted by the OUR. The existing fuel rate mechanism passes through the full and justifiable rewards/penalty to JPS. The OUR will however take a closer look at the methodology used in computing the system heat rate and changes, if any, will be made at the 2014 tariff reset. The OUR will not allow any increase in funding to the EEIF and suggests that JPS approaches the Government of Jamaica (GOJ) for a tax exemption to the EEIF bearing in mind that these funds are contributions from the rate-paying consumers of electricity and not in any way payment for goods and/or services.

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 2011 revenue shares.

The tariff basket compliance must satisfy the following formulae:

PCI≥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 2.09% [derived from δPCI = (dI = 4.81%) - (X =2.72%) ± (Q = 0%) ± (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	1.96%	1.95%	0.00%	0.00%	0.00%	0.00%	3.91%
Rate 10	LV	>100	3.28%	38.53%	0.00%	0.00%	0.00%	0.00%	41.81%
Rate 20	LV		1.34%	22.52%	0.00%	0.00%	0.00%	0.00%	23.86%
Rate 40	LV - Std		0.25%	6.63%	8.26%	0.00%	0.00%	0.00%	15.14%
Rate 40	LV - TOU		0.02%	1.37%	0.00%	0.08%	0.61%	0.60%	2.68%
Rate 50	MV - Std		0.02%	3.84%	2.86%	0.00%	0.00%	0.00%	6.72%
Rate 50	MV - TOU		0.00%	1.05%	0.00%	0.09%	0.82%	0.90%	2.86%
Rate 60	LV		0.01%	2.98%	0.00%	0.00%	0.00%	0.00%	2.99%
TOTAL			6.88%	78.87%	11.12%	0.17%	1.43%	1.50%	100.0%

Table 5.2 shows the OUR determined annual adjustment factor to be applied to each rate class and category. The OUR, has determined that the customer charge be increased by 7.50% 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	Energy J$/kWh	Demand-J$/KVA Std.	Off-Peak	Part Peak	On-Peak
Rate 10	LV	--100	7.500%	1.136%				
Rate 10	LV	> 100	7.500%	1.136%				
Rate 20	LV		7.500%	1.137%				
Rate 40A	LV							
Rate 40	LV - Std		7.500%	1.137%	5.000%			
Rate 40	LV - TOU		7.500%	1.137%		5.000%	5.000%	5.000%
Rate 50	MV - Std		7.500%	1.137%	5.000%			
Rate 50	MV - TOU		7.500%	1.137%		5.000%	5.000%	5.000%
Rate 60	LV		7.500%	0.000%				

It is a requirement that when aggregated, the weighted adjustment proposed by JPS should equate to the annual adjustment factor (2.09%). 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	Energy-J$/kWh	Demand-J$/KVA Std.	Off-Peak	Part Peak	On-Peak	TOTAL
Weighted increase									
Rate 10	LV	--100	0.147%	0.022%	0.000%	0.000%	0.000%	0.000%	0.169%
Rate 10	LV	> 100	0.246%	0.428%	0.000%	0.000%	0.000%	0.000%	0.674%
Rate 20	LV		0.101%	0.256%	0.000%	0.000%	0.000%	0.000%	0.357%
Rate 40A	LV		0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Rate 40	LV - Std		0.019%	0.075%	0.413%	0.000%	0.000%	0.000%	0.507%
Rate 40	LV - TOU		0.002%	0.016%	0.000%	0.004%	0.031%	0.030%	0.083%
Rate 50	MV - Std		0.002%	0.044%	0.143%	0.000%	0.000%	0.000%	0.189%
Rate 50	MV - TOU		0.000%	0.012%	0.000%	0.005%	0.041%	0.045%	0.103%
Rate 60	LV		0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.001%
TOTAL			**0.52%**	**0.85%**	**0.56%**	**0.01%**	**0.07%**	**0.08%**	**2.09%**

The non-fuel base rates approved by the Office in the 2011 Annual Tariff Adjustment, which were used to derive the 2011 non-fuel basket, are shown in Table 5.4 below.

Table 5.4 Current Non-Fuel Tariffs approved in 2011

Class		Block/Rate Option	Customer Charge	Energy-J$/kWh	Demand-J$/KVA			
					Std.	Off-Peak	Part Peak	On-Peak
Rate 10	LV	--100	300.0	6.28	-	-	-	-
Rate 10	LV	> 100	300.0	14.36	-	-	-	-
Rate 20	LV		660.0	12.28	-	-	-	-
Rate 40A	LV					-	-	-
Rate 40	LV - Std		4,800.0	3.50	1,269.37	-	-	-
Rate 40	LV - TOU		4,800.0	3.50	-	53.88	558.52	714.68
Rate 50	MV - Std		4,800.0	3.32	1,142.44	-	-	-
Rate 50	MV - TOU		4,800.0	3.32	-	50.77	495.06	634.69
Rate 60	LV		1,800.0	14.73	-	-	-	-

Table 5.5 below shows the inflation and X-factor adjusted rates after applying the individual tariff increases determined by 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 2012-2013

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	-	-	-	-

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 2011

Class		Block/ Rate Option	2011 12 Months Customer Revenue	Energy Revenue	Demand (KVA) revenue				Total Demand Revenue	Total Revenue
					Std.	Off-Peak	Part Peak	On-Peak		
Rate 10	LV	<100	688,849,200	686,096,782					-	1,374,945,982
Rate 10	LV	>100	1,151,730,000	13,526,678,933					-	14,678,408,933
Rate 20	LV		469,386,720	7,903,598,217					-	8,372,984,937
Rate 40	LV - Std		88,819,200	2,328,071,925	2,900,486,332				2,900,486,332	5,317,377,457
Rate 40	LV - TOU		7,430,400	480,178,265		29,209,911	213,807,600	209,449,838	452,467,349	940,076,014
Rate 50	MV - Std		6,739,200	1,349,519,277	1,005,431,741				1,005,431,741	2,361,690,218
Rate 50	MV - TOU		1,612,800	368,832,751		30,182,156	288,801,667	315,597,698	634,581,521	1,005,027,072
Rate 60	LV		4,752,000	1,047,711,257					-	1,052,463,257
TOTAL			2,419,319,520	27,690,687,407	3,905,918,073	59,392,067	502,609,267	525,047,536	4,992,966,943	35,102,973,870

Table 5.6 above is derived using the 2011 billing determinants and the approved non-fuel tariffs arising out of the Jamaica Public Service Company Limited Annual Tariff Adjustment 2011 (Ele 2011002_DET002) dated May 20, 2011 which came into effect on June 01, 2011. The application of the weighted annual adjustment factor of 2.09% to each tariff yields the reduced non-fuel revenue in Table 5.7 below.

Table 5.7 Non-Fuel Tariff Basket 2012-2013 (revenue from new Tariff)

Class		Block/ Rate Option	2011 12 Months Customer Revenue	Energy Revenue	Demand (KVA) revenue				Total Demand Revenue	Total Revenue
					Std.	Off-Peak	Part Peak	On-Peak		
Rate 10	LV	<100	740,512,890	693,744,358					-	1,434,257,248
Rate 10	LV	>100	1,238,109,750	13,677,394,018					-	14,915,503,768
Rate 20	LV		504,590,724	7,993,704,386					-	8,498,295,110
Rate 40	LV - Std		95,480,640	2,354,678,461	3,045,514,076				3,045,514,076	5,495,673,177
Rate 40	LV - TOU		7,987,680	485,666,017		30,668,238	224,499,511	219,921,158	475,088,907	968,742,604
Rate 50	MV - Std		7,244,640	1,365,778,546	1,055,701,567				1,055,701,567	2,428,724,753
Rate 50	MV - TOU		1,733,760	373,276,519		31,692,155	303,240,000	331,375,346	666,307,501	1,041,317,780
Rate 60	LV		5,108,400	1,047,711,257					-	1,052,819,657
TOTAL			2,600,768,484	27,991,953,562	4,101,215,643	62,360,393	527,739,511	551,296,504	5,242,612,051	35,835,334,097

Table 5.8 Estimated Bill Impact of JPS' Annual Tariff Adjustment Submission

Rate Class	Typical Usage (kWh)	Demand (kVA)	Bill Impact (%)
Residential [10]	200	-	0.1
Residential [10]	300	-	0.0
Small Commercial [20]	1,000	-	-0.1
Large Com. Low Voltage [40]	35,000	100	0.2
Large Com. Medium Voltage [50]	500,000	1,500	-0.2
System Heat Rate Target	**System Losses Target**		
10,300	18.50%	Average Increase	0.0%

Table 5.8 above shows the average bill impact across rate classes.

If JPS' request was fully accepted by the OUR, other things being constant, customers would have experienced on the average no significant movement on their bills.

JPS' request was for:

1. annual inflation adjustment of 2.09%;
2. system heat rate target of 10,300 kJ/kWh; and
3. system losses target of 18.50%

Table 5.9: Estimated Bill Impact of OUR Determined Annual Tariff Adjustment

Rate Class	Typical Usage (kWh)	Demand (kVA)	Bill Impact (%)
Residential [10]	200	-	-1.4
Residential [10]	300	-	-1.4
Small Commercial [20]	1,000	-	-1.4
Large Com. Low Voltage [40]	35,000	100	-1.4
Large Com. Medium Voltage [50]	500,000	1,500	-1.5
System Heat Rate Target	**System Losses Target**		
10,200	17.50%	Average Decrease	-1.4%

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

With the OUR approved parameters, all other things being constant, customers will experience on the average a 1.4% reduction on their bills.

The OUR determination is as follows:

1. **annual inflation adjustment of 2.09%;**
2. **system heat rate target of 10,200 kJ/kWh; and**
3. **system losses target of 17.50%**

6. Service Standards

6.1 Guaranteed Standards

The following Guaranteed Standards become effective on **July 01, 2012**:

Table 6.1: Guaranteed Standards

Code	Focus	Description	Performance Measure
EGS 1(a)	Access	Connection to Supply - New Installations	New service Installations within five (5) working days after establishment of contract
EGS 1(b)	Access	Connection to Supply - Simple Connections	Connections within four (4) working days after establishment of contract where supply and meter are already on premises
EGS 2(a)	Access	Complex Connection to supply	Between 30m and 100m of existing distribution line (i) estimate within ten (10) working days (ii) connection within thirty (30) working days after payment
EGS 2(b)	Access	Complex Connection to supply	Between 101m and 250m of existing distribution line (i) estimate within fifteen (15) working days (ii) connection within forty (40) working days after payment
EGS 3	Response to Emergency	Response to Emergency	Response to Emergency calls within five (5) hours – emergencies defined as broken wires, broken poles, fires
EGS 4	First Bill	Issue of First bill	Produce and dispatch first bill within forty (40) working days after service connection
EGS 5(a)	Complaints/ Queries	Acknowledgements	Acknowledge written queries within five (5) working days
EGS 5(b)	Complaints/ Queries	Investigations	Complete investigation within thirty (30) working days
EGS 5(c)	Complaints/ Queries	Investigations involving 3rd party	Complete investigation within sixty (60) working days if 3rd party involved
EGS 6	Reconnection	Reconnection after Payments of Overdue amounts	Reconnection within twenty-four (24) hours of payment of overdue amount and reconnection fee **Attracts automatic compensation**
EGS 7	Estimated Bills	Frequency of Meter reading	Should NOT be more than two (2) consecutive estimated bills (where company has access to meter).
EGS 8	Estimation of Consumption	Method of estimating consumption	An estimated bill should be based on the average of the last three (3) actual

Code	Focus	Description	Performance Measure
			readings
EGS 9	Meter Replacement	Timeliness of Meter Replacement	Maximum of twenty (20) working days to replace meter after detection of fault which is not due to tampering by the customer **Attracts automatic compensation**
EGS 10	Billing Adjustments	Timeliness of adjustment to customer's account	Where necessary, customer must be billed for adjustment within three (3) months of identification of error, or subsequent to replacement of faulty meter
EGS11	Disconnection	Wrongful Disconnection	Where the company disconnects a supply that has no overdue amount or is currently under investigation by the OUR or the company and only the disputed amount is in arrears. **Attracts automatic compensation**
EGS12	Reconnection	Reconnection after Wrongful disconnection	The company must restore a supply it wrongfully disconnects within five (5) hours. **Attracts automatic compensation**
EGS13	Meter	Meter change	JPS must ensure that a note is left at the premises and or utilize its text messaging service indicating the meter change including date of the change and meter readings at the time of change, reason for change and serial number of new meter
EGS14	Compensation	Making compensatory payments	Accounts should be credited within thirty (30) working days of verification of breach

6.1.1 Guaranteed Standards Explanatory Notes

Working Days

This is defined as Monday to Friday excluding public holidays.

EGS 1 & 2 – Connection to Supply

The contract within these categories is considered established where JPS acknowledges that all information/documents /fees deemed necessary for the provision of the service are provided.

EGS 6 – Reconnection after Payment of Overdue Amounts

The 24 hour period for reconnection starts immediately after the customer has made a payment that clears the outstanding balance on the account inclusive of reconnection fee and any other charges that may be deemed applicable. Note that any disputed amount that is the subject of an active investigation with the company (whether directly or through the OUR) should be placed on hold pending a final decision which is communicated to the customer. Any such amount may be reflected as a balance on the account after all other arrears are cleared to facilitate reconnection.

EGS 8 – Estimation of Consumption

An estimated bill should be based on the average of the last three (3) actual readings. For new accounts, this standard is excepted for the first six 6 bills ONLY if three (3) actual readings are not available within that period.

Wrongful Disconnection

The standard is defined as follows:

> *The company commits a breach where it disconnects a customer's supply that has no overdue amount reflected on the associated account. This standard will also apply to accounts that are under investigation by the OUR or the company and only the disputed amount is in arrears.*

Reconnection after Wrongful Disconnection

The standard is defined as follows:

> *A breach occurs where the company, after erroneously disconnecting a supply, fails to reconnect same within FIVE (5) hours of being notified of the error. The five (5) hours for reconnection begins the moment the company is notified of the error.*

Compensation

Compensation for breaches of the Guaranteed Standards shall be as follows:

A. **General Compensation**

1. For residential customers, a breach of a standard will result in compensation equal to the reconnection fee.

2. For commercial customers, the compensation will remain four times the customer charge**.**

3. Breaches of the standards will attract compensatory payments for a maximum of six (6) periods of non-compliance.

4. Where applicable, customers should submit claims within one hundred and thirty two (132) working days after the occurrence of the breach.

Table 6-2: Compensation for Breach of Guaranteed Standards

Customer Class	Compensation
Domestic Rate 10 – Residential Service	$1,500
General Service Rate 20 – General Service	$2,200
Power Service Rate 40 – Low Voltage Rate 50 (all MV)– Large Power	$16,000

B. Special Compensation

Wrongful Disconnection

1. ***Compensation for wrongful disconnection*** *will be TWO (2) times the reconnection fee for residential customers and FIVE (5) times the customer charge for Commercial customers.*

2. ***Reconnection after wrongful disconnection*** *standard when breached will attract compensation of TWO (2) times the reconnection fee for residential customers and FIVE (5) times the customer charge for commercial customers.*

C. Automatic compensation

T*he company will be required to automatically apply the necessary compensation to accounts for the following breaches:*

- *Wrongful Disconnection*
- *Reconnection after Wrongful Disconnection*
- *Reconnection after Payment of Overdue Amounts*
- *Meter Replacement*

6.2 Overall Standards

The following Overall Standards become effective on July 01, 2012:

Table 6-3: Overall Standards

Code	Standard	Units	Targets to May 2014
EOS1	Minimum of forty-eight (48) hours prior notice of planned outages	Percentage of planned outages for which at least forty-eight (48) hours advance notice is provided	100%
EOS2	Percentage of line faults repaired within a specified period of that fault being reported	Urban – forty-eight (48) hrs Rural – ninety-six (96) hrs	100% 100%
EOS3	System Average Interruption Frequency Index (SAIFI)	Frequency of interruptions in service	To be set annually
EOS4	System Average Interruption Duration Index (SAIDI)	Duration of interruptions in service	To be set annually
EOS4A	Customer Average Interruption Duration Index (CAIDI)	Average time to restore service to average customers per sustained interruption	To be set annually
EOS6	Frequency of meter reading	Percentage of meters read within time specified in the Licensee's billing cycle (currently monthly for non-domestic customers and bi-monthly for domestic customers)	99%
EOS7 (a)	Frequency of meter testing	Percentage of rates 40 and 50 meter tested for accuracy annually	50%
EOS7 (b)	Frequency of meter testing	Percentage of other rate categories of customers meters tested for accuracy annually	7.5%
EOS8	Billing Punctuality	98% of all bills to be mailed within specified time after meter is read	Five (5) working days
EOS9	Restoration of service after unplanned (forced) outages on the distribution system	Percentage of customer's supplies to be restored within twenty-four (24) hours of forced outages in both Rural and Urban areas	98%
EOS10	Responsiveness of call center representatives	Percentage of calls answered within twenty (20) seconds	90%
EOS11	Effectiveness of call center representatives	Percentage of complaints resolved at first point of contact	To be set
EOS 12	Effectiveness of street lighting repairs	Percentage of all street lighting complaints resolved within fourteen (14) days	99%

7. Appendix

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

7.1.1 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

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													

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

7.1.2 Jamaican Consumer Price Index

Ja. Consumer Price Index

The Index numbers listed in the table: Consumer Price Index for 2002-2009, are based on the revised calculations using the new series that have linked to the 2004/2005 HES.

These index numbers provides an historical series of the CPI on a monthly basis. The monthly indexes are averages over the 12 months of the year to arrive at an annual averages index.

Changes calculated from these averages represent average annual changes for the year.

Consumer Price Index for 2002-2012

Month	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
January	60.90	64.80	74.60	84.10	94.70	101.00	119.40	136.00	152.60	167.80	178.90
February	60.90	64.40	75.00	84.50	94.80	101.30	121.50	137.10	155.90	167.10	180.30
March	61.00	64.70	75.40	85.30	94.90	102.50	122.90	138.20	156.60	168.90	
April	61.30	65.70	75.70	86.90	96.00	102.90	124.80	138.80	158.70	169.70	
May	61.50	66.80	76.20	88.70	96.30	104.30	127.80	140.00	159.70	171.00	
June	62.00	68.50	76.80	90.00	97.60	105.10	130.30	142.00	160.70	172.30	
July	62.90	69.50	77.60	91.40	98.90	106.10	134.00	143.30	161.30	173.60	
August	63.10	70.40	78.60	91.50	99.20	107.20	135.60	143.90	162.00	174.60	
September	63.40	71.50	79.00	93.80	99.90	108.90	136.50	146.30	162.80	175.91	
October	63.90	72.70	81.60	94.30	99.80	110.40	136.90	147.50	164.00	176.70	
November	64.60	73.40	83.60	94.60	99.60	114.00	136.40	148.70	165.70	177.50	
December	65.00	73.90	84.10	94.60	100.00	116.80	136.50	150.40	168.10	178.20	
Annual Average	**62.50**	**68.90**	**78.20**	**90.00**	**97.60**	**106.70**	**130.20**	**142.70**	**160.68**	**172.78**	
Annual Inflation Rate	**7.20**	**13.80**	**13.70**	**12.60**	**5.70**	**16.80**	**16.80**	**10.20**	**11.80**	**6.00**	

Source: Statistical Institute of Jamaica

7.2 Appendix 2: Estimated Bill Impact of Annual Tariff Adjustment

7.2.1 Bill Comparison for a Typical Rate 10 Consumer with consumption up to 200kWh[8]

Usage 200 kWh

Rate 10	Before			After				
	2011 Rates J$			2012 Rates J$			Change	
Description	Base F/X Rate	Billing F/X Rate		Base F/X Rate	Billing F/X Rate		J$	%
	86.50	87.30		87.50	87.30			
	Usage kWh	Rate		Usage kWh	Rate			
Energy 1st	100	6.28	628.00	100	6.35	635.00	7.00	1.11%
Energy Next	100	14.36	1,436.00	100	14.52	1,452.00	16.00	1.11%
Customer Charge			300.00			322.50	22.50	7.50%
Sub Total			**2,364.00**			**2,409.50**	**45.50**	**1.92%**
F/E Adjust		0.007	16.62		-0.002	- 4.19	- 20.80	
Fuel & IPP	200	22.944	4,588.80	200	22.349	4,469.76	- 119.04	-2.59%
Bill Total			**J$ 6,969.42**			**J$ 6,875.07**	**- 94.34**	**-1.35%**

7.2.2 Bill Comparison for a Typical Rate 10 Consumer with consumption above 200kWh

Usage 300 kWh

Rate 10	Before			After				
	2011 Rates J$			2012 Rates J$			Change	
Description	Base F/X Rate	Billing F/X Rate		Base F/X Rate	Billing F/X Rate		J$	%
	86.50	87.30		87.50	87.30			
	Usage kWh	Rate		Usage kWh	Rate			
Energy 1st	100	6.28	628.00	100	6.35	635.00	7.00	1.11%
Energy Next	200	14.36	2,872.00	200	14.52	2,904.00	32.00	1.11%
Customer Charge			300.00			322.50	22.50	7.50%
Sub Total			**3,800.00**			**3,861.50**	**61.50**	**1.62%**
F/E Adjust		0.007	26.71		-0.002	- 6.71	- 33.42	
Fuel & IPP	300	22.944	6,883.20	300	22.349	6,704.64	- 178.56	-2.59%
Bill Sub-Total			**10,709.91**			**10,559.43**	**- 150.48**	**-1.41%**
Non Taxble Charges (up to 200kWH)			6,969.42			6,875.07		
Taxable Charges			3,740.49			3,684.36		
GCT @10%		0.10	374.05		0.10	368.44		
Bill Total			**J$ 11,083.96**			**J$ 10,927.87**	**- 156.09**	**-1.41%**

[8] At the time of writing the Minister of Finance in his budget speech said that, as of June 1, 2012, no GCT will be charged on the first 300kWh of electricity consumed, up from 200kWh. Additionally the tax will move from 10 to 16.5 per cent.

7.2.3 Bill Comparison for a Typical Rate 20 Consumer

Usage 1,000 kWh

Rate 20	Before			After				
	2011 Rates J$			2012 Rates J$			Change	
Description	Base F/X Rate	Billing F/X Rate		Base F/X Rate	Billing F/X Rate		J$	%
	86.50	87.30		87.50	87.30			
		.						
	Usage kWh	Rate		Usage kWh	Rate			
Energy	1000	12.28	12,280.00	1000	12.42	12,420.00	140.00	1.14%
Customer Charge			660.00			709.50	49.50	7.50%
Sub Total			**12,940.00**			**13,129.50**	**189.50**	**1.46%**
F/E Adjust		0.007	90.95		-0.002	- 22.81	- 113.76	
Fuel & IPP	1000	22.944	22,944.00	1000	**22.349**	22,348.80	- 595.20	-2.59%
Bill Sub-Total			**35,974.95**			**35,455.49**	**- 519.46**	**-1.44%**
GCT @10%		0.10	3,597.50		0.10	3,545.55	- 51.95	-1.44%
Bill Total			**J$ 39,572.45**			**J$ 39,001.04**	**- 571.41**	**-1.44%**

7.2.4 Bill Comparison for a Typical Rate 40 Consumer

Usage 35,000 kWh
Demand 100 kVA

Rate 40	Before			After				
	2011 Rates J$			2012 Rates J$			Change	
Description	Base F/X Rate	Billing F/X Rate		Base F/X Rate	Billing F/X Rate		J$	%
	86.50	87.30		87.50	87.30			
	Usage	Rate		Usage kWh	Rate			
Energy kWh	35000	3.50	122,500.00	35000	3.54	123,900.00	1,400.00	1.14%
Demand kVA	100	1269.37	126,937.00	100	1332.84	133,284.00	6,347.00	
Customer Charge			4,800.00			5,160.00	360.00	7.50%
Sub Total			**254,237.00**			**262,344.00**	**8,107.00**	**3.19%**
F/E Adjust		0.007	1,787.01		-0.002	- 455.73	- 2,242.74	
Fuel & IPP	35000	22.944	803,040.00	35000	**22.349**	782,208.00	- 20,832.00	-2.59%
Bill Sub-Total			**1,059,064.01**			**1,044,096.27**	**- 14,967.74**	**-1.41%**
GCT @10%		0.10	105,906.40		0.10	104,409.63	- 1,496.77	-1.41%
Bill Total			**J$ 1,164,970.41**			**J$ 1,148,505.90**	**- 16,464.51**	**-1.41%**

7.2.5 Bill Comparison for a Typical Rate 50 Customer

Usage 500,000 kWh
Demand 1,500 kVA

Rate 40	Before			After				
	2011 Rates J$			2012 Rates J$			Change	
Description	Base F/X Rate	Billing F/X Rate		Base F/X Rate	Billing F/X Rate		J$	%
	86.50	87.30		87.50	87.30			
	Usage	Rate		Usage kWh	Rate			
Energy kWh	35000	3.50	122,500.00	35000	3.54	123,900.00	1,400.00	1.14%
Demand kVA	100	1269.37	126,937.00	100	1332.84	133,284.00	6,347.00	
Customer Charge			4,800.00			5,160.00	360.00	7.50%
Sub Total			**254,237.00**			**262,344.00**	**8,107.00**	**3.19%**
F/E Adjust		0.007	1,787.01		-0.002	- 455.73	- 2,242.74	
Fuel & IPP	35000	22.944	803,040.00	35000	**22.349**	782,208.00	- 20,832.00	-2.59%
Bill Sub-Total			**1,059,064.01**			**1,044,096.27**	**- 14,967.74**	**-1.41%**
GCT @10%		0.10	105,906.40		0.10	104,409.63	- 1,496.77	-1.41%
Bill Total			**J$ 1,164,970.41**			**J$ 1,148,505.90**	**- 16,464.51**	**-1.41%**