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# Office of Utilities Regulation

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## Jamaica Public Service Company Limited Annual Tariff Adjustment 2011

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### Determination Notice

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**OFFICE OF UTILITIES REGULATION**

May 20, 2011

**DOCUMENT TITLE AND APPROVAL PAGE**

**DOCUMENT NUMBER:** Ele 2011002\_DET002

**DOCUMENT TITLE: Jamaica Public Service Company Limited Annual Tariff Adjustment for 2011 - Determination Notice**

**PURPOSE OF DOCUMENT:**

This document sets out the Office's decisions on issues related to the annual price adjustment (2011) under the price control regime that became effective under the 2009 Tariff review. See Decision Ele 2009/4: Det/03.

**APPROVAL**

This document is approved by the Office of Utilities Regulation and the decisions therein become effective as of **June 01, 2011**.

On behalf of the Office:



.....  
Maurice Charvis  
**Deputy Director General**

May 20, 2011

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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 JPS All-Island Electric Licence, 2001. 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. This is the second annual tariff adjustment to the June 01, 2009 - May 31, 2014 reset of the non-fuel base rates which came into effect on October 01, 2009.

In that Tariff Determination Notice 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 the Company 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**

**(Issued pursuant to Sections 11 and 12 of the Office of Utilities Regulation Act) as well as Condition 15 and Schedule 3 of the Jamaica Public Service Company Limited All-Island Electric Licence, 2001**

**IN THE MATTER OF THE OFFICE OF UTILITIES REGULATION'S REVIEW OF JPS' ANNUAL TARIFF ADJUSTMENT SUBMISSION OF APRIL 05, 2011**

**AND**

**IN THE MATTER OF JAMAICA PUBLIC SERVICE COMPANY LIMITED ALL-ISLAND ELECTRIC LICENCE, 2001**

**AND**

**IN THE MATTER OF THE OFFICE OF UTILITIES REGULATION ACT 1995, AS AMENDED BY THE OFFICE OF UTILITIES REGULATION AMENDMENT ACT 2000**

**TO: JAMAICA PUBLIC SERVICE COMPANY LIMITED LICENSEE**

**WHEREAS** 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 Office of Utilities Regulation Act 2000 as amended ("the Act") granted a licence to Jamaica Public Service Company Limited ("JPS") entitled "Jamaica Public Service Company Limited All-Island Electric Licence, 2001" ("the Licence") authorizing JPS 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

**AND**

**WHEREAS** Sections 11 and 12 of the Office of Utilities Regulation Act 1995 (as amended by the Office of Utilities Regulation Act 2000) 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.”

**AND**

**WHEREAS** 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”

**AND**

**WHEREAS** Condition 15 of the Licence provides as follows:

**“Condition 15: Price Controls**

The Licensee is subject to the conditions in Schedule 3.

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.*”

**AND**

**WHEREAS** 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..."

**AND**

**WHEREAS** 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....”

**AND**

**WHEREAS 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.

**AND**

**WHEREAS 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:

$$ABNF_y = ABNF_{y-1} (1 + \delta PCI)$$

Where:

$ABNF_y$  = Adjusted Non-Fuel Base Rate for Year “y”

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

$\delta PCI$  = 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:

$\delta PCI$  = 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.”

**AND**

**WHEREAS** pursuant to the said Schedule 3 Paragraph 4 cited above JPS submitted to the Office on April 05, 2011 annual tariff adjustment application for the recalculation of the Non-Fuel Base Rates. **AND**

**WHEREAS** in the Tariff Determination Notice Ele 2009/4: Det/03, the Office sets out the average non-fuel rate at J\$9.78/kWh and also directed therein, inter alia that the price cap be applied on a global basis. **AND**

**WHEREAS** in accordance with and in the furtherance of the powers vested in the Office by 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** as set out hereunder.

The Price Index (PCI) is therefore to be adjusted as follows:

$$PCI_t = PCI_{t-1}(1 + dPCI)$$

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

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

Where:

$\delta e$	=	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

## 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 28, 2011 of **7.18%**, derived from the most recent CPI data<sup>1</sup> ( $i_j$ )
- The U.S. twelve-month point-to-point inflation rate to February 28, 2011 of **2.11%**, derived from the US Department of Labor statistical data<sup>2</sup> ( $i_{US}$ )

The Office determines that the base foreign exchange rate be reduced from US\$1: J\$89 to **US\$1: J\$86.50**.

**dI is determined to be 1.02%**

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

**X is determined to be 2.72%**

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

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

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 Office Determination which came into effect on October 01, 2009 (Ele 2009/4: Det/03).

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<sup>1</sup> Obtained from the Statistical Institute of Jamaica, CPI Statistical Bulletin February 2010)

<sup>2</sup> Obtained from US Bureau of Labour Statistics website: <http://data.bls.gov/cgi-bin/surveymost>

## 2.4 Allowed (Z-Factor) Price Escalation reflecting Special Circumstances (Z)

As defined in Schedule 3, (Exhibit 1) of the All-Island Electric Licence, 2001:

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

**Z is determined to be 0%**

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

## 2.5 Total non-fuel Adjustment

The annual adjustment of the base non-fuel tariffs approved by the Office effective **June 01, 2011** is **-1.70%**

The effective change to the Non-Fuel Rate is **0.43%**. This reflects the net impact of inflation (domestic and foreign) and the productivity factor.

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	1.02%
X	-2.72%
Q	0.00%
Z	0.00%
<b>Total dPCI</b>	<b>-1.70%</b>
<b>Total change in Non-Fuel Base Rates</b>	
<b>Less pre-adjusted F/X Base Rate movement</b>	<b>-1.70%</b>
<b>{Amount adjusted monthly on customer's bills [(-2.13%)]}</b>	2.13%
<b>Effective impact on Non-Fuel Rates</b>	<b>0.43%</b>

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 average total adjustment.

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	Block/ Rate Option	Customer Charge	Energy-J\$/kWh	Demand-J\$/KVA			
				Std.	Off-Peak	Part Peak	On-Peak
<b>New Rates</b>							
Rate 10	LV	--100	300.00	6.28	-	-	-
Rate 10	LV	> 100	300.00	14.36	-	-	-
Rate 20	LV		660.00	12.28	-	-	-
Rate 40A	LV						
Rate 40	LV - Std		4,800.00	3.50	1,269.37	-	-
Rate 40	LV - TOU		4,800.00	3.50	-	53.88	558.52
Rate 50	MV - Std		4,800.00	3.32	1,142.44	-	-
Rate 50	MV - TOU		4,800.00	3.32	-	50.77	495.06
Rate 60	LV		1,800.00	14.73	-	-	-

## 2.6 Fuel Cost Adjustment Factor – Heat Rate

The OUR DETERMINES the following in respect of the heat rate:

- The system heat rate target shall be set at **10,470 kJ/kW** for the annual review period 2011 – 2012 and is subject to review and reset on the addition of new generation capacity to the grid during the price cap period.
- The system heat rate target shall include a downward adjustment of 50 kJ/kWh representing benefits from the injection of energy from the Wigton Windfarm Phase II renewable energy facility to the electricity grid.
- Note that this new level is derived from historical performance of JPS plants and the contracted heat rate of all the Independent Power Producers.
- The Jamaican dollar amount equivalent to 120 kJ/kWh of heat rate adjustment that is passed through monthly in the fuel rate shall be set aside in a special fund to be used specifically for the establishment of a letter of credit facility for the Jamaica Energy Partners (JEP) 65.5MW project.

## 2.7 Fuel Cost Adjustment Factor – System Losses

The system losses target is reduced from 19.50% to **17.50%** for the annual review period 2011 – 2012. Subsequent targets are to be determined at the annual tariff adjustment exercises in accordance with the Tariff Determination Notice Ele 2009/4: Det/03.

## 2.8 Bill Impact

It is estimated that the effect of the 1.70% decrease in non-fuel rates and an effective 0.43% increase in these charges will result in an average effective increase of 0.15% on total bill. However, with the inclusion of the fuel cost adjustments the average effective change (i.e. the combined fuel and non-fuel charge) is a **decrease of 1.98%**. The total impact on the individual rate classes are:

- **-1.65%** for the typical Rate 10 (residential) customer
- **-1.73%** for the typical Rate 20 customer
- **-2.23%** for the typical Rate 40 customer
- **-2.32%** for the typical Rate 50 customer

Table 2.3 summarizes the estimated total bill impact on rate classes that the average 1.98% reduction in total charges will have.

**Table 2.3: Estimated Bill Impact of Annual Tariff Adjustment**

Rate Class	Typical Usage (kWh)	Demand (kVA)	Bill Impact (%)
Residential [10]	200.00	-	<b>-1.65</b>
Small Commercial [20]	1,000.00	-	<b>-1.73</b>
Large Com. Low Voltage [40]	35,000.00	100.00	<b>-2.23</b>
Large Com. Medium Voltage [50]	500,000.00	1,500.00	<b>-2.32</b>

## 3. Summary of JPS' Proposal for Rate Adjustment

In compliance with the All-Island Electric Licence 2001 (“the License”), JPS filed an application, dated April 05, 2011, for the annual rate adjustment with the Office. Pursuant to the annual adjustment clause contained in the rate schedule, the Company, in its submission, sought approval for a current year annual adjustment factor (dI – X) of **-1.70%** on the non-fuel tariffs for 2011.

The weighted average increase in inflation included an adjustment of 2.72% productivity adjustment (X-factor). There were no requests for adjustments for quality of service (Q-factor) or for any other special reasons not captured by the other elements of the formula (Z-factor).

The inflation adjustment does not take into account the movement through the foreign exchange adjustment clause that is already reflected in customer bills.

Tables 3.1, 3.2, 3.3, 3.4 and 3.5 below summarize 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)**  
**ESCALATION FACTOR (dI-X) based on point to point data as at February 2011**

Annual Adjustment Clause Calculation			
Line	Description	Formula	Value
L1	Base Exchange Rate		89.00
L2	Adjusted Base Exchange Rate		86.50
L3	<u>Jamaican Inflation Index</u>		
L4	CPI @ Feb 2011		167.10
L5	CPI @ Feb 2010		155.90
L6	<u>US Inflation Index</u>		
L7	CPI @ Feb 2011		221.31
L8	CPI @ Feb 2010		216.74
L9	Exchange Rate Factor	$(L2-L1)/L1$	-2.81%
L10	Jamaican Inflation Factor	$(L4-L5)/L5$	7.18%
L11	US Inflation Factor	$(L7-L8)/L8$	2.11%
L12	Escalation Factor	$0.76*\{L9*(1+0.922*L11)+0.922*L11\}+0.24*L10$	1.02%
L13	Productivity (or X) Factor		-2.72%
L14	Escalation Adjustment net of X-Factor	$(L12-L13)$	-1.70%

Table 3.2 below displays the number of customers across the rate classes and the respective demand charges and energy charges derived using the 2010 billing determinants used in determining the non-fuel tariffs arising in the Office Determination of June 9, 2010. (Ele 2010005\_DET005)

**Table 3.2 Customer Information 2010**

Class	Block/ Rate Option	Average 12 Months 2010 Customer	Energy kWh Std.	Demand-KVA				
				Std.	Off-Peak	Part Peak	On-Peak	
Rate 10	LV	<100	192,012	400,848,352	-	-	-	-
Rate 10	LV	>100	318,599	665,114,076	-	-	-	-
Rate 20	LV		59,313	707,891,842	-	-	-	-
Rate 40	LV - STD		1,508	608,967,253	2,237,612	-	-	-
Rate 40	LV - TOU		131	136,967,797	-	419,783	402,058	305,450
Rate 50	MV -STD		94	360,535,829	1,003,669	-	-	-
Rate 50	MV -TOU		28	194,136,532	-	652,278	629,568	511,151
Rate 60	STREETLIGHTS		331	73,746,650	-	-	-	-
Total			572,016	3,148,208,331	3,241,281	1,072,061	1,031,626	816,600

**Table 3.3 Proposed adjustment factor to individual rate classes and categories**  
**ANNUAL NON-FUEL INFLATION ADJUSTMENT PER TARIFF, NET OF X (dl - X)**

Class	Block/ Rate Option	Customer Charge	Energy-J\$/kWh	Demand-J\$/KVA			
				Std.	Off-Peak	Part Peak	On-Peak
Rate 10	LV	--100	4.347%	-2.039%			
Rate 10	LV	> 100	4.347%	-2.039%			
Rate 20	LV		4.347%	-2.000%			
Rate 40A	LV						
Rate 40	LV - Std		4.347%	-2.000%	-2.000%		
Rate 40	LV - TOU		4.347%	-2.000%		-2.000%	-2.000%
Rate 50	MV - Std		4.347%	-2.000%	-2.000%		
Rate 50	MV - TOU		4.347%	-2.000%		-2.000%	-2.000%
Rate 60	LV		4.347%	-5.000%			

**Table 3.4 Proposed Non – Fuel Tariffs**

**SUMMARY OF PROPOSED 2010/11 NON - FUEL TARIFFS (dl -X + Q + Z)**

Class	Block/ Rate Option	Customer Charge	Energy-J\$/kWh	Demand-J\$/KVA				
				Std.	Off-Peak	Part Peak	On-Peak	
Rate 10	LV	--100	300.00	6.28	-	-	-	-
Rate 10	LV	> 100	300.00	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 3.5 Proposed Revenue from Tariff**

**TOTAL NON-FUEL TARIFF BASKET 2010/11 (revenue from proposed 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	691,243,200	2,517,327,651				-	3,208,570,851	
Rate 10	LV	>100	1,146,956,400	9,551,038,131				-	10,697,994,531	
Rate 20	LV		469,758,960	8,692,911,820				-	9,162,670,780	
Rate 40	LV - Std		86,860,800	2,131,385,386	2,840,357,544			2,840,357,544	5,058,603,730	
Rate 40	LV - TOU		7,545,600	479,387,290		22,617,919	224,557,177	218,298,734	465,473,830	
Rate 50	MV - Std		5,414,400	1,196,978,952	1,146,631,612			1,146,631,612	2,349,024,964	
Rate 50	MV - TOU		1,612,800	644,533,286		33,116,154	311,673,934	324,422,320	669,212,408	
Rate 60	LV		7,149,600	1,086,288,155				-	1,093,437,755	
<b>TOTAL</b>			2,416,541,760	26,299,850,671	3,986,989,156	55,734,073	536,231,111	542,721,054	5,121,675,394	33,838,067,825

## 4. OUR's Analysis of the Proposal

### 4.1 Annual growth rate in inflation and devaluation

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

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

Where,

$\delta e$  = 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 2011 - 2012 annual adjustment factor of **1.02%** was derived by applying to the formula the following factors:

- The Jamaican twelve-month point-to-point inflation rate to February 28, 2011 of **7.18%**, derived from the most recent CPI data<sup>3</sup>
- The U.S. twelve-month point-to-point inflation rate to February 28, 2011 of **2.11%**, derived from the US Department of Labour statistical data<sup>4</sup>
- The base exchange rate was adjusted downwards from US\$1.00 : JA\$89.00 to **US\$1.00 : JA\$86.50**

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<sup>3</sup> Obtained from the Statistical Institute of Jamaica, CPI Statistical Bulletin February 2010)

<sup>4</sup> Obtained from US Bureau of Labour Statistics website, <http://data.bls.gov/cgi-bin/surveymost>

## Annual inflation adjustment (dI - X) calculation

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

**Table 4.1**

Annual Adjustment Clause Calculation			
Line	Description	Formula	Value
L1	Base Exchange Rate		89.00
L2	Adjusted Base Exchange Rate		86.50
L3	<u>Jamaican Inflation Index</u>		
L4	CPI @ Feb 2011		167.10
L5	CPI @ Feb 2010		155.90
L6	<u>US Inflation Index</u>		
L7	CPI @ Feb 2011		221.31
L8	CPI @ Feb 2010		216.74
L9	Exchange Rate Factor	$(L2-L1)/L1$	-2.81%
L10	Jamaican Inflation Factor	$(L4-L5)/L5$	7.18%
L11	US Inflation Factor	$(L7-L8)/L8$	2.11%
L12	Escalation Factor	$0.76*\{L9*(1+0.922*L11)+0.922*L11\}+0.24*L10$	1.02%
L13	Prodcutivity (or X) Factor		-2.72%
L14	Escalation Adjustment net of X-Factor	$(L12-L13)$	-1.70%
Please note that the base exchange rate is adjusted downwards from US\$1:J\$89 to US\$1:J\$86.50 This will result in a reduction of 2.13% on the tariff (i.e. $0.76 \times -2.81\%$ ).			

## 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 was based on the Office Determination which came into effect on October 01, 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.

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

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.

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

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.

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

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.

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

#### 4.3.1 JPS Proposed Adjustment to Reliability Indices

In the 2011 annual adjustment submission JPS stated:

*“For the calendar year 2010 and subsequent years JPS proposes that CAIDI be removed from the PBRM. Failing the removal, then the factor for CAIDI would have to be held constant to allow the normal mathematical relationship between SAIDI and SAIFI to remain true.”*

JPS put forward the reasons for CAIDI exclusion as follows:

- *“The metric is redundant when SAIDI and SAIFI are already included in the metrics”*
- *“It can be demonstrated mathematically that SAIDI and SAIFI are ultimately what matters to customers”*

- “Using SAIDI, SAIFI and CAIDI to measure quality can lead to anomalous and unwarranted penalties or rewards in a service quality mechanism”

JPS presented the actual performance targets for 2010 as shown in the tables below along with the company’s recommended target for 2011. The company further argues that:

*“The verified set of SAIDI, SAIFI and CAIDI indices for 2010 will be used as the benchmark quality level. MAIFI is still not deemed appropriate for inclusion in the actual penalty/reward scoring system for the many reasons highlighted in our 2009 Tariff Review Submission.”*

Table 4.2 JPS Proposed 2011 Q-factor Performance Benchmark

	2010 Actual	Adjustment factor	2011 Target
<b>SAIDI</b>	2577	*(1 - 0.02)	= 2525
<b>SAIFI</b>	29.11	*(1 - 0.02)	= 28.52
<b>CAIDI</b>	88.52	*(1 - 0.00)	= 88.52

Table 4.3 JPS Proposed Q-factor Performance Benchmark for 2011 – 2014

		2011	2012	2013	2014
<b>Projection</b>	<b>SAIDI</b>	2,525	2,428	2,370	2,293
	<b>SAIFI</b>	28.52	27.65	26.78	25.90
	<b>CAIDI</b>	88.52	88.52	88.52	88.52

JPS stated that the above proposed targets for 2011 – 2014 represent an 11% reduction in the reliability indices over the 4 year period.

The OUR will verify the set of SAIDI, SAIFI and CAIDI indices presented by JPS for the determination of base-line data. Performance targets and the methodology for the awarding of Q-factor benefits will be established in consultation with JPS during the period June 1, 2011 to March 31, 2012. The Office will make a determination on the Q-factor performance benchmark in the next annual tariff review and these will be in place for the 2012-2013 period. The weighting of MAIFI in the point score system will also be assessed for its resultant tariff impact and a determination will be made by the Office.

The *Q-Factor* adjustment applicable for this review period remains within the dead band and is therefore **0%**. This accords with the Office Determination which came into effect on October 01, 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 the electric utility company to its customers. The target is carefully set by the Regulator to ensure that electricity customers are provided with fair and reasonable fuel rates. This regulatory mechanism also provides the utility company 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 the utility company.

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

In the Tariff Determination which came into effect on October 01, 2009 (Ele 2009/4: Det/03) the Office determined a heat rate target of 10,400 kJ/kWh for the period 2009/2010. Additionally, the Office determined that the target is subject to be reviewed and reset annually and to take into account new generation facility additions to the grid.

The system heat rate target is now reset to **10,470 kJ/ kWh** up from 10,400 kJ/ kWh. The following two reasons account for the adjustment:

### **4.5.1 New Generation Facility Additions**

During the period under review, two new renewable generation facilities were added to the system namely, JPS Munroe Windfarm (3 MW) and Wigton Windfarm Phase II (14 MW). In October 2010 JPS officially commissioned into service the 3 MW Munro Wind Farm. As an incentive for investing in renewable energy, it was agreed that JPS would get the full heat rate benefit from this facility up until 2014. At the 2014 Tariff Review a determination will be made on how renewable energy benefits should be shared.

In setting the new target, a comprehensive review, evaluation and analyses of the generation system heat rate performance and projections were undertaken by the OUR. This exercise took into account the net energy output from Wigton Windfarm Limited 14 MW facility which was officially commissioned in March 2011. Additionally, the review ensured that the contracted heat rate of 8,615kJ/kWh(or 8,166 BTU/kWh) as per Power Purchase Agreement (2006) for the Independent Power Producer (IPP), Jamaica Energy Partners (JEP) with a gross capacity of 124 MW located at Old Harbour Bay, St Catherine was accurately captured in the analysis.

The capabilities of the existing thermal generating units in terms of their capacity (maximum continuous rating), availability, capacity factor and operating efficiency were assessed and evaluated. All factors were considered and the resultant net impact on the system heat rate target is a reduction of 50kJ/kWh.

#### 4.5.2 Letter of Credit Fund (LCF)

In order to facilitate the conclusion of the Power Purchase Agreement (PPA) negotiations between JPS and the Jamaica Energy Partners (JEP) for the 65.5 MW generation expansion project, the Office approved an increase in the heat rate target of 120kJ/kWh. This was communicated to JPS by way of a letter dated March 31, 2010 and will become effective on June 1, 2011. The approval was given against the background of a need to establish a US\$7 million Letter of Credit (LC) facility which is a prerequisite for the commercial operations of JEP's new generation plant. JPS argued that Letters of Credits are a cost to the utility company and reduces the credit carrying capacity of the company's balance sheet, impairing its ability to source financing for important transmission and distribution projects and activities. The OUR has no legal authority to impose the LC obligation on JPS and in this regard the Office gave approval for the establishment of the LCF. This 120 kJ/kWh adjustment to the heat rate target is expected to yield the US\$7 million required over a 12-month period. JPS shall observe the following procedures with respect to this arrangement:

1. On request, JPS shall make the agreed LC available to JEP and this shall take place prior to the commissioning of the plant. The OUR, shall be notified of the issuance of the LC.
2. The amount taken by JPS monthly from its revenues for the funding of the LC shall be determined by the formula:

$$\text{LC Funding} = b * F (H_L / H_A - H_N / H_A)$$

Where,

F = Total fuel cost (JPS& IPP) in US\$

H<sub>A</sub> = Actual heat rate

H<sub>N</sub> = Normal heat rate target (i.e. 10,350 kJ/kWh)

H<sub>L</sub> = Letter of credit heat rate target (i.e. 10,470 kJ/kWh)



b = Bad debt adjustment factor (i.e. 98.90%)<sup>5</sup>

3. Should insufficient funds be in the LCF to cover the US\$7 million Letter of Credit (LC) facility, JPS shall make available the difference and recover same plus cost from the amount taken monthly from its revenues for the funding of the LCF.
4. JPS shall show the LC funding (current and cumulative) in its monthly fuel charge calculation which shall be submitted to the OUR no later than 14 days after the end of each month.
5. In the 12<sup>th</sup> 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 US\$7 million is collected.
6. When the JEP 65.5 MW IPP contract has expired or terminated or no longer required, JPS shall consult with the OUR with regard to the adjustments that shall be made to the tariff with respect to the funds reimbursed to the company in relation to the LC facility.
7. The Letter of Credit Fund shall be held in an interest bearing account.
8. The annual letter of Credit re-issuance cost should be recovered by JPS from the interest earned on the Letter of Credit Fund.
9. In the event of a payment default by JPS in accordance with the terms of the Power Purchase Agreement (PPA), and as a result JEP draws on the Letter of Credit, all costs so incurred should be covered by JPS.

#### **4.6 Fuel Cost Adjustment Factor – System Losses**

In this annual tariff submission, JPS proposed a twelve-month delay in the reset of the system loss target to 17.50% based on the following reasons:

1. *“The implementation of sustainable loss control measures requires a significant period which is impacted by several potentially challenging variables including socio-political factors;”*
2. *“The methodology (rolling 12-month average) used for computing fuel cost recovery delays the recognition of the system loss improvements;”*
3. *“The Company’s system loss efforts is challenged by macroeconomic conditions;”*
4. *“JPS’ ability to absorb a significant fuel penalty has been affected by other challenges that the Company has experienced;”*

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<sup>5</sup> Bad debt is set at a benchmark of 1.10% of revenues.

5. *“As a consequence of the Company’s inability to absorb a significant fuel penalty, JPS will be forced to modify its approach to reducing losses. This would result in significant social unrest.”*

In the 2009-2014 Tariff Determination, the Office, against the background of the unsatisfactory level of system losses made a determination 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 system losses fund that will be used specifically to implement Advanced Metering Infrastructure and other anti-theft technologies.

The Office 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.

Following on the 2009 tariff determination (Ele 2009/4: Det/03), JPS is reporting that its billed system loss is reduced from 23.3% year ending 2009 to 21.8% year ending 2010; a reduction of 1.5%. JPS further argues that “the methodology (rolling 12-month average) used for computing fuel cost recovery delays the recognition of the system loss improvements”. If this is so, the OUR is of the view that an even greater reduction (bettering the 1.5% reduction) is anticipated for the year ending December 2011 as the impact of the Residential Automated Metering Infrastructure (RAMI) programme takes greater effect.

The country’s crime rate has improved significantly and JPS is now better able to go into inner city communities to have residents regularize their electricity supply. It is expected that over 20,000 new customers will be added to the company’s customer base. The OUR does not share JPS’ view that there will be significant social unrest as a result of the company’s increased efforts to reduce system losses. The reduction of system losses is well within the company’s control. In this regard the OUR is of the view that there are no compelling reasons to delay the reduction of the system losses target and implores JPS to continue making its best efforts to reduce these losses. The proposal therefore to delay the reset of the system losses target is rejected.

## **5. Tariff Basket Compliance**

In the 2009-2014 tariff submission JPS proposed a two-part tariff approach to the setting of tariffs that seeks to allow the utility company to obtain its revenue requirement. As posited by JPS, the two-part tariff design balances the interest of both the customer and the utility company as follows:

- Customer perspective: simple, fair, equitable and affordable rates; and

- Company perspective: cost-reflective rates which when applied to the billing determinants will yield revenues equal to the Non-Fuel revenue requirement.

The OUR agreed to aspects of the two-part tariff approach to the setting of tariffs and in this regard gives approval to the level of tariff rebalancing between the rate classes now being sought by the utility company.

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  $\delta$ PCI less the cumulative movements due to Foreign Exchange rate changes.

The weights used are the 2010 revenue shares.

The tariff basket compliance must satisfy the following formulae:

$PCI \geq API$ ; where

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

The annual adjustment factor for the non-fuel base rate of -1.70% [derived from  $\delta$ PCI =  $dI = 1.02\% - (X = 2.72\%) \pm Q = 0\% \pm Z = 0\%$ ] is applied to the total basket. The adjustment in each tariff is weighted and hence the adjustment across rates is dependent on the relative weights in relation to the total tariff basket as shown in table 5.1 below.

**Table 5.1 Total Non-Fuel Tariff Basket Weights**

Class	Block/ Rate Option	Customer Charge	Energy- J\$/kWh	Demand-J\$/KVA				
				Std.	Off-Peak	Part Peak	On-Peak	Total
Rate 10 LV	<100	1.92%	7.47%	0.00%	0.00%	0.00%	0.00%	9.39%
Rate 10 LV	>100	3.19%	28.33%	0.00%	0.00%	0.00%	0.00%	31.52%
Rate 20 LV		1.31%	25.77%	0.00%	0.00%	0.00%	0.00%	27.08%
Rate 40 LV - Std		0.24%	6.32%	8.42%	0.00%	0.00%	0.00%	14.98%
Rate 40 LV - TOU		0.02%	1.42%	0.00%	0.07%	0.67%	0.65%	2.83%
Rate 50 MV - Std		0.02%	3.55%	3.40%	0.00%	0.00%	0.00%	6.97%
Rate 50 MV - TOU		0.00%	1.91%	0.00%	0.10%	0.92%	0.96%	3.89%
Rate 60 LV		0.02%	3.32%	0.00%	0.00%	0.00%	0.00%	3.34%
<b>TOTAL</b>		<b>6.72%</b>	<b>78.09%</b>	<b>11.82%</b>	<b>0.17%</b>	<b>1.59%</b>	<b>1.61%</b>	<b>100.00%</b>

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 4.35% 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. This approach is more reflective of the company's cost structure.

**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	4.347%	-2.039%			
Rate 10	LV	> 100	4.347%	-2.039%			
Rate 20	LV		4.347%	-2.000%			
Rate 40A	LV						
Rate 40	LV - Std	4.347%	-2.000%	-2.000%			
Rate 40	LV - TOU	4.347%	-2.000%		-2.000%	-2.000%	-2.000%
Rate 50	MV - Std	4.347%	-2.000%	-2.000%			
Rate 50	MV - TOU	4.347%	-2.000%		-2.000%	-2.000%	-2.000%
Rate 60	LV		4.347%	-5.000%			

It is a requirement that when aggregated, the weighted adjustment proposed by JPS should equate to the annual adjustment factor (-1.70%). 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				TOTAL	
				Std.	Off-Peak	Part Peak	On-Peak		
<b>Weighted increase</b>									
Rate 10	LV	--100	0.08%	-0.15%	0.00%	0.00%	0.00%	0.00%	-0.07%
Rate 10	LV	> 100	0.14%	-0.58%	0.00%	0.00%	0.00%	0.00%	-0.44%
Rate 20	LV		0.06%	-0.52%	0.00%	0.00%	0.00%	0.00%	-0.46%
Rate 40A	LV		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Rate 40	LV - Std		0.01%	-0.13%	-0.17%	0.00%	0.00%	0.00%	-0.29%
Rate 40	LV - TOU		0.00%	-0.03%	0.00%	0.00%	-0.01%	-0.01%	-0.05%
Rate 50	MV - Std		0.00%	-0.07%	-0.07%	0.00%	0.00%	0.00%	-0.14%
Rate 50	MV - TOU		0.00%	-0.04%	0.00%	0.00%	-0.02%	-0.02%	-0.08%
Rate 60	LV		0.00%	-0.17%	0.00%	0.00%	0.00%	0.00%	-0.17%
<b>TOTAL</b>			<b>0.29%</b>	<b>-1.69%</b>	<b>-0.24%</b>	<b>0.00%</b>	<b>-0.03%</b>	<b>-0.03%</b>	<b>-1.70%</b>

The non-fuel base rates approved by the Office in the 2010 Annual Tariff Adjustment, which were used to derive the 2010 non-fuel basket, are shown in Table 5.4 below.

**Table 5.4 Current Non-Fuel Tariffs approved in 2010**

Class	Block/Rate Option	Customer Charge	Energy-J\$/kWh	Demand-J\$/KVA				
				Std.	Off-Peak	Part Peak	On-Peak	
<b>New Rates</b>								
Rate 10	LV	--100	287.50	6.41	-	-	-	-
Rate 10	LV	> 100	287.50	14.66	-	-	-	-
Rate 20	LV		632.50	12.53	-	-	-	-
Rate 40A	LV							
Rate 40	LV - Std	4,600.00	3.57	1,295.28	-	-	-	-
Rate 40	LV - TOU	4,600.00	3.57	-	54.98	569.92	729.27	-
Rate 50	MV - Std	4,600.00	3.39	1,165.75	-	-	-	-
Rate 50	MV - TOU	4,600.00	3.39	-	51.81	505.16	647.64	-
Rate 60	LV		1,725.00	15.50	-	-	-	-

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 2011-2012**

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	4,800.0	3.50	1,269.37	-	-	-
Rate 40	LV - TOU	4,800.0	4,800.0	3.50	-	53.88	558.52	714.68
Rate 50	MV - Std	4,800.0	4,800.0	3.32	1,142.44	-	-	-
Rate 50	MV - TOU	4,800.0	4,800.0	3.32	-	50.77	495.06	634.69
Rate 60	LV	1,800.0	1,800.0	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,  $(1 + \delta PCI)$ , 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 2010-2011**

	Block/Rate Option	2010 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	662,441,400	2,569,437,936					-	3,231,879,336
Rate 10	LV	>100	1,099,166,550	9,750,572,354					-	10,849,738,904
Rate 20	LV		450,185,670	8,869,884,780					-	9,320,070,450
Rate 40	LV - Std		83,241,600	2,174,013,093	2,898,334,071				2,898,334,071	5,155,588,764
Rate 40	LV - TOU		7,231,200	488,975,035		23,079,681	229,140,633	222,755,244	474,975,558	971,181,793
Rate 50	MV - Std		5,188,800	1,222,216,460	1,170,027,137				1,170,027,137	2,397,432,397
Rate 50	MV - TOU		1,545,600	658,122,843		33,794,523	318,032,571	331,041,724	682,868,818	1,342,537,261
Rate 60	LV		6,851,700	1,143,073,075					-	1,149,924,775
<b>TOTAL</b>			<b>2,315,852,520</b>	<b>26,876,295,576</b>	<b>4,068,361,208</b>	<b>56,874,204</b>	<b>547,173,204</b>	<b>553,796,968</b>	<b>5,226,205,584</b>	<b>34,418,353,680</b>

Table 5.6 above is derived using the 2010 billing determinants and the approved non-fuel tariffs arising out of the Office Annual Tariff Determination which came into effect on June 18, 2010 (Ele 2010005\_Det005). The application of the weighted annual adjustment factor of -1.70% to each tariff yields the reduced non-fuel revenue in table 5.7 below.

**Table 5.7 Non-Fuel Tariff Basket 2010-2011 (revenue from new 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	691,243,200	2,517,327,651					-	3,208,570,851
Rate 10	LV	>100	1,146,956,400	9,551,038,131					-	10,697,994,531
Rate 20	LV		469,758,960	8,692,911,820					-	9,162,670,780
Rate 40	LV - Std		86,860,800	2,131,385,386	2,840,357,544				2,840,357,544	5,058,603,730
Rate 40	LV - TOU		7,545,600	479,387,290		22,617,919	224,557,177	218,298,734	465,473,830	952,406,720
Rate 50	MV - Std		5,414,400	1,196,978,952	1,146,631,612				1,146,631,612	2,349,024,964
Rate 50	MV - TOU		1,612,800	644,533,286		33,116,154	311,673,934	324,422,320	669,212,408	1,315,358,494
Rate 60	LV		7,149,600	1,086,288,155					-	1,093,437,755
<b>TOTAL</b>			<b>2,416,541,760</b>	<b>26,299,850,671</b>	<b>3,986,989,156</b>	<b>55,734,073</b>	<b>536,231,111</b>	<b>542,721,054</b>	<b>5,121,675,394</b>	<b>33,838,067,825</b>

**Table 5.8 Comparison of JPS Proposal and OUR Determination**

	Customer Charge Revenue	Energy Revenue	Demand Charge Revenue	Total Revenue	Inflation Adj. (dl - X)	System Heat Rate Target kJ/kWh	System Losses Target
<b>OUR</b>	2,416,541,760	26,299,850,671	5,121,675,394	33,838,067,825	-1.70%	10470	17.50%
<b>JPS</b>	2,416,541,760	26,299,850,671	5,121,675,394	33,838,067,825	-1.70%	10611	19.50%
<b>Variance</b>	-	-	-	-	<b>0.00%</b>	<b>-141</b>	<b>-2.00%</b>

Table 5.8 above gives a comparative summary of the changes as proposed by JPS and the Determination by the Office.

## 6. Appendix

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

#### 6.1.1 U.S. Consumer Price Index

U.S. Consumer Price Index - All Urban Consumers															
<b>Series Id:</b> CUUR0000SA0															
Not Seasonally Adjusted															
<b>Area:</b> U.S. city average															
<b>Item:</b> All items															
<b>Base Period:</b> 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													

Source: United States Department of Labour [Bureau of Labor Statistics Data](#)

#### Jamaican Consumer Price Index

Ja. Consumer Price Index										
The Index numbers listed in the table: Consumer Price Index for 2001-2009, 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.										
<b>Consumer Price Index for 2002-2011</b>										
Month	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
January	60.90	64.80	74.60	84.10	94.70	101.00	119.40	136.00	152.60	167.80
February	60.90	64.40	75.00	84.50	94.80	101.30	121.50	137.10	155.90	167.10
March	61.00	64.70	75.40	85.30	94.90	102.50	122.90	138.20	156.60	
April	61.30	65.70	75.70	86.90	96.00	102.90	124.80	138.80	158.70	
May	61.50	66.80	76.20	88.70	96.30	104.30	127.80	140.00	159.70	
June	62.00	68.50	76.80	90.00	97.60	105.10	130.30	142.00	160.70	
July	62.90	69.50	77.60	91.40	98.90	106.10	134.00	143.30	161.30	
August	63.10	70.40	78.60	91.50	99.20	107.20	135.60	143.90	162.00	
September	63.40	71.50	79.00	93.80	99.90	108.90	136.50	146.30	162.80	
October	63.90	72.70	81.60	94.30	99.80	110.40	136.90	147.50	164.00	
November	64.60	73.40	83.60	94.60	99.60	114.00	136.40	148.70	165.70	
December	65.00	73.90	84.10	94.60	100.00	116.80	136.50	150.40	168.10	
Annual Average	62.50	68.90	78.20	90.00	97.60	106.70	130.20	142.70	160.68	
Annual Inflation Rate	7.20	13.80	13.70	12.60	5.70	16.80	16.80	10.20	11.80	

Source: [Statistical Institute of Jamaica](#)

## 6.2 Appendix 2: Estimated Bill Impact of Annual Tariff Adjustment

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

Usage 200 kWh

Rate 10	2010 Rates J\$			2011 Rates J\$			Change	
Description	Base F/X Rate	Billing F/X Rate		Base F/X Rate	Billing F/X Rate		J\$	%
	89.00	86.50		86.50	86.50			
	Usage kWh	Rate		Usage kWh	Rate			
Energy 1st	100	6.41	641.00	100	6.28	628.00	- 13.00	-2.03%
Energy Next	100	14.66	1,466.00	100	14.36	1,436.00	- 30.00	-2.05%
Customer Charge			287.50			300.00	12.50	4.35%
Sub Total			<b>2,394.50</b>			<b>2,364.00</b>	- 30.50	-1.27%
F/E Adjust		-0.021	51.12		0.000	-	51.12	
Fuel & IPP	200	19.882	3,976.40	200	<b>19.257</b>	3,851.40	- 125.00	-3.14%
<b>Bill Total</b>			<b>J\$ 6,319.78</b>			<b>J\$ 6,215.40</b>	- 104.38	-1.65%

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

Usage 300 kWh

Rate 10	2010 Rates J\$			2011 Rates J\$			Change	
Description	Base F/X Rate	Billing F/X Rate		Base F/X Rate	Billing F/X Rate		J\$	%
	89.00	86.50		86.50	86.50			
	Usage kWh	Rate		Usage kWh	Rate			
Energy 1st	100	6.41	641.00	100	6.28	628.00	- 13.00	-2.03%
Energy Next	200	14.66	2,932.00	200	14.36	2,872.00	- 60.00	-2.05%
Customer Charge			287.50			300.00	12.50	4.35%
Sub Total			<b>3,860.50</b>			<b>3,800.00</b>	- 60.50	-1.57%
F/E Adjust		-0.021	82.42		0.000	-	82.42	
Fuel & IPP	300	19.882	5,964.60	300	<b>19.257</b>	5,777.10	- 187.50	-3.14%
<b>Bill Sub-Total</b>			<b>9,742.68</b>			<b>9,577.10</b>	- 165.58	-1.70%
Non Taxble Charges (up to 200kWh)			6,319.78			6,215.40		
Taxable Charges			3,422.90			3,361.70		
GCT @10%		0.10	342.29		0.10	336.17		
<b>Bill Total</b>			<b>J\$ 10,084.98</b>			<b>J\$ 9,913.27</b>	- 171.71	-1.70%



### 6.2.3 Bill Comparison for a Typical Rate 20 Consumer

Usage 1,000 kWh

Rate 20		2010 Rates J\$		2011 Rates J\$		Change	
Description	Base F/X Rate	Billing F/X Rate		Base F/X Rate	Billing F/X Rate	J\$	%
	89.00	86.50		86.50	86.50		
	Usage kWh	Rate		Usage kWh	Rate		
Energy	1000	12.53	12,530.00	1000	12.28	12,280.00	- 250.00 -2.00%
Customer Charge			632.50			660.00	27.50 4.35%
<b>Sub Total</b>			<b>13,162.50</b>			<b>12,940.00</b>	<b>- 222.50 -1.69%</b>
F/E Adjust		-0.021	- 281.00		0.000	-	281.00
Fuel & IPP	1000	19.882	19,882.00	1000	<b>19.257</b>	19,257.00	- 625.00 -3.14%
<b>Bill Sub-Total</b>			<b>32,763.50</b>			<b>32,197.00</b>	<b>- 566.50 -1.73%</b>
GCT @10%		0.10	3,276.35		0.10	3,219.70	- 56.65 -1.73%
<b>Bill Total</b>			<b>J\$ 36,039.85</b>			<b>J\$ 35,416.70</b>	<b>- 623.15 -1.73%</b>

### 6.2.4 Bill Comparison for a Typical Rate 40 Consumer

Usage 35,000 kWh

Demand 100 kVA

Rate 40		2010 Rates J\$		2011 Rates J\$		Change	
Description	Base F/X Rate	Billing F/X Rate		Base F/X Rate	Billing F/X Rate	J\$	%
	89.00	86.50		86.50	86.50		
	Usage kWh	Rate		Usage kWh	Rate		
Energy kWh	35000	3.57	124,950.00	35000	3.50	122,500.00	- 2,450.00 -1.96%
Demand kVA	100	1295.28	129,528.00	100	1269.37	126,937.00	- 2,591.00
Customer Charge			4,600.00			4,800.00	200.00 4.35%
<b>Sub Total</b>			<b>259,078.00</b>			<b>254,237.00</b>	<b>- 4,841.00 -1.87%</b>
F/E Adjust		-0.021	- 5,530.88		0.000	-	5,530.88
Fuel & IPP	35000	19.882	695,870.00	35000	<b>19.257</b>	673,995.00	- 21,875.00 -3.14%
<b>Bill Sub-Total</b>			<b>949,417.12</b>			<b>928,232.00</b>	<b>- 21,185.12 -2.23%</b>
GCT @10%		0.10	94,941.71		0.10	92,823.20	- 2,118.51 -2.23%
<b>Bill Total</b>			<b>J\$ 1,044,358.83</b>			<b>J\$ 1,021,055.20</b>	<b>- 23,303.63 -2.23%</b>

## 6.2.5 Bill Comparison for a Typical Rate 50 Customer

Usage 500,000 kWh

Demand 1,500 kVA

Rate 50		2010 Rates J\$		2011 Rates J\$		Change	
Description	Base F/X Rate	Billing F/X Rate		Base F/X Rate	Billing F/X Rate	J\$	%
	89.00	86.50		86.50	86.50		
	Usage	Rate		Usage kWh	Rate		
Energy kWh	500000	3.39	1,695,000.00	500000	3.32	1,660,000.00	- 35,000.00 -2.06%
Demand kVA	1500	1165.75	1,748,625.00	1500	1142.44	1,713,660.00	- 34,965.00
Customer Charge			4,600.00			4,800.00	200.00 4.35%
<b>Sub Total</b>			<b>3,448,225.00</b>			<b>3,378,460.00</b>	<b>- 69,765.00 -2.02%</b>
F/E Adjust		-0.021	- 73,613.79		0.000	-	73,613.79
Fuel & IPP	500000	19.882	9,941,000.00	500000	<b>19.257</b>	9,628,500.00	- 312,500.00 -3.14%
<b>Bill Sub-Total</b>			<b>13,315,611.21</b>			<b>13,006,960.00</b>	<b>- 308,651.21 -2.32%</b>
GCT @10%		0.10	1,331,561.12		0.10	1,300,696.00	- 30,865.12 -2.32%
<b>Bill Total</b>			<b>J\$ 14,647,172.33</b>			<b>J\$ 14,307,656.00</b>	<b>- 339,516.33 -2.32%</b>

## Glossary

ABNF	-	Adjusted Base-rate Non-Fuel
CAIDI	-	Customer Average Interruption Duration Index
CIS	-	Customer Information System
CPI	-	Consumer Price Index
CT	-	Current Transformer
GDP	-	Gross Domestic Product
GOJ	-	Government of Jamaica
GIS	-	Geographic Information System
IPP	-	Independent Power Producer
JEP	-	Jamaica Energy Partners Limited
JPS	-	Jamaica Public Service Company Limited
KVA	-	Kilo Volt Amperes
KWh	-	Kilowatt-hours
Licence	-	The All Island Electric Licence 2001
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
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