Office of Utilities Regulation

Jamaica Public Service Company Limited Annual Tariff Adjustment 2006

Determination Notice

OFFICE OF UTILITIES REGULATION

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1. PURPOSE OF DOCUMENT

This document sets out the Office's decisions on issues related to the Annual Price Adjustment (2006) under the price control regime that became effective under the 2004 Tariff review. See Decision Ele 2004/ 1

2. APPROVAL

This document is approved by the Office of Utilities Regulation and becomes effective as of **June 1, 2006.**

On behalf of the Office:

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J Paul Morgan

Director General

Date:

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Introduction

This is the second annual tariff adjustment under the current price cap control mechanism which was implemented on June 1, 2004 in compliance with Schedule 3 of the Jamaica Public Service Company Limited (JPS) All-Island Electricity Licence ('the Licence") (OUR document Ele 2004/2.1). In that Tariff Determination, the Office set the average non-fuel rate at J$5.627/kWh. It also established 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. The company is allowed to make interim monthly adjustment to take into account movements in the foreign exchange rate.

In addition at the previous adjustment determination, the Office approved an adjustment of 6.43% effective June 1, 2005. The adjustment was not implemented until August 1 however and was therefore "trued up" to 7.72% (to reflect recovery over 10 months) due to ongoing considerations of a hurricane claim that was submitted with the annual adjustment and consideration of which could not have been completed in time for implementation in June.

The effective change in rate at the annual adjustment in the average customer bill would therefore be the value of the annual adjustment less the accumulated value of the foreign exchange adjustment over the period and the difference between the approved rate and the 'trued up' rate.

Under normal circumstances, the consideration of the annual adjustment would be a simple exercise as it would only be for the OUR to verify the adjustment factors to be applied by JPS – the decision already having been handed down in the 2004 tariff. JPS, however, has included in the submission, as is its right, other considerations which require the Office's specific attention.

In the 2005 tariff adjustment Determination, the Office mandated JPS to implement the necessary systems so as to establish the baseline for the determination of the Q-factor. The baseline data is required for the computation of System Average Interruption Duration Index (SAIDI), System Average Interruption Frequency Index (SAIFI) and Customer Average Interruption Duration Index (CAIDI) for planned and forced outages at both the feeder and sub-feeder level. Consequently, the company has submitted, with its filing, information on data collection, security and storage in fulfillment of this mandate. In its filing, JPS has proposed that the Q-factor be set at zero in this 2006 annual tariff consideration and that the Office utilize the 2005 performance data for SAIDI, SAIFI and CAIDI in the determination of the benchmark values for the 2006. JPS also proposes that at the end of January 2007, it will compile and have the

performance data for the calendar year 2006 audited. The full audited figures will be submitted as part of the annual rate adjustment filing at the end of March 2007. This audited data will form the basis of determining the Q-factor along with the previously established benchmark for 2006.

JPS has submitted a cost recovery proposal, related to the 2005 hurricanes' damages through the Z-factor, as provided for in Schedule 3 (Exhibit 1) of the Licence. The proposal outlines the total impact of the hurricanes including the incremental restoration costs, the under-recovered embedded costs in the non-fuel revenue requirement and the opportunity cost of capital. The total proposed cost under the Z-factor is $192.8 million.

1.0 Summary of the Office's Decision

The Licence stipulates that the annual 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:

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

where

dCPI = 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 = 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.

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. While each rate class attracts a specific weighting 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.

$$\mathbf{dI = [0.76 * e + 0.76 * 0.922 * e^{*}i_{US} + 0.76 * 0.922 * i_{US} + 0.24 * i_j}$$

where:

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

Annual Inflation and Devaluation Growth Rate (dI)

From the application of the following factors (submitted by JPS and verified to be correct):

- The Jamaican twelve-month point-to-point inflation rate to February 28, 2006 of 12.41%, derived from the most recent CPI data[1] (i_j);

- The U.S. twelve-month point-to-point inflation rate to February 28, 2006 of 3.60%, derived from the US Department of Labour statistical data[2] (i_{US}); and

- The change in the base exchange rate from J$62:US$1 to J$65:US$1

dI is determined to be 9.30%

Annual X - Factor Offset to Inflation (X)

X = 2.72% as previously determined in 2004 (Ele2004/2.1) is now applicable

Allowed Q-Factor Price Escalation reflecting Changes in Service Quality (Q)

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

In its filing, JPS has proposed that the Q-factor be set at zero in this 2006 annual tariff consideration and that the Office utilizes the 2005 performance data for SAIDI, SAIFI and CAIDI in the determination of the benchmark values for the 2006 tariff. JPS also proposes that at the end of January 2007, it will compile and have the performance data for the calendar year 2006 audited. The full audited figures will be submitted as part of the annual rate adjustment filing at the end of March 2007. The submitted audited data will form the basis of determining the Q-factor along with the previously established benchmark for 2006.

[1] Obtained from the Statistical Institute of Jamaica, CPI Statistical Bulletin February 2006)

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

The Office has determined that given the current state of the network system there is much room for improvement. Consequently, SAIDI, SAIFI, MAIFI and CAIDI should be continuously improving by 2% in 2006 relative to the 2005 performance level and 3%, relative to the 2005 performance level, in each year from 2006 to 2009.

Until the next price review the verified set of SAIFI, SAIDI and CAIDI indices for 2005 will be used as the benchmark quality level.

The Office's targets for the Q-factor 2006 – 2009 are:

Year	Target SAIDI	Target SAIFI	Target CAIDI
2006	$SAIDI_{2005}$	$SAIFI_{2005}$	$CAIDI_{2004/5}$
2007	$SAIDI_{2005}*(1 - 0.02)$	$SAIFI_{2005}*(1 - 0.02)$	$CAIDI_{2005}*(1 - 0.02)$
2008	$SAIDI_{2005}*(1 - 0.05)$	$SAIFI_{2005}*(1 - 0.05)$	$CAIDI_{2005}*(1 - 0.05)$
2009	$SAIDI_{2005}*(1 - 0.08)$	$SAIFI_{2005}*(1 - 0.08)$	$CAIDI_{2005}*(1 - 0.08)$

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

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

The Office further takes the view that if the sum of Quality Points for:

- SAIFI, SAIDI, and CAIDI is 9, then Q = +0.5%
- SAIFI, SAIDI, and CAIDI is 6, then Q = +0.4%
- SAIFI, SAIDI, and CAIDI is 3, then Q = +0.25%
- SAIFI, SAIDI, and CAIDI is 0, then Q = 0%
- SAIFI, SAIDI, and CAIDI is -3, then Q = -0.25%
- SAIFI, SAIDI, and CAIDI is -6 then Q = -0.40%
- SAIFI, SAIDI, and CAIDI is -9 then Q = -0.50%

Based on its review and the analysis of the prevailing issues the Office has determined that for the 2006 adjustment, Q = 0

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

The Z-factor is the allowed rate of price adjustment to compensate the company for the impact of events that:

- Affect JPS costs;
- Are not captured by the other elements of the formula; and
- Are not due to managerial decisions

In its filing, JPS has claimed for the recovery of costs associated with restoration of its system as a consequence of the passage of hurricanes Dennis, Emily and Wilma in the vicinity of Jamaica during 2005. The Office has completed its own analysis of the submission but will reserve issuing a decision on the actual amounts that it will allow until June 30, 2006.

The Office has however determined that the option of recovery of the sums approved shall be directly from the Sinking Fund Reserve.

Therefore for the purpose of this Determination Z = O

Hurricane Sinking Fund

The Office has little discretion in its consideration of the annual adjustment as the License is quite clear as to the process to be followed. It does have some discretion, however, in the wider context of its statutory duty (Office of Utilities Regulation Act as amended 2000 S.4 (2)) to ensure that:

a) The needs of consumers of services provided by the Licensee or specified organizations are met; and

b) The prescribed utility service operates efficiently in a manner designed to -

   i. Protect the health and well being of users of the service;
   ii. Protect and preserve the environment; and
   iii. Afford to its consumers economical and reliable service

In light of the experience of increased frequency and intensity in tropical cyclones affecting the Caribbean in the past five years, a review of the provisions that were made in the 2004 tariff was done. The review suggests that the provisions that were made for the hurricane sinking fund was too conservative and therefore the Office has decided that it would be prudent to increase the provision for the fund, not only in terms of its rate of growth but also in terms of the size of the fund. The experience of the 2004 hurricane Ivan claim attests to the inadequacy of the fund. The initial recommendations to the Office are that the rate of accrual should be US$5 million per annum to a value of US$20 million.

The Office is mindful of the challenges imposed on consumers in the context of the wider issues affecting the economy but lack of action on this issue has the potential of causing even greater challenges to consumers should significant damage occur to the plant as a result of such acts of God as hurricanes. The country's power infrastructure may be crippled without the immediate availability of resources to rebuild thus exacerbating the damage to the economic and social fabric of the country. It is felt therefore that an annual review of this provision should be done and if considered appropriate the contribution to the fund adjusted.

In this context the Office has determined that a provision be made for an incremental increase in the fund equivalent to US$1 Million per annum. This translates to an increase in the non-fuel rate of J$0.02/kWh or 0.3%.

Total Adjustment

The annual Adjustment of the base tariffs approved by the Office effective June 1 2006 are –

dI	9.30%
X	2.72%
Q	0%
Z	0%
Subtotal dPCI	*6.58%*
Hurricane Sinking Fund	0.3%
Total change in non-fuel base rates	6.88%
Less foreign exchange base rate movement	3.68%
Less difference in deemed 2005 base and Price Cap base	1.21%
Effective change in non-fuel rates	**1.99%**

This will result in an average increase of approximately 0.9% in the June electricity bill over the May bill.

As provided for in the Licence, this increase is applied to the basket of tariffs and JPS may adjust rate schedule individually, so long as the average does not exceed the average total adjustment.

Inflation Adjusted Base Non-Fuel Tariffs (dI ± X ± Q)

plus additional sinking fund reserve charge

Class		Block/ Rate Option	Customer Charge J$/ kWh	Energy J$/kWh	Demand J$/KVA			
					Std.	Off-Peak	Part-Peak	On-Peak
Rate 10	LV	0-100 kWh	78	5.083				
Rate 10	LV	>100 kWh	78	8.932				
Rate 20	LV		179	7.843				
Rate 40A	LV		2,486	4.894	317			
Rate 40	LV - Std		2,486	2.002	811			
Rate 40	LV - TOU		2,486	2.002		33	353	452
Rate 50	MV - Std		2,486	1.804	729			
Rate 50	MV - TOU		2,486	1.804		30	318	407
Rate 60	STREET-LIGHTS		651	9.379				
Rate 60	TRAFFIC-LIGHTS		651	6.321				

2.0 Summary of JPS' Proposal for Rate Adjustment

In compliance with the All-Island Electric Licence 2001 ("the License"), JPS filed an application, dated 3rd April 2006, for the annual rate adjustment with the Office. The company, in its submission, sought approval for the following:

- A weighted average annual inflation adjustment of 5.5% on the June 2005 non-fuel base rates in keeping with the annual adjustment clause contained in the rate schedule. This inflation adjustment does not take into account the foreign exchange component of the index. However, this year also represents the first year in which the 2.72% productivity factor will come into effect in accordance with the Office's June 25, 2004 Determination (Ele2004/2.1). The weighted average increase in inflation will be offset by the 2.72% productivity factor, resulting in an effective increase of 2.78% in the non-fuel tariffs in June 2006. The fuel portion of the bill now accounts for approximately 55% of the charge so therefore the adjustment being sought would result in a 1.25% increase in the average bill.

- The proposals set out the total impact of the hurricanes (Wilma, Dennis and Emily) including the incremental restoration costs, the under-recovered embedded costs in the non-fuel revenue requirement and the opportunity cost of capital. The total proposed cost to be recovered through the application of the Z-factor is $192.8 million. This translates into a proposed increase in the non-fuel rates of 5.9c per kWh. Given the relatively small amount of hurricane storm damage in 2005, JPS proposed two recovery options:

1. ***Recovery from Sinking Fund:*** this method would result in a faster recovery period and accordingly a reduction to the opportunity cost of capital from $32.7 to $ 17.8 million.

2. ***Recovery through the non-fuel base rate***: The Z-Factor claim should be embedded in the non-fuel energy charge only and the monthly computation should be done in such a way so as to ensure that any under- or over-recovery is adjusted through the fuel rate each month.

- JPS proposed that the OUR make a determination that JPS be allowed to effect recovery of any item determined recoverable in full or in part as soon as possible, notwithstanding the 2004 Z-Factor claim dispute on the Loss of revenues.

- In its filing for the Q-factor to be set at zero in this 2006 annual tariff submission JPS has proposed that the OUR utilizes JPS' 2005 performance data on SAIDI, SAIFI and CAIDI in the determination of the benchmark values for the 2006. At the end of January 2007, JPS will compile and audit the performance data for the calendar year 2006. The full audited figures will be submitted as part of the annual rate adjustment filing at the end of March 2007. The submitted audited data will form the basis of determining the Q-Factor along with the previously established benchmark for 2006.

3.0 Office's Application of the Performance Base Ratemaking Mechanism (PBRM)

Effective June 1, 2005 and annually thereafter, JPS is permitted to make an adjustment to the non-fuel base rate on the basis of the formulae below.

$$\mathbf{ABNFy = ABNFy_{-1}\ (1 + dPCI)}$$

Where:

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

Additionally, the annual PBRM filing should follow the general framework where the annual rate of change in non-fuel electricity prices (dPCI) is determined through the following formula:

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

where

dCPI = annual rate of change in non-fuel 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 = 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.

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. While each rate class attracts a specific weighting the weighted average increase of the tariff basket must not exceed the global price adjustment factor (1 + dPCI).

3.1 Annual Growth Rate in Inflation and Devaluation

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

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

where:

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 application of the above formula results in an inflation adjustment factor of **9.30%** derived using the following factors:

- The Jamaican twelve-month point-to-point inflation rate to February 28, 2006 of 12.41%, derived from the most recent CPI data[3];

[3] Obtained from the Statistical Institute of Jamaica, CPI Statistical Bulletin February 2006)

- The U.S. twelve-month point-to-point inflation rate to February 28, 2006 of 3.60%, derived from the US Department of Labour statistical data[4]; and

- The change in the base exchange rate from J$62:US$1 to J$65:US$1

Annual inflation adjustment (dI) Calculation
Escalation Factor

Table 2.1

Line	Description	Formula	Value
	Base Exchange Rate		
L1	Current		**62**
L2	Proposed		**65**
	Jamaica Inflation Index		
L3	CPI @ Feb 2006		**2,295.1**
L4	CPI @ Feb 2005		**2,041.7**
	US Inflation Index[3]		
L5	CPI @ Feb 2006		**198.7**
L6	CPI @ Feb 2005		**191.8**
L7	Exchange Rate Factor	(L2-L1)/L1	**4.84%**
L8	Jamaican Inflation Factor	(L3-L4)/L4	**12.41%**
L9	US Inflation Factor	(L5-L6)/L6	**3.60%**
	Escalation Factor	0.76*L7*(1+0.922*L9) +0.76*0.922*L9 + 0.24*L8	**9.30%**

3.2 X – Factor Component of PBRM

The X-Factor is based on the expected productivity gains of JPS. The X-Factor is to equal 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 was determined by the Office to be 2.72% to be applicable in 2006. The effect on the 2006 annual tariff adjustment is outlined in tables 2.1 – 2.4 below.

3.3 Q – Factor Component of PBRM

Another factor under the PBRM is the Q-factor, the allowed price adjustment to account for changes in the quality of service provided to customers.

The Office is of the view that the Q-factor should meet the following criteria:

- Provide the proper financial incentive to encourage JPS to continually improve service quality. It is important that random variations should not be the source of reward or punishment

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

- Measurement and calculation should be accurate and transparent without undue cost of compliance.

- It should provide fair treatment for factors affecting performance that are outside of JPS' control, such as those due to disruptions by the independent power producers; natural disasters; and other Force Majeure events, as defined in the Licence.

- It should be symmetrical in application, as stipulated in the Licence.

In the 2004 Tariff Review Determination the Office stipulated that the Q-Factor be based on three quality indices:

- System average interruption frequency index (SAIFI)

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

- System average interruption duration index (SAIDI)

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

- CAIDI (customer average interruption duration index) is an industry-defined term that is the result of dividing the duration of the average customer's sustained outages by the frequency of outages for that average customer.

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

The Office's June 2004 determination notice required JPS to implement a mechanism to collect the data on forced outages at both the feeder and sub-feeder levels and to have the data audited and analyzed. Baseline data on System Average Interruption Duration Index (SAIDI)[5], the System Average Interruption Frequency Index (SAIFI)[6] and Customer Average Interruption Duration Index (CAIDI)[7] should have been included with the 2005 annual adjustment filing in order that the Q-Factor can be applied as part of the PBRM. The Office posited at the time that should JPS not provide the supporting data, it would apply international benchmarks to inform the derivation of 'Q' with effect from June 2006.

[5] This index is commonly referred to as customer minutes of interruption or customer hours, and is designed to provide information about the average time that customers are interrupted.

[6] This index is designed to give information about the average frequency of sustained interruptions per customer over a pre-defined area.

[7] This index represents the average time required to restore service to the average customer per sustained interruption.

When JPS put forward its tariff submission in June 1, 2004, the system to capture the information on forced outages at the sub-feeder level was not yet in place. As a result, the Office decided that the Q-Factor would remain at zero until June 2005 when the data on forced outages at both the feeder and sub-feeder levels should have been collected, audited and analyzed by the OUR.

The proposal submitted was to set the baseline for JPS' performance on one year's data from June 2004 to June 2005. JPS implemented the system in June 2004 and data capture for computation of SAIDI, SAIFI and CAIDI on forced outages at the sub-feeder level began in July 2004. As a result of the above, and the *Force Majeure* period September 10 to October 31 due to Hurricane Ivan, one year's data was not available at the time of the previous annual filing in March 2005. As a consequence, the Office delayed the implementation of the Q-Factor adjustment to the 2005/6 tariffs. Finally, having regard to the timing of the annual submission (i.e. March of each year) and the need to compile the Q-data, JPS proposes that going forward it would be more practical to submit the annual performance data on a calendar year basis. Accordingly, JPS has resubmitted the actual indices for the calendar year 2005 to be utilized to establish the base line performance data set.

3.31 JPS' Proposals on the Q-Factor

JPS proposed in this submission that the benchmarks are set such that, in each year between 2005-2009, JPS will have incentives to continuously improve its performance on SAIDI, SAIFI and CAIDI relative to 2004/5.

Specifically the company has proposed:

SAIDI benchmark in year 2005/6 + t = $SAIDI_{2004/5}$ $(1 - 0.02t)$
SAIFI benchmark in year 2005/6 + t = $SAIFI_{2004/5}$ $(1 - 0.02t)$
CAIDI benchmark in year 2005/6 + t = $CAIDI_{2004/5}$ $(1 - 0.02t)$

where t is the number of years from 2005 - 2009

JPS proposed that, SAIDI, SAIFI and CAIDI should be continuously improving by 2%, relative to the 2005 performance level, in each year from 2006 to 2009, not withstanding Force Majeure events.

In each of the four years following 2005, if the:

- SAIDI, SAIFI, and CAIDI calculations show marked improvement relative to the target, Q will be a positive adjustment in the annual PBRM filing.
- SAIDI, SAIFI, and CAIDI calculations show little or no improvement relative to the target, Q will be zero (a dead band) in the annual PBRM filing.
- SAIDI, SAIFI, and CAIDI calculations show deterioration relative to the target, 'Q' will be a negative adjustment in the annual PBRM filing.

3.311 Q-Factor Method of Calculation

JPS proposed that quality-of-service performance be classified into three categories, with point system as follows;

- Above Average Performance—would be worth 3 Quality Points on either SAIFI, SAIDI or CAIDI;
- Dead Band Performance—would be worth 0 Quality Point on either SAIFI, SAIDI or CAIDI; and
- Below Average Performance—would be worth -3 Quality Points on SAIFI, SAIDI or CAIDI.

JPS proposed for each of the indices above, that, beating the target by 2.0% or more should be considered as Above Average Performance; beating the target by less than 2.0% should be considered as Meeting Expectation (Dead Band Performance); and performance that is below the target would be considered as Below Average Performance.

JPS further proposed that if the sum of Quality Points for:

- SAIFI, SAIDI and CAIDI is 9, then Q = +0.5%
- SAIFI, SAIDI and CAIDI is 6, then Q = +0.4%
- SAIFI, SAIDI and CAIDI is 3, then Q = +0.25%
- SAIFI, SAIDI and CAIDI is 0, then Q = +0.0%
- SAIFI, SAIDI and CAIDI is -3, then Q = -0.25%
- SAIFI, SAIDI and CAIDI is -6 then Q = -0.4%
- SAIFI, SAIDI and CAIDI is -9 then Q = -0.5%

Proposed categories and points for SAIFI, SAIDI and CAIDI

Band	Performance relative to target	Quality points
Above average	Beating the target by 2.0%	3
Dead band	Actual performance within -2% to +2% of target	0
Below average	Worsening of performance (more than -2%)	-3

3.312 Data Collection, Security and Storage

For the calculation of SAIDI, SAIFI and CAIDI indices, the key information to be collected is as follows:

Outages start and end times;
System total number of customers; and
Number of customers affected by the outage.

JPS proposes that the data required for calculating approximate SAIDI, SAIFI and CAIDI values will build upon JPS' existing data acquisition capabilities together with JPS' best approximation of the number of customers on each feeder and sub-feeder. JPS' electronic data capture mechanisms are at various stages of development and no one system exists currently to capture all information required for an exact calculation of the SAIDI, SAIFI and CAIDI indices. SCADA status and analogue information are available on the majority of transmission and generation equipment with status information available for 88% of feeder level circuits. Customer reported data, primarily used to indicate start times for sub-feeder level events, is manually captured and stored electronically using the Call Centre Management System (CCMS).

3.313 Planned Improvements in Data Collection

JPS states that it has commenced a geographic information system (GIS) project to establish and maintain a more accurate customer count on each distribution feeder, and in particular, the customer count on each branch circuit. This will result in the GPS mapping of all the customer meters, which will be superimposed on the GIS feeder route and the GPS position of the line switches and fuses will be recorded and mapped in a similar way. This will facilitate the easy counting of all customers on a feeder and sub-feeder basis. A concise database is being created which will incorporate this new customer data into the CIS and the Outage Management System. When this project is completed all reliability indices can be computed using the actual customer count for the affected section of the T&D system.

3.314 Basis for Resetting the Base Line Data set in 2007

JPS is of the opinion that the improvement in the data collection process noted above will enable the recalculation of all 2006 data on an exact customer count basis. However, JPS indicates that it will not be in a position to recalculate the 2005 data set based on the actual customer count. A comparison of the 2006 actual performance calculated using the estimated customer count method versus the actual customer count method will provide a basis to re-establish new benchmark data for the quality indices (SAIDI, SAIFI and CAIDI) for 2007, which would be based on the actual customer count method. These revised benchmarks could then form the basis for future comparison. Should the OUR accept this proposed approach; JPS could officially switch its determination of the number of customers affected from an estimation to an actual count starting 2007. If the OUR is averse to resetting the benchmark in 2007 on the above mentioned basis, then

JPS proposes that the resetting of the benchmark up to 2009 proceed on the basis proposed above. Likewise, JPS will continue to utilize the estimation routine for comparison against these benchmarks for the remainder of the five-year rate cap period. Under this approach, JPS would submit recalculated data based on the actual customer count method to be utilized after 2009. Actual performance would also be measured using this method.

3.32 Office's Position on the Q-Factor Proposal

The Performance-based Rate-making Mechanism (PBRM), in general, allows the Office to reward JPS for good performance and penalize it for poor performance. The Office is anxious to apply the PBRM under the price cap situations to counteract any inclination by JPS to cut costs at the expense of reliability by providing the correct incentives.

The Office agrees with JPS' proposed approach to exclude from the reliability indices calculation, Force Majeure and major events outside of the reasonable control of JPS. Additionally, the Office is of the view that MAIFI should also be benchmarked in the future. Additionally, capital expenditure submitted to the Office by JPS in support of its tariff review in 2004 revealed that over US$90 million will be expended to expand and improve the network over the next 5 years. The Office is of the view that given the current state of the network system there is much room for improvement. Consequently, SAIDI, SAIFI, MAIFI and CAIDI should be continuously improving by 2% in 2006 relative to the 2005 performance level and 3%, relative to the 2005 performance level, in each year from 2006 to 2009.

Until the next price review, a verified set of SAIFI, SAIDI and CAIDI indices for 2005 will be used as the benchmark quality level.

The Office targets for the Q-Factor 2006 – 2009

Year	Target SAIDI	Target SAIFI	Target CAIDI
2006	$SAIDI_{2005}$	$SAIFI_{2005}$	$CAIDI_{2004/5}$
2007	$SAIDI_{2005}$*(1 – 0.02)	$SAIFI_{2005}$*(1 – 0.02)	$CAIDI_{2005}$*(1 – 0.02)
2008	$SAIDI_{2005}$*(1 – 0.05)	$SAIFI_{2005}$*(1 – 0.05)	$CAIDI_{2005}$*(1 – 0.05)
2009	$SAIDI_{2005}$*(1 – 0.08)	$SAIFI_{2005}$*(1 – 0.08)	$CAIDI_{2005}$*(1 – 0.08)

Generally, in PBRM penalties are increased as performance worsens and are capped when a maximum penalty is reached. Rewards for good reliability can be implemented in similar manner. The Office is of the view that this would provide incentive for JPS to enact reliability improvement measures even after they have surpassed the poor reliability threshold for a year, before the year ends.

The Office considers it appropriate that quality-of-service performance should be classified into three categories, with the following point system:

- Above Average Performance—would be worth 3 Quality Points on either SAIFI, SAIDI, or CAIDI;

- Dead Band Performance—would be worth 0 Quality Point on either SAIFI, SAIDI, or CAIDI; and

- Below Average Performance—would be worth -3 Quality Points on SAIFI, SAIDI, or CAIDI.

The Office further takes the view that if the sum of Quality Points for:

- SAIFI, SAIDI, and CAIDI is 9, then Q = +0.5%
- SAIFI, SAIDI, and CAIDI is 6, then Q = +0.4%
- SAIFI, SAIDI, and CAIDI is 3, then Q = +0.25%
- SAIFI, SAIDI, and CAIDI is 0, then Q = 0%
- SAIFI, SAIDI, and CAIDI is -3, then Q = -0.25%
- SAIFI, SAIDI, and CAIDI is -6 then Q = -0.40%
- SAIFI, SAIDI, and CAIDI is -9 then Q = -0.50%

Since the performance in each of the three performance measures can either be above target, below target or on target (dead band) there are twenty two (22) possible outcomes as in table 2.2 below.

Table 2.2

Possible Q-factor scores

SAIDI	SAIFI	CAIDI	Total	PBRM ADJUSTMENT FACTOR
3	3	3	9	0.5%
3	3	0	6	0.40%
3	0	3	6	0.40%
0	3	3	6	0.40%
3	0	0	3	0.25%
0	0	3	3	0.25%
0	3	0	3	0.25%
3	3	-3	3	0.25%
-3	3	3	3	0.25%
3	-3	3	3	0.25%
0	0	0	0	0.00%
3	0	-3	0	0.0%
-3	3	0	0	0.0%
0	-3	3	0	0.0%
-3	0	3	0	0.0%
0	0	-3	-3	-0.25%
0	-3	0	-3	-0.25%
-3	0	0	-3	-0.25%
3	-3	-3	-3	-0.25%
-3	-3	3	-3	-0.25%
-3	3	-3	-3	-0.25%
-3	0	-3	-6	-0.40%
0	-3	-3	-6	-0.40%
-3	-3	0	-6	-0.40%
-3	-3	-3	-9	-0.5%

This design of the Q-factor adjustment as a component of the PRBM is symmetrical and all possible outcomes are properly defined based on the PBRM point system. The design is balanced as it provides equal opportunity for either a positive or negative adjustment to the PRBM.

JPS proposed that measurements approximating SAIDI, SAIFI and CAIDI for ***Sustained Interruptions***, as defined in the Institute of Electrical and Electronics Engineers Standard (IEEE Std. 1366, 2001), become the quality criteria used to determine level of service quality. By this definition, a Sustained Interruption is any interruption not classified as a momentary event, i.e., any interruption longer than five minutes.

However, the Office is of the view that interruptions of less than five minutes' duration or momentary interruptions are just as important for measuring reliability. Consequently, the Office is directing JPS to start collecting the data so that the company's performance in this regard can be monitored on an ongoing basis.

MAIFI (momentary average interruption frequency index) is an industry-defined term that attempts to identify the frequency of all momentary outages that a customer will experience during a given time-frame. It is calculated by summing all customer interruptions for momentary outages (those less than 5 minutes duration) and dividing by all customers served within the affected area. With the increasing vulnerability of critical machinery and systems to temporary loss of power, there should be incentives to direct the company along the path of improved quality in this area.

Recognising the difficulties that have been experienced in the measurement of the other indices, the Office now directs that MAIFI be computed annually over the period 2006 – 2009 and the index used as the baseline for incorporating MAIFI in the computation of the value of Q in the 2009 rate review. The Office will make itself available to discuss the implementation strategy as necessary. Accordingly, the value of Q will be based upon actual values of SAIDI, SAIFI, MAIFI and CAIDI for each year of the PBRM as compared to a new baseline effective 2009.

The Office expressed some concerns about the methodology proposed to measure the indices. The company does not have a system in place to accurately record the customer count or timing of outages at the sub-feeder level and so has proposed the use of proxies to determine the indices. Although there has been some refinement to the proposal for the capture of the customer count by outages by 2007, the time recording methodology at the sub-feeder level still does not allow for reliable measurement of the proposed indices or for the development of a system to record MAIFI. The Office is disappointed that a more robust system of measurement is not being developed having regard to the fact that the first determination on the requirements for the quality of service indices was over five years ago.

The Office is of the opinion that the two-year baseline data currently available is not sufficient and may undermine the penalty and reward system that seeks to give an incentive to JPS to provide quality electric service. The current baseline data proposed by

JPS represents data that is reflective of a period when there were a number of factors[8] that militated against adequate reliability and resulting in a high variability in the monthly indices.

The table below gives an indication of the variability of the monthly indices as per the submission for the annual adjustment. The level of variability shown raises the question of whether the regime proposed by JPS will actually reward or punish for results that can be largely attributed to the actions of management. The expected variation for a given month could push the indices much more than the 2% proposed for triggering rewards and penalties.

Table 2.3 - Variability of Monthly Indices for 2005

	SAIDI	SAIFI	CAIDI
Mean	286	3.05	92.31
Standard Deviation	130	1.28	17.29

The Office is of the view that the data presented is neither sufficient nor representative enough to ensure the optimum baseline for a robust Q-factor.

In addition, the Office has a major concern about the differences in the reports on the indices in the monthly technical reports submitted during the year and the contents of the submission for the annual adjustment.

JPS' 2005 Performance on SAIDI, SAIFI and CAIDI based on their Tariff Submission

Table 2.4:

MONTH	SAIDI	SAIFI	CAIDI
January	151.79	1.82	83.20
February	117.57	1.73	67.85
March	257.26	2.49	103.42
April	207.02	2.72	76.16
May	311.18	3.73	83.47
June	521.32	6.16	84.60
July	480.03	3.92	122.57
August	305.61	3.70	82.58
September	306.31	3.13	97.76
October	390.07	3.42	113.91
November	256.33	2.27	112.69
December	123.23	1.55	79.51
TOTAL	**3,427.73**	**36.65**	**93.52**

[8] The countervailing factors are hurricanes in 2004 and 2005 and data collection issues relating to the integrity of the system

JPS 2005 Performance on SAIDI, SAIFI and CAIDI based on Monthly Technical Reports Submissions

Table 2.5

MONTH	SAIDI	SAIFI	CAIDI
January	230.41	3.25	70.90
February	487.56	3.57	136.57
March	379.01	4.43	85.56
April			
May	288.12	4.38	65.78
June	381.09	5.41	70.44
July	486.13	6.17	78.79
August	303.53	5.37	56.52
September	90.76	3.17	28.63
October	112.65	4.55	24.76
November	110.85	2.84	39.03
December	75.64	2.30	32.89
TOTAL[9]	**3213.5**	**49.57**	**64.83**

In order to minimise the risk of a lower than optimum baseline for the measurement of subsequent Q-Factor the dead band performance[10] target should be sufficiently large to take into account the variability of the current data. This will ensure that the utility will have to bring material improvements to the quality of service to score quality points exceeding the dead band of zero. The Office accepts JPS' proposal of using available data for the baseline, but is of the view that the initial dead band target should be 10% rather than the 2% proposed by JPS. This position is taken based on the fact that the data presented by JPS showed significant variances, greater than 2%, within the monthly and annual indices.

Based on the risk–reward scenario that the available data presents, the Office agrees that that the Q-Factor should remain at zero for this adjustment period. The Office is extremely disappointed that adequate and reliable data is not available to properly assess the quality of service provided to customer after the long period of notice as to the requirements. Consequently, the Office has determined that a directive outlining reporting specifications and implementation will be issued following this Determination Notice.

For the next review (in 2009) the Office will be setting the benchmark targets using a moving average based on the previous three years' data.

[9] Annual Total derived from eleven months of data. (Technical Report for April 2005 is unavailable)

[10] Actual performance within a certain variance sufficiently large to ensure that the utility will have to improve quality of service to score quality points exceeding zero.

3.321 Force Majeure and Major Events

The Office agrees with JPS that Force Majeure and major events outside of the reasonable control of JPS should be excluded from the reliability indices calculation.

However, in order to ensure proper treatment of the Force Majeure and major events, the Office intends to introduce a regime that would require that:

- JPS divides the entire distribution system into geographical or operational areas and should report reliability indices for each defined area as well as for the system.

- JPS formally requests exclusion of service interruptions for reporting purposes by proving an outage qualifies as a major event in a particular area or areas.

- JPS in its application to the Office for a declaration that the event can be classified as Force Majeure or major should indicate the actual timeframe in which the major event began and ended.

The above requirements are geared to complement the following safeguards for which the company is prohibited:

- Combining of separate events as a major event

- Excluding outage data from all geographical areas when the major event that has occurred is localized to one geographical area

- Excluding all outages that took place on any day in which a major event took place, regardless of the actual timeframes in which the major event began and ended.

The Office agrees with the Company that procedures for dealing with these special conditions be developed and promulgated as a Code. The Office anticipates receiving the Company's draft in this regard within two months of the effective date of this Determination.

3.4 Z-Factor Component

JPS experienced losses as a result of hurricane storm damage in 2005, resulting from the passage of Hurricanes Dennis, Emily and Wilma in the vicinity of Jamaica. JPS had made the case in the 2004 tariff submission that the company is not able to obtain conventional insurance coverage in relation to its T&D assets. As a result, the Office agreed with the company's proposal to start a Self-insurance Sinking Fund effective June 2004 with funding approximately US$2 Million per annum. The fund has an accumulated value of approximately US$3.5 Million as at March 31, 2006. The Office accepts that where there is insufficient funds available under the Self Insurance Fund, in

the event of an approved event, JPS may file for recovery of the relevant costs under the Z-factor, as defined in Schedule 3 (Exhibit 1) of the Licence.

The Z-Factor is the allowed rate of price adjustment to compensate the company for the impact of events that:

- Affect JPS costs;
- Are not captured by the other elements of the formula; and
- Are not due to managerial decisions

The Z-Factor claim submitted by JPS relates to hurricane damage to the Transmission and Distribution network. The power plants have insurance coverage. The JPS filing has the costs impact broken down into three categories;

1. Restoration costs J$86.8 million
2. Revenue impairment J$73.3 million ; and
3. Opportunity cost of capital J$32.7 million

Hence, the total claim made by JPS is to recover $192.8 million under the Z-component of PBRM.

The whole basis for considering cost recovery for damage caused by hurricanes is discussed in the Office's Determination Ele 2005/5. It is sufficient to note that it has over the years become increasingly difficult if not impossible, not only for Caribbean utilities but also for utilities that operate in the south eastern and eastern United States in the so called "hurricane belt", to acquire insurance cover. The statement provided by OUR consultants is that they are not aware of any "reputable insurance company or broker that presently offers windstorm cover for transmission and distribution networks within the 'hurricane belt'." In fact, it was this reality that prompted JPS in the 2004 Tariff Submission to request approval for the establishment of a Self-Insurance Scheme and the Office was so disposed as to have approved the revenue stream in the tariff to establish the insurance sinking fund.

It is important to note that had JPS been able to obtain appropriate insurance coverage for its T&D assets it would be considered an acceptable cost of providing service and would therefore be included in tariff calculations. The Company, therefore, normally recovers the cost for insurance cover for catastrophic events by the way of premiums before and after the occurrence of such events. These premiums are just a means of smoothing cash flow and the payout may be more or less than the actual damage incurred. The same smoothing out of cash flow can be achieved by either creating a sinking fund or amortizing the cost of the damage over subsequent periods. In the absence of insurance, the costs incurred as a consequence of the event could be funded by the Self Insurance scheme (Sinking Fund), the Z-Factor (amortization of the cost) or a combination of both.

In respect of the current claim made by JPS to recover $192.8 Million under the Z-component of PBRM in relation to (i) hurricane restoration costs, (ii) loss of revenue and (iii) opportunity costs, the Office will apply the same principles as for its Determination Ele 2005/5

In its submission JPS proposed two recovery options;

1. Recovery from the Sinking Fund
2. Recovery through non-fuel base rates

The Office is of the view that given the relatively small amount of the claim for hurricane storm damage in 2005, the option of recovery shall be directly from the Sinking Fund reserve.

In regard to the final claim to be applied against the Sinking Fund – the Office will hand down its decision on June 30 2006.

The Office acknowledges the documentation received from JPS regarding the operation of the Sinking Fund and will respond in a fulsome manner separately.

3.5 Tariff Basket Compliance

The company 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. It is to be noted that the effective change in the non-fuel rates is the dPCI less the cumulative movements due to Foreign Exchange rate changes.

The weights used are the 2005 revenue shares.

The tariff basket compliance must satisfy the following formulae:

$$PCI \geq API; \text{ where}$$

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

The annual adjustment factor for the non-fuel base rates of 6.58% derived from dPCI = (dI = 9.30, - X =2.72, -Q = 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.

Total Non-Fuel Tariff Basket

Table 2.6

Class		Block/ Rate Option	Customer Charge Revenue (J$'000)	Energy Revenue (J$'000)	Demand (KVA) Revenue (J$'000)				Total Demand Revenue (J$'000)	Total Revenues (J$'000)
					Std.	Off-Peak	Part-Peak	On-Peak		
Rate 10	LV	0-100 kWh	12,125	1,830,298						1,842,423
Rate 10	LV	> 100 kWh	22,577	5,999,306						6,021,883
Rate 20	LV		8,904	4,551,927						4,560,831
Rate 40A	LV		945	295,440	117,704				117,704	414,089
Rate 40	LV	STD	2,072	939,717	1,334,229				1,334,229	2,276,018
Rate 40	LV	TOU	306	282,742		14,469	151,357	159,149	324,975	608,023
Rate 50	MV	STD	142	406,649	519,855				519,855	926,646
Rate 50	MV	TOU	60	186,693		12,989	124,856	113,593	251,438	438,191
Rate 60	LV		118	567,997						568,115
Total			47,249	15,060,769	1,971,788	27,458	276,213	272,742	2,548,201	17,656,219

Table 2.7 below shows the annual adjustment factor that JPS proposes to apply to each individual tariff.

Annual Non-Fuel Inflation Adjustment per Tariff

Table 2.7

Class	Block/ Rate *Option*	Customer Charge (J$/kWh)	Energy (J$/kWh)	Demand (J$/KVA)			
				Std.	Off-Peak	Part-Peak	On-Peak
Rate 10	0-100 kWh	10.0%	6.57%				
Rate 10	>100 kWh	10.0%	6.57%				
Rate 20	LV	10.0%	6.57%				
Rate 40A	LV	10.0%	6.57%	6.57%			
Rate 40	LV - Std	10.0%	6.57%	6.57%			
Rate 40	LV - TOU	10.0%	6.57%		6.57%	6.57%	6.57%
Rate 50	MV - Std	10.0%	6.57%	6.57%			
Rate 50	MV - TOU	10.0%	6.57%		6.57%	6.57%	6.57%
Rate 60	STREET-LIGHTS	10.0%	6.57%				
Rate 60	TRAFFIC-LIGHTS	10.0%	6.57%				

It is a requirement that when aggregated, the weighted adjustment proposed by JPS should equate to the annual adjustment factor (6.58%). Confirmation of this is shown below in table 2.8.

Weighted Non-Fuel Inflation Adjustment (dI – X)

Table 2.8

Class	Block/ Rate Option	Customer *Charge* (J$/kWh)	Energy (J$/kWh)	Demand (J$/KVA)				Total
				Std.	Off-Peak	Part Peak	On-Peak	
Rate 10	0-100 kWh	0.01%	0.68%					0.69%
Rate 10	>100 kWh	0.01%	2.24%					2.25%
Rate 20	LV	0.01%	1.69%					1.70%
Rate 40A	LV	0.00%	0.11%	0.04%				0.15%
Rate 40	LV - Std	0.00%	0.35%	0.50%				0.85%
Rate 40	LV - TOU	0.00%	0.11%	0.00%	0.01%	0.05%	0.05%	0.22%
Rate 50	MV - Std	0.00%	0.15%	0.19%	0.00%	0.00%	0.00%	0.34%
Rate 50	MV - TOU	0.00%	0.07%	0.00%	0.00%	0.05%	0.05%	0.17%
Rate 60	LV	0.00%	0.21%					0.21%
Total		0.03%	5.61%	0.73%	0.01%	0.10%	0.10%	**6.58%**

The current non-fuel base rates approved by the Office in the 2005 Decision are shown below.

Approved Non-Fuel Tariffs for 2005

Table 2.9

Class		Block/ Rate Option	Customer Charge J$/ kWh	Energy *J$/kWh*	Demand J$/KVA			
					Std.	Off-Peak	Part-Peak	On-Peak
Rate 10	LV	0-100 kWh	71	4.751				
Rate 10	LV	>100 kWh	71	8.363				
Rate 20	LV		163	7.341				
Rate 40A	LV		2,259	4.571	297			
Rate 40	LV - Std		2,259	1.859	760			
Rate 40	LV - TOU		2,259	1.859		31	331	424
Rate 50	MV - Std		2,259	1.674	684			
Rate 50	MV - TOU		2,259	1.674		28	298	382
Rate 60	STREET-LIGHTS		592	8.777				
Rate 60	TRAFFIC-LIGHTS		592	5.909				

Table 2.10 shows the inflation 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 prior to the application of the Z-Factor. Accordingly, this represents dI - Q - X, where Q = 0 and X= -2.72 as at June 2006 (but this does not take into account the effect of Z. The rates shown in Table 2.4

below is consistent with the price cap tariff compliance constraint and is 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+ dPCI), hence there is no unused portion of the adjustment to be carried forward to the following year.

Inflation Adjusted Non-Fuel Tariffs based on (dI ± X ± Q)

Table 2.10

Class		Block/ Rate Option	Customer Charge J$/ kWh	Energy J$/kWh	Demand J$/KVA			
					Std.	Off-Peak	Part-Peak	On-Peak
Rate 10	LV	0-100 kWh	78	5.063				
Rate 10	LV	>100 kWh	78	8.912				
Rate 20	LV		179	7.823				
Rate 40A	LV		2,486	4,874	317			
Rate 40	LV - Std		2,486	1,982	811			
Rate 40	LV - TOU		2,486	1,982		33	353	452
Rate 50	MV - Std		2,486	1,784	729			
Rate 50	MV - TOU		2,486	1,784		30	318	407
Rate 60	STREET-LIGHTS		651	9,359				
Rate 60	TRAFFIC-LIGHTS		651	6,301				

4.0 Sinking Fund

Due to the vulnerability of overhead T&D systems to damages from hurricane force winds, acquiring insurance coverage for T&D assets has over the years become increasingly difficult, not only for Caribbean utilities but also for utilities that operate in the south eastern and eastern United States in the so-called "hurricane belt". The consultants pointed out in their study that they are not aware of any "reputable insurance company or broker that presently offers windstorm cover for transmission and distribution networks within the 'hurricane belt'." In fact, it was this reality that prompted JPS in the 2004 Tariff Submission to request approval for the establishment of a Self-Insurance Scheme. Against this background, the Office was satisfied that JPS had been unable to secure reasonable insurance coverage for its T&D network and it therefore approved the revenue stream in the tariff to establish the insurance sinking fund.

It is important to note that had JPS been able to obtain appropriate insurance coverage for its T&D assets it would be considered an acceptable cost of providing service and would therefore be included in tariff calculations. The company, therefore, normally recovers the cost for insurance cover for catastrophic events by the way of premiums before and after the occurrence of such events. These premiums are just a means of smoothing cash flow and the payout may be more or less than the actual damage incurred. The same smoothing out of cash flow can be achieved by either creating a sinking fund or amortizing the cost of the damage over subsequent periods. In the absence of insurance,

the costs incurred as a consequence of the event could be funded by the Self Insurance scheme (Sinking Fund), the Z-Factor (amortization of the cost) or a combination of both.

4.1 Providing for an adequate Sinking Fund

Data encompassing some 989 tropical cyclones (TC) which developed in the Caribbean since 1900 reveals the following:

1. Jamaica has suffered severely (came within 200 km) from 74 of the 989 of which 22 were direct hits.

2. Over the 100-year period 1900 to 1999 the region has experienced on average 10 TC per year.

3. For the 2000 - 2005 there has been an average of 20 TC per year.

4. The maximum No. of TC in one year that has affected the island severely is 5.

5. The maximum No. of TC that has occurred during five consecutive years is 8.

Using JPS cost information on the effect of hurricanes during 2004 and 2005 along with other assumptions the following can be concluded:

1. There is a 7.5% chance that Jamaica will be severely affected by a TC that has developed in the region.

2. On average Jamaica should be severely affected by approximately 3 TC every two years.

3. Approximately 30% of the TC that have severe effect (comes within 200km) of the island will be direct hits.

4. Restoration costs in the long term could average between S$2.8 Million to US$9.6 Million per year for the reasonable range of probabilities.

5. The upper limit for the size of the Fund should be US$15 Million if 8 TC in five years is assumed (which historically is reasonable). If however, 10 is assumed based on recent developments, then US$20 Million would be more appropriate.

The Sinking Fund established in 2004 currently has an accumulated value of approximately US$3.5 million as at March 31, 2006. The fund will be impaired by J$60 million or US$ 0.92 million as a result of this determination. Additionally, the Office is of the view that the annual funding of US$2 Million is conservative and does not allow the fund to build up fast enough to meet moderate to large claims in the event of major hurricane damages. Furthermore, the frequency of claim as a result of more frequent hurricane that impact on the Island system necessitate an adjustment to the fund to meet

expected claims. The Office is of the view that a maximum fund level of US$20 Million to be achieved over five years is reasonable. In order to meet expected claims from the Self Insurance Fund on an ongoing basis an annual accrual rate of US$5 Million should be targeted. In order to achieve this target an adjustment mechanism and the methodology to collect this premium from rate payers will be the basis for another determination. In this Determination the Office will use the opportunity to bring the annual accrual above the minimum level that it has determined by increasing the rate of accrual by US$1 Million to US$3 Million

The Table below shows the effect of a US$1 Million annual increase to the Self Insurance Fund.

Expected Sales 2006-07 (MWh)	3,245,000
Exchange Rate J$:US$	65

Annual Increase to Self Insurance Fund **(J$ Mil)**	65
Annual Increase to Self Insurance Fund **(US$ Mil)**	1.00
Increase in Rates **(J cents/kWh)**	2.00
Increase in Rates **(US cents/kWh)**	0.03
Monthly increase in Average Residential (200 kWh) Bill (J$)	4.01
% Increase in Average Residential (200 kWh) Bill	**0.124%**

Current Residential Customer using 200 kWh Monthly Bill (J$)	3,353.14

The rate is to be charged on a per kWh basis and incorporated in the non-fuel rates and included in the bill under the energy charge.

5.0 The Office Determination

The following is an overall summary of the Office's Determination to the JPS rate adjustments proposals:

1. The 2006 annual non-fuel tariff adjustment incorporates changes in relation to inflation, foreign exchange movement and adjustments for the X, Q and Z factors. This represents the second annual tariff adjustment under the new regulatory framework which became effective June 1, 2004. This year has been marked by: relatively high inflation, with U.S. and Jamaica inflation rates of 3.6% and 12.4% respectively; and sustained high oil prices on the world markets. However, this year also represents the first year in which a 2.72% productivity gain, determined by the Office in the June 1, 2004 Determination, will be passed on to customers. This productivity gain will act as a constant 2.72% offset against the inflation adjustment to tariffs for the remaining tariff period (2006 - 2009). Accordingly, the result is, that, while there is a 9.30% weighted average increase in inflation and foreign exchange rate under the annual tariff adjustment mechanism, this will

be offset by the 2.72% productivity factor, and 3.68% for the cumulative monthly adjustment due to foreign exchange movements and 1.21% being the difference in the approved and 'trued-up' base for 2005 resulting in an effective increase of 1.69% in the non-fuel tariffs in June 2006. The J$0.02/kWh increase in the Sinking Fund accrual will add another 0.3% to the non-fuel rates. Given current fuel prices, which account for approximately 55% of customers' total bills, the total bill impact from this increase is expected to be approximately 0.9%.

Inflation Adjusted Base Non-Fuel Tariffs (dI ± X ± Q)
plus Additional Sinking Fund Reserve Charge

Class		Block/ Rate Option	Customer Charge J$/ kWh	Energy *J$/kWh*	Demand J$/KVA			
					Std.	Off-Peak	Part-Peak	On-Peak
Rate 10	LV	0-100 kWh	78	5.083				
Rate 10	LV	>100 kWh	78	8.932				
Rate 20	LV		179	7.843				
Rate 40A	LV		2,486	4.894	317			
Rate 40	LV - Std		2,486	2.002	811			
Rate 40	LV - TOU		2,486	2.002		33	353	452
Rate 50	MV - Std		2,486	1.804	729			
Rate 50	MV - TOU		2,486	1.804		30	318	407
Rate 60	STREET-LIGHTS		651	9.379				
Rate 60	TRAFFIC-LIGHTS		651	6.321				

2. Until the next review the verified set of SAIFI, SAIDI and CAIDI indices for 2005 will be used as the benchmark quality level.

   The Office targets for the Q-Factor 2006 – 2009

Year	Target SAIDI	Target SAIFI	Target CAIDI
2006	$SAIDI_{2005}$	$SAIFI_{2005}$	$CAIDI_{2004/5}$
2007	$SAIDI_{2005}$*(1 – 0.02)	$SAIFI_{2005}$*(1 – 0.02)	$CAIDI_{2005}$*(1 – 0.02)
2008	$SAIDI_{2005}$*(1 – 0.05)	$SAIFI_{2005}$*(1 – 0.05)	$CAIDI_{2005}$*(1 – 0.05)
2009	$SAIDI_{2005}$*(1 – 0.08)	$SAIFI_{2005}$*(1 – 0.08)	$CAIDI_{2005}$*(1 – 0.08)

3. The Office has determined that the data presented for the calculation of the Q-Factor is neither sufficient nor representative enough to ensure the optimum baseline for a robust Q-Factor. However, the Office is of the view that in order to minimize the risk of a lower than optimum baseline for the measurement of subsequent Q-Factor the dead band performance[11] target should be sufficiently

[11] Actual performance within a certain variance sufficiently large to ensure that the utility will have to improve quality of service to score quality points exceeding zero.

large to take into account the variability of the current data. In this regard the Office has determined that the trigger point for calculation of reward or penalties is a 10% variance of the various indices. The baseline data presented is to be verified.

4. The Office agrees that the Q-factor should remain at zero for this adjustment period.

5. The Office agrees with JPS that Force Majeure and major events outside of the reasonable control of JPS should be excluded from the reliability indices calculation. However, in order to ensure proper treatment of the Force Majeure and major events, the Office intends to introduce a regime which requires that:

   - JPS divides up the entire distribution system into geographical or operational areas and should report reliability indices for each defined area and for the system.

   - JPS formally requests exclusion of service interruptions for reporting purposes by proving an outage qualifies as a major event.

   - JPS, in the application to the Office for a declaration that the event can be classified as Force Majeure or major event, should indicate the actual timeframe in which the major event began and ended.

   The above requirements are geared to complement the following safeguards by which the company is prohibited from:

   - Combining of separate events as a major events

   - Excluding outage data from all geographical areas when the major event that has occurred is localized to one geographical area

   - Excluding all outages that took place on any day in which a major event took place, regardless of the actual timeframes in which the major event began and ended.

6. The audited figures for 2006 shall be submitted as part of the annual rate adjustment filing at the end of March 2007. The submitted audited data will form the basis of determining the Q-Factor along with the previously established benchmark for 2006.

7. Additionally, the benchmark data for subsequent regime will be a moving average based on the previous three years' data.

8. The Office now directs that MAIFI should be computed annually over the period 2006 – 2009 and the index used as the baseline for incorporating MAIFI in the computation of the value of Q in the 2009 rate review. Accordingly, the value of Q will be based upon actual values of SAIDI, SAIFI, MAIFI and CAIDI for each year of the PBRM as compared to a new benchmark quality of service level in 2009.

9. In respect of the Claim made by JPS to recover $192.8 Million under the Z-component of PBRM in relation to (i) hurricane restoration costs, (ii) loss of revenue and (iii) opportunity costs, the Office has determined that the Company may recover the approved costs incurred as a consequence of the effects of hurricanes Dennis, Emily and Wilma through the Self Insurance Fund. The Office will hand down a determination on the amounts to be recovered by June 30, 2006.

10. With regard to the hurricane sinking fund, the Office has decided to increase the annual accrual from US2 Million to US$3 Million and, in order to support this rate of accrual to the Self Insurance Scheme, a charge of J$0.02/kWh is to be applied to and incorporated in the non-fuel rates and included in the energy charge.

11. The Office will review the appropriateness of moving the annual accrual to the fund to a level of US$5 Million and a target level of the fund of $20 Million.

Glossary

ABNF	-	Adjusted Non-fuel base rate
CAIDI	-	Customer Average Interruption Duration Index
CIS	-	Customer Information System
CPI	-	Consumer Price Index
CRP	-	Country Risk Premium
CT	-	Current Transformer
GDP	-	Gross Domestic Product
GOJ	-	Government of Jamaica
IPP	-	Independent Power Purchase
kVA	-	Kilo Volt Amperes
kWh	-	Kilowatt-hours
Licence	-	The All Island Electric Licence 2001
MVA	-	Mega Volt Amperes
MW	-	Megawatt
MWh	-	Megawatt-hours
O&M	-	Operating and Maintenance
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
WACC	-	Weighted Average Cost of Capital