Office of Utilities Regulation

Jamaica Public Service Co. Ltd Rate Adjustment Submission

Determination Notice

OFFICE OF UTILITIES REGULATION

2002 February

JAMAICA PUBLIC SERVICE COMPANY (JPSCO)

RATE ADJUSTMENT SUBMISSION 2002

Abstract

In January 2001 the Office of Utilities Regulation ("the Office") completed its first evaluation of a tariff review application by Jamaica Public Service Company Limited (JPS) to become effective February 1, 2001. The rates recommended by the Office and approved by the Minister of Mining and Energy average rate 9.23 c/kWh. Under the rate schedule, JPS is allowed annual changes to its rates to reflect the impact of foreign and local inflation. The annual rate adjustment is based on an approved adjustment formula and the regime is valid until May 2004. The first such adjustment is expected to become effective April 1, 2002.

EXECUTIVE SUMMARY
JAMAICA PUBLIC SERVICE COMPANY LIMITED
RATE ADJUSTMENT APPLICATION 2002

Background

In January 2001 the Office of Utilities Regulation ("The Office") completed its first evaluation of a tariff review application by Jamaica Public Service Company Limited (JPS) that became effective February 1, 2001. The rates recommended by the Office and approved by the Minister of Mining and Energy averaged 9.23 c/kWh. Under the rate schedule, JPS is allowed annual changes to its rates to reflect the impact of foreign and local inflation. The annual rate adjustment is based on an approved adjustment formula and the Tariff regime is valid until May 2004. The first such adjustment is expected to become effective April 1, 2002.

Under current legislation the Office is the Regulator of the electricity sector in Jamaica. This is underpinned by the All-Island Electricity Licence 2001. Condition 15 paragraph 2 of the Licence reads "The prices to be charged by the Licencee in respect of the supply of electricity shall be subject to such limitation as may be imposed from time to time by the Office." Prior to April 1, 2001 the Minister of Mining and Energy was the regulator of the electricity sector in Jamaica. Accordingly, the 2001 JPS application was submitted to the Minister who requested the OUR to evaluate the application and make recommendations to him as to the appropriate courses of action. The current licence gives the power to the Office to determine the prices.

Summary of JPS proposal for Rate Adjustment

The Office received a letter from JPS dated 17th December 2001 to which a submission for a rate adjustment application was attached. The company in its submission sought approval for the following:

- An adjustment of 7.2% on the current non-fuel base rates in keeping with the annual adjustment clause contained in the rate schedule and a new base Exchange rate of J$47: US$1. JPS is seeking a change in the Base Exchange rate from J$44 to J$47 = US$1.

- Introduction of a levelised fuel cost adjustment mechanism

- Introduction of a single fuel rate for all rate classes

- Change of the heat rate efficiency target from 12,976 kJ/kWh to 13,187 kJ/kWh

- Introduction of a new Time of Use (TOU) option with the provision requiring new customers who wish to utilize the option, to consume at least 30% of their energy usage during off peak

- Establishment of an Employee Rate Class

- Modification of the rate schedule to reflect the changes set out above plus a number of refinements aimed at updating the basic information in the current rate schedule

Consistent with the formula prescribed in the annual Adjustment Clause of the rate schedule JPS calculated the overall escalation factor applied to the non-fuel base rates to be 7.2%. This factor has been applied uniformly to all non-fuel base rates approved in February 2001. The overall impact on the bill of a typical rate 20-customer is 1.8% at December 2001 fuel rates. This reflects the fact that some of the movement in the proposed base rates will already have been reflected in the monthly adjustments for movements in the Foreign Exchange rates.

Table ES-1
Current and JPS-Proposed Base Rate Adjustment

Rate Class	Customer Charge	Energy Charge	Demand Charge	Demand Charge ($/kVA)		
	J$/Month	J$/kWh	J$/kVA	Off Peak	Part Peak	On Peak
Rate 10 – Lifeline	54	3.830				
Rate 10 – Non-Lifeline	54	5.410				
Rate 20	515	4.061				
Rate 40 - LV TOU	1,533	0.599	659	27	284	348
Rate 40A – LV	1,533	2.451	263	-	-	-
Rate 40 – MV TOU	1,533	0.557	649	27	279	343
Rate 50 – LV TOU	1,983	0.451	766	32	237	407
Rate 50 – MV TOU	1,983	0.436	750	32	322	397
Rate 60	386	5.750				
Traffic Signals	386	3.872				

Table ES-2
Summary of Non-Fuel Rates Proposed by JPS
At a base Exchange Rate of J$47: US$1

CATEGORY	Current Avg. Tariff J$/kWh	Current Avg. Tariff US¢/kWh	Proposed Avg. Tariff J$/kWh	Proposed Avg. Tariff US¢/kWh	J$ Percentage Change
Rate 10 – Lifeline	3.817	8.674	4.09	8.70	7.2%
Rate 10	5.291	12.025	5.67	12.07	7.2%
Rate 20	4.283	9.734	4.59	9.77	7.2%
Rate 40A –LV	4.046	9.196	4.34	9.23	7.2%
Rate 40 STD – LV	2.882	6.550	3.09	6.57	7.2%
Rate 40 – LV TOU	2.057	4.675	2.21	4.69	7.2%
Rate 40 – MV STD	2.086	6.378	3.01	6.40	7.2%
Rate 40 – MV TOU	2.573	5.848	2.76	5.87	7.2%
Rate 50 – LV STD	3.110	7.068	3.33	7.09	7.2%
Rate 50 – LV TOU	2.336	5.309	2.51	5.33	7.2%
Rate 50 – MV STD	2.552	5.801	2.74	5.82	7.2%
Rate 50 – MV TOU	2.150	4.885	2.31	4.90	7.2%
Rate 60	5.378	12.22	5.77	12.27	7.2%
TOTAL	**3.912**	**8.89**	4.19	8.92	**7.2%**

Summary of the Office' Analysis

JPS has correctly calculated the overall escalation factor to be applied to the non-fuel base rates as 7.2%.

The calculation is consistent with the Annual Adjustment Clause contained in the Rate Schedules 2001. It takes into account several factors external to JPS that impact cost, and have the potential of eroding the company's rate of return in the context of a fixed tariff structure up to 2004. The clause permits adjustment for:

1. The Base Exchange rate
2. Jamaican inflation, influencing 40% of the non-fuel cost
3. US inflation, affecting 60% of the non-fuel cost.

Table ES-3 outlines the new non-fuel rates that the Office is approving. The estimated overall bill impact resulting from this adjustment is 1.8% based on fuel rates at December 2001.

Table ES-3
Summary of Recommended Rates

Rate Class	Customer Charge	Energy Charge	Demand Charge	Demand Charge (J$/kVa)		
	J$/Month	J$/kWh	J$/kVa	Off Peak	Part Peak	On Peak
Rate 10 - Lifeline	54	3.830				
Rate 10 – Non Lifeline	54	5.410				
Rate 20	515	4.061				
Rate 40 – LV TOU	1,533	0.599	659	27	284	348
Rate 40A – LV	1,533	2.451	263	-	-	-
Rate 40 – MV TOU	1,533	0.557	649	27	279	343
Rate 50 – LV TOU	1,983	0.451	766	32	327	407
Rate 50 – MV TOU	1,983	0.436	750	32	322	397
Rate 60	386	5.750				
Traffic Signals	386	3.872				

Levelised Fuel Rate Mechanism

The current tariff structure allows changes in the price of fuel in any one month to be passed through to customers in the next month's billing via the fuel rate. This often results in erratic fuel rate movements in customers' monthly bills.

The fuel rate mechanism proposed in the JPS application is a modification of one that existed prior to the implementation of the current mechanism.

The present mechanism is the more transparent of the two. The Office is of the view that the consumer will be no better off under a regime where he is asked to pay on an estimated basis for fuel and then asked to accommodate an adjustment. This does not improve transparency or simplicity. Additionally, with the fuel over recovery issue prior to the existing fuel clause[1], still unresolved, it is neither prudent nor fair to the consumer to reintroduce this mechanism at this time.

Single Fuel Rate for all Rate classes

JPS proposes to replace the present multiple fuel rate system with a single rate for all classes and time periods. JPS has based this proposal on the belief that the present fuel rate tariff, which is cost reflective, embodies a greater degree of complexity and can be simplified by adopting a single fuel rate. This is to be derived by dividing total system fuel cost by total consumption (kWh) for the period.

A single fuel rate as proposed by JPS, may be the simplest way of calculating the fuel rate, however, it does not represent the most equitable method. The Office is of the view that a rate wherever possible should reflect the relative cost each rate class imposes on the system. To the extent that the fuel cost is different depending on the rate classes demand profile and the technology of the plant that is dispatched to

[1]See Fuel Clause under Additional Terms and Conditions of JPS Rate Schedules 2001

supply the demand, then different weights reflecting the relative cost can be computed. Moreover, the Office is of the view that a single fuel rate will not provide the advantage for which the TOU rate option was intended. The Office sees no advantage in changing the present regime to the one proposed at this time.

Efficiency Targets
Heat Rate

The target heat rate of 12,976 kJ/kWh is based on the principle of giving the utility incentives to improve on this target and benefit from the fuel cost savings that could be realized from the improved heat rate. The target heat rate is considered to be realistically achievable. Against this background, the Office has determined that the target Heat Rate remains unchanged at 12,976 kJ/kWh, for the upcoming period.

Losses

JPS is reporting a 0.7 percentage point improvement in system losses for the period April to November 2001 compared to year 00/01. System Losses at December 2001 was 16.4% and based on subsequent status reports on measures to reduce losses the present target of 15.8 percent is achievable for fiscal year 2001/02. To the extent that this target is achieved it will represents an improvement of 1.3 percentage points when compared to system losses of 17.1% for year 00/01. JPS has proposed that the losses target be kept at the present level of 15.8%. The Office is of the view that a further 1 percentage point reduction in losses may be possible for fiscal year 2002/03 given the company's planned upgrading of the Customer Information Systems (CIS), and other initiatives. The Office is however mindful of the need to provide the utility with the incentive to continue to reduce losses and consequently has determined that the losses target should remain at 15.8% and any gains that may be achieved as a result of exceeding that target will be shared equally between the customers and JPS. This arrangement will be reviewed in 2003.

Employee Rate Class

JPS has proposed an Employee Rate Class in an attempt to formalize through an approved rate class a benefit extended to permanent employees, who receive a 50% discount on their electricity bill. The comparison of the proposed Employee Rate and Normal Residential Rate is shown in Table ES-4.

The proposed rate class would result in the energy rate, fuel rate and customer charge be discounted by 50% relative to the normal residential customer.

Table ES-4
Comparison of Proposed Employee Rate to Residential Rate

Description	Proposed Employee Rate ($/kWh)	Normal Residential Rate ($/KWh)	Percentage Difference
Energy first 100 kWh	1.786	3.572	50%
Energy next	2.5235	5.047	50%
Fuel Charge	1.0975	2.195	50%
Customer Charge ($)	**25**	**50**	**50%**

The introduction of an employee rate class as proposed is discriminatory. The Office cannot agree to formalize an Employee Rate Class tariff as proposed.

New Condition for TOU Option

According to JPS the present Time Of Use (TOU) rates as structured create an incentive for customers to migrate to the TOU option without any change to their load pattern. The result is lower electricity bills for the typical large customer and loss of revenue of US$1.48 million to date (April to December, 2001). JPS is proposing that no customer should be allowed to enter or move to the TOU option unless the customer demonstrates that a minimum of 30% of his energy is consumed during the off-peak period. Additionally, JPS has indicated that this condition as outlined will prevent the further migration of standard customers[2] to the TOU option and hence prevent further revenue exposure. JPS further indicated that total migration of these customers could result in total loss of revenue of US$5.68 million.

The Office has determined that the loss of revenue to JPS is due to a defect in the design of the Time Of Use (TOU) tariff option. Consequently, any attempt to recover expected revenue will necessitate an appropriate TOU rate adjustment. The Rates Schedules 2001 provides that the TOU customers may, upon application, be billed under optional rates for demand and fuel, based on the time of day electricity is consumed. JPS has the right to determine the conditions under which the TOU option is offered.

The Office is of the view that JPS be allowed to establish the conditions under which customers will qualify for the TOU rate. Such conditions must however be approved by the Office and published by JPS. JPS will not be allowed to recover, through these conditions, any revenues lost to date. Customers will have the right to appeal to the Office if dissatisfied with JPS' action on a case-by-case basis.

[2] Standard Customers refer to those customers that are currently billed on the standard Demand Charge as per Rate Schedule 2001.

The Office Determination

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

1. The current average non-fuel base rate is to be adjusted upward by 7.2%. However, the effective non-fuel increase to the customers is 3.0% given that the exchange rate adjustment from J$44: US$1 to J$47 is already reflected in the current billing. The new rates for JPS non-fuel electricity rates are to be set in accordance with table ES-3. Based on these factors, as applied to the December billing, the customers should see an increase of approximately 1.8% on their overall bill

2. JPS may introduce conditions under which customers will qualify for the TOU rate to eliminate the revenue loss exposure, but should not seek to recover the actual revenue losses to date. The conditions are subject to the approval of the Office.

3. The loss target at the present level of 15.8% is to be maintained at 15.8 % but any revenue gains that may be achieved as a result of exceeding the target will be shared equally between JPS and the ratepayers. This arrangement will be reviewed in 2003.

4. Rejection of the JPS proposals for the:

   - Introduction of a levelised fuel adjustment mechanism.
   - Introduction of a single fuel rate for all rate classes
   - Modification of the heat rate efficiency target from 12,976 kJ/kWh to 13,187 kJ/kWh
   - Establishment of an Employees Rate Class.

5. The tariff schedules are to be amended to reflect the impact of this determination.

Chapter 1

Introduction

On 17th December 2001 JPS made a submission for rate adjustment in keeping with the gazetted tariff Schedule. The company in its proposal sought approval for the following:

- An adjustment of 7.2% on the current non-fuel base rates in keeping with the annual adjustment clause contained in the Rate Schedule and a new base Exchange rate of J$47: US$1. JPS is seeking a change in the Base Exchange rate from J$44 to J$47 = US$1.
- Introduction of a levelised fuel adjustment mechanism
- Introduction of a single fuel rate for all rate classes
- Modification of the heat rate efficiency target from 12,976 kJ/kWh to 13,187 kJ/kWh
- Introduction of a new condition to the Time of Use (TOU) option with a provision requiring new customers who wish to utilize the option, to consume at least 30% of their energy usage during off peak
- Establishment of an Employees Rate Class
- Modification of the Rate Schedule to reflect the changes set out above plus a number of refinements with the objective of updating the basic information in the current rate schedule.

JPS Proposed Adjustment

Annual Tariff Adjustment

The JPS rate adjustment mechanism proposes an adjustment of 7.2% on the current non-fuel base rates in keeping with the annual adjustment clause contained in the Rate Schedule. The computation is based on the following:

- A change in the Base Exchange Rate from J$44: US$1 to J$47: US$1
- The Jamaican Inflation Rate of 7.7 % derived from the Consumer Price Index (CPI) data available at November 30, 2001
- The US inflation rate of 2.1% at November 30, 2001 derived from the US Department of Labor Statistical data.

The escalation factor applied by JPS to the base non-fuel rate of February 2001 is 7.2%. However, JPS submits that the effective non-fuel increase to customers is 3.0% given that the exchange Rate adjustment from J$44: US$1 to J$47 was already being reflected in the current billing. Based on these factors, as applied to December 2001 billing, customers should see an overall increase of approximately 1.8% on their overall bill.

Table 1.1 illustrates the projected impact of the JPS proposal on a typical Rate 20 bill with consumption of 1,000 kWh.

Table 1.1
JPS
Comparison of Current and Proposed Rates for a Typical Rate 20 Bill

	Rate 20		Billing Amount ($)		Change
	Current	Proposed	Current	Proposed	
Customer Charges	480	515	480.00	515.00	7.3%
Energy Charges	3.789	4.061	3,788.80	4,061.00	7.2%
Non-Fuel Charges Sub Total			4,268.80	4,576.00	7.2%
F/E Adjustment	4.6%	0.4%	194.42	19.86	
Non-Fuel Charges After F/E Adj. (60%)			4,463.22	4,595.86	3.0%
Fuel Charges	2.221	2.372	2,221.00	2,372	6.8%
F/E Adjustment	7.9%	0.8%	175.06	17.82	
Fuel Charges After F/E Adj. (104%)			2,396.06	2,389.82	-0.3%
Total Charges Before F/E Adj.			6,489.80	6,948.00	7.1%
F/E Adjustment	**5.7%**	**0.5%**	369.48	37.70	
Total Charges After F/E Adj. (75%)			6,859.28	6,985.70	1.8%

Levelized Fuel Rate Mechanism

JPS in its submission argued that price volatility is one of the most prominent features of the world oil market. Since 1998 the weighted average price paid by JPS for a barrel of fuel has ranged from US$11 to US$34 per barrel. The present tariff structure allows changes in the price of fuel to be passed through immediately to customers via the fuel

rate. This often results in erratic fuel charge movements in customers' monthly bills making the forecasting and management of expenditure difficult, particularly for business customers. Erratic bill patterns are frequent sources of customer complaint. Therefore the introduction of a mechanism that leads to more stable fuel rates would contribute to an improvement in the quality of customer service. It is in this context that a Levelized Fuel Adjustment mechanism has been proposed by JPS.

According to JPS, the mechanism is virtually the same as the one that existed, in theory, before the tariff regime that was implemented in January 1999. Under this mechanism:

1. The fuel rate would be fixed for 6 months on the basis of a forecast of fuel cost by JPS.

2. The actual fuel cost per kWh during each month period would be compared with the fixed fuel rate to determine the extent to which fuel revenues were over or under-recovered.

3. The over-recovery or under-recovery would become a part of the fuel rate over the next 6-month period. If in any given month the actual fuel rate were outside of an agreed band, the fixed fuel rate established for the 6-month would immediately be reset at a level consistent with the forecast for the following 6 months[3].

In addition, JPS has proposed that an optimal hedge option component be a part of the mechanism to insulate customers from the effect of wide fluctuations in price. This component would be employed from time to time when it is deemed prudent and opportunities exist for possible cost savings to customers.

The hedging component that JPS proposed would involve a number of hedge strategies (cost collar, swaps, ceilings) depending on the expected market conditions. The cost associated with the hedge, if any, would be added to the fuel cost and passed on through the fuel rates.

If in a given six-month period the company considers it prudent to hedge it will present the information on its strategy to the Office prior to the beginning of the period. JPS is proposing that the OUR will therefore make a ruling as to whether the strategy should be pursued.

A single Fuel Rate

JPS argues that one of the features of the present tariff is that fuel rates are class and Time Of Use (TOU) sensitive. While it was originally intended to make the fuel rates cost reflective this system embodies a degree of complexity that does not promote the understanding of the tariff. The Company proposes to replace the multiple fuel rate

[3] This paragraph is a reproduction from the JPS proposal.

system with a single rate for all classes and time periods. This to be derived by dividing total fuel cost by total consumption (in kWh) for the period.

Efficiency Targets

Since January 1999 JPS has operated with a heat rate target in the Fuel Clause of its tariff of 12,976 kJ/kWh. The Company has proposed that the heat rate be changed from 12,976 kJ/kWh to 13,187 kJ/kWh, which is more reflective of what is presently attainable (see table 1.2). JPS argued that, when due consideration is given to the generation mix, the age and the availability of the plants, it is clear that the present heat rate is an unfair penalty on the company in the near term.

Table 1.2
System Losses and Heat Rate (1990/1 – 2001/2)

Year	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01	April - Nov 2001
System Losses (%)	19.1	21.0	19.4	19.0	16.9	16.9	17.2	17.2	17.0	17.1	16.4
Heat Rate (kJ/kWh)	13,318	13,511	13,652	14,255	14,085	13,428	13,012	12,744	13,039	13,144	13,326

Arising from a similar assessment of system losses, while the level prescribed in the tariff has not yet being achieved it is felt to be achievable. JPS has proposed that the target be kept at the present level of 15.8%

New Condition for TOU

JPS has reported revenue losses due to defects in the TOU tariff (see table 1.3). In order to prevent further TOU revenue losses from customers, who stand to benefit by switching to the option without changing their load pattern, a modification of the conditions for qualifying for TOU rate is necessary. JPS therefore proposed that no customer should be allowed to enter or move to the TOU option unless the customer demonstrates that a minimum 30% of his energy is consumed during the off-peak period.

According to JPS, the present TOU rates create a bias for customers to migrate to the TOU option since the typical large customer will experience lower bills without any change to his load pattern. JPS is proposing that no customer should be allowed to enter or move to the TOU option unless the customer demonstrates that a minimum 30% of his energy is consumed during the off-peak period. Additionally, JPS has indicated that the proposal as outlined will prevent the further migration of standard customers to the TOU option and hence prevent further revenue exposure. JPS further indicated that total migration of these customers could result in total loss of revenue of US$5.68 million.

Table 1. 3
JPS' Actual TOU Losses & Revenue Exposure

Class	Actual Losses Apr.-Dec.2001 ($'000)	12-Month Revenue Exposure 2002 ('000)		
		Without Migration	Additional With Migration	Total
Rate 40 LV	9,828	15,176	111.481	126,657
Rate 40 MV	1,326	1,999	12,189	14,188
Rate 50 LV	6,903	9,907	15,782	25,689
Rate 50 MV	47,249	67,828	32,522	100,350
Total (J$'000)	65,306	94,910	171,973	266,884
Total (US$'000)	1,484	2,019	3,659	5,678

NB: Base Exchange Rate used for 2001 and 2002 are J$44 and J$47 for US$1 respectively

Employee Rate Class

JPS' employees' benefit scheme allows permanent employees to receive a 50% discount on their electricity bill. Under this benefit the employee's bill is prepared using the same rates as applicable to normal residential customer. A line item is inserted at the end of the computation, which applies the discount to the total dollar amount of the bill. This discount is then accounted for as an employee related item of cost in the Company's records.

JPS is seeking approval to introduce such a formal tariff for employees, embodying the energy, fuel and customer charge as specified in Table 1.4. Table 1.5 represents the current employee bill.

Table 1.4
Typical Employee Bill Under the Proposed Scheme

Description	Usage (kWh)	Rate	Change
Energy Use	264		
Energy 1st	100	1.786	178.6
Energy Next	164	2.5235	413.854
Fuel Charge	264	1.0975	289.74
Customer Charge		25	25
SUBTOTAL			907.194
F/E Adjustment		5.7%	51.71
Billed Amount			958.90

Table 1.5
Typical Employee Bill Under Current Scheme

Description	Usage (kWh)	Rate	Change
Energy Use	264		
Energy 1st	100	3.572	357.2
Energy Next	164	5.047	827.708
Fuel Charge	264	2.195	579.48
Customer Charge		50	50
SUBTOTAL			1814.388
F/E Adjustment		5.7%	103.42
TOTAL			1917.81
Employee Discount		50.0%	958.90
Billed Amount			958.90

NB: Billing exchange rate of J$47.34:US$1.00 and December fuel is applied

Chapter 2

The Office's Determination

Tariff Performance Review (April – September 2001)

Distribution Effect

Table 2.1 below shows the computation of what is referred to as the **Distribution Effect**[4] by JPS. This shows how the actual distribution of sales between the rate classes differed from those projected when the rates were set in February 2001.

Table 2.1
Distribution Effect

Rate Class	Projected Sales Share	Actual Sale Share	Average Non-fuel Rate USc/kWh	
			Projected	Actual
Rate 10	40.1%	38.9%	10.67	10.72
Rate 20	23.9%	22.4%	9.65	9.70
Rate 40A	3.8%	2.7%	8.47	9.19
Rate 40	16.2%	19.2%	7.69	6.23
Rate 50	14.0%	14.7%	6.21	6.31
Rate 60	2.1%	2.1%	12.22	12.22
System	100.0%	100.0%	9.23	8.97

The distribution effect results from differences in projected and actual distribution of sales between the rate classes.

The actual sales distribution however shows acceptable variation from the projected. The differences for all rate classes, except for Rate 40 is less than two percentage points and resulted in higher average non-fuel rates. The overall variation of -0.26 US c/kWh is mainly due to the larger distribution effect of Rate 40. This has resulted from defects in the present Time Of Use (TOU) rate structure. These defects influenced the results attributable to demand responses from customers for the various Time Of Use periods.

Rate Adjustment

Table 2.2 below represents the Office's calculation of the rate adjustment. This is in keeping with the annual adjustment clause contained in the rate schedule.

[4] The difference in revenue resulting from the actual distribution of sales between the rate classes differed from those projected in the rate setting exercise.

The annual adjustment is computed as follows:
$BRT_n = BRT_{n-1}(1+Esc)$

Where: $Esc = [0.6*(EXCRT_n - EXCRT_{n-1})/EXCRT_{n-1} + 0.6*\{0.6*(USINF_n - USINF_{n-1})/USINF_{n-1}\}] + 0.4*(JAMINF_n - JAMINF_{n-1})/JAMINF_{n-1}$

Table 2.2
Rate Adjustment

DATA With Exchange Rate Adjustment		
$EXCRT_n$	47	%change
$EXCRT_{n-1}$	44	6.82%
$USINF_n$	177.4	
$USINF_{n-1}$	174.1	1.90%
$JAMINF_n$	1456.0	
$JAMINF_{n-1}$	1352.4	7.66%
BRT_{n-1}	**9.23**	
BRT_n	**9.89**	
Rate Adjustment	**7.20%**	

$EXCRT_n$	J$/US$ BASE EXCHANGE RATE IN FEBRUARY 2002
$EXCRT_{n-1}$	J$/US$ BASEEXCHANGE RATE FOR FEBRUARY 2001
$USINF_n$	US INFLATION INDEX IN NOVEMBER 2001
$USINF_{n-1}$	US INFLATION INDEX IN NOVEMBER 2000
$JAMINF_n$	JAMAICAN INFLATION INDEX IN NOVEMBER 2001
$JAMINF_{n-1}$	JAMAICAN INFLATION INDEX IN NOVEMBER 2000
BRT_{n-1}	BASE(NON-FUEL) RATE IN 2001
BRT_n	BASE(NON-FUEL) RATE IN 2002

The Annual Adjustment Clause contained in the schedule takes into account several factors external to JPS that impact costs and have the potential of eroding the company's rate of return. The clause permits adjustment for:

1. The base exchange rate
2. Jamaica inflation, which influences 40% of the non-fuel cost
3. US inflation, which affects 60% of the non-fuel cost.

The overall escalation factor that should be applied to the non-fuel rates is 7.2%. This adjustment rate is consistent with that proposed by JPS.

The computations are based on the following:

- A change in the base exchange rate from $44: US$1 to $47: US$1
- The US inflation rate of 1.90% derived from the US Bureau of Labor Statistics Data at November 2001
- The Jamaican inflation rate of 7.66% derived from the published values of the Statistical Institute of Jamaica (STATIN) All Group 12 month point to point CPI calculated to November 30,2001.

The 7.2% adjustment on the non-fuel base rate represents an effective 3.0% increase given that the current bills have already been adjusted for the movement in Foreign Exchange. The tables below indicate the percentage changes for a typical Rate 10 and Rate 20-customer bill. The overall increase for all customers resulting from the 7.2 % adjustment of the non-fuel rates is 1.8%.

Table 2.3
The Office Calculation
Comparison of Current and Proposed Rates for a Typical Rate 10 Bill

Energy Used (kWh)			Rate 10		Billing Amount ($)		Change%
			Current	Proposed	Current	Proposed	
		Customer Charge ($)	50	53.60	50.00	53.60	7.2%
First Usage	100	Energy charge First ($/kWh)	3.572	3.829	357.20	382.92	7.2%
Next Usage	357	Energy charge Next ($/kWh)	5.047	5.410	1,801.78	1,931.51	7.2%
Total	457	Non-Fuel Charge Sub-total			2,208.98	2,368.03	7.2%
		F/E Adjustment	4.6%	0.4%	100.61	10.28	
		Total Non-Fuel Charges			2,309.59	2,378.31	3.0%
		Fuel Charge	2.195	2.347	1003.05	1072.435	6.9%
		F/E Adjustment			82.26	8.39	
		Total Fuel Charges			1,085.31	1,080.82	-0.4%
		Total Charges Before F/E Adj.			3,212.03	3,440.46	
		F/E A adjustment	5.7%	0.5%	182.8666	18.66633	
		Total Charges After F/E Adj.			3,394.90	3,459	1.8%

Billing Exchange Rate J$47.34: US$1;Current Base Exchange RateJ$44; US$1;New Base Exchange Rate J$47: US$1

Table 2.4

The Office Calculation
Comparison of Current and Proposed Rates for a Typical Rate 20 Bill

Energy Used (kWh)		Rate 20		Billing Amount ($)		Change
		Current	Proposed	Current	Proposed	
	Customer Charge ($)	480	514.56	480.00	514.56	7.2%
1000	Energy charge ($/kWh)	3.788	4.061	3,788.00	4,060.74	7.2%
	Non-Fuel Charge Sub-total			4,268.00	4,575.30	7.2%
	F/E Adjustment	4.6%	0.4%	194.39	19.86	-
	Total Non-Fuel Charges			4,462.39	4,595.16	
	Fuel Charge	2.221	2.372	2,221.00	2,372	6.8%
	F/E Adjustment	7.9%	0.8%	175.02	17.85	
	Total Fuel Charges			2,395.70	2,392.81	-0.1%
	Total Charges Before F/E Adj.			6,489.80	6,948.00	7.1%
	F/E A adjustment	5.7%	0.5%	369.48	37.71	
	Total Charges After F/E Adj.			6,858.09	6,985.70	

Billing Exchange Rate J$47.34: US$1; Current Base Exchange Rate J$44; US$1; New Base Exchange Rate J$47: US$1

Levelised Fuel Rate Mechanism

The current tariff structure allows changes in the price of fuel to be passed through with a one-month delay to customers via the fuel rate. This often results in erratic fuel rate movements in customers' monthly bills.

The mechanism proposed by JPS for the new tariff adjustment mechanism is one that existed prior to the implementation of the current fuel rate mechanism. It is proposed under this mechanism that:

1. The fuel rate would be fixed for 6 months on the basis of a forecast of fuel cost.

2. The actual fuel cost per kWh during each monthly period would be compared with the fixed fuel rate to determine the extent to which fuel revenues were over or under recovered.

3. A review of the fuel rate, based on the forecast of fuel costs is done towards the end of each six-month period to adjust for any projected over-recovery or under-recovery on the part of JPS due to usage or changes in the price of fuel in the preceding six-month period.

The present mechanism is the more transparent of the two. The Office is of the view that the consumer will be no better off under a regime where he will be asked to pay

for fuel, in the first instance, on an estimated basis and then asked to accommodate a subsequent adjustment. This does not necessarily improve transparency or simplicity. Additionally, with the fuel over-recovery issue prior to the existing regime, still unresolved, it is not prudent or fair to the consumer to reintroduce this mechanism at this time. A mechanism that will at least give the consumer the privilege of comparing movement of current fuel prices on the world market and fuel rate changes on his bill is not necessarily bad, notwithstanding the potential for fluctuations.

Moreover, the proposal for hedging to insulate customers from the effect of wide fluctuation in fuel prices would have negated the need for a levelised fuel rate mechanism.

The Office takes the view that hedging is a business decision that is the prerogative of the utility. However, the Office will be prepared to make a ruling on its potential impact on the consumer. Such a decision will be guided by the principle of ensuring that the consumer will benefit in the long run.

Single Fuel Rate for all Rate classes

JPS proposes to replace the present multiple fuel rate system with a single rate for all classes and time periods. JPS has based this proposal on the belief that the present fuel rate tariff, which is cost reflective, embodies a greater degree of complexity and can be simplified by adopting a single fuel rate. This is to be derived by dividing total fuel cost by total consumption (kWh) for the period.

A single fuel rate as proposed by JPS, may be the simplest way of calculating the fuel rate however it does not necessarily represent the most equitable method. The Office is of the view that a rate wherever possible should reflect the relative cost each rate class imposes on the system. To the extent that the fuel cost is different depending on the rate class demand profile and the technology of the plant that is dispatched to supply the demand, then different weights reflecting the relative cost can be computed. Moreover, the Office is of the view that a single fuel rate will have a negative impact on the TOU Option. The Office sees no significant advantage in changing the present regime to the one proposed at this time.

Efficiency Targets

JPS in its rate adjustment submission has proposed that the heat rate be increased to 13,187 kJ/kWh, which would be reflective of what is attainable.

The current heat rate target of 12,976 kJ/kWh is 1.8 percent worse than 12,744 kJ/kWh, a heat rate already achieved, albeit only once, by the current mix of generating plants. The heat rate of 12,744 kJ/kWh was adjudged to be achievable within the context of the following:

- Evaluation of current plant performance

- Improvement in efficiency of existing equipment
- Improvement in plant procedures and practices
- Increased employee awareness through training

The target heat rate of 12,976 kJ/kWh was based on the principle of giving the utility an incentive to improve on this target and benefit from the fuel cost savings that could be realized from improved heat rate. The target heat rate was also based on the principle of ensuring that the utility should strive to be efficient and not seek to pass the cost of inefficiency to the consumer by way of increased fuel charges. Table 2.5 shows the system heat rate performance over the last five years.

Table 2.5
System Heat Rate Performance

Year	1997/98	1998/99	1999/00	2000/01	April -Nov. 2001
Heat Rate (Kj/kWh)	13,021	12,744	13,039	13,144	13,326

This scenario has served to acerbate the plant fuel efficiency (heat rate). However, for much of 2001 JPS was without one of the Jamaica Private Power Company (JPPC) unit at about 8500 kJ/kWh and Old Harbor Unit 2 (OH#2) at about 13,000 kJ/kWh. With these two units back in service heat rate efficiency for 2002 should show significant improvement on the more recent trend.

In this context the target heat rate cannot be seen as an unfair penalty on the company. To adjust the heat rate target to 13,187 kJ/kWh, representing a 1.6% adjustment, would instead represent an unfair penalty to the consumer.

The gas turbine units that will be installed in 2002 will be converted to make 120 MW Combined Cycle Plant in 2003. The upshot of this will be the significant improvement in the system overall heat rate for 2003.

Losses

JPS is reporting a 0.7 percentage point improvement in system losses for the period April to November 2001 compared to the full year 00/01. System Losses to date are 16.4% and based on recent status reports on measures to reduce losses the present target of 15.8 percent is achievable for fiscal year 01/02. To the extent that this target is achieved, it will represent an improvement of 1.3 percentage points when compared to system losses of 17.1% for year 00/01. JPS has proposed that the losses target be kept at the present level of 15.8%. The Office is of the view that given the historical trend[5] losses of 15.8% of Net Generation at this time is realistic and achievable.

[5] See table 1.2, System Losses and Heat Rate, page 12

Additionally, the office is of the view that another 1 percentage point reduction in losses is possible for fiscal year 2002/03 given the company's planned upgrading of the Customer Information Systems (CIS), and other initiatives. The Office is however mindful of the need to provide the utility with the incentive to continue to reduce losses and consequently has determined that the losses target should remain at 15.8% and any revenue gains that may be achieved as a result of exceeding the target will be shared equally between the customers and JPS. This arrangement will be reviewed in 2003.

Employee Rate Class

JPS has proposed an Employee Rate Class in an attempt to formalize through an approved rate class, a benefit extended to permanent employees to receive a 50% discount on their electricity bill. The comparison of the proposed Employee Rate and Normal Residential Rate is shown in Table 2.6.

The Company's Employee Benefit scheme allows permanent employees to receive a 50% discount on their electricity bill. Under this benefit the employee's bill is prepared using the same rate as is applicable to the residential rate class. To account for the discount on the bill a line item is inserted at the end of the computation. The computation reflects the discount to the total dollar amount of the bill.

The proposed rate class will see the energy rate, fuel rate and customer charge been discounted by 50% relative to the normal residential customer.

Table 2.6
Comparison of Proposed Employee Rate to Residential Rate

Description	Proposed Employee Rate ($/kWh)	Normal Residential Rate ($/KWh)	Percentage Difference
Energy first 100 kWh	1.786	3.572	50%
Energy next	2.5235	5.047	50%
Fuel Charge	1.0975	2.195	50%
Customer charge ($)	**25**	**50**	50%

To introduce an employee rate class as proposed is essentially customer discrimination.

Condition 14, paragraph 1 of the Jamaica Public Service Company Limited, All-Island Electricity Licence, 2001 reads "Each tariff category will apply uniformly across the island and there will be no discrimination to customers based on location". Additionally, Condition 14, paragraph 2 reads "In accordance with policy directives issued by the Ministry, the Office may require the Licensee to provide a concessional or lifeline tariff for residential customers in such a manner that will

not compromise the allowed revenue across retail customer classes serviced by the Licensee".

The Office cannot formalize an Employee Rate Class tariff as proposed as it is in conflict with the intent of the All-Island Electricity License, 2001.

New Condition for TOU Option

According to JPS, the present Time-Of-Use (TOU) rates create an incentive for customers to migrate to the TOU option without any change to the customer's load pattern. Although the result is the desired lower electricity bills for the typical large customer, due to a flaw in the design of the TOU, JPS is realizing a loss of revenue of US$1.48 million to date (April to December, 2001). JPS is proposing that no customer should be allowed to enter or move to the TOU option unless the customer demonstrates that a minimum of 30% of his energy is consumed during the off-peak period. JPS has indicated that this condition will prevent the further migration of standard customers to the TOU option and hence prevent further revenue exposure. JPS further indicated that total migration of these customers could result in total loss of revenue of US$5.68 million.

The Office has determined that the loss of revenue to JPS is due to defect in the design of the Time-Of-Use (TOU) tariff option. Consequently, any attempt to recover expected revenue will necessitate adjustment to the rate design. The Rates Schedules 2001 states that the TOU customers may, upon application, be billed under optional rates for demand and fuel, based on the time of day electricity is consumed. The Office is of the view that the Schedule permits JPS the right to determine the conditions under which the TOU is offered.

The Office is of the view that JPS be allowed to establish the conditions under which customers will qualify for the TOU rate. Such conditions must, however, be approved by the Office and published by JPS. The Company will not be allowed to recover, through these conditions, any revenues lost to date. Customers will have the right to appeal to the Office if dissatisfied with JPS' action on a case-by-case basis.