Office of Utilities Regulation

Jamaica Public Service Company Limited Z-factor Adjustment for Hurricane Ivan Recovery Costs

Determination Notice

OFFICE OF UTILITIES REGULATION

August 18, 2005

DOCUMENT TITLE AND APPROVAL PAGE

DOCUMENT NUMBER: Ele 2005/05

DOCUMENT TITLE: Jamaica Public Service Company Limited Z-factor adjustment for Hurricane Ivan recovery costs

1. PURPOSE OF DOCUMENT

This document sets out the Office's decisions on issues related to the claim for compensation by the Jamaica Public Service Company Limited for recovery of damages suffered as a result of the passage of hurricane Ivan. This claim was made under the Z-factor of the annual adjustment of the Performance Based Rate Making mechanism. See decision Ele 2004/ 1

APPROVAL

This document is approved by the Office of Utilities Regulation and the Determinations become effective on September 1, 2005

On behalf of the Office:

……………………………..

J Paul Morgan

Director General

Date August 18, 2005

Abstract

In September 2004, Hurricane Ivan passed in close proximity to Jamaica and affected the island with hurricane force winds ranging from category 1 (up to 90 mph), in the east to category 3 (about 125 mph), in the south and west. As a result the electricity service provided by the Jamaica Public Service (JPS) island-wide was interrupted and the utility suffered damages to its assets. It took the utility approximately ten weeks to fully restore service to its customers across the island.

Against this background, JPS included in its submission for its Annual Rate Adjustment in April 2005 a claim for the recovery of costs incurred for the restoration of service in the aftermath of the hurricane. The claim, which was for $1,431 million, identified three distinct components of costs – (i) hurricane restoration costs, (ii) loss of revenue and (iii) the opportunity costs of funds associated with the restoration effort and revenues losses.

This document sets out the Office's determination on these issues.

1.0 Introduction

In September 2004, Hurricane Ivan passed in close proximity to Jamaica and affected the island with hurricane force winds ranging from category 1 (up to 90 mph), in the east to category 3 (about 125 mph), in the south and west. As a result the electricity service provided by the Jamaica Public Service (JPS) island-wide was interrupted and the utility suffered damages to its assets. It took the utility approximately ten weeks to fully restore service to its customers across the island. The company applied to the Office for a suspension of the performance standard specified in the regulatory framework claiming force majeure conditions as defined in Condition 1 of the All Island Electricity Licence 2001. The Office granted the waiver for the period September 10, 2004 to October 31, 2004.

Against this background, JPS included in its submission for its Annual Rate Adjustment in April 2005 a claim for the recovery of costs incurred for the restoration of service in the aftermath of the hurricane. The claim, which was for $1,431 million, identified three distinct components of costs – (i) hurricane restoration costs, (ii) loss of revenue and (iii) the opportunity costs of funds associated with the restoration effort and revenues losses.

Summary of JPS' Claim

Category of Claim	$000
Hurricane restoration costs	725,354
Loss of Revenue	420,601
Opportunity costs	285,000
TOTAL	1,430,955

The JPS claim was made on the basis that:

- It was unable to secure conventional insurance coverage for its transmission and distribution (T&D) network;
- The Self-Insurance scheme approved by the Office in its June 2004 determination on tariffs had accumulated funds that amounted to less than 5% of the restoration cost and revenue impairment sustained;
- The All-Island Electricity Licence (2001) includes a provision in the price cap mechanism for a price escalator (Z-factor) to reflect special circumstances outside the utility's control which impact cost.

The Office contracted international loss adjusting consultants, Axis (Jamaica) Limited to advised the Office on the assessment of the claim and among other things to:

- Comment on the validity of the claim under the Z-Factor provision of the price cap mechanism;
- Conduct a detailed review of JPS hurricane expenditure accounts to ascertain that the claim for restoration comprised of costs that were legitimately and reasonably incurred as a result of the passage of the hurricane;
- Assess the validity of the three components of JPS hurricane claim;
- Recommend the components as well as the monetary value for each component of JPS' claim that should be allowed by the Office.

Axis' final report was submitted to the Office on July 29, 2005, a month later than was anticipated. The report has informed the decisions taken in this determination.

2.0 Interpretation of the Z-Factor

Central to the validity of JPS' claim and the magnitude of the compensation allowable is the interpretation of the Z-Factor.

Under the Performance-Based Rate Making mechanism (PBRM) defined in Schedule 3 of the All-Island Electricity License (2001) provision is made for a price escalator (Z-Factor) to be applied under special circumstances. The Z-Factor becomes applicable when an event has occurred for which all of the following three conditions are satisfied:

1. the Licensee's costs are affected;
2. the event is not due to managerial decisions;
3. the costs are not captured by the other elements of the price cap mechanism.

Hurricanes are 'acts of God' and as such are outside of management's control. The Office is satisfied that costs were affected by the passage of Hurricane Ivan and if those costs were not captured by other elements of the price cap, they fall within the ambit of the Z-factor.

Because of 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.

The Z-factor was established as a part of the PBRM because it would neither be reasonable nor prudent for the electric utility to be placed in a precarious financial position owing to factors beyond its control. The Licence is clear with respect to criteria under which the Z-Factor may be invoked and any claim under this clause must be within the ambit of the criteria set out therein.

3.0 Restoration Costs

From its assessment of JPS restoration expenditure the consultants concluded that $742,025,000 of the expenses incurred was as a direct result of the passage of the hurricane. Of this amount $560,581,000 was identified as T&D expenses and $181,444,000 as Non-T&D related cost (see Table1).

Unlike the T&D network, JPS has insurance cover on its Non-T&D assets. The explanation given by the company for inclusion of costs associated with the Non -T&D assets is that the insurance on these assets carries a 2% deductible for the insured value at each location per event and as the cost of the damages sustained on Non-T&D was below this 2% threshold it sought to recover these expenditures through this mechanism.

The OUR believes that a critical part of its regulatory role is that of creating, within the framework of the regulated monopoly environment, conditions similar to those that would obtain under a competitive environment. In competitive business operations the deductible is a cost that is a part of normal business risk borne by the shareholders. In calculating the required rate of return for the PBRM the element of risk was benchmarked to that of comparable businesses in the US market. The regulators in this market do not allow claims for assets that are insured including the deductible applied by the insurance companies. It should also be pointed out that deductibles in the insurance industry are, among other things, intended to discourage, in the case of utilities, poor maintenance practices which impair the utility ability to withstand the mildest of disasters. Consequently, deductibles should serve as incentives for the insured to implement proper maintenance programme in order to minimize the cost they would absorb.

It is not usual for the cost of the damage of insured assets or the deductible to be included compensation to the utilities. The risk for bearing the cost of the deductible of the insured non-T&D assets is therefore captured in the rate of return allowed in the tariff and therefore the Office has not allowed this portion of the claim.

All Non- T&D restoration costs, which amounts to $181,444,000 has therefore been disallowed by the Office.

On the other hand, T&D restoration cost, identified by the consultants, amounting to $560,581,000 are relevant costs to be considered.

Table 1 T&D and Non-T&D Restoration Costs

	T&D Cost ($'000)	Non-T&D Cost ($'000)	Total ($'000)
Payroll & Wage costs	68,169	10,875	**79,044**
Labour Expense	26,655	10,053	**36,708**
Third Party Contractors	208,253	82,858	**291,111**
Sub-stations	1,419	-	**1,419**
Material & Equipment	251,645	13,643	**265,288**
Office Expenses	1,497	158	**1,655**
Building & Misc. Expenses	2,943	18,857	**21,800**
Generator	-	45,000	**45,000**
Total	**560,581**	**181,444**	**742,025**

4.0 Replacement Cost versus Enhancement Cost

It is inevitable that in the process of restoration some enhancement will take place since in most cases damaged assets that were already depreciated would be replaced by new ones. In addition, the company may use some of it own resources to carry out the recovery effort. The regulatory principle that guides the treatment of these issues is that there should be no 'double dipping', that is, consumers should not pay more than once for the same cost. This can occur where;

1. work done during restoration was planned to be done in the normal course of business and were thus included in the base tariff;
2. expenses are allowed in a claim but the assets are included in the rate base for future tariff determination.

JPS has declared that its submission does not include any 'double dipping' and argues that

" by making the comparison between the actual 2004 O&M costs and the approved embedded costs, it will be able to demonstrate that the actual costs were not significantly different from the OUR approved O&M costs[1] embedded in the non-fuel revenue requirement. In fact, JPS' 2004 O&M costs exceeded the revenue requirement by 2% or $144M, as shown in the Table below.

Total Operating & Maintenance Costs

2004	Actual O&M Costs	OUR Determined O&M costs	Difference	
	($ Millions)	($ Millions)	($ Millions)	%
Payroll & related expenses	3,445	3,217	228	7%
Third Party Services	1,130	1,099	31	3%
General Supplies	108	117	(9)	-8%
Materials & Equipment	463	453	10	2%
Office Expenses	283	354	(71)	-20%
Transportation Expenses	420	456	(36)	-8%
Insurance expense	394	431	(37)	-9%
Bad debt expense	134	85	49	58%
Miscellaneous	411	433	(22)	-5%
Non payroll expenses	3,344	3,428	(84)	-2%
TOTAL	6,789	6,645	144	2%

Source: JPS Annual Tariff Submission 2005: Table 2.3

[1] The OUR determined O&M cost above ($6,645M) represents the sum of the Maintenance and SG&A costs (being $2,758M and $3,886M respectively) included in Table 6.2 of the OUR's June 2004 Rate Case Determination. The detailed categories shown in Table 2.3 are based on JPS' rate submission (Table 6.5) as appropriately adjusted for the OUR's approved O&M costs.

The consultants verified that with regard to the labour cost portion of the claim, costs included only the additional overtime and subsistence arising as a consequence of the restoration effort. The material and third party services were also verified to be as a consequence of the hurricane

The Office is of the view that, consistent with normal insurance practice, JPS ought to recover costs that would return the plant to the position it was in just before the hurricane. The additional expenditure should be capitalized and included in the rate base.

The consultants were directed to separate replacement costs from enhancement costs. The insufficiency of JPS data with respect to the dating of its T&D assets presented the consultants with some challenges and in the end they resorted to a judgment-based depreciation rule to separate the two types of costs. This is based on an estimation of the average life of the plant in service in relation to useful life. The rule is as follows:

- T&D equipment – 50%
- T&D contract labour – 33%
- Building and works -15%

In the absence of more precise estimates, the Office has accepted the depreciation rates proposed by the consultants. These depreciation rates have been used to allocate the restoration costs between those immediately recoverable from customers and those that should be added to the asset base.

Table 2 Allocation of Depreciation Costs

	Allowed Cost ($'000)	**Depreciation Factor** (%)	**Depreciation** ($'000)	**Recoverable Amount** ($'000)
Payroll & Wage Oncosts	68,169	0	-	68,169
Labour Expense	26,655	0	-	26,655
Third Party Contractors	208,253	33	68,723	139,530
Sub-stations	1,419	15	213	1,206
Material & Equipment	251,645	50	125,823	125,823
Office Expenses	1,497		-	1,497
Build. & Misc. Expenses	2,943		-	2,943
Generator	-		-	-
Total	**560,581**	**35**	**194,759**	**365,822**

On the basis of the depreciation rates the Office has determined that $365,822,000 of the restoration costs is recoverable under the Z-Factor provision (see Table 2).

5.0 Compensation for Revenue Losses

JPS' submission for the recovery of revenue losses was stated as follows:

> *While JPS is fully cognizant of the risk which it faces in meeting its sales forecast growth of 4%, it is does not believe that it should be penalised for energy sales that were not realised as a direct result of the hurricane. As it relates to the energy sales performance, a review of the sales growth prior to the hurricane reveals that JPS had achieved 3% sales growth up to August 2004. Accordingly, the company considers that it should only be held accountable for the 1% energy sales deficiency for 2004. Accordingly, the actual sales outturn for 2004 will be grossed up for the 1% deficiency and then compared to the sales forecast used to calculate the 2004 tariffs. This sales shortfall will form the basis for calculating the under-recovered non-fuel costs embedded in the revenue requirement.*
>
> *Based on the actual energy sales outturn for 2004, and after adjusting for the 1% energy sales deficiency noted previously, the value of the operating costs embedded in the non-fuel revenue requirement which were under-recovered as a result of hurricane Ivan is J$421M as reflected in Table 2.2 below.*

		J$000's
Approved revenue requirement		17,298,260
Less:	- IPP costs	(3,002,542)
	- Sinking fund	(122,000)
Adjusted revenue requirement		14,173,718

Billing determinants - proportions as per revenue requirement	
Energy charge	82.77%
Customer charge	3.08%
Demand charge	14.15%
	100.00%

Adjusted revenue requirement for energy charge only (82.77%)	11,731,586
Forecast sales (KWh)	3,075,800
Average per Kwh energy rate	3.81
Billed sales Sep-Dec'04 (Kwh)	925,525
Billed sales grossed up for known 1% deficiency	934,873
Forecast sales Sep-Dec'04 (Kwh)	1,045,147
Deemed sales short-fall due to hurricane Ivan (2.91%)	110,274
Estimated Short-fall (J$000's)	420,601

Source: JPS Annual Tariff Submission 2005 : Table 2.2

There are two observations that must be made about this aspect of the claim:

1. The company indicated that service island-wide was restored by the end of November, yet in computing the sales deficiency resulting from the hurricane the month of December was included.

2. While the company has information to determine the revenue shortfall on a class by class basis it chose to use a broad brush (average) approach in the computation rather than an aggregate of the revenue losses in each rate class.

Notwithstanding this, the criteria delineated in the Licence for the triggering of the Z-factor, explicitly speaks to the matter of "cost" incurred and not captured by other elements of the price cap mechanism. Consequently, the Office is constrained by the provisions of the Licence to exclude any consideration of revenue losses.

In any event, the Office is of the view that the License does not contemplate any situation where the company's expected revenues are guaranteed and neither could it as a matter of principle signal such intent. As such, the Office has determined that the entire sum of $420,601,000 attributable to Revenue Loss is not recoverable under the Z-Factor provision.

6.0 Opportunity Cost of Capital

According to JPS, in responding to the urgent demand for funds in the aftermath of the hurricane two dividends payments of US$10 million each scheduled for the end of September and December were postponed and channeled into the restoration exercise. The utility therefore argues that the opportunity cost of capital is equal to the 14.85% weighted average cost of capital approved by the Office in the last tariff submission.

The Office recognizes that the funds employed by JPS have an associated opportunity cost. It is therefore plausible that the allowed restoration cost of $365,822,000 which was apparently taken from the US$10 million ($620,000,000) dividends payment scheduled for September 2004 should be treated as a loan to the company at the interest rate available at that time.

The consultants have recommended an interest rate of 11.38% for calculating the opportunity cost as it represents the overall cost of borrowing for JPS at the time of the hurricane. This rate has been accepted and the principle on which the opportunity cost of capital has been computed is as follows:

1. At September 2004 the $365, 822,000 allowed restoration cost is considered as a one year loan by JPS shareholders to the company at an interest rate of 11.38%.

2. At September 2005, which marks the point at which the allowed recovery is to be passed on to customers, both the principal and interest on the initial loan are deemed to be refinanced over a two-year at the same interest rate (11.38%).
3. The new loan at September 2005 is amortized over a 24 month period (on a reducing balance basis) so as to ensure that recovery stream from customers matches the loan repayment period for the company.

Based, on the above methodology the overall opportunity cost of funds employed in restoration exercise has been computed to be $91,649,762.

Table 3 Opportunity Cost of Capital

Period	Principal (J$)	Interest Rate (%)	Duration (Months)	Opportunity Cost ($)	Payment Method
Sep. 2004 – Aug. 2005	365,822,000	11.38	12	.41,630,544	Single Bullet
Sep. 2005 – Aug, 2007	407,233,050	11.38	24	50,019,218	Reducing Balance
Total				**91,649,762**	

7.0 Summary of allowed costs

The table below summarises the costs that have been allowed by the Office

Category of Claim	JPS claim	Allowed by Office
	$000	$000
Hurricane restoration costs	725,354	365,822
Loss of Revenue	420,601	0
Opportunity costs	285,000	91,650
TOTAL	**1,430,955**	**457,472**

8.0 Recovery Mode

The Office is of the view that while it is reasonable that the company should expect to recover costs such as these relatively quickly it is equally important that the impact on consumers be minimized.. It notes the company's request that the allowed costs be recovered over 12 months. The Office is of the view that it would not be inappropriate to spread the recovery of costs such as these over 2 to 4 years depending on the amounts involved. In the present case, the Office has determined that the recovery will made over a period of 24 months commencing with bills issued in October 2005 for consumption in September.

JPS projects sales of 3,075,800 MWh over the 12 month period September 2005 to August 2006. Additionally, the OUR has assumed that over the 12 month period September 2006 to August 2007 sales will grow by 4%. to the total sales over the 24 month period is projected as 6,274,632 MWh.

The total allowed restoration cost and opportunity cost is $457,471,762 (or US$7,378,577 at the Base Exchange Rate of J$62:US$1).

Recovering total allowed cost over the 24-month period would therefore translate into a Z-Factor of $0.0729 kWh (or 0.11758 US c/kWh at the Base Exchange rate of J$62:US$1), i.e.:

$$\text{Z-Factor} = \frac{\text{Allowed Recovery Cost}}{\text{Projected Sales}}$$

$$= \frac{\$457{,}471{,}762}{6{,}274{,}632{,}000\ \text{kWh}}$$

$$= \$0.0729$$

A 100% foreign exchange adjustment factor shall be applied in the recovery of the Z-Factor on customer bills since it is assumed that the restoration cost was met by a US-denominated loan.

In addition, JPS shall be required to provide the Office with:

1. A forecast of the monthly break out of the first12-month sales and the associated revenue to be derived from the Z-Factor within 10 working days of receiving this determination.
2. Monthly variance reports comparing the actual revenues derived from the Z-Factor versus the projections within 10 working-days of each moth of the recovery period.
3. A note by its Auditors in its annual financial statements expressing the revenues attributed to the hurricane cost recovery

At the Annual Adjustment in 2007 an assessment shall be made to determine the extent and direction of the residual from the recovery exercise. At that time it will be determined whether any remedies are necessary to secure full recovery by the end of August 2007

9.0 Self-Insurance Fund

In keeping with the recommendation of JPS, the Office has decided that the sum accumulated in the Self-Insurance fund shall not be set off against the Allowed Escalation Cost because:

1. It is small relative to the claim;

2. The Office and the company are still in the process of working out the protocol for its administration of the fund.

10.0 Determinations

In respect of the Claim made by JPS to recovery $1,465.6 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:

1. Only T&D costs are relevant in this matter and the claim for $188.4 million of Non-T&D expenditure has been disallowed

2. Of the $560.6 million T&D expenditure claimed only $365.8 million represents restoration cost. The remaining $194.8 million reflects enhancements to the plant which is to be capitalized.

3. The component of the claim for revenue losses of $420.6 million is invalid under the Z-Factor provision and therefore not recoverable.

4. The component of the claim for opportunity cost is reasonable under the provisions of the Z-Factor. However, the claim for $285 million has been reduced to $91.6 million to reflect the adjustments made by the Office to the restoration cost and revenue losses components of the claim.

5. The company may recover costs incurred as a consequence of the passage of Hurricane Ivan of $457.5 million through the tariff and as such an additional charge of $0.0729 /kWh will be allowed in the tariff to enable recovery over 24 months commencing with bills prepared on October 1, 2005. The charge which is to be clearly identifiable on the monthly statements issued to customers will be removed once full recovery has been attained.