
Office of Utilities Regulation

**Jamaica Public Service Company Limited
Hurricane Dean Compensation**

Determination Notice



OFFICE OF UTILITIES REGULATION

October 8, 2009

DOCUMENT TITLE AND APPROVAL PAGE

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2. DOCUMENT TITLE: Jamaica Public Service Company Limited - Hurricane Dean Compensation Determination Notice

3. 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 Hurricane Dean which affected its transmission and distribution system in August 2007.

4. APPROVAL

This Document is approved by the Office of Utilities Regulation and the Determinations therein become effective on October 14, 2009.

On behalf of the Office:



.....
Ahmad Zia Mian
Director General

Date: October 8, 2009

Abstract

In August 2007, Hurricane Dean, a category 4 tropical cyclone, passed just south of Jamaica causing damage to the overhead transmission and distribution network of the Jamaica Public Service Company Limited (JPS).

Because of the severity of the hurricane, the utility was forced to shut down the national grid. Overall, a total of 197 circuits and over 4,000 structures/poles were damaged. It took the company approximately 5 weeks to restore service to all its customers.

JPS in its Annual Rate Adjustment submission (March 2008) put in a claim for compensation in relation to the damage suffered and income losses arising from the Hurricane. The claim was made against the Z-factor provision of the **All-Island Electricity Licence, 2001**.

The claim was for J\$1,234 million and included sub-claims for: (i) hurricane restoration costs, (ii) loss of revenue and (iii) the opportunity costs of capital associated with the restoration effort and revenue losses.

The OUR engaged the services of Loss Adjustors, Axis, to evaluate the cost of the damage. In September 2009 the Office received the final report from Axis and reviewed the claim. This document sets out the Office's determination and provides the rationale for the decisions taken.

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1.0 Background

Hurricane Dean was the fourth and most powerful tropical cyclone of the 2007 Atlantic Hurricane season. The Hurricane gained Category 4¹ status before it passed Jamaica on the evening and night of August 19, 2007. The system followed a west north-westerly direction churning winds of 145 miles per hour at its centre on its trajectory just south of the island.

Strong winds and heavy rains inflicted damage to the Jamaica Public Service Company (JPS) electricity grid. Although electricity supply was interrupted island-wide, most of the damage occurred in the parishes of Clarendon, Manchester and St. Elizabeth. The parishes to the north eastern corner of the island² fared better.

According to JPS, a total of 83 transmission lines and 114 distribution circuits were affected by the hurricane. In addition, some 4,140 poles, 373 distribution transformers and 135 street lamps had to be repaired or replaced (Table 1.1).

Table 1.1 – Damage to T&D System

Component	Transmission System	Distribution System
Circuits/Lines	83	114
Structures/Poles	156	3,984
Transformers	-	373
Conductor Spans		9,393
Street Lamps		135

Two days after the hurricane, service was restored to 27% of JPS' customers and 96% received service within two weeks (Table 1.2). However, it took a total of 38 days to restore service to all its customers. In the aftermath of the hurricane three persons were electrocuted; a JPS technician, a contractor and a member of the public. In addition, five persons suffered serious electrical burns and a contractor died in a motor vehicle accident during the restoration exercise.

¹Based on the the Saffir-Simpson Scale

² St. James and Trelawny

Table 1.2 – Progress of Restoration Exercise

Days Elapsed	Customers Restored (%)	No. of Energized Feeders	Peak Demand (MW)
1	-	5	16
2	27	26	110.6
3	34	52	207.5
7	78	103	357.2
14	96	114	496.8
20	99	114	528.5
38	100	114	539.9

JPS included a claim for compensation in its Annual Rate Adjustment submission of March 2008. The Company sought compensation for restoration costs, revenue losses and the opportunity costs of capital. The total claim amounted to J\$1,234 million (Table 1.3).

Table 1.3 Summary of JPS' Claim

Category of Claim	J\$'000
Loss of Revenue	410,459
Opportunity cost of Capital	135,000
Hurricane restoration costs	688,538
TOTAL	1,233,997

In an effort to improve the accuracy of the processing of the Claim the OUR engaged the services of the loss adjusting firm, Axis, within two weeks of the passage of the hurricane. The assignment comprised two distinct phases:

- i) **Phase 1:** involved a preliminary survey of the scale and scope of the damage caused by the hurricane.
- ii) **Phase 2:** required an evaluation of the claim to establish within reasonable limits the accuracy of the restoration costs.

Axis submitted its Final Report on September 9, 2009. The results of this report have informed the decisions taken in the determination of the compensation payable to JPS arising from the damage caused to its transmission and distribution (T&D) system by Hurricane Dean.

2.0 Interpretation of the Z-Factor

In the absence of the availability of conventional insurance coverage at reasonable premiums for JPS' T&D assets, the OUR granted approval to JPS for the establishment of the Electricity Disaster Fund in June 2004. The fund is designed to provide some degree of indemnity to the company's T&D assets against damage caused by natural disasters. Consequently, it was expected that the company would have submitted its Claim against the Electricity Disaster Fund. However, JPS filed it against the Z-factor provision of the **All-Island Electricity License, 2001**.

Under the Performance-Based Rate Making Mechanism (PBRM) defined in Schedule 3 of the **All-Island Electricity License, 2001** provision is made for a Z-Factor price escalator which is applicable under special circumstances. The Z-factor can be invoked 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; and
3. the costs are not captured by the other elements of the price cap mechanism.

While hurricanes are 'acts of God' and as such are outside of management's control, by virtue of the fact that the Electricity Disaster Fund has been established, there is a provision within the price cap mechanism to address such contingencies.

Therefore except when the accumulated balance in the Fund is unable to cover the compensation due to JPS, and other satisfactory vehicles of payment are not available then the Office may consider it prudent to resort to the Z-factor provision. Furthermore, even if the balance in the Fund is less than the total amount being claimed, the JPS Claim should be filed against the Fund since the rules governing the Fund clearly address the procedures applicable when there is a shortfall.

3.0 Restoration Costs

In keeping with its system of accounting classification, the JPS in submitting its claim, grouped its costs under five main utility functions – generation, transmission, distribution, customer operations and administration (Table 3.1). However, after examining the costs incurred for customer operations and administration the OUR concluded that from a regulatory perspective

the costs incurred could be grouped into two categories: (1) generation; and (2) Broad T&D expense. The Broad T&D category includes all Non-generation costs (i.e. transmission, distribution, customer operations and administration).

Table 3.1 JPS Restoration Cost (Claim) by Functions

Cost Item	Generation (J\$'000)	Transmission (J\$'000)	Distribution (J\$'000)	Customer Ops (J\$'000)	Admin (J\$'000)	Total (J\$'000)
Payroll & Expense	4,437	9,220	87,307	15,959	7,860	124,783
Contractors	33,274	14,066	127,567	11,386	8,800	195,093
General Supplies	91	389	2,914	1,071	2,235	6,700
Material & Equipment	7,486	25,396	288,574	5,830	2,096	329,382
Office Expense	-	3	15,069	6	-	15,078
Transport	80	7	37	5	902	1,031
Miscellaneous	66	-	707	(631)	16,329	16,471
Total	45,434	49,081	522,175	33,626	38,222	688,538

Axis in its assessment report indicated that the restoration costs incurred under customer operations were: *“related primarily to repairs to property owned by the Insured, but located at the ends of the distribution lines, i.e., on the property of their larger customers”*. Further, Axis pointed out that apart from advertising expenditure included in the administrative costs the other expenses in this category of the claim were: *“related primarily to additional security services, external cleaning services and the labour employed to remove and replace fallen cables in and around their administrative facilities. In addition, a large portion of the costs incurred in the cutting down and removal of trees threatening overhead power cables (both distribution and transmission) on a nationwide basis were allocated here.”* In light of this the OUR concluded it to be reasonable to simplify and group the restoration costs into two categories: Generation, and Broad T&D expenses (Table 3.2)

Table 3.2 Claim Revision into Generation and Broad T&D Cost

Cost Item	Generation (J\$'000)	Broad T&D (J\$'000)	Total (J\$'000)
Payroll & related expense	4,437	120,346	124,783
Third party contractors	33,274	161,819	195,093
General supplies	91	6,609	6,700
Material & equipment	7,486	321,896	329,382
Office expenses	-	15,078	15,078
Transportation	80	951	1,031
Miscellaneous	66	16,405	16,471
Total	45,434	643,104	688,538

3.1 Generation costs

JPS currently has insurance coverage for its generation assets. However, the restoration expenses associated with this category of assets were apparently below the deductible threshold stipulated by the insurer. As such, a claim to recover these costs from its insurer would be invalid. This seems to be the reason for JPS submitting generation expenses as a part of its Z-factor claim.

The Office is of the view that within the context of the existing regulatory framework, one of the primary roles of the regulator is to create conditions that mirror a competitive environment. In competitive business insurance, deductibles are generally accepted as a part of normal business risk to be minimized and borne by shareholders. As such, this cost component is factored into the weighted average cost of capital which is a component of the tariff. The Office therefore rejects the notion that this cost is claimable under the Z-factor clause since it may be deemed as a component of the performance based rate-making (PBRM) mechanism.

In addition, the Electricity Disaster Fund was established solely for the purpose of T&D costs.

Axis in carrying out the adjustment exercise reallocated J\$1,269,682 of material & equipment expenditure to the generation category. This increased total generation expenditure from J\$45,434,000 to J\$46,703,682. **The entire generation claim of J\$46,703,682 has been disallowed.**

3.2 Broad T&D Costs

With the removal of J\$46,703,682 of generation costs from the restoration component of the claim, the OUR examined each cost item under the Broad T&D category to determine the level of compensation due. The details of the adjustments are discussed below.

3.2.1 Payroll and related costs

The Loss Adjuster accepted payroll and wage related expenses amounting to J\$96,527,000 in JPS' original T&D claim. In addition, they had no objection to payroll and wage related expenses amounting to J\$23,819,000 incurred under Customer Operations and Administration. Therefore the **OUR has approved the J\$120,346,000 payroll and related expenses in the Broad T&D category.**

3.2.2 Third Party Contractors

Axis acknowledged that its assessment of third party costs was based on a limited sample. It found no instances of irregularity or excessive costs. However, minor discrepancies were discovered in the individual amounts allocated and adjusted the claim downward by J\$463,000.

Consequently, **the Office reduced JPS' claim for Third Party contractor expenditure by the same amount and has approved J\$161,356,000 in the Broad T&D category.**

3.2.3 General Supplies

The Loss Adjuster made no adjustment to the expenses attributed to General Supplies Therefore **the OUR has approved the J\$6,609,000 for General Supplies in the Broad T&D category.**

3.2.4 Material & Equipment

Axis reduced material & equipment costs under JPS' original T&D claim by J\$7,276,490. According to Axis "Certain adjustments were made where we deemed allocations to be incorrect". Citing misallocations the Loss Adjusters increased material & equipment expenses for Customer Operations by J\$443,330 and reduced it in Administration by J\$22,975. The net effect on Broad T&D costs was a reduction of J\$6,856,135. The Office accepts these adjustments. Therefore **the J\$321,896,000 of material & equipment expenditure under Broad T&D cost has been reduced to J\$315,039,865.**

3.2.5 Office Expenses

Office expenses amounting to J\$15,708,000 were deemed to be reasonable and Axis recommended that they should be accepted. **The OUR has therefore approved the J\$15,708,000 in office expenses submitted in the JPS Claim.**

3.2.6 Transportation Cost

The Transportation cost of J\$44,000 in the JPS' original T&D claim was identified by Axis as primarily fuel costs incurred by employees traveling to sites in the restoration effort. The OUR applied the same reasoning to the J\$5,000 Transportation cost incurred under Customer Operations. However, the J\$902,000 cost incurred under Administration was disallowed because it is difficult to make a link between these expenses and T&D activities. **Consequently, the Office has approved the J\$49,000 of the Office expense in the Broad T&D Claim.**

3.2.7 Miscellaneous Expense

Axis pointed out that very little evidence was presented in relation to the specific expenditure captured under miscellaneous costs. However, the expenses for this item were adjusted by Axis for J\$15,000,000 of advertising expenditure. **In light of this the OUR has approved restoration costs of J\$1,405,000 in relation to Miscellaneous expenses.**

3.3 Summary

Guided by the Report submitted by the Loss Adjusters the Office has disallowed J\$68,655,000 of the restoration costs from JPS' Claim (Table 3.3). Consequently, **the Office has approved the amount of J\$619, 882,865 before adjustments for enhancement, salvage and the deductible.**

Table 3.3 JPS T&D Restoration Claim & the OUR Approved Expenditure

Cost Item	JPS Claim (J\$'000)	OUR Approved (J\$'000)	Difference (J\$'000)
Payroll & related expense	124,783	120,346	(4,437)
Third party contractors	195,093	161,356	(33,737)
General supplies	6,700	6,609	(91)
Material & equipment	329,382	315,040	(14,342)
Office expenses	15,078	15,078	-
Transportation	1,031	49	(982)
Miscellaneous	16,471	1,405	(15,066)
Total	688,538	619,883	(68,655)

4.0 Enhancement & Salvage Adjustments

The Electricity Disaster Fund Rules require that compensation payments be made to the extent that the damaged T&D assets are restored to the condition they were in immediately prior to the natural disaster. Therefore while the utility may opt out of pragmatism or on the basis on its long term strategy enhance the assets beyond its value before the catastrophe, the Fund will only provide compensation for the assets' replacement. The Rules further stipulate that the incremental value associated with enhancement shall be booked for recovery in the rate base.

In light of this, Axis assigned depreciation rates to the cost items in JPS' claim which translated to a weighted average depreciation rate of 17.3% on JPS' original T&D claim.

Consequently, the OUR applied the weighted average depreciation rates to the approved restoration expenditure in order to determine the amount recoverable from the Fund before adjustment for salvage and the application of the deductible.

After adjustments are made for depreciation the approved sum is reduced by J\$107,323,138 resulting in J\$512,559,727 (Table 4.1) before salvage and the adjustment for the deductible.

This means that **a sum of J\$107,323,138 has been deemed an enhancement cost and should be capitalized for recovery in the company's rate base.**

Table 4.1 Recoverable Restoration Cost & Depreciation

Cost Item	Approved Broad T&D (J\$'000)
Payroll & related expense	120,346
Contractors	161,356
General Supplies	6,609
Material & Equipment	315,040
Office Expense	15,078
Transport	49
Miscellaneous	1,405
Total	619,883
Depreciation (17.3%)	(107,323)
Recoverable Amount	512,560
Salvage	(3,699)
Recoverable Amount (before deductible)	508,861

Axis assigned a salvage value to damaged material of J\$3,698,500. Therefore when this amount is deducted from the approved depreciated restoration cost, **the amount payable before the deductible adjustment is J\$508,861,227**

5.0 Deductible Adjustments

According to the Electricity Disaster Fund Rules an amount equivalent to 0.25% of the net book value of the assets represents the deductible that should be taken from the first claim made by JPS within any one calendar year.

Based on JPS' Audited Financial Statements the net book value of its T&D assets at the beginning of 2007 was US\$243,454,000 and given that the exchange rate in August 2007, when the hurricane occurred, was US\$1:J\$69.83 the applicable deductible is J\$42,500,982. **The amount payable from the Fund for restoration cost is therefore J\$466,360,245.**

6.0 Revenue Losses

JPS submitted a Claim for J\$410.5 million for revenue losses in relation to Hurricane Dean. In its Claim it refers to this as Fixed Cost recovery. The Rules of the EDF are clear with respect to the components of cost to which compensation is applicable. The Rules state:

- a) *The Electricity Disaster Fund shall only be employed to make compensation for damage to JPS' T&D system caused by natural disasters.*

- b) *T&D system referred to in these Rules encompasses utility poles with attachments including conductors, transformers, insulators, substations along with protective devices and monitoring equipment, for overhead and underground installations, owned by the utility and are actively engaged in the movement of electric power from generating stations to consumers. The transmission and distribution system does not include equipment or plant employed in power generation, general administration or customer service.*

As such the J\$410,459,000 sought for revenue loss has been disallowed.

The OUR is mindful that the submission was made as a Claim against the Z-factor Clause of the Performance-Based Rate Making mechanism and as such points JPS to the Hurricane Ivan Determination (August 2005) which states:

“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.”

It further asserts:

“In any event, the Office is of the view that the Licence 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.”

Against this background the OUR has also determined that this component of cost does not qualify for compensation under the Z-factor Clause.

7.0 Opportunity Cost of Capital

The Office accepts the money spent to restore service to customers could have been used otherwise by the utility to generate income. Therefore consistent with the principles in the Rules of the Fund the opportunity cost of capital was calculated on the approved restoration cost of J\$466,360,245 or US\$6,678,508³.

The following are the assumptions used in the calculation:

- The approved restoration cost was converted to US\$ by applying the US\$1: J\$69.83 billing exchange rate the JPS used for the month of August 2007.

³ At the JPS’ August 2007 billing exchange rate of US\$1:J\$69.83

- An interest rate of 11% per annum (compounded monthly on the principal) was applied. The interest rate was based on the weighted average cost of all of the JPS' debt as at December 31, 2007.
- Given that the hurricane occurred on August 19th the interest was made to accrue for one (1) week for that month.
- By virtue of the fact that JPS received a US\$5 million advance from the Fund in early September 2007 the principal was reduced from US\$6,678,508 to US\$1,678,508 at the beginning of that month.

Consequently, **the opportunity cost over the period spanning the 3rd week of August 2007 to the end of October 2009 has been determined to be US\$468,832 or J\$32,738,530⁴.**

8.0 Summary of Compensation

The Office has determined that JPS be allowed total compensation of J\$635.8 million (or US\$7,147,340⁵) of its J\$1,234 million Claim submitted in relation to Hurricane Dean. This represents approximately 52% of the original Claim submitted by JPS. Table 8.1 below summarizes the JPS Claim and the approved compensation.

It should be noted that since JPS received an advance of US\$5,000,000 from the Fund in September 2007 the net compensation due to the company is J\$191.0 million (or US\$2,147,340).

Table 8.1 JPS Claim and the Approved Compensation

Category of Claim	Foreign Exch. Rate US\$1:J\$	JPS claim J\$'000	Compensation from the Fund	
			J\$'000	US\$
Hurricane restoration costs	69.83	688,538	466,360	6,678,508
Loss of Revenue	69.83	410,459	-	-
Opportunity costs of Capital	69.83	135,000	32,739	468,832
Total	69.83	1,233,997	499,099	7,147,340
Total Compensation	88.95	1,571,875	635,756	7,147,340
Advance				(5,000,000)
Net Compensation	88.95	1,571,875	191,006	2,147,340

⁴ At JPS' billing exchange rate for August 2007 - US\$1:J\$69.83

⁵ At current exchange rate of US\$1:J\$88.95 (Scotiabank on Sep 30, 2009)

9.0 Determinations

In respect of the Claim made by JPS to recover J\$1,234 million under the Z-component of PBRM mechanism in relation to (i) hurricane restoration costs, (ii) loss of revenue and (iii) opportunity costs, the Office has determined that:

1. The Claim should correctly have been made against the Electricity Disaster Fund.
2. Of the J\$688.5 million restoration cost claim, J\$46.7 million represents generation costs and was therefore disallowed, as the fund was established to deal exclusively with T&D expenditures.
3. A sum of J\$619.9 million in the JPS' Claim is consistent with its interpretation of T&D expenditure. Of this amount J\$512.6 million was identified as the cost required for the restoration of the T&D assets to the state it was in immediately prior to the hurricane. The remaining J\$107.3 million reflects enhancements to the plant and should be capitalized.
4. The allowed restoration cost of J\$512.6 million had to be further adjusted for a salvage value of J\$3.7 million. As such, the Office has approved an overall restoration cost of J\$508.9 million.
5. The component of the claim for revenue losses of J\$410.5 million is invalid under the Electricity Disaster Fund, as well as the Z-factor provision of the **All-Island Electricity Licence, 2001** and therefore not recoverable.
6. In principle the opportunity cost associated with the restoration effort is claimable. As such, based on the application of an 11% cost of debt on the approved restoration compensation of US\$6,678,508 for the last week of August 2007; and the application of the same rate to US\$1,678,508 for the ensuing 26 months, the Office has approved a compensation payment of US\$468,832 for the opportunity cost of capital

JPS shall be allowed a total compensation of US\$7,147,340. However, the net compensation now due to the company is US\$2,147,340 (or J\$191.0 million). In the period immediately following the hurricane the OUR had given approval for an advance of US\$5,000,000 and in September 2007, the company withdrew that sum from the Electricity Disaster Fund.

In light of this determination, the OUR now gives approval to the JPS to withdraw the sum of US\$2,147,340 from the Electricity Disaster Fund. The JPS is required to notify the OUR of the withdrawal no later than three (3) days after the transaction is done.