Office of Utilities Regulation

Addendum to Final Criteria
Jamaica Public Service Company Limited
2019 – 2024 Rate Review Process

OUR
OFFICE OF UTILITIES REGULATION

2019 April 24

DOCUMENT TITLE AND APPROVAL PAGE

1. DOCUMENT NUMBER: 2019/ELE/007/ADM.001

2. DOCUMENT TITLE:

Addendum to Final Criteria – Jamaica Public Service Company Limited: 2019 – 2024 Rate Review Process

3. PURPOSE OF DOCUMENT:

The Addendum to the Final Criteria provides clarification and responses to JPS on certain aspects of the Final Criterial and outlines the amendments made thereto.

4. ANTECEDENT DOCUMENTS:

2018/ELE/013/CON.001	Proposed Criteria – Jamaica Public Service Company Limited 2019 - 2024 Rate Review Process Consultation Document	2018 May 01
2018/ELE/023/CON.002	Further Proposed Criteria – Jamaica Public Service Company Limited 2019 - 2024 Rate Review Process Consultation Document	2018 November 09
2019/ELE/003/RUL.001	Final Criteria – Jamaica Public Service Company Limited: 2019 -2024 Rate Review Process	2019 March 14

APPROVAL:

This document is approved by the Office of Utilities Regulation and this Addendum to Final Criteria becomes effective as of 2019 April 23.

On behalf of the Office:

Ansord E. Hewitt
Director General

2019 April 24

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1.0 Introduction

Pursuant to provisions of Schedule 3 of the Electricity Licence, 2016 (Licence), the Office of Utilities Regulation (Office/OUR) is required to publish a Final Criteria outlining the targets, principles and methodologies to be applied by the Office concerning certain tariff components in the 2019 – 2024 Rate Review process.

The Office after public consultation published the Final Criteria- Jamaica Public Service Company Limited 2019 – 2024 Rate Review Process (Document No. 2019/ELE/003/RUL.001) on 2019 March 14 (Final Criteria). In a response, representatives of the Jamaica Public Service Company Limited (JPS) met with a team from the OUR on 2019 April 4 and outlined in a PowerPoint presentation a number of concerns the company still had with aspects of the Final Criteria. JPS followed up this presentation with a letter dated 2019 April 8, in which it formally requested the Office to reconsider the issues raised in the PowerPoint presentation. The specific concerns raised by JPS are set out and addressed in details in Table 3.1 below. On further consideration of the matters raised by JPS, the Office considers it necessary to issue this Addendum to the Final Criteria. The Addendum:

1) Clarifies aspects of the Final Criteria deemed to be unclear in the original publication;
2) Corrects the errors in the Final Criteria; and
3) Addresses the issues raised by JPS in its response to the Final Criteria.

2.0 Amendments to the Final Criteria

Criterion 2

Even though the OUR had indicated in its comments to Stakeholders Response[1], that it had accepted JPS' proposal that beta ($\boldsymbol{\beta}$) should be derived from a five (5) year beta for all U.S. electric utilities from Bloomberg database, this was not reflected in Criterion 2. The Final Criteria indicated that "β shall be based on the latest information in Professor Damodaran's Power Sector data base." This error has been corrected.

Additionally, all references to real variables in the Rate of Return on Equity formula have been removed from Criterion 2 and a note has also been inserted citing *Return on Equity for Jamaica Public Service Company Limited Study* as reference for the computation.

The revised Criterion 2 shall read as follows:

[1] See p.101 of the Final Criteria

Criterion 2:

a) In computing the ROE, JPS shall use the CAPM methodology based on the formula below:

$$\boldsymbol{Rate\ of\ Return\ on\ Equity\ = R_f + [\beta * (TMR - R_f)] + CRP}$$

Where;

R_f = Risk free rate

β = Beta

TMR = Total Market Return

CRP = Country Risk Premium

b) In addition, the following shall be observed with regards to the data used in the ROE calculation:

i. R_f shall be the U.S. long-run historical average return on bonds (1998-2018);

ii. β shall be based on the latest information on the five (5) year beta for all U.S. electric utilities from Bloomberg database;

iii. The Mature Market Equity Risk Premium shall be computed indirectly by subtracting the risk free rate (R_f) from the Total Market Return (TMR)*.

iv. The TMR is the arithmetic average of long-run historical data of U.S. Market (1900-2018)

v. The CRP shall be derived from the 2018, one (1) year average of the bond yield spread of the ten (10) year Jamaican USD denominated sovereign bond and the US 10-year Treasury bond.

*[NB: See *Return on Equity for Jamaica Public Service Company Limited Study*, NERA Economic Consulting, October 2017, for calculation methodology]

Criterion 15

So as to remove any ambiguity as to what is required from JPS regarding the forecasts to be presented in its Rate Review application, a third element has been added to Criterion 15. This addition to Criterion 15, makes it clear that forecasts must be plausible and predicated on a sound foundation. Accordingly, the new element reads:

> *"(c) JPS shall provide in its Business Plan reasonable justification for its demand, financial and operational forecasts, as well as all assumptions and models used in their development."*

Consequently, the revised Criterion 15 shall read as follows:

Criterion 15:

a) JPS shall submit a Business Plan predicated on a five (5) year time horizon and this Plan shall be the basis for the Rate Review Process.

b) Consistent with in Schedule 3, paragraph 13 of the Licence, the Business Plan shall include but not be limited to the following:

  i. The matters listed in the published criteria;

  ii. The most recent IRP;

  iii. Investment activities;

  iv. System loss mitigation activities and related funding requirements;

  v. Grid Security;

  vi. Annual targets for losses (Y-Factor), heat rate (H-Factor) and quality of service (Q-Factor); and

  vii. Operating and maintenance expenses

c) JPS shall provide in its Business Plan reasonable justification for its demand, financial and operational forecasts, as well as all assumptions and models used in their development.

3.0 Responses to Final Criteria Issues

Table 3.1 below provides OUR's responses to the issues raised by JPS in relation to the Final Criteria.

Table 3.1 – Responses to JPS' Comments

	ISSUE RAISED	JPS' COMMENT	OUR'S RESPONSE
1	**Return on Equity (ROE):**		
1.a	**Nominal vs. Real risk free premium**	Inconsistent treatment from Cost of Debt (actual interest are to be applied).	The OUR agrees with JPS. This correction was made in the *Final Criteria* and further clarified in Criterion 2 of this Addendum.
1.b	**Country Risk Premium (CRP)**	JPS disagrees with the use of the 1-year average bond yield in deriving the CRP in that (a) the 1-year average is more sensitive to random events specific to 2018 which would not be a reliable benchmark; and (b) the 1-year average approach is inconsistent with the approach set forth in Criterion 2 for other components of the ROE formula. Instead, JPS recommends a longer bond yield period. Specifically, it argues that the longer 3-year average of the bond yield should be used. It also argues that the use of a 3-year average is a consistent approach, which should be applied to all parameters.	In the NERA Economic Consulting Report on the Return on Equity for JPS (2017), which was commissioned by the OUR, the consultant presented a range of values for the ROE based on NERA's country risk premium (CRP) formula, that is 11.9% to 13.2%. The mid-point of 12.5% is slightly higher than OUR's 2014 estimate of 12.2%. The range of the CRP as presented by NERA is 3.1% - 4.2%, based on the one (1)-year and 3-year average sovereign spread relative to the US. NERA, however, expressed a preference for a 1-year average rather than a 3-year average of the bond spread since it better captures Jamaica's current credit rating whilst relying on sufficient data points so that it is not too volatile an estimate. The OUR agreed with NERA and adapted the 1-year average bond yield approach since it more

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			accurately reflects the direction in which Jamaica's CRP was trending. Furthermore, there is empirical evidence to support the OUR's position. Firstly, in 2017 October, at the time of the Report, Jamaica's credit rating as reported by Moody's was B3 stable. As at 2018 the rating was upgraded to B3 positive. Secondly, the downward trend in Jamaica's Public Debt to GDP Ratio further supports the approach adopted by the OUR. In 2016/17 the ratio was 121.8%, in 2018/19 it was estimated at 105.6% and it is projected to decline to 77.7% by 2022/23. A forward-looking tariff should capture where the CRP is going as accurately as possible and the methodology employed by the OUR does this more accurately than the 3-year average proposed by JPS.
2	**Weighted Average Cost of Capital (WACC) for Revenue Requirement/ Revenue Cap Determination (Real vs. Nominal)**	JPS indicated that using the Real approach under the current guidelines, it would have significant ROE shortfall due to the following: 1. The revenue requirement is estimated at base year (i.e. 2018) dollars for the 2019-2023 period. However, there is no dI adjustment in 2019 as per the current mechanism.	The approach delineated in the Final Criteria is no different from what is contained in the Licence and what is currently practised in the Annual Review exercise. In other words, the Annual Adjustment in 2018, for instance, reflected inflation and exchange rate adjustments in 2017. Regulatory lags to allow for proper data capture is an accepted reality in

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		2. dI adjustment always lags one year (e.g. 2020 dI adjustment is based on 2019 actual dI parameters). 3. Partial indexation due to the carving out of the Debt portion.	the rate reviews. Hence, the OUR sees no reason to change from the position outlined in the Final Criteria.
3	**Z-Factor Adjustments for Capital Investments**	Paragraph 3.9.8 and Section 4.5 of the Final Criteria stipulate that projects at a cost of US$10 million or more will be assessed on a project by project basis for any variation from the forecast 5-year Business Plan. JPS objects to this methodology on the grounds that: • It does not follow the "program" approach of the Licence; • It is not feasible for JPS to have accurate projections with respect to each capital project cost estimate. • The OUR's information requirements would not be available in the detail requested for absolute majority of the projects for the 5-year period. • Assessment of the CAPEX performance on a project-by-project basis focused only on cost savings does not offer fair treatment to JPS. • It significantly increases the administrative burden to JPS where it would be required to provide quarterly project updates to the OUR, and where the OUR will perform monitoring of the ongoing projects.	Given the fact that capital project cost is a major component in the forward-looking performance-based tariff, accountability on JPS' part is not optional. While the Licence did not explicitly set out the details for the Z-Factor capital projects, it specified that a Criteria should be developed to address the details of the Rate Review. The treatment of cost saving in the Final Criteria is fair since, unlike project cost overruns, the Licence did not specifically address cost savings in projects. Further, it is instructive that the methodology for project assessment was developed in consultation with JPS. In fact, JPS developed the project categories and had recommended a US$25 Million threshold, which the OUR considered too high since it would only provide visibility to four major projects. Given the enhanced need for accountability in the context

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			of the application of the forward-looking revenue cap principle, the threshold was set at US$10 Million which provides for the detailed examination of an estimated fourteen (14) projects in the review. Therefore, the OUR maintains its position as stated in the Final Criteria on this issue.
4	**System Losses Target Setting for Certain Categories**	In section A3.8 of Annex 3 to the Final Criteria, the OUR states that NTL due to certain categories will NOT be factored in the targets to be determined for JNTL and GNTL. More specifically, JPS objects to the system losses allocation between JNTL and GNTL. The OUR determined the following losses as 100% JPS responsibility items (JNTL): - Rate 60 (Streetlight) - Rate 40, 50 & 70 - Rate 20 (Medium Commercial & Industrial customers with consumption over 3MWh/month) - Unquantified NTL JPS contends that: 1. It could negate real improvement in system losses reduction. 2. Actual system losses performance review against the targets without factoring in these	The Licence requires that the Final Criteria addresses inter alia, all annual targets, which include System losses. With regards to System losses it is important to note the following: 1) It was established during the 2014-2019 Rate Review process that the Energy Loss Spectrum (ELS) for December each year, derived using a 12-month rolling average, will be the foundational basis for assessment of the system losses performance and derivation of the relevant targets, going forward. 2) System losses data reported by JPS since then, have consistently indicated that the nature of causes associated with the four (4) categories of non-technical losses referenced in the issue raised, are fully

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		NTL, could result in penalties to JPS regardless of actual system performance. (Approx. $8 million based on the 2018 Annual Revenue Target (ART)). 3. This approach does not allow for symmetrical adjustment of ART due to system losses performance. This approach could only result in potential penalties to JPS, without any potential rewards to the company for the actual system losses performance. JPS has indicated that the application of SMART technology has provided insight into factors driving the System losses and that smart meters can assist with detection but not sustainable prevention and recovery. It states that it intends to propose a methodology that takes into account both the ability to detect and the limitation to prevent and effect recovery sustainably.	within the control of the company. Based on the 2017 December ELS, these NTL categories with the exception of Internal/Unquantified losses, are linked to "Billed Customers." The supply arrangements and metering systems deployed provides the capabilities to monitor and control energy losses in these customer classes. 3) In JPS' 2018-2019 Annual Review Filing, the company stated that it accepts full responsibility (100%) for NTL associated with the categories listed below, citing causation factors and mitigation capabilities: • Rate 60 (Streetlight/Stoplight/Interchange) Customers • Rate 40, 50 & 70 (Large C&I) Customers • Rate 20 (Medium C&I) Customers • Internal/Unquantified <u>The OUR's Position</u> The OUR's position on this matter was not imposed arbitrarily or without due consultation with JPS. For more than 12 months a team from the JPS and the OUR met at regular intervals to

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			address the challenge of System losses. The position outlined in the Final Criteria has evolved out of these fora and no new material has been presented to the OUR to support a change. Additionally, the OUR takes the view that JPS should take full responsibility for customer categories over which the company has visibility over usage patterns by way of smart meters. This cost should not be borne by its paying customers who already shoulder the greater portion of the cost for system losses. As it relates to <u>Unquantified/Internal Losses,</u> it is worth stating that this category of losses accounts for NTL due to JPS' actions or inactions in its internal operations/processes and estimation errors of the ELS model. Based on the definition and nature of these NTL, JPS in its 2018-2019 confirmed that it accepts full responsibility for their occurrence. This is consistent with JPS' position during 2009 and 2014 Rate Reviews, and even prior. In this regard the current objections appear to reflect a shift in the company's position. The OUR maintains, however, that, based on the causation factors, regulatory principles and

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			established precedents reflected in previous Determination Notices, NTL defined as Unquantified/Internal is totally within JPS' control, and will continue to treat them as such.
5	**Rate Base Determination (working capital, carve out of rural electricity assets, employee benefit etc.)**	JPS states that the Rate Base computation has the same language with respect to rural electrification assets and employee benefit obligation as in the Proposed Criteria that the OUR had shared with the company in 2018 May. JPS argues that it should be adjusted in the Rate Base for the following reasons: • Rural electrification assets were acquired with JPS funds and are all JPS' assets. • Employee Benefit Obligations (i.e. Sick Leave) or any deferred revenue have already been excluded from PPE/Intangible assets. • Working capital requirements should be based on the average monthly working capital over the five (5) year Rate Review period.	Schedule 3, paragraph 29 of the Licence provides general instructions for computing the Rate Base. In accordance with paragraph 29, the Rate Base is to be determined as follows: (a) Property, Plant and Equipment (PPE) inclusive of construction work in progress **Less the following offsets:** **i. Impaired Assets** **ii. Customer financed assets (including electricity improvement fund assets)** **iii. Rural electrification assets** **iv. Revaluation balance and capital reserve** (b) Intangible Assets (c) The working capital (accounts receivable + cash & short term deposits + tax recoverable +inventory – accounts payable – customer deposits – bank overdraft – short term loans) deployed (d) Long Term Receivables; and (e) Other Assets

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			Less the following offsets: (f) Employee benefit obligations (g) Deferred Revenue The OUR is obliged to act in accordance with the provisions of the Licence, but this does not preclude the OUR from applying the usual regulatory scrutiny and prudency assessment. For example, the OUR may disallow PPE assets from the Rate Base if these assets are deemed not to be used or useful or if they were determined to have not been prudently incurred. The OUR's position on the following items in the Rate Base is set out below: 1. Rural electrification assets 2. Employee benefit obligations 3. Working capital <u>Rural Electrification Assets</u> Specifically, JPS has indicated that the rural electrification assets were procured with JPS' funding and as such should be included in the rate base. Except for house wiring assets, which may be included under the category "rural electrification assets", in principle, the OUR concurs with JPS on this matter. However, the Licence specifically mandates that these assets be offset from PPE and as such, in the absence

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			of an amendment to the Licence to accommodate same, the OUR is precluded from including such assets in the Rate Base. <u>Employee Benefit Obligations</u> On the matter of the employee benefit obligations, JPS indicated that this is not included in any of the Rate Base asset categories and as such, should not be deducted. In principle, the OUR believes there is merit in JPS' argument. However, again, the OUR is constrained by the Licence provisions. <u>Working Capital</u> JPS has recommended that the working capital should be calculated as the average of the monthly working capital for the past five (5) years. Since JPS' revenue requirement and hence, the Rate Base will be computed on a forward-looking basis, the OUR's interpretation of JPS request is that in forecasting its working capital requirement for each year of the Rate Review period, it will be assumed that it will be the average of the monthly working capital requirement for the last five (5) years. The OUR will not opine on the methodology that JPS should use in forecasting its working capital requirement. However, in developing its methodology, JPS should be mindful that a

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			return on working capital is given on the basis that investor funds are required to fund the working capital requirements. The customers should not be required to pay a return on more than the amount of capital which is essential to an economical and financially sound operation, and which is necessarily obtained from the investors. As an example, in determining the cash amount to be included in the Rate Base working capital, one could examine the cash kept on hand. Cash kept on hand may represent dividend payments, debt retirement, interest payments or surplus cash on hand. Funds set aside for such purposes should not earn a return from the customers. Dividends and surplus cash are residual items representing profits derived from customers. To require customers to pay a further fair return on such funds would amount to a double exaction. The OUR's opinion is that only cash required to fund short term expenses other than the cost of capital payments should be included in the working capital requirement. It is also important to point out that timing differences between when cash is received from customers and debtors, and when it is to be paid to creditors is the major reason why investors

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			would be required to fund working capital. Thus, it is prudent for the JPS to seek to understand how these timing differences affect its working capital needs and perhaps include these as a basis for forecasting its working capital requirement. Notwithstanding, the OUR subject to the constraints of the provisions of the statute and the licence, is not averse to the recovery of cost legitimately and prudently incurred by JPS.
6	**Non-fuel purchase power cost**	Paragraph 3.7.8 of the Final Criteria states that non-fuel purchase power cost should be decoupled from other non-fuel costs and treated as a direct pass through on customers' monthly bill. However, the Final Criteria does not explain how this adjustment would be done, which may lead to differing interpretation of the mechanics at the time of the ART adjustments.	The OUR envisages that non-fuel purchase power cost will be accorded the same treatment as the fuel cost pass-through, except it will be simpler, given that it will not be subject to multiple adjustments, which now define the fuel cost pass-through mechanism. However, the OUR would encourage JPS to outline its conception of how this mechanism should work in the Rate Review application.
7	**Cost of Debt Determination** (Historic vs. Forward-looking)	The methodology of calculating the cost of debt should be a forward-looking approach so as to account for interest variability. JPS highlighted the OUR's decision to use the 2018 December interest rates for next five (5) years without any mechanism for adjustment regardless of future changes in LIBOR.	The OUR reiterates the position outlined in the Final Criteria and states that it is in alignment with the provisions of Schedule 3, paragraph 30(b) of the Licence, which prescribes the methodology to be applied. See p.98 of the Final Criteria.

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8.	**Volumetric True-up for Revenue in the Annual Review** (Not addressed in the Final Criteria)	JPS argues that the revenue surcharge true up mechanism described in Exhibit 1 of Schedule 3 of the Licence is now not operating in a manner that permits JPS to fully recover the Revenue Cap for each year. In this regard, JPS proposes to make a revenue collection true up adjustment based on actual revenue (and not units of sales, i.e. volumetric - kWh) comparison to the approved ART for the year.	The Licence clearly outlines the Revenue Cap formula. JPS' request goes beyond what can be legitimately addressed within the ambit of the Final Criteria. In this respect, the Revenue Cap formula outlined in the Licence is the applicable methodology.
9.	**Recovery of Investments made over the period 2016 -2018** (Not addressed in the Final Criteria)	JPS in proposing the recovery of investment expenditures in 2017 and 2018 makes the following case: In the 2017 Extraordinary Rate Review the OUR looked at issue of adjustment to the approved 2014 rate base to include the company's investments in 2017 and 2018 on a forecast basis. JPS later proposed to defer the recovery of additional revenues on investments in 2017 and 2018 until after the expenditure is incurred. JPS has indeed incurred the costs. In accordance with paragraph 27(b) of Schedule 3 of the Licence recovery of all prudently incurred expenses of the Licensed Business is one of the	On the question of the recovery of JPS' investments over the period 2016 -2018, JPS is correct in stating that the issue was not addressed in the Final Criteria. However, the OUR considers this matter as a one–off situation, peculiar to the transition from the price cap to the revenue cap methodology. Consequently, the issue is one that could be dealt with outside the general framework of the Criteria. In this regard, the OUR would encourage JPS to make a submission on these investments in its 2019 Rate Review application for the Office's consideration.

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		main elements of the revenue requirement under the revenue cap principle.	