



**UTILITIES REGULATION & COMPETITION AUTHORITY  
EVALUATION OF BAHAMAS POWER AND LIGHT COMPANY'S  
RENEWABLE ENERGY PLAN, 2020**

**Final Determination and Order**

ES 04/2021

Issue Date: 22 June 2021

**UTILITIES REGULATION & COMPETITION AUTHORITY**

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## **1 Introduction**

The Utilities Regulation and Competition Authority (“URCA”) is the independent regulator of the electricity sector (“ES”), in accordance with the URCA Act, 2009 and the Electricity Act (“EA”) section 22. URCA regulates the ES through the EA, which sets out, inter alia, the powers and obligations of URCA in addition to the various requirements to be expected of entities licenced to operate in the ES and regulated by URCA.

URCA issues this Final Determination and Order (“FDO”) to Bahamas Power and Light Ltd. (“BPL” or the “Licencee”) in accordance with section 25 (5)(b) of the EA which requires URCA to determine whether to approve the Renewable Energy Plan (“REP”) of a licensee as being consistent with the electricity sector policy objectives and the national energy policy.

This FDO is issued consequential on BPL’s latest submission to URCA of its REP, which BPL is mandated in accordance with section 25 of the EA to produce. BPL’s latest submission was contained in documents received under cover of letters dated 10<sup>th</sup> October 2019 and 10<sup>th</sup> November 2020.

In reviewing the REP submitted by BPL, URCA has determined that BPLs plan satisfactorily complies with the requirements set out in section 25 of the EA. In accordance with section 64(10) (b) (iii), this FDO provides URCA’s reasoning behind its determination in sufficient detail to enable it to be understood and the reasons for such determination to be known.

URCA concurrently issues an Order pursuant to section 63(1) of the EA in consequence of this matter.

### **1.1 Structure of the remainder of this document**

The remainder of this document is set out as follows:

- Section 2: Background – sets out a summary of the circumstances that gave rise to the issuance of this FDO;
- Section 3: Regulatory Framework – sets out the legal framework under which URCA has exercised its powers to issue this FDO;
- Section 4: URCA’s Review of BPL’s Renewable Energy Plan – sets out URCA’s analysis and findings in relation to BPL’s REP;
- Section 5: Final Determination – sets out URCA’s Final Determination consequential to its consideration of the representations (or lack thereof) by relevant parties to the public consultation in relation to this matter; and
- Section 6: Order – sets out URCA’s Order consequential to its Final Determination into this matter.

## 2 Background

In this section, URCA sets out a summary of the circumstances that gave rise to the issuance of this FDO.

BPL submitted its first version of its REP to URCA on 28 April 2016. URCA provided a response to the BPL's initial submission on 28 August 2017.<sup>1</sup> URCA's assessment of the initial submission was that it did not meet the statutory requirements of the EA.

As a result, URCA outlined the items to be addressed by BPL prior to resubmission. URCA requested that BPL revise and resubmit its renewable energy plan by 22 November 2017.<sup>2</sup>

Section 25(2)(a) of the EA mandated that BPL's REP be submitted to URCA, in line with the electricity sector policy objectives referred to in sections 5 and 6 of the EA within six (6) months of the coming into operation of the EA. Having regard to the foregoing, and owing to missed deadlines and a lack of responsiveness from BPL in relation to its REP, URCA issued a Preliminary Determination and Draft Order concerning suspected breaches by BPL of its Licence and obligations under the Electricity Act.<sup>3</sup>

In response to the Preliminary Determination and Draft Order, BPL wrote to URCA on 9 July 2019 to advise it was in the process of engaging a consultant to develop a "5-year preliminary Renewable Energy Plan (REP) for New Providence and the Family Islands."

URCA wrote to BPL on 2 October 2019 requesting BPL's revised REP be submitted by 9 October 2019. BPL submitted, via email on 10 October 2019, "The Bahamas Power and Light Company Limited's Executive Summary and Renewable Energy Consultancy with IRP Option – Five Year Renewable Energy Plan" (the "BPL REP") in response to URCA's letter of 2 October 2019. Subsequently, URCA published a summary of the BPL REP submission in accordance with the requirements of the EA section 25(5)(a).<sup>4</sup>

On 17 February 2020 URCA issued document ES 01/2020 to BPL outlining URCA's preliminary decision following its review of BPL's REP. BPL requested, and was granted, an extension to 10 July 2020 in order to provide a substantive response.<sup>5</sup> Subsequently BPL provided its response on 13 July 2020.

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<sup>1</sup> Cambridge, Shevonn, URCA to Harreld, Mike, BPL "Response to BPL's Renewable Energy Plan.", 28 Aug. 2017

<sup>2</sup> Letter from Shevonn Cambridge, URCA to Mike Harreld, BPL dated 28 Aug. 2017

<sup>3</sup> Utilities Regulation and Competition Authority "ES 05/2018 Preliminary Determination and Draft Order Issued to Bahamas Power and Light Company Limited (BPL) In the matter of Suspected Breach of Licence Conditions 9, and 17.2 and sections 25 and 26 under the Electricity Act, 2015." 16 May 2018, [www.urbahamas.bs/wp-content/uploads/2018/05/Preliminary-Determination-and-Draft-Order-Pursuant-to-Suspected-Breaches....pdf](http://www.urbahamas.bs/wp-content/uploads/2018/05/Preliminary-Determination-and-Draft-Order-Pursuant-to-Suspected-Breaches....pdf)

<sup>4</sup> "Executive Summary of BPL's Renewable Energy Plan." URCA, 17 Dec. 2019, [www.urbahamas.bs/publications/executive-summary-of-bpls-renewable-energy-plan/](http://www.urbahamas.bs/publications/executive-summary-of-bpls-renewable-energy-plan/)

<sup>5</sup> Cambridge, Shevonn, URCA to Heastie, Whitney, BPL "Preliminary Decision ES 01/2020, BPL's Renewable Energy Plan 2020", 07 May 2020

In ES 08/2020 URCA set out its assessment of BPL's response to ES 01/2020 and presented URCA's final decision as to the revisions and/or next steps required to obtain URCA's approval as envisioned in section 25(2) of the EA. BPL was instructed to comply with URCA's Final Decision no later than 5 October 2020. URCA wrote to BPL on 09 November 2020 expressing concern it had not received a response and requiring BPL to respond by 16 November 2020.

The REP that is the subject of this FDO was provided to URCA by BPL on 10<sup>th</sup> October 2019 and 10<sup>th</sup> November 2020. The submission substantially addressed and incorporated the remedies set out in the URCA Statement of Results and Final Decision, ES 08/2020.

URCA published its Preliminary Determination and Draft Order (ES 01/2021) on 23 February 2021 giving notice that it had completed its review of the BPL REP and that it intended to issue a Final Determination and Order to approve the plan. Persons were invited to return any comments concerning ES 01/2021 on or before 24 March 2021. No comments were received.

### **3 Regulatory Framework**

This section sets out the regulatory framework under which URCA has exercised its powers to issue this Final Determination.

BPL, as a PES, is required to submit for URCA's approval, "a time-bound plan for the introduction of sustainable renewable energy technologies into the electricity supply system."<sup>6</sup> Section 25(3) of the EA sets out what the REP should include, in line with the electricity sector policy objectives referred to in sections 5 and 6 of the EA.

As the regulator of the ES, it is URCA's responsibility to evaluate BPL's REP and if URCA is satisfied that the requirements of the EA are satisfied, to approve the plan. Having regard to the language used in section 25(5)(b) EA, this approval is to be given to URCA through a determination process. URCA is required to publish the REP and to "determine whether to approve the plan as consistent with the sector policy objectives and national energy policy."<sup>7</sup>

URCA is empowered to make determinations<sup>8</sup> and, prior to issuing a determination, may issue a notice of preliminary determination.<sup>9</sup> URCA may also issue an order to enforce a determination.<sup>10</sup> A copy of the order it proposes to issue with the final determination shall be enclosed with the preliminary determination.<sup>11</sup> Except in the case of repeated breaches, URCA will not issue an enforcement order where the relevant person has complied with the obligations or remedied the consequence of the contraventions set out in the preliminary determination.<sup>12</sup>

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<sup>6</sup> Electricity Act 2015, section 25(2)(a)

<sup>7</sup> Electricity Act 2015, section 25(5)

<sup>8</sup> Electricity Act 2015, section 64(1)

<sup>9</sup> Electricity Act 2015, section 64(7)

<sup>10</sup> Electricity Act 2015, section 63(1)

<sup>11</sup> Electricity Act 2015, section 64(8)

<sup>12</sup> Electricity Act 2015, section 64(11)

## 4 URCA's Review of BPL's Renewable Energy Plan

This section sets out URCA's review and analysis of BPL's renewable energy plan.

### 4.1 Summary of BPL's Renewable Energy Plan

BPL's REP proposes a 5-year plan (2019 to 2023) for The Bahamas with an aim of achieving the 2013 - 2033 National Energy Policy Goals and outlines an estimated level of investment that is needed to achieve those goals. The BPL REP posits that over the 5-year period BPL would plan and pursue a total of 119.08 MW of solar PV penetration (73.7 MW in New Providence and 45.38 MW in the Family Islands supplemented by 10.96 MW of 4-hour battery storage) which would result REP generation being increased from 1% of total energy generated by BPL in 2019 to 11% by 2023.

The BPL REP details how renewable generation will be increased island by island until 2023 where at that time it is projected to represent an 11 percent share of the total energy generated by BPL.

The BPL REP investigated potential locations for the installation of solar PV. It determined that the availability of space for roof top solar restricted its capacity to less than 30 MW in New Providence. It recommended using about a third of Lake Killarney which could facilitate up to 150 MW. In the Family Islands space is not considered to be a constraint.

The technical analysis for the BPL REP was conducted using PLEXOS planning software. Data to determine the inputs to the model was provided by BPL and certain assumptions were made. For New Providence it was assumed that six units out of service at Clifton Pier Power Station would remain out, 90 MW of rental generation would be discontinued, and 234 MW of LNG generation would be added over the course of the five years. Historical data from BPL was used to calculate the System Load Factor, Gross System Loss, Load Growth Per Annum and Heat Rate for each island and plant. Spinning Reserves, Planning Reserves and Tertiary Reserves were factored in determining generation capacity. A Discount Rate of seven percent was assumed for the Weighted Average Cost of Capital (WACC).

Analysis to determine the impact on the network in New Providence was modeled using ETAP software. This included power flow studies, power system security (stability), and fault level analysis. The results highlighted several network issues and the actions required to resolve them; some of which are significant. It was not clear in the BPL REP if the necessary reinforcements to the system were included in the scenarios considered and recommended. No costs were provided for the remedies. The BPL REP did not include a similar analysis for the Family Islands.

In addition to utilizing technical factors to determine the amount of renewable energy capacity to add over the five-year period, the BPL REP also considered the cost in making its selection. The BPL REP showed the Levelized Cost of Electricity (LCOE), the cost per unit of energy generated, with and without the addition of solar PV and BESS. The results showed that for the proposed addition of solar PV and BESS the LCOE would be reduced over the period. The BPL

REP also calculated the avoided cost of generation. It suggested that this cost can be utilized in pricing a Power Purchase Agreement (PPA) with an Independent Power Producers (IPP).

The appendices of the REP included the following:

- A Grid Code with which independent power producers and small-scale generating facilities must comply in accordance with BPL's Licence Condition 47.
- A Transmission Connection Agreement to facilitate connection to the grid in accordance with the Grid Code.
- A Power Purchase Agreement template in accordance with BPL's Licence Conditions 45.4 and 51.

Pursuant to section 25(5)(a) of the EA, a summary of the BPL REP was published for public information purposes on URCA's website on 23<sup>rd</sup> February 2021<sup>13</sup>.

#### 4.2 Law - The Statutory Requirements

URCA's review of the BPL REP is conducted against the requirements set out in section 25(3) of the EA which provides that a REP should include:

- provisions for facilitating persons, including other public electricity suppliers, to apply to URCA to be licenced as independent power producers to participate in utility electricity generation to the relevant grid using renewable resources and technologies;*
- a policy statement giving preference to renewable electricity resources in all procurement actions in the absence of compelling reliability or cost considerations;*
- a plan to procure increasing specified minimum percentages of electricity products from eligible renewable electricity resources by a specified date, thereby allowing the phased increase in renewable generation;*
- provision to ensure the reliability of intermittent resources, taking into account the availability of cost effective storage technologies;*
- provisions for facilitating residential renewable energy generation to the grid and renewable energy self-generation projects;*
- an annual requirement for reporting the progress by the public electricity supplier with respect to its renewable electricity plan; and*
- a mechanism for formal review by URCA of the renewable electricity plan once every three years, which review will result in the public electricity supplier updating the plan to reflect developments in renewable electricity resources.*

Additionally, in conducting its assessment of the BPL REP, URCA is guided by the National Energy Policy and Electricity Sector Policy Objectives.

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<sup>13</sup> [Preliminary-Determination-and-Draft-Order-on-BPL-Renewable-Energy-Plan-2020-ES-01-2021-002.pdf](#)  
([urcabahamas.bs](#))

### 4.3 Analysis

In analyzing BPLs REP, URCA notes that this is not BPLs first attempt at fulfilling the requirements of section 25 of the EA in formulating a REP. While URCA has considered BPLs November 2020 submission freshly on its merits as set out below, URCA also notes that BPLs REP submission improves upon its original submission and incorporates suggested changes that URCA gave in its Statement of Results and Final Decision<sup>14</sup> in its evaluation of BPLs original 2020 REP submission.

In analyzing the BPL REP against the section 25 EA requirements, URCA considers that the same is satisfactorily addressed by BPL.

URCA's analysis in relation to each section 25 EA criteria is as follows:-

- a) ***Provision for facilitating persons, including other public electricity suppliers to apply to URCA to be licenced as independent power producers to participate in utility electricity generation to the relevant grid using renewable resources and technologies*** – URCA considers that this requirement is satisfied as the BPL REP proposes to make use of a combination of EPC and IPP procurement approaches to implement utility scale projects as it relates to renewable energy procurement<sup>15</sup>. The anticipated goal is that this would allow for private sector participation in line with the requirements of section 25(3)(a) of the EA. The practical implementation of this requirement is also substantively addressed in so far as the BPL REP in its annex includes documents which outline the Grid Code that IPPs would be expected to comply with in addition to standard draft agreements.
- b) ***A policy statement giving preference to renewable electricity resources in all procurement actions in the absence of compelling reliability or cost considerations*** - URCA considers that this requirement is satisfied as the BPL REP contains a policy statement considering renewable energy solutions as preferential to ones employing fossil fuel<sup>16</sup>.
- c) ***A plan to procure increasing specified minimum percentages of electricity products from eligible renewable electricity resources by a specified date, thereby allowing the phased increase in renewable generations*** – BPL's REP sets out a time bound plan to increase the capacity of renewable energy installed in both New Providence and specific family islands. Accordingly, URCA considers that this requirement is satisfied.
- d) ***Provision to ensure the reliability of intermittent resources, taking into account the availability of cost effective storage technologies*** – In reviewing BPLs REP, URCA notes that a reliability analysis was conducted as a part of the drafting of the REP<sup>17</sup>. In considering the analysis done by BPL, the findings of the study and the BPL REP's stated

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<sup>14</sup> ES 08/2020 issued 20<sup>th</sup> August 2020

<sup>15</sup> BPL REP dated August 2019 p. 59 - 60

<sup>16</sup> BPL REP dated August 2019 p. 59

<sup>17</sup> BPL REP dated August 2019 p. 51



intention to utilize battery storage to address grid stability, particularly in the family islands, URCA is satisfied that the REP fulfills this requirement.

- e) ***Provisions for facilitating residential renewable energy generation to the grid and renewable energy self-generation projects*** – Having regard to the timeframe involved in arriving at the latest iteration of BPL’s REP, URCA considered it prudent as its function as regulator to introduce a framework to facilitate residential renewable energy generation to the grid and renewable energy self-generation project. Accordingly, the residential and self-generation aspects were dealt with prior to the submission of the plan and are addressed under the SSRG and RESG regulatory frameworks respectively<sup>18</sup>. BPL was consulted on both frameworks and has accepted their adoption and has referenced utilization of this program in its REP<sup>19</sup>. Accordingly, URCA considers that this requirement is satisfied.
- f) ***An annual requirement for reporting the progress by the public electricity supplier with respect to its renewable electricity plan*** – BPL’s REP sets out reporting in relation to the progress by it in respect to its renewable energy plan<sup>20</sup>. Accordingly, URCA considers that this requirement is satisfied.
- g) ***A mechanism for formal review by URCA of the renewable electricity plan once every three years, which review will result in the public electricity supplier updating the plan to reflect developments in renewable electricity resources*** – BPL’s REP sets out a time for an appropriate review procedure in accordance with the EA<sup>21</sup>. Accordingly, URCA considers that this requirement is satisfied.

#### 4.4 Conclusion

URCA considered the BPL REP was a significant improvement over BPL’s original submission in 2016 and represented a plausible intention to meet the NEP and ESP objectives. It comprehensively evaluated the technical and cost factors in setting out its plan to increase the percentage of renewable energy in its generation mix and it sets out the actions required to accommodate the proposed renewable generation on the network. It also included Power Purchase Agreement and Transmission Connection Agreement templates to facilitate connection to the grid.

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<sup>18</sup> ES 01/2018 [Microsoft Word - SOR and FD Bahamas Power And Light Limited’s Small-Scale Renewable Generation Plan .docx \(urcabahamas.bs\)](#)

<sup>19</sup> BPL REP dated August 2019 p. 16

<sup>20</sup> BPL REP dated August 2019 p. 60

<sup>21</sup> BPL REP dated August 2019 p. 60

## 5 Final Determination

This Final Determination is issued by the Utilities Regulation and Competition Authority (“URCA”) to Bahamas Power and Light Company Ltd. (“BPL” or “Licencee”) in accordance with sections 25 (5) (b) and 64 (1) (b) of the Electricity Act, 2015 (“EA”).

**WHEREAS** by cover of letter dated 10 November 2020, BPL submitted to URCA its Renewable Energy Plan (“REP”) for approval in accordance with section 25 (2) EA;

**AND WHEREAS** URCA has published on 23 February 2021 via its website for public information purposes only a summary of BPLs proposed renewable energy plan;

**AND WHEREAS** URCA has published on 23 February 2021 via its website a Preliminary Determination and Draft Order (“PDDO”) allowing for the general public to make representations by 24<sup>th</sup> March 2021 concerning the matters the subject of the PDDO;

**AND WHEREAS** URCA has not received any response in relation to the PDDO;

**AND WHEREAS** URCA considers that BPLs REP satisfactorily complies with the requirements of the EA in relation to the formulation of a REP.

**NOW THEREFORE** having considered the foregoing matters, **URCA HEREBY:**

- (i) determines that BPL’s Renewable Energy Plan dated August 2019 is consistent with the sector policy objectives and the national energy policy; and
- (ii) approves the BPL Renewable Energy Plan pursuant to section 25(2) of the Electricity Act, 2015.

**IN CONSEQUENCE THEREOF** URCA issues the attached Order to the Licencee in accordance with section 63(1) of the Electricity Act, 2015, together with this Final Determination.

Dated this 22 day of June A.D., 2021



J. Carlton Smith  
Chief Executive Officer

## 6 Order

This Order is enclosed by the Utilities Regulation and Competition Authority (“URCA”) pursuant to Section 63(1) of the Electricity Act, 2015 (“EA”), and issued in conjunction with the Final Determination.

**DATED** 22 June 2021

**WHEREAS** by Final Determination made on 22 June 2021, URCA by determination approved the Renewable Energy Plan of Bahamas Power and Light Company Ltd. (“the Licencee”) dated August 2019 as it is consistent with the Energy Sector policy objectives and the national energy policy.

In accordance with the role, functions and powers conferred upon URCA in sections 37 and 38 of the EA, URCA **HEREBY ORDERS THAT:**

1. BPL shall revise and submit an updated Renewable Energy Plan every three years for URCA’s approval, after 10 October 2019, subject to URCA imposing different time periods for submission or revision; and
2. BPL shall comply with the procurement procedures for utility scale renewable electricity generation as set out in section 26 of the EA.

**PENAL NOTICE: Failure to comply with this Final Determination and Order may result in URCA taking the appropriate regulatory action in accordance with the EA and Licence.**



J. Carlton Smith  
Chief Executive Officer