

**GOVERNMENT OF PUERTO RICO
PUERTO RICO PUBLIC SERVICE REGULATORY BOARD
PUERTO RICO ENERGY BUREAU**

NEPR Received: Feb 24, 2022 4:31 PM
--

IN RE: PERFORMANCE METRICS
TARGETS FOR LUMA ENERGY SERVCO,
LLC

CASE NO. NEPR-AP-2020-0025

SUBJECT:

Motion Submitting Delaware Secretary of State, Division of Corporations Certification Completing the Legalization of Mr. Donald Hall's Rebuttal Testimony

LUMA'S MOTION SUBMITTING DELAWARE SECRETARY OF STATE, DIVISION OF CORPORATIONS CERTIFICATION COMPLETING THE LEGALIZATION OF MR. DONALD HALL'S REBUTTAL TESTIMONY

TO THE HONORABLE PUERTO RICO ENERGY BUREAU:

COME now LUMA Energy, LLC ("ManagementCo"), and LUMA Energy ServCo, LLC ("ServCo"), (jointly referred to as the "Operator" or "LUMA"), and respectfully state and request the following:

1. On January 14, 2022, the Energy Bureau issued a Resolution and Order amending the procedural calendar in this instant proceeding ("January 14th Resolution and Order"). The Energy Bureau ordered LUMA to submit its witnesses' rebuttal testimonies on or before February 1, 2022.
2. On January 28, 2022, LUMA filed *LUMA's Request for an Extension of Time to File Rebuttal Testimonies*. LUMA requested that the Energy Bureau extend the timeframe to submit the rebuttal testimonies to February 17, 2022.

3. On January 31, 2022, the Energy Bureau issued a Resolution and Order granting LUMA until February 17, 2022, to file rebuttal testimonies on the intervenors' pre-filed direct testimonies.

4. On February 1, 2022, LUMA filed a *Motion Submitting Rebuttal Testimonies*. LUMA whereby it submitted the rebuttal testimonies of five of its witnesses and reiterated that the remaining testimonies would be filed by the set date of February 17, 2022.

5. On February 17, 2022, LUMA filed a *Motion Submitting Additional Rebuttal Testimonies*. LUMA submitted the pre-filed rebuttal testimonies of four of its witnesses and two expert witnesses. However, because the pre-filed rebuttal testimony of Mr. Donald Hall was notarized in the State of Delaware, at the time, diligences were underway to obtain the certification of the Delaware Secretary of State, Division of Corporations, to complete the legalization of the testimony of Mr. Donald Hall. LUMA informed that it would submit the evidence of legalization by the Delaware Secretary of State, Division of Corporations, as soon as it was received in the following days.

6. LUMA has received the certification of the Delaware Secretary of State, Division of Corporations which states that Notary Hope L. Ball, who notarized the pre-filed rebuttal testimony of Mr. Donald Hall, is a Notary Public for the State of Delaware and is currently in good standing. Mr. Donald Hall's pre-filed rebuttal testimony with evidence of its legalization by the Delaware Secretary of State, Division of Corporations is hereby included as **Exhibit 1** to this Motion. No changes were made to Mr. Donald Hall's pre-filed rebuttal testimony other than appending the evidence of its legalization by the Delaware Secretary of State, Division of Corporations.

7. In view of the foregoing, LUMA respectfully requests that this Energy Bureau receive and accept the above-described certification of the Delaware Secretary of State, Division of Corporations, and deem completed the pre-filed witness rebuttal testimony of Mr. Donald Hall.

WHEREFORE, LUMA respectfully requests that the Energy Bureau **receive and accept** Mr. Donald Hall's pre-filed rebuttal testimony with evidence of its legalization by the Delaware Secretary of State, Division of Corporations as Exhibit 1 this Motion; and **deem** completed the pre-filed witness testimony of Mr. Donald Hall duly notarized and legalized.

RESPECTFULLY SUBMITTED.

We hereby certify that we filed this motion using the electronic filing system of this Energy Bureau and that I will send an electronic copy of this motion to the attorneys for PREPA, Joannely Marrero-Cruz, jmarrero@diazvaz.law; and Katuska Bolaños-Lugo, kbolanos@diazvaz.law, the Office of the Independent Consumer Protection Office, Hannia Rivera Diaz, hrivera@jrsp.pr.gov, and counsel for the Puerto Rico Institute for Competitiveness and Sustainable Economy ("ICSE"), Fernando Agrait, agraitfe@agraitlawpr.com, counsel for the Colegio de Ingenieros y Agrimensores de Puerto Rico ("CIAPR"), Rhonda Castillo, rhoncat@netscape.net, and counsels for Comité Diálogo Ambiental, Inc., El Puente de Williamsburg, Inc., Enlace Latino de Acción Climática, Alianza Comunitaria Ambientalista del Sureste, Inc., Coalición de Organizaciones Anti-Incineración, Inc., Amigos del Río Guaynabo, Inc., CAMBIO, Sierra Club and its Puerto Rico Chapter, and Unión de Trabajadores de la Industria Eléctrica y Riego (jointly, Puerto Rico Local and Environmental Organizations), larroyo@earthjustice.org, rstgo2@gmail.com, notificaciones@bufete-emmanuelli.com, pedrosaade5@gmail.com, jessica@bufete-emmanuelli.com; rolando@bufete-emmanuelli.com.

In San Juan, Puerto Rico, this 24th day of February 2022.



DLA Piper (Puerto Rico) LLC
500 Calle de la Tanca, Suite 401
San Juan, PR 00901-1969
Tel. 787-945-9107
Fax 939-697-6147

/s/ Margarita Mercado Echegaray
Margarita Mercado Echegaray
RUA NÚM. 16,266
margarita.mercado@us.dlapiper.com

/s/ Yahaira De la Rosa Algarín
Yahaira De la Rosa Algarín
RUA NÚM. 18,061
yahaira.delarosa@us.dlapiper.com

Exhibit 1

**GOVERNMENT OF PUERTO RICO
PUERTO RICO PUBLIC SERVICE REGULATORY BOARD
PUERTO RICO ENERGY BUREAU**

IN RE:

PERFORMANCE TARGETS FOR LUMA
ENERGY SERVCO, LLC

CASE NO.: NEPR-AP-2020-0025

Rebuttal Testimony of
Mr. Donald Hall
Senior Director - Engineering & Asset Management, LUMA Energy ServCo LLC
February 17, 2022

1 **Q. Please state your name.**

2 A. My name is Donald Hall.

3 **Q. Please state your business mailing address, title, and employer.**

4 A. My business mailing address is PO Box 363508 San Juan, Puerto Rico 00936-3508. I am
5 the Senior Director of Engineering & Asset Management for LUMA Energy.

6 **Q. Please state your educational background.**

7 A. I graduated from Kansas State University in 2010 with a Master of Science Degree in
8 Electrical Engineering with a Power Systems Emphasis, and from Capitol Technology
9 University in 1986 with a Bachelor of Science Degree in Electronics Engineering
10 Technology and in 1982 with an Associate in Arts Degree in Electronics Engineering
11 Technology.

12 **Q. Please state your professional experience.**

13 A. I have approximately 40 years of professional experience in the utility industry. I joined
14 LUMA Energy as a Senior Director in Engineering & Asset Management in 2020. My
15 professional experience includes the Engineering, Operations, and Regulatory areas of the
16 Distribution & Transmission segments of the electric utility industry. Recent focus includes
17 business and technical integration of Distributed Energy Resources / Non-Wires
18 Alternatives, Distribution System Load Forecasting methods incorporating DER, the
19 addition of stakeholder involvement and transparency in the Distribution System Planning
20 process, Transmission and Distribution Reliability, Outage Management Systems, initial
21 development of performance indicators to be used in performance-based rate-making
22 proposals, and development of performance metrics to be used in incentivizing
23 Transmission and Distribution Operations. I have an extensive background in state and

24 federal regulatory proceedings, including serving as an expert witness. I am an active senior
25 member of the IEEE Power & Energy Society, including:

- 26 • Member IEEE PES Distribution Reliability Working Group
 - 27 ○ Co-author of IEEE Std. 1366TM IEEE Guide for Electric Power Distribution
 - 28 Reliability Indices, and IEEE Std. 1782TM IEEE Guide for Collecting,
 - 29 Categorizing, and Utilizing Information Related to Electric Power Distribution
 - 30 Interruption Events
- 31 • Member IEEE PES Distribution Resiliency Working Group
- 32 • Member Smart Distribution Working Group

33 I am an active senior member of the IEEE Standards Association (the IEEE authority for
34 reviewing, editing, approving, and publishing proposed IEEE Standards) and approved
35 balloter of the recently revised IEEE Std. 1366TM and IEEE Std. 1782TM

- 36 • Past Co-chair of the BESS Super Session 2019 IEEE PES General Meeting
- 37 • Past Chair IEEE PES General Meeting Steering Committee
- 38 • Past Vice-Chair IEEE PES Innovative Smart Grid Technologies North America
- 39 Conference
- 40 • Technical paper reviewer for IEEE PES Distribution Subcommittee

41 I am also a past adjunct college engineering instructor.

42 **Q. Please describe your work experience prior to joining LUMA.**

43 A. I have approximately 17 years of experience in various technical, engineering, and
44 supervisory roles with Potomac Electric Power Company (PEPCo – Washington, DC) and
45 13 years of experience in different supervisory and management roles with Pepco Holdings
46 (an Exelon Company), which consists of Atlantic City Electric (New Jersey), Delmarva

47 Power (Delaware & Maryland) and PEPCo (Washington, DC). I have five years of Outage
48 Management System (OMS) and Advanced Distribution Management System (ADMS)
49 experience in a Product Management role with SPL WorldGroup (formerly CES
50 International, now Oracle Utilities) and two years of non-destructive cable testing
51 experience in management roles with Northern States Power (now Xcel Energy). I have
52 one year of utility consulting experience in a Senior Director / Executive Consulting role
53 with Quanta Technology, LLC. Lastly, I have two years of experience in a Senior Director
54 / Engineering role at LUMA supporting Asset Management, System Operations, and
55 Regulatory.

56 **Q. Do you hold any professional licenses?**

57 A. Yes. I am a Licensed Professional Engineer in Delaware, Maryland, and Washington, DC.

58 **Q. Have you previously testified or made presentations before the Puerto Rico Energy
59 Bureau?**

60 A. No.

61 **Q. On whose behalf are you testifying before the Puerto Rico Energy Bureau?**

62 A. My testimony is on behalf of LUMA as part of the Puerto Rico Energy Bureau (“Energy
63 Bureau”), Commonwealth of Puerto Rico Public Service Regulatory Board proceeding
64 Case No. NEPR-AP-2020-0025, the Performance Targets for LUMA Energy ServCo,
65 LLC.

66 **Q. Are there any exhibits attached to your testimony?**

67 A. No.

68 **Q. What is the purpose of your rebuttal testimony?**

69 A. To respond to those portions of the pre-filed testimony of Mr. Agustín Irizarry (“Mr.

70 Irizarry”) on behalf of the Local Environmental and Civil Organizations (“LECO”), filed
71 on November 16, 2021, in this proceeding, regarding performance metrics, his
72 recommendations to require disclosure of raw outage data, adopt performance metrics from
73 other jurisdictions such as Hawaii, Illinois, California, United Kingdom, and the adoption
74 of metrics from the Long Island Power Authority’s (“LIPA”) contract with the Public
75 Service Enterprise Group (“PSEG”).

76 **Q. Did you consider any documents for your rebuttal testimony?**

77 A. Yes, I did.

78 **Q. Which documents did you consider for your rebuttal testimony?**

79 a. LUMA’s Performance Metrics Targets Revised filing submitted on September 24,
80 2021, in this proceeding, Case No. NEPR-AP-2020-0025,

81 b. The pre-filed testimony of Mr. Agustín Irizarry of November 16, 2021, filed in this
82 proceeding, Case No. NEPR-AP-2020-0025 and his expert report, which is an exhibit
83 of his pre-filed testimony,

84 c. The responses provided by Mr. Agustín Irizarry to LUMA’s First and Second Sets of
85 Interrogatories and Requests for Production of Documents notified on January 13,
86 2022,

87 d. The responses provided by Mr. Agustín Irizarry to the Puerto Rico Energy Bureau’s
88 Requirements for Information notified on December 20, 2021,

89 e. The supplemental responses provided by Mr. Agustín Irizarry to LUMA’s First and
90 Second Sets of Interrogatories and Requests for Production of Documents, notified on
91 February 4, 2022, and

92 f. Second Amended and Restated Operations Services Agreement between Long Island

93 Lighting Company d/b/a LIPA and PSEG Long Island LLC dated December 15, 2021.

94 **Q. Did you rely on any other information for your testimony?**

95 A. My professional experience, including my experience in connection with the Transmission
96 and Distribution System of the Puerto Rico Electric Power Authority (“PREPA”) and its
97 operations (“T&D System”).

98 **Q. Do you have a response to Mr. Irizarry’s conclusion on page 6, lines 16-21, of his pre-**
99 **filed testimony that LUMA’s performance metrics, if achieved, would only result in**
100 **reasonable 20th-century utility service for Puerto Rico and that additional metrics**
101 **are necessary to incentivize the transformation required by Law 17, Law 120, and the**
102 **Transmission and Distribution Operations & Maintenance Agreement, to achieve a**
103 **21st Century electric grid?**

104 A. Yes, I do.

105 **Q. Please explain your response.**

106 A. First, given the general lack of reasonably accurate data at the Puerto Rico Electric Power
107 Authority (“PREPA”), LUMA recommends focusing Performance Metrics on areas with
108 adequate historical data to develop an accurate baseline against which performance
109 improvement can be measured. In order for data measurements to be useful as Performance
110 Metrics they should: a) utilize recorded information that indicates performance; b) be
111 subject to improvement through actions under the control of the utility; and c) align with
112 public policy objectives. Data that does not meet these criteria should not be considered for
113 Performance Metrics.

114 Second, LUMA recommends that the following characteristics be considered when
115 establishing Performance Metrics: a) clear, unambiguous, objective quantification; b) has

116 an accurate baseline; c) indicates the degree to which progress is being made; d) relative to
117 the current state of the system; e) aligned with public policy and the customer's needs; and
118 f) provide focus to efficiently effect change.

119 As such, metrics that do not reflect the current state of the Transmission & Distribution
120 System ("T&D") and the near-term improvement activities required will not show
121 progress, even if progress is being made. The current PREPA T&D System is fragile and
122 unreliable. Metrics should be reflective of the activities that support foundational activities
123 that will support sustainable improvements in reliability, resiliency, and customer service,
124 among others. As the utility matures, the metrics will evolve to reflect the advancements
125 made.

126 Further, metrics that vary significantly by exogenous factors outside those under the control
127 of LUMA will not be responsive to the actions of LUMA and not represent the progress
128 being made. Also, effective Performance Metrics should be achievable for the time period
129 considered with the resources that are available and approved.

130 The additional performance metrics proposed by Mr. Irizarry in his testimony lack either
131 historical data to develop an accurate baseline against which performance improvement
132 can be measured, are not relative to the current state of the T&D System, vary significantly
133 by exogenous factors outside those under the control of LUMA, or are not achievable with
134 the resources that are available and approved.

135 **Q. Do you have a response to Mr. Irizarry's recommendation to the Energy Bureau that**
136 **it should require public disclosure of raw outage data so that reliability indices can**
137 **be independently verified to understand the causes, locations better, and trends of**
138 **transmission and distribution outages on LUMA's system, as stated on page 7, lines**

139 **20-24, and page 64, lines 4-8 of his direct pre-filed testimony?**

140 A. Yes, I do.

141 **Q. Please explain your response.**

142 A. At present, the data and calculation of indices can be independently verified at any time by
143 the Energy Bureau or the Puerto Rico Public-Private Partnerships Authority (“P3A”). Their
144 consultants can analyze the data and trends. Alternatively, the Energy Bureau and the P3A
145 can request LUMA for the trends to better understand the causes, locations, and trends of
146 transmission and distribution outages. For public disclosure of raw data to not be
147 misunderstood, the persons calculating the indices or interpreting the data must have a
148 strong understanding of each piece of data and the Institute of Electrical and Electronics
149 Engineers (“IEEE”) standard for calculating the reliability metrics. Misunderstanding data
150 and indices calculation can lead to misleading results and confuse or misinform the public.

151 **Q. Do you have a response to Mr. Irizarry’s recommendation on page 8, lines 18-21, of**
152 **his pre-filed testimony, that the Energy Bureau should adopt metrics analogous to the**
153 **“Gating Performance Metrics” and “Default Performance Metrics” from the LIPA**
154 **contract with the PSEG in the performance-based mechanism to be applied to**
155 **LUMA?**

156 A. Yes, I do.

157 **Q. Please state and explain your response.**

158 A. According to the LIPA contract with PSEG, “Gating Performance Metrics” are those in
159 which PSEG’s failure to achieve a Gating Performance Metric in any contract year results
160 in a percentage reduction to the Variable Compensation Pool for that contract year by the
161 percentage specified in the Gating Performance Metric and, accordingly, reduces the

162 amount that may be earned across all Scope Function-Specific Performance Metrics for
163 that contract year.

164 In turn, “Default Performance Metrics” mean those performance metrics which the PSEG’s
165 failure to achieve provides LIPA with the right, but not the obligation, to terminate the
166 agreement and for which failure the PSEG has no right to cure except to the extent
167 expressly provided in such Default Performance Metric. The LIPA contract establishes that
168 “Default Performance Metrics” are related to Customer Satisfaction, Emergency
169 Preparation and Response, and Cyber Security. For example, failure to achieve a third
170 quartile survey result on either component - Residential or Business - for any two
171 consecutive contract years provides LIPA with the right, but not the obligation, to terminate
172 the agreement with PSEG.

173 As witness Terzic states in his testimony on behalf of LUMA, lines 403-419:

174 Firstly, I would note that I understand the reference being made is the Second
175 Amended and Restated Contract Operations Services Agreement between the Long
176 Island Lighting Company d/b/a as LIPA and the PSEG Long Island LLC. Professor
177 Irizarry does not consider in his testimony the physical condition and service
178 performance of the LIPA predecessor company, the investor-owned Long Island
179 Power Company and circumstances leading to the transfer of ownership of its assets
180 to the state-created new Long Island Power Authority were significantly different
181 than the situation in Puerto Rico with PREPA at the time that the bidding and
182 negotiation process that led to the OMA contract took place. The Long Island
183 Power Company (LILCo) was New York Public Service Commission (NYPSC)
184 regulated investor-owned electric utility which faced financial collapse due to an
185 unsuccessful investment in the Shoreham Nuclear Power Plant. Unlike the situation
186 cited by the Puerto Rico legislature enabling the management contract with LUMA,
187 the New York legislature did not cite conventional electric generation,
188 transmission, or distribution service quality as the reason for the legislation to create
189 the public owned Long Island Power Authority. Long Island Power Company
190 (LILCO) was already a 20th century electric utility.¹

191
192 “Gating Performance Metrics” may not be a bad concept when applied to a mature utility

¹ Rebuttal Expert Testimony of Mr. Branko Terzic dated February 16, 2022.

193 with years of experience operating under incentive metrics. PSEG has operated LIPA under
194 a public-private partnership with incentives based on performance metrics since 2014, that
195 is, for approximately eight years. In fact, “Gating Performance Metrics” and “Default
196 Performance Metrics” were only recently adopted (in the Second Amended and Restated
197 Operations Services Agreement between Long Island Lighting Company d/b/a LIPA and
198 PSEG Long Island LLC dated December 15, 2021). Applying this concept to LUMA is
199 premature. The utility LUMA inherited is far from mature, with most operations, business,
200 and transmission & distribution system processes being built and rebuilt from the ground
201 up. In addition, the state of the assets is yet to be determined by physical and technical
202 inspections; therefore, it is not possible to properly identify the investment required to
203 transform the system infrastructure into a resilient and reliable system. PREPA did not
204 properly inspect or document the state of the assets such as the poles, transformers, cables,
205 wire, etc.

206 Further, LIPA’s “Default Performance Metrics” works similarly to LUMA’s Puerto Rico
207 Transmission and Distribution System Operation and Maintenance Agreement (“T&D
208 OMA”) cancellation for non-performance. Under Section 14.1(k) of the T&D OMA, it
209 shall constitute a default by LUMA the failure to meet “the Minimum Performance
210 Threshold for any three (3) Key Performance Metrics during three (3) or more consecutive
211 Contract Years and no such failure shall have been excused by a Force Majeure Event, an
212 Outage Event or Owner Fault”. The Key Performance Metrics under the T&D OMA are:
213 OSHA Fatalities (number of work-related fatalities), OSHA Severe Injuries (number of
214 total work-related injury cases with severity days), SAIFI (measures average outage
215 frequency), SAIDI (measures average outage duration), Operating Budget, Capital Budget

216 – Federally Funded, and Capital Budget – Non-Federally Funded (the last three measure
217 the ability to stay within budget). Therefore, the T&D OMA has envisioned a mechanism
218 in which a default by LUMA to meet the minimum standard on specific performance
219 metrics for consecutive years will allow for the cancellation of the contract. The remedies
220 provided under the T&D OMA for failure to meet the Key Performance Metrics are more
221 drastic than those in the LIPA contract. Thus, Mr. Irizarry’s recommendation is redundant
222 given the language of the T&D OMA.

223 **Q. Do you agree with Mr. Irizarry’s statement on page 19, lines 1-15, of his pre-filed**
224 **testimony that the Energy Bureau should consider existing or proposed performance**
225 **metrics in other jurisdictions, such as Illinois, Hawaii, the United Kingdom, and**
226 **California?**

227 A. No.

228 **Q. Please explain your response.**

229 A. As witness Terzic states in his testimony on behalf of LUMA, lines 506-513:

230 Government owned entities such as PREPA do not have the same profit
231 maximization goals as investor-owned utilities. The application of PIMs in the form
232 of indicators is appropriate and the subject of these proceedings. However, it is
233 apparent from the differences between states that each state has tailored its PIM to
234 its own unique situation, policies and priorities. It seems to me highly unlikely that
235 other states have the same physical, operational and/or historic issues as those in
236 Puerto Rico. As one can see from these proceedings the universe of indicators
237 available is quite large.²

238
239 To further expound on witness Terzic’s testimony by way of a few examples:

- 240
- The regulated utilities in the jurisdictions cited are predominantly 20th century, if
241 not emerging 21st century, utilities.
 - In Puerto Rico, the grid and systems have been neglected for the past decade or
242

² *Id.*

243 more; grid assets and systems need to be improved or replaced. The current rates
244 charged to customers do not support improving everything at once. Therefore,
245 improvement to the grid and systems must be sequenced to make practical sense
246 and bring the most improvement. Thus, the performance metrics selected must be
247 the priority, and the systems to measure them must already exist.

248 • The jurisdictions mentioned face significantly different risks. For example: Puerto
249 Rico has a high risk of hurricanes, those mentioned do not; California has a high
250 risk of forest fires, Puerto Rico does not; Illinois has a high risk of heavy snow and
251 ice, Puerto Rico does not; and the U.K. power system is of a different design than
252 that of North America, including Puerto Rico.

253 **Q. Do you agree with Mr. Irizarry’s statement on page 19, lines 17-20, that metrics from**
254 **Hawaii are important or especially relevant, as the Energy Bureau has determined**
255 **that Hawaii Electric Light Company and Hawaiian Electric Company share several**
256 **elements with PREPA and should be considered a useful peer utility?**

257 A. No.

258 **Q. Please state and explain your response.**

259 A. LUMA’s position is that PREPA’s health and safety data are more appropriate for Edison
260 Electrical Institute’s (“EEI”) Benchmarking data rather than Hawaiian Electric Company.
261 The scale and scope of PREPA’s transmission and distribution operations are much more
262 in line with the large United States investor utilities represented in EEI rather than
263 Hawaiian Electric Company which has significantly fewer customers. Also, the Puerto
264 Rico grid and the systems compared to Hawaiian Electric Company are in a much different
265 state than PREPA due to the utility neglect during the past decade or more. The metrics

266 need to reflect this.


267 **Q. Does this complete your testimony?**

268 **A. Yes.**

ATTESTATION

Affiant, Mr. Donald Hall, being first duly sworn, states the following:

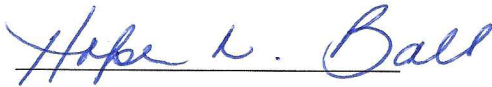
The prepared Rebuttal Testimony constitutes my Rebuttal in the above-styled case before the Puerto Rico Energy Bureau. Affiant states that he would give the answers set forth in the Rebuttal Testimony if asked the questions included in the Rebuttal Testimony. Affiant further states that the facts and statements provided herein are his rebuttal testimony and are true and correct to the best of his knowledge.



Donald Hall

Acknowledged and subscribed before me by Mr. Donald Hall in his capacity as Senior Director of Engineering & Asset Management of LUMA Energy ServCo LLC, of legal age, married, and resident of Middletown, Delaware.

In Middletown, Delaware this 17th day of February 2022.



Hope L. Ball

Public Notary

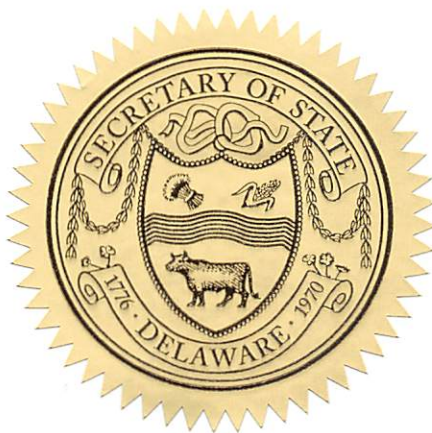
**HOPE L. BALL
NOTARY PUBLIC
STATE OF DELAWARE
MY COMMISSION EXPIRES
JANUARY 23, 2024**

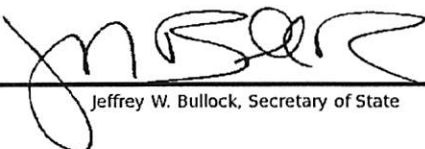
SWORN TO AND SUBSCRIBED
BEFORE ME ON THIS 17th
DAY OF February, 2022

Delaware

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE,
DO HEREBY CERTIFY THAT "HOPE L BALL" IS A NOTARY PUBLIC FOR
THE STATE OF DELAWARE HAVING AN EXPIRATION DATE OF JANUARY 23, 2024 AND IS
IN GOOD STANDING AS EVIDENCED BY COMPLIANCE WITH TITLE 29 § 4301 DEL. C. AS
THE RECORDS OF THIS OFFICE SHOW, AS OF THIS EIGHTEENTH DAY OF
FEBRUARY, A.D. 2022.




Jeffrey W. Bullock, Secretary of State

FEBRUARY 18, 2022