

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

NEPR Received: Apr 29, 2021 8:39 PM

IN RE: THE PERFORMANCE OF THE
PUERTO RICO ELECTRIC POWER
AUTHORITY

CASE NO.: NEPR-MI-2019-0007

SUBJECT: Supplemental Additional
Baseline Metrics

**MOTION TO SUPPLEMENT ADDITIONAL PERFORMANCE METRICS IN
COMPLIANCE THE RESOLUTION AND ORDER ENTERED ON APRIL 8, 2021**

COMES NOW, the Puerto Rico Electric Power Authority (PREPA) through its undersigned legal representation and respectfully submits and prays as follows:

1. On April 8, 2021, the Puerto Rico Energy Bureau of the Public Service Regulatory Board (the “Energy Bureau”) entered *Resolution and Order* directing PREPA to among other things, provide additional information regarding the establishment of PREPA’s performance baseline.¹
2. On April 19, 2021, PREPA submitted *Motion to Submit Additional Performance Metrics in Compliance with the Resolution and Order Entered on April 8, 2021* (the “Motion in Compliance”). In the Motion in Compliance, PREPA requested an extension of time to perform changes in programming in order to gather and verify the data requested in Section V.A. (3) of the Order².
3. The Authority hereby submits its reliability metrics in compliance with Section V.A. (3) of the Order. Exhibit A.

WHEREFORE, the Authority respectfully requests the Energy Bureau to find PREPA in

¹ *Resolution and Order* entered on April 8, 2021 (the “Order”).

² Section V.A. (3) of the Order directs PREPA to correct reliability metrics to be consistent with IEEE 1366 methodology for calculation of SAFI and SAIDI, including transmission and substation related outage codes that PREPA excluded along with revised and updated calculation for TMED threshold, and all analysis and calculations performed to determine TMED.

compliance with the Order.

RESPECTFULLY SUBMITTED.

In San Juan, Puerto Rico, this 29th day of April 2021.

s/ Joannely Marrero-Cruz
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CERTIFICATE OF SERVICE

It is hereby certified that, on this same date, I have filed the above motion with the Clerk of the Energy Bureau using the Energy Bureau's Electronic Filing System, at the following address: <http://radicacion.energia.pr.gov> It is further certified that I have sent a copy to margarita.mercado@us.dlapiper.com and mmercado@mercado-echegaray-law.com.

In San Juan, Puerto Rico, this 29th day of April 2021.

s/ Joannely Marrero-Cruz
Joannely Marrero-Cruz

Exhibit A

[The native Excel file has been submitted separately.]



GOVERNMENT OF PUERTO RICO
Puerto Rico Electric Power Authority

April 29, 2021

In compliance with the Energy Bureau’s Part V.A of the Resolution and Order entered on April 8, 2021, PREPA has revised and restated the reliability metrics and included all sustained outage cause codes excluding interruptions from Tmed, Planned and Generation outages. Transmission and Substation outages will be included in reports to be submitted prospectively to the Energy Bureau.

Cause Codes included and/or excluded for the analysis:

Cause Code	Related Outage Tab	ANALYSYS
VIA LIBRE PROGRAMADA - DISTRIBUCION	Planned	Exclude
RELEVO DE CARGA AUTOMATICO	Generation	Exclude
VIA LIBRE A SOLICITUD DEL CLIENTE	Planned	Include
LINEA DE TRANSMISION	Distribution Transmission Substation	Include
NO SE REPORTO CAUSA	Distribution Transmission Substation	Include
ESTRUCTURA AVERIADA	Distribution Transmission Substation	Include
CONDUCTOR ROTO, ABIERTO O CRUZADO	Distribution Transmission Substation	Include
DESGANCHE	Distribution Transmission Substation	Include
PARARRAYOS DEFECTUOSO	Distribution Transmission Substation	Include
AISLADOR ROTO, PARTIDO O SAFADO	Distribution Transmission Substation	Include
EMPALME O TERMINACION SOTERRADA AVERIADA	Distribution Transmission Substation	Include
CABLE SOTERRADO AVERIADO	Distribution Transmission Substation	Include
DESCONECTIVO DEFECTUOSO	Distribution Transmission Substation	Include
HERRAJE ROTO O PODRIDO	Distribution Transmission Substation	Include
CAJA PRIMARIA DEFECTUOSA O QUEMADA	Distribution Transmission Substation	Include
UNIDAD SECCIONADORA (SWITCHING UNIT)	Distribution Transmission Substation	Include
TRANSFORMADOR AVERIADO	Distribution Transmission Substation	Include
BREAKER DEFECTUOSO O NO OPERA	Distribution Transmission Substation	Include
OTRAS CAUSAS(CERTIFICAR)	Distribution Transmission Substation	Include
ERROR HUMANO	Distribution Transmission Substation	Include
ANIMAL U OBJETO EXTRAÑO	Distribution Transmission Substation	Include
SOBRECARGA	Distribution Transmission Substation	Include
DISTURBIO ATMOSFERICO	Distribution Transmission Substation	Include
FUEGO	Distribution Transmission Substation	Include
VIA LIBRE PROGRAMADA - TRANSMISION	Distribution Transmission Substation	Include
VIA LIBRE DE EMERGENCIA - DISTRIBUCION	Distribution Transmission Substation	Include
VIA LIBRE DE EMERGENCIA - TRANSMISION	Distribution Transmission Substation	Include
PROTECCION DEFECTUOSA	Distribution Transmission Substation	Include
EQUIPO DE CONTROL DEFECTUOSO	Distribution Transmission Substation	Include
REMOCION DE ASBESTO O CAJAS DE ACEITE	Distribution Transmission Substation	Include
LINEA DE TRANSMISION 38KV	Distribution Transmission Substation	Include



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GOVERNMENT OF PUERTO RICO
Puerto Rico Electric Power Authority

LINEA DE TRANSMISION 115KV	Distribution Transmission Substation	Include
SECUNDARIA/CONDUCTOR ROTO, ABIERTO O CRU	Distribution Transmission Substation	Include
SECUNDARIA/ESTRUCTURA AVERIADA	Distribution Transmission Substation	Include
SECUNDARIA/DESGANCHE	Distribution Transmission Substation	Include
POWER TRANSFORMER AVERIADO	Distribution Transmission Substation	Include
LINEA DE TRANSMISION/MAL TIEMPO/WET ASH	Distribution Transmission Substation	Include
LINEA DE TRANSMISION/ANIMAL U OBJETO EXT	Distribution Transmission Substation	Include
RELEVO DE CARGA POR CONTINGENCIA	Generation	Exclude
RELEVO DE CARGA PROGRAMADO	Generation	Exclude
MAL TIEMPO/RAYOS/WET ASH	Distribution Transmission Substation	Include
SUBIR/BAJAR TAP	Planned	Exclude

PREPA considers a sustained interruption any interruption that lasts more than 5 minutes as established on IEEE 1366. For Mayor Event threshold PREPA uses the 2.5 Beta Method as defined on IEEE 1366-2012 which establishes the following:

- *Assemble the five most recent years of historical values of SAIDI/day. If less than five years of data is available, use as much as is available.*
- *Discard any day in the data set that has a SAIDI/Day of zero.*
- *Find the natural logarithm of each value in the data set.*
- *Compute the average (α , or Alpha) and standard deviation (β or Beta) of the natural logarithms computed in step 3.*
- *Compute the threshold $TMED = exp(\alpha + 2.5 * \beta)$.*
- *Any day in the next year with SAIDI > TMED is a major event day.*

PREPA has collected data from May 1, 2018 to December 31, 2020 (2 years and 7 months), data before those dates is corrupted and useless for the analysis, data considered for the analysis will exclude Generation and Planned outages. Taking this into consideration new Tmed threshold considering the past 2 years and 7 months will be 16.66. With new Tmed and Transmission and Substation inclusion, PREPA’s index for fiscal years 2018 to 2020 would be (Excluding Mayor Event):

YEARS	SAIDI	SAIFI
FY 2018-2019	1170.65	10.005
FY 2019-2020	1242.50	10.600



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