GOBIERNO DE PUERTO RICO
JUNTA REGLAMENTADORA DE SERVICIO PÚBLICO
NEGOCIADO DE ENERGÍA DE PUERTO RICO

IN RE: **ENMIENDAS A CONTRATOS DE COMPRAVENTA DE ENERGÍA RENOVABLE:** **PROYECTOS NO-OPERACIONALES**	Caso núm.: NEPR-____-2020-____ Asunto: Enmienda a Contratos de Compra de Energía

PETICIÓN DE APROBACIÓN DE ENMIENDAS A CONTRATOS DE COMPRAVENTA DE ENERGÍA RENOVABLE: PROYECTOS NO- OPERACIONALES

AL HONORABLE NEGOCIADO DE ENERGÍA:

COMPARECE la Autoridad de Energía Eléctrica de Puerto Rico y muy respetuosamente expone y solicita:

I. INTRODUCCIÓN

La Autoridad de Energía Eléctrica de Puerto Rico tiene la responsabilidad de suministrar y asegurar un servicio de energía eléctrica confiable a los contribuyentes de Puerto Rico al menor costo posible, tanto a corto como a largo plazo. De igual manera, la Autoridad[1] tiene la responsabilidad de contribuir al bienestar general y futuro sostenible del pueblo de Puerto Rico, maximizando los beneficios y minimizando los impactos sociales, ambientales y económicos. Parte de los compromisos de la Autoridad es adelantar la política publica energética de Puerto Rico mediante el cumplimiento con los requisitos de aumentar la producción de energía renovable.

Hace varios años la Autoridad y distintos desarrolladores suscribieron contratos para el desarrollo, construcción, operación y compraventa de energía renovable. En su origen se planificó

[1] Los términos definidos se les atribuirá el mismo significado proporcionado en las siguientes secciones.

para que estos proyectos solares fotovoltaicos fueran ubicados a través de todo Puerto Rico. Recientemente, la Autoridad llegó a un acuerdo en principio con 16 de los 19 desarrolladores de los PPOAs No-Operacionales para enmendar los mismos. Los acuerdos renegociados añadirían más de 590 MW de generación de energía renovable y sobre más de 1 billón de dólares en ahorros para la Autoridad durante el plazo del contrato (nocional – no contado) en comparación con los acuerdos originales y sujeto a que los mismos procedan a operación comercial. La renegociación de los PPOAs representa un paso importante por parte de la Autoridad para cumplir con los requisitos de la Cartera de Energía Renovable que le impone la Ley 17-2019 y el PIR que está ante la consideración de este Negociado de Energía.

Como discutiremos a continuación, los PPOAs No-Operacionales adelantan la política pública energética requerida por ley y son de gran beneficio para los clientes de la Autoridad y Puerto Rico. Por lo tanto, la Autoridad solicita al Negociado de Energía que APRUEBE las enmiendas a los PPOAs No-Operacionales.

II. TRASFONDO

A principios del 2019, la Autoridad de Energía Eléctrica de Puerto Rico (la "Autoridad") determinó que para alcanzar los objetivos provistos por la Ley 17-2019[2] y cumplir con los requisitos financieros establecidos en el Plan Fiscal, la renegociación de algunos de los aproximadamente cincuenta (50) contratos de compraventa de energía renovable (PPOAs, por sus siglas en inglés) era necesario. Entre el 2009 y 2014, la Autoridad había suscrito y renegociado varios contratos para el desarrollo de proyectos de energía renovable (los "PPOAs No-Operacionales" o "Proyectos No-Operacionales").[3] Sin embargo, desde hace varios años los

[2] Ley de Política Pública Energética de Puerto Rico, Ley Núm. 17 de 11 de abril de 2019, 19 L.P.R. 17 (2019) ("Ley 17-2019").

[3] Una narrativa adicional con detalles de las negociaciones y sus parámetros están incluida en el memorando titulado *Non-Operating Renewable Energy PPOA Transactions*. Exhibi B.

precios que habían sido acordados originalmente con los desarrolladores están muy por encima del precio actual del mercado según determinado por la Junta de Gobierno de la Autoridad (la "Junta de Gobierno"). Además, los contratos originales contemplaban un aumento sin tope y cargos adicionales por créditos de energía renovable (RECs, por sus siglas en inglés). Si los PPOAs No-Operacionales se desarrollaran bajo los términos originales, los precios crearían una carga económica insostenible para la Autoridad y, en consecuencia, para Puerto Rico.

Con esto en mente, la Autoridad comenzó negociaciones con 19 desarrolladores de PPOAs No-Operacionales. Estos PPOAs No-Operacionales (i) estaban cerca de completar sus actividades de desarrollo que habían comenzado durante rondas anteriores; (ii) demostraron la voluntad de negociar precios que reflejaran los cambios en la industria y el mercado; y (iii) tenían el potencial de comenzar la construcción a corto plazo con el fin de maximizar los beneficios asociados con los *Federal Investment Tax Credits*. La Autoridad razonó que, debido a su experiencia e inversión significativa en Puerto Rico hasta la fecha, los desarrolladores de estos proyectos tendrían más posibilidad de llevar los mismos, de la etapa de desarrollo a la de operación comercial de forma más rápida que los desarrolladores que no habían pasado por el proceso antes. De igual forma lograr que algunos de estos proyectos se finalizaran pondría sentar las bases para futuros requerimientos de propuestas (RFPs, por sus siglas en inglés).

Durante el año 2019, la Autoridad y los desarrolladores llevaron a cabo reuniones para discutir los detalles de cada PPOA, incluyendo el estatus del proyecto, antecedentes de la empresa, fuentes de financiamiento previstas, equipo de proyecto, factores de costos, y posibles reducciones de precios a sus propuestas comerciales. La renegociación de estos PPOAs era necesaria toda vez que los precios originales estaban muy por encima de los precios contemplados en el plan de

recursos integrados que la Autoridad le presentó al Negociado de Energía en el 2019 (el "IRP Propuesto")[4] y lo sugerido por la Junta de Supervisión Fiscal (la "Junta de Supervisión").

Como parte de las negociaciones para reducir los precios a un nivel que fuese aceptable, la Autoridad recibió el insumo de la Junta de Supervisión que le indicó cuales eran los rangos de precios aceptables para que las transacciones y eventuales enmiendas a los PPOAs No-Operacionales fueran aprobados. En consideración a estas conversaciones, la Autoridad tomó la decisión de (i) eximir a los desarrolladores de los requisitos técnicos mínimos ("MTR", por sus siglas en inglés) para los proyectos solares fotovoltaicos y (ii) asumir la responsabilidad y costo de las instalaciones de interconexión para los proyectos.

En septiembre de 2019, la Junta de Gobierno de la Autoridad comisionó un estudio para determinar si los términos de las negociaciones proporcionarían rendimientos excesivos a los desarrolladores, si realmente ahorrarían dinero a los contribuyentes, entre otros (el "Estudio de NEP"). El estudio concluyó varias cosas, incluyendo que con los términos propuestos por la Junta de Supervisión ningún desarrollador estaría obteniendo rendimientos excesivos, pero para ahorrar dinero a los contribuyentes se necesitaría un descuento adicional. Recomendó a la Junta de Gobierno diferentes opciones y alternativas para subsanar este asunto y unos asuntos técnicos referente a MTRs y riesgo contractual. La Junta de Gobierno aprobó las recomendaciones de la NEP en la Resolución 4749.

La Autoridad comisionó, además, un estudio de viabilidad de interconexión de red (incluido el análisis de flujo de energía estático utilizando el software PSS®E) en paralelo para garantizar que el sistema de red pudiera integrar los proyectos sin problemas (el "Estudio de

[4] *In Re: Review of the Puerto Rico Electric Power Authority Integrated Resource Plan*; caso núm. CEPR-AP-2018-0001.

Viabilidad"). El Estudio de Viabilidad identificó algunas preocupaciones técnicas que se resolvieron. Para mayo de este año la Autoridad completó todo el análisis de viabilidad de interconexión de la red y ya había llegado a un acuerdo comercial sobre la documentación de los PPOA No-Operacionales con 16 de 19 desarrolladores.

Es importante destacar que los PPOAs Renegociados requieren que los desarrolladores cumplan con los MTR de la Autoridad según actualizados en Febrero de 2020. Los MTR requieren, entre otras cosas, la capacidad de controlar *ramp rate* y proporcionar respuesta/regulación de frecuencia, algo que no siempre se encuentra en proyectos solares fuera de Puerto Rico. El cumplimiento con estos requisitos hace que estos proyectos sean más "amigables con la red" que los proyectos solares fotovoltaicos típicos y esto, a su vez, hace más difícil la comparación de los precios de los contratos con otros desarrollos de referencia.

Así las cosas, el pasado 28 de mayo de 2020, la Junta de Gobierno aprobó los PPOAS No-Operacionales renegociados y autorizó a la Autoridad a continuar los esfuerzos pertinentes, incluyendo la presentación de estos ante este Honorable Foro para su aprobación.

Por lo tanto, los PPOAs No-Operaciones renegociados representan más de 590 MW de generación renovable, un paso importante hacia el cumplimiento de los requisitos de la Ley 17-2019, y la política energética de Puerto Rico y el IRP Propuesto. De igual forma proporcionan ahorros de aproximadamente el 35% en comparación con los contratos originales. Estos ahorros están valorados en más de $1 mil millones para la Autoridad y los contribuyentes de Puerto Rico durante el plazo de los acuerdos.[5]

[5] Detalles adicionales pueden ser identificados en el memorando *Non-Operating Renewable Energy PPOA Transactions* fechado 26 de mayo de 2020. Exhibit B.

III. DERECHO APLICABLE

El artículo 6.3 de la Ley 57-2014 dispone que el Negociado de Energía tiene la facultad de implementar los reglamentos y las acciones regulatorias necesarias para garantizar la capacidad, confiabilidad, seguridad, eficiencia y razonabilidad en tarifas del sistema eléctrico de Puerto Rico. De igual forma, tiene la facultad para establecer las guías, estándares, prácticas y procesos a seguir para los procesos que la Autoridad lleve a cabo en relación a la compra de energía a otras compañías de servicio eléctrico y/o para modernizar sus plantas o instalaciones generadoras de energía.[6] Además, el Negociado de Energía tiene el poder de establecer mediante reglamento las normas de política pública en relación con las compañías de servicio eléctrico, así como toda transacción, acción u omisión que incida sobre la red eléctrica y la infraestructura eléctrica en Puerto Rico, e implementar dichas normas de política pública. [7] El Negociado de Energía aplicará normas de política pública que sean coherentes con la Política Pública de Energía según declarada por legislación.[8]

Además, el párrafo (b) del artículo 1.11 de la Ley 17-2019 dispone que todo contrato de compra de energía o toda enmienda o extensión a un contrato de compra de energía otorgado previo a la aprobación de la Ley 57-2014, entre la Autoridad, o el Contratante de la red de transmisión y distribución, y cualquier productor independiente de energía se otorgará de conformidad con lo establecido en el Artículo 6.32 de la Ley 57-2014 y la reglamentación adoptada por el Negociado al amparo de dicho Artículo.[9]

[6] Ley de Transformación y ALIVIO Energético, Ley Núm. 57 de 27 de mayo de 2014, según enmendada, 22 L.P.R.A. § 1051 *et seq*. (2014) ("Ley 57-2014"), Art. 6.3(c).
[7] *Id.* Art. 6.3(b).
[8] *Id.*
[9] Ley 17-2019, Art. 1.11(b).

Con el propósito de garantizar que dichos acuerdos tengan un precio adecuado y razonable, los parámetros establecidos por el Negociado de Energía serán cónsonos con los que normalmente utiliza la industria para tales fines, así como con cualquier otro parámetro o método utilizado para regular los ingresos atribuibles a los acuerdos de compra de energía.[10] Además, los contratos de compra de energía se otorgarán considerando las metas y mandatos establecidos en la Cartera de Energía Renovable, que obligan a una transición de la generación de energía anclada en combustibles fósiles, a la integración agresiva de energía renovable, según dispone la Ley 82-2010.[11]

Por otra parte, el artículo 6.32 de la Ley 57-2014 establece un marco legal integral para la evaluación y aprobación de los acuerdos de compra de energía, así como otras transacciones relacionadas con empresas de servicios de energía eléctrica, como la Autoridad y los desarrolladores de los PPOAs No-Operacionales.[12] Dicha ley reitera que el Negociado de Energía adoptará y promulgará un reglamento con los estándares y requisitos con los que cumplirán los contratos de las compañías de servicio eléctrico, incluyendo los contratos entre la Autoridad, su sucesora, o el Contratante de la red de transmisión y distribución y cualquier compañía de servicio eléctrico o cualquier productor independiente de energía. [13] Como se explicó anteriormente, el párrafo (b) del Artículo 6.32 establece expresamente que toda extensión o enmienda a un contrato de compra de energía otorgado previo a la aprobación de la Ley 57-2014, deberá cumplir con la

[10] *Id.*
[11] Ley de Política Pública de Diversificación Energética por Medio de la Energía Renovable Sostenible y Alterna, Ley Núm. 82 de 19 de julio de 2010, según enmendada, 12 L.P.R.A. § 8121 (2010) *et seq.* (Ley-82-2010"). El capítulo II de la Ley 82-2010 crea una Cartera de Energía Renovable para establecer metas de cumplimiento obligatorio a corto, mediano y largo plazo en materia de producción de energía por medio de energía renovable sostenible o alternativa. Además, la Ley 17-2019 requiere que el 40% de la producción de energía en Puerto Rico, se base en fuentes renovables para el año 2025.
[12] Art 6.32 Ley 57-2014.
[13] Ley 57-2014, Art. 6.32(c).

Ley de Política Pública Energética de Puerto Rico y estará sujeta a la aprobación del Negociado de Energía.[14]

Al evaluar cada propuesta de contrato entre las compañías de servicio eléctrico, el Negociado de Energía tomará en cuenta lo establecido en el PIR. El Negociado de Energía no aprobará contrato alguno que sea inconsistente con el PIR, especialmente en lo referente a las metas de energía renovable, generación distribuida, conservación y eficiencia que se establezcan tanto en el PIR como en la política pública energética.[15]

El Negociado de Energía velará que las tarifas, derechos, rentas o cargos que se paguen a productores independientes de energía sean justas y razonables, y protejan el interés público y el erario.[16] El Negociado de Energía velará, además, que la tarifa de interconexión a la red de transmisión y distribución, incluyendo los cargos por construcción, la tarifa de trasbordo, así como cualquier otro requerimiento aplicable a los productores independientes de energía o a otras compañías de servicio eléctrico que deseen interconectarse al sistema de transmisión y distribución, sea justa y razonable.[17] En este proceso, el Negociado de Energía deberá asegurarse que las tarifas permitan una interconexión que no afecte la confiabilidad del servicio eléctrico y promueva la protección del ambiente, el cumplimiento con los mandatos de ley, y que no impacte adversamente a los clientes.[18]

Además, al evaluar las propuestas de contrato de compraventa de energía, el Negociado de Energía requerirá a la compañía del servicio eléctrico responsable de la operación del Sistema

[14] *Id.* en Art. 6.32 (b).
[15] *Id.* en Art. 6.32 (d).
[16] *Id.* en Art. 6.32 (g).
[17] *Id.*
[18] *Id.*

Eléctrico que presente un "Estudio Suplementario" para el proyecto objeto del contrato propuesto o el análisis técnico correspondiente que sustente el contrato.[19]

IV. PPOAS NO-OPERACIONALES QUE HAN SIDO RENEGOCIADOS

Los PPOAs No-Operacionales cuyos términos han sido renegociados son los siguientes:

1. Renewable Power Purchase and Operating Agreement between Xzerta-Tec Solar I, LLC and PREPA, dated September 19, 2012.

2. Renewable Power Purchase and Operating Agreement between SolarBlue Bemoga, LLC and PREPA, dated October 10, 2012.

3. Renewable Power Purchase and Operating Agreement between Solaner Puerto Rico One, LLC and PREPA, dated June 13, 2012.

4. Renewable Power Purchase and Operating Agreement between Blue Beetle III, LLC and PREPA, dated October 31, 2011.

5. Master Renewable Power Purchase and Operating Agreement between PBJL Energy Corporation and PREPA, dated December 20, 2011. (Montalva)

6. Renewable Power Purchase and Operating Agreement between CIRO One Salinas, LLC and PREPA, dated October 25, 2010.

7. Renewable Power Purchase and Operating Agreement between Guayama Solar Energy, LLC and PREPA, dated October 22, 2010.

8. Renewable Power Purchase and Operating Agreement between Solar Project San Juan, LLC and PREPA, dated October 10, 2012.

9. Renewable Power Purchase and Operating Agreement between Vega Baja Solar Project, LLC and PREPA, dated October 10, 2012.

10. Renewable Power Purchase and Operating Agreement between Renewable Energy Authority, LLC and PREPA, dated November 21, 2011. (REA Vega Baja)

11. Renewable Power Purchase and Operating Agreement between REA Energy Hatillo Solar Plant, LLC, dated December 13, 2011.

12. Renewable Power Purchase and Operating Agreement between Caracol Solar, LLC and PREPA, dated July 20, 2012.

[19] *Id.* en Artículo 6.32 (h).

13. Renewable Power Purchase and Operating Agreement between Sierra Solar Farm, LLC and PREPA, dated December 18, 2012.

14. Renewable Power Purchase and Operating Agreement between Desarrollos del Norte Inc. d/b/a Atenas Solar Farm and PREPA, dated December 28, 2012. (Atenas Solar)

15. Renewable Power Purchase and Operating Agreement between Morovis Solar, LLC and PREPA, dated December 8, 2011.

16. Renewable Power Purchase and Operating Agreement between ReSun (Barceloneta), LLC and PREPA, dated December 16, 2011.

V. DOCUMENTOS DE RESPALDO A LA PETICIÓN

La Autoridad adjunta los siguientes documentos en respaldo a la petición que aquí se presenta:

A. Applicable laws and regulatory requirements and compliance references. Exhibit A.

B. Non-Operating Renewable Energy PPOA Transactions memorandum dated May 26, 2020. Exhibit B.

C. Operating and Non-Operating Renewables Status Update dated June 2020. Exhibit C.

D. Solar PPOA Interconnection Summary Report prepared by Sargent & Lundy, dated June 11, 2020. Exhibit D.

E. Review of Legacy Solar PV PPOAS and Recommendations for Disposition prepared by New Energy Partners, Inc. dated December 23, 2020. Exhibit E.

F. Non-Operational Amended PPOAs Template. Exhibit F.

G. Redline versions v. Non-Operational Amended PPOAs Template. Exhibit G.

VI. CONCLUSIÓN

Los términos de los PPOAs No-Operacionales Enmendados cumplen con todos los requisitos legales según detallados. La Autoridad adjunta a esta petición un análisis minucioso de como los términos de los PPOAs No-Operacionales Enmendados cumplen con la legislación aplicable y vinculante. Además, el desarrollo de los Proyectos No-Operaciones adelantan la implementación de política pública energética de Puerto Rico según reconocida por la Autoridad y adoptada en el IRP Propuesto. Exhibit A.[20]

POR TODO LO CUAL, se solicita al Negociado de Energía que APRUEBE las enmiendas a los PPOAs No-Operacionales según propuestas en esta Petición.

RESPETUOSAMENTE SOMETIDO.

En San Juan, Puerto Rico, este 19 de junio de 2020.

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[20] A pesar de no ser de aplicación ni vinculante a las transacciones de referencia, la Autoridad incluye, además, un análisis de cumplimiento con los requisitos de algunas secciones del Reglamento 8815. (*Negociado de Energía y Autoridad de Energía Eléctrica, Reglamento Conjunto para los Procesos de Adquisición, Evaluación, Selección, Negociación y Adjudicación de Contratos para la Compra de Energía y para la Adquisición, Evaluación, Selección, Negociación y Adjudicación para la Modernización de la Flota de Generación*, Núm. 8815 (6 de noviembre de 2016)).

Exhibit A

Legal and Regulatory Requirements

Legal and Regulatory Requirements Addressed in PREPA's Amended and Restated Power Purchase and Operating Agreements with Renewable Projects

ACT 57-2014 AND ACT 17-2019 REQUIREMENTS	
Requirement	**Where and How Addressed in PPOA and/or Supporting Documents**
Compliance with Act No. 57-2014 Act 17-2019, § 1.11	See this checklist and PPOA[1] § 6.2.
Agreement must be consistent with PREPA's Integrated Resource Plan Detailed narrative, with specific examples, regarding how the proposed Project and the terms of the PPOA comply with the IRP Act 57-2014, § 6.32(d)	All scenarios in the draft Integrated Resource Plan currently before the PREB contemplate a significant increase in renewable resources. The projects under these amendments contribute toward meeting this objective.
Interconnection of the proposed Project will not jeopardize the reliability and safety of the electric power grid of Puerto Rico Act 57-2014, § 6.32(f)	See the "Renewable Energy PPOA Interconnection Summary Report" by Sargent & Lundy dated June 19, 2020 (the "**S&L Report**").
Rates to be paid by PREPA under the PPOA are just and reasonable and protect the public interest and the treasury Parameters related to profit margin and price escalators are based on industry costs and profitability benchmarks given the nature of the proposed Project Act 57-2014, § 6.32(g)	For analysis related to reasonableness, public interest and industry benchmarks, see the Final Report "Review of Legacy Solar PV PPOAs and Recommendations for Disposition", by New Energy Partners, dated December 23, 2019 (the "**NEP Report**"). Otherwise, all amendments to the non-operational PPOAs reduce prices from previously-agreed levels. For price reduction analysis, see "Operating and Non-Operating Renewables Status Update" dated May 2020.
Charges to be paid for interconnecting the proposed Project to PREPA's system are just and reasonable, and allow for an interconnection that does not adversely affect PREPA's capacity to provide reliable electric power service consistent with protection of the environment, the mandates of the PREPA Act and does not adversely affect PREPA's customers Act 57-2014, § 6.32(g)	See the S&L Report for interconnection cost analysis and analysis of the impact of the projects on the grid system. For additional interconnection cost analysis in connection with overall reasonableness and public interest, see the NEP Report.

[1] References to "PPOA" are to the Template form of Power Purchase and Operating Agreement which PREPA has presented to each Project Proponent. Exhibits H and G.

ACT 57-2014 AND ACT 17-2019 REQUIREMENTS	
Requirement	**Where and How Addressed in PPOA and/or Supporting Documents**
Interconnection Study or other technical analysis evaluating the interconnection Act 57-2014, § 6.32(h)	See the S&L Report for initial interconnection analysis. See also PPOA § 4.2 and Annex B Part III, anticipating further analysis.

REGULATION 8815	
Requirement	**Where and How Addressed in PPOA and/or Supporting Documents**
Compliance with Act No. 57-2014, Regulation 8815 and other applicable Acts Regulation 8815, § 4.1(iv)	See this checklist and PPOA § 6.2.
Compliance with laws and regulations governing procurement processes undertaken by PREPA Regulation 8815, § 4.1(iv)	Not applicable. PREPA is amending existing agreements, entered into years ago, and not procuring new ones.
Agreement must be consistent with PREPA's Integrated Resource Plan Detailed narrative, with specific examples, regarding how the proposed Project and the terms of the PPOA comply with the IRP Regulation 8815, § 4.1(iii)	All scenarios in the draft Integrated Resource Plan currently before the PREB contemplate a significant increase in renewable resources. The projects under these amendments contribute toward meeting this objective.
Rates to be paid by PREPA under the PPOA are just and reasonable and protect the public interest and the treasury Parameters related to profit margin and price escalators are based on industry costs and profitability benchmarks given the nature of the proposed Project Regulation 8815 § 4.1(ii) and (iv)	For analysis related to reasonableness, public interest analysis and industry benchmarks, see the Final Report "Review of Legacy Solar PV PPOAs and Recommendations for Disposition", by New Energy Partners, dated December 23, 2019 (the "**NEP Report**"). Otherwise, all amendments to the non-operational PPOAs reduce prices from previously-agreed levels. For price reduction analysis, see "Operating and Non-Operating Renewables Status Update" dated May 2020.
PPOA contains a definition and description of the proposed Project Regulation 8815, § 7.4(a)(i)	See PPOA, Recital B and § 1.1 (definitions of "Facility" and "Site"), as well as Appendices B and G.
Plan for financing, development, design, building, rebuilding, repair, replacement, improvement, maintenance, operation or administration of the facility Regulation 8815, § 7.4(a)(1)(ii)	See PPOA §§ 1.1 (definition of "FNTP Date"), 4.1, 4.2, 4.6, 6.1, 8, 9, 12 and Appendix E.
Term of the PPOA Regulation 8815, § 7.4(a)(iii)	See PPOA § 5.
Contractual rights and mechanisms available to PREPA to ensure compliance by the selected Proponent with the conditions of the Contract, including but not limited to compliance with Project specifications, quality standards, adequate maintenance of the facility, if applicable, or	See PPOA §§ 4.4, 4.7, 4.8, 4.9, 6.1, 6.2, 6.3,7.2, 8.7, 8.10, 9.2, 9.4, 9.5, 12.2(c), 12.3(b), 13, 14.4, 16 and 17.

REGULATION 8815	
Requirement	**Where and How Addressed in PPOA and/or Supporting Documents**
compliance with the approved design and other standards for building, repair or improvement or to ascertain compliance by the Proponent with its obligations under the PPOA Regulation 8815, § 7.4(a)(iv)	
(A)The Proponent's right to charge and adjust fees or pricing, (B) the contractual limitations and conditions with which the Proponent must comply in order to alter or modify such fees or charges, and (C) the mechanisms available to PREPA to ensure that the Proponent complies with such limitations and conditions [The agreed pricing and adjustment mechanism is within the boundaries of pricing and escalator parameters approved by the Energy Bureau] Regulation 8815, § 7.4(a)(v)	See PPOA §§ 2, 8.4, 10.4, 11, 18.1, 18.2, 22.1 and Appendix C.
Requirement to comply with applicable federal and local laws Regulation 8815, § 7.4(a)(vi)	See PPOA §§ 6.2, as well as 22.4, 22.7, 22.11, 22.13, 22.14 and 22.16.
causes for terminating the PPOA; the rights and remedies available in cases of noncompliance or the delay in compliance with obligations under the PPOA Regulation 8815, § 7.4(a)(vii)	See PPOA §§ 13, 14, 15, 16 and 17.
PREPA shall not be responsible for unforeseeable, special, indirect or punitive damages Regulation 8815, § 7.4(a)(vii)	See PPOA §§ 13.2 and 13.3.
Provisions establishing non-binding informal dispute resolution procedures Regulation 8815, § 7.4(a)(viii)	See PPOA § 22.12.
Provisions governing amendment and assignment of the PPOA, providing that any amendment to the economic and technical terms of the PPOA or the scope of the Project must be approved by the Energy Bureau Regulation 8815, § 7.4(a)(ix)	See PPOA §§ 20 and 22.1.
Provisions establishing rights to inspect or cause an independent engineer to inspect the construction or improvement the Project, as well as the Project's operational compliance under the agreed PPOA terms and conditions Regulation 8815, § 7.4(a)(x)	See PPOA §§ 4.6, 8.10, 9.5(c), 10.2 and 12.2.

REGULATION 8815	
Requirement	**Where and How Addressed in PPOA and/or Supporting Documents**
Provisions requiring Proponent to obtain and maintain all insurance policies required by law and such additional policies as PREPA deems necessary Regulation 8815, § 7.4(a)(xi)	See PPOA § 19.
Provision obligating the Proponent to file audited financial statements with PREPA or an agreed third party Regulation 8815, § 7.4(a)(xii)	See PPOA § 6.6.
Provision obligating the Proponent to file such other reports in connection with the PPOA as PREPA may request Regulation 8815, § 7.4(a)(xiii)	See PPOA §§ 4.1 and 8.9(c), and data collection in Appendix F.
Provision identifying the circumstances under which the PPOA may be modified in order to maintain a financial balance between the parties Regulation 8815, § 7.4(a)(xiv)	See PPOA §§ 9.6, 9.7, 12.2, 18.1, 18.2, 22.1 and Appendix C.
Provisions addressing noncompliance and the remedies for same, including the imposition of penalties, fines and other remedies for breach Regulation 8815, § 7.4(a)(xiv)	See PPOA §§ 6.3, 7.2, 8.4, 13, 14, 15, 16 and 17.
Provision stipulating that the Proponent shall be subject to the provisions of Act No. 84 of June 18, 2002, "Code of Ethics for Contractors, Suppliers and Applicants for Economic Incentives of the Executive Agencies of the Commonwealth of Puerto Rico," to Act No. 458 of December 29, 2000, as amended, and that the provisions of the Contract cannot be demanded until the Contract has been recorded at the Commonwealth of Puerto Rico Comptroller's Office, as required by Public Law 18, October 30, 1975, as amended, and regulations promulgated thereunder Regulation 8815, § 7.4(a)(xiv)	See PPOA §§ 6.8(b), anticipating filing at Comptroller's office, and 22.14.
Provisions addressing the transfer of rights to the Project and transition duties related thereto upon the expiration or termination of the PPOA Regulation 8815, § 7.4(a)(xv)	See PPOA §§ 4.6, 6.5, 9.5(f), 12.3, 16.4, 20.3(f) and 20.4.
Provision establishing the bond, security or other form of credit support to be required to ensure compliance with PPOA terms Regulation 8815, § 7.4(a)(xvi)	See PPOA § 17.3.

REGULATION 8815	
Requirement	**Where and How Addressed in PPOA and/or Supporting Documents**
Laws of Puerto Rico as the governing law Regulation 8815, § 7.4(a)(xvii)	See PPOA § 23.
Other provisions required by law or agreement of the parties to protect the best interests of PREPA, its customers and the Commonwealth of Puerto Rico Regulation 8815, § 7.4(a)(xviii)	The amendments generally make the agreements more balanced toward PREPA than the existing versions.
Clause through which each contracting party makes a commitment to defend and indemnify the other party for any claim caused by its own negligent acts or omission Regulation 8815, § 7.4(c)(i)	See PPOA § 14.1.
Provision establishing damages applicable under specified circumstances, including delay liquidated damages or termination liquidated damages Regulation 8815, § 7.4(c)(ii)	See PPOA §§ 8.7, 12.2(c), and 14.4.
Provision for extension of the term of the PPOA consistent with the limitations imposed by Regulation 8815 Regulation 8815, § 7.4(c)(iii)	See PPOA § 5.2.
Provision requiring compliance with laws, norms and regulations that are applicable to the Proponent and to activities that are the object of the PPOA, including a requirement that the Proponent shall at all times comply with provisions applicable to it as an Electric Power Company or Electric Power Generation Company, as such terms are defined in Act 57-2014 Regulation 8815, § 7.4(c)(iv)	See PPOA §§ 6.2, 22.7, 22.11, 22.13 and 22.14.

Exhibit B

Non-Operating Renewable Energy PPOA Transactions memorandum dated May 26, 2020.

[*Este documento ha sido presentado sellado.*]

Exhibit C

Operating and Non-Operating Renewables Status Update dated June 2020.

[*Este documento ha sido presentado sellado.*]

Exhibit D

Solar PPOA Interconnection Summary Report

prepared by Sargent & Lundy, dated June 11, 2020.

[*Este documento ha sido presentado en versión editada.*]

Renewable Energy PPOA Interconnection Summary Report

Prepared for

Puerto Rico Electric Power Authority

Report CS-0034

Final Rev. 1

June 19, 2020

Project 13741.017

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Sargent & Lundy

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Sargent & Lundy is one of the oldest and most experienced full-service architect engineering firms in the world. Founded in 1891, the firm is a global leader in power and energy with expertise in grid modernization, renewable energy, energy storage, nuclear power, and fossil fuels. Sargent & Lundy delivers comprehensive project services—from consulting, design, and implementation to construction management, commissioning, and operations/maintenance—with an emphasis on quality and safety. The firm serves public and private sector clients in the power and energy, gas distribution, industrial, and government sectors.

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VERSION LOG

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Final	June 16, 2020
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ISSUE SUMMARY AND APPROVAL PAGE

This is to certify that this document has been prepared, reviewed, and approved in accordance with Sargent & Lundy's Standard Operating Procedure SOP-0405, which is based on ANSI/ISO/ASSQC Q9001 Quality Management Systems.

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Approved by:

	June 19, 2020
Matthew Thibodeau Senior Project Director	Date

TABLE OF CONTENTS

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FIGURES AND TABLES

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition/Clarification
AACE	Association for the Advancement of Cost Engineering
DCD	design criteria documents
GIS	gas-insulated substation
GT	gas turbine
MTRs	minimum technical requirements
Non-Operating PPOA	a PPOA in development but with no project currently in operation
Operating PPOA	a PPOA with at least one project currently in operation
PPOA	power purchase and operations agreement
PREPA	The Puerto Rico Electric Power Authority
PSS/E	Power System Simulator for Engineering Software Program
ROW	right-of-way
S&L	Sargent & Lundy
SP	steam plant
T&D	transmission and distribution
TARA	Transmission Adequacy and Reliability Assessment Software Program
TC	transmission center
TL	transmission line
TO	automatic switch

EXECUTIVE SUMMARY

From 2009 to 2012, the Puerto Rico Electric Power Authority (PREPA) entered into power purchase and operations agreements (PPOAs)—among other agreements—with 60 developers of renewable energy projects. As detailed in the "PREPA – Operating PPOA Justification Memo" and the "PREPA – Non-Operating PPOA Justification Memo," both dated May 26, 2020, PREPA management determined in 2019 that nine of the agreements with projects currently in operation (Operating PPOAs) and 19 of the agreements which reached various stages of development (Non-Operating PPOAs) should be renegotiated to better align PREPA's finances with PREPA's fiscal plan. To support PREPA in the renegotiation of these PPOAs, Sargent & Lundy (S&L) performed an initial interconnection screening study for the projects. S&L prepared this report to summarize the methodology and results of the initial interconnection study support work.

PROCESS OVERVIEW

S&L evaluated the grid interconnection feasibility of the non-operating renewable energy projects and the operating projects seeking to increase their capacity. For the non-operating projects, the evaluations included (i) performing power flow studies to evaluate the thermal impacts of the projects on the grid; (ii) developing conceptual interconnection arrangement documents; and (iii) preparing AACE level 5 cost estimates for the planned interconnections. To support the evaluations, S&L also performed various site walkdowns and desktop studies. After review of each project location, S&L developed a conceptual interconnection arrangement plan for the interconnection from the solar facility to a PREPA substation, transmission center (TC), or transmission line (TL). S&L developed cost estimates, including labor, materials, engineering, design, and support for the conceptual plans. Additionally, S&L evaluated the operating projects that are requesting capacity increases. This analysis typically only included a power flow study to evaluate thermal impacts of the projects on the grid.

Occasionally, throughout the analysis period, the location of certain project sites, the interconnection point, and/or the size of the project would be revised based on discussions with the developers, requirements of the PREPA system, or negotiation developments. The analysis was iterative, and S&L informed PREPA throughout the process and provided input on interconnection matters for the PPOA negotiations.

PROJECTS SUMMARY

Beginning in July 2019, PREPA requested S&L to review the termination points, the transmission line routes, and the feasibility for several of the non-operating projects and their associated interconnection to the PREPA system. Lists of the non-operating and operating projects are provided in Table ES-1 and Table

ES-2, respectively. The projects are located throughout Puerto Rico. The locations of the projects that have reached renegotiated terms are shown on a map in Figure ES-1.

Table ES-1 — Non-Operating Solar Projects

#	Project Name	Capacity (MW)	Contract Status	Location
1	Xzerta-Tec	60	Reached Agreement	Hatillo
2	SolarBlue	25	Reached Agreement	Vega Alta
3	Blue Beetle	30	Reached Agreement	Arecibo
4	Montalva Solar Farm	80	Reached Agreement	Guanica
5	Ciro One	90	Reached Agreement	Salinas
6	Guayama Solar Energy	25	Reached Agreement	Guayama
7	Solar Project San Juan	20	Reached Agreement	San Lorenzo
8	Vega Baja Solar Project	15	Reached Agreement	Naguabo
9	REA Vega Baja	25	Reached Agreement	Vega Baja
10	REA Hatillo (North)	25	Reached Agreement	Hatillo
11	Caracol	30	Reached Agreement	Moca
12	Sierra	25	Reached Agreement	Quebradillas
13	Atenas	40	Reached Agreement	Manati
14	ReSun	35	Reached Agreement	Arecibo
15	Solaner	35	Reached Agreement	San German
16	Morovis	33.5	Reached Agreement	Morovis

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Table ES-2 — Operating Renewable Energy Projects

#	Project Name	Project Type	Existing Capacity (MW)	Uprate Capacity (MW)	Contract Status	Location
1	AES Ilumina	Solar	20	5	Reached Agreement	Guayama
2	Humacao Solar Project	Solar	40	Not Proposed	Reached Agreement	Humacao
3	Pattern Santa Isabel	Wind	75	20	Reached Agreement	Santa Isabel
4	San Fermin Solar Farm	Solar	20	4.5	Reached Agreement	Loiza

#	Project Name	Project Type	Existing Capacity (MW)	Uprate Capacity (MW)	Contract Status	Location
5	Punta Lima	Wind	26	Not Proposed	Reached Agreement	Naguabo
6	Horizon Energy	Solar	10	10	Reached Agreement	Salinas
7	Oriana Energy	Solar	50	10	Reached Agreement	Aguadilla

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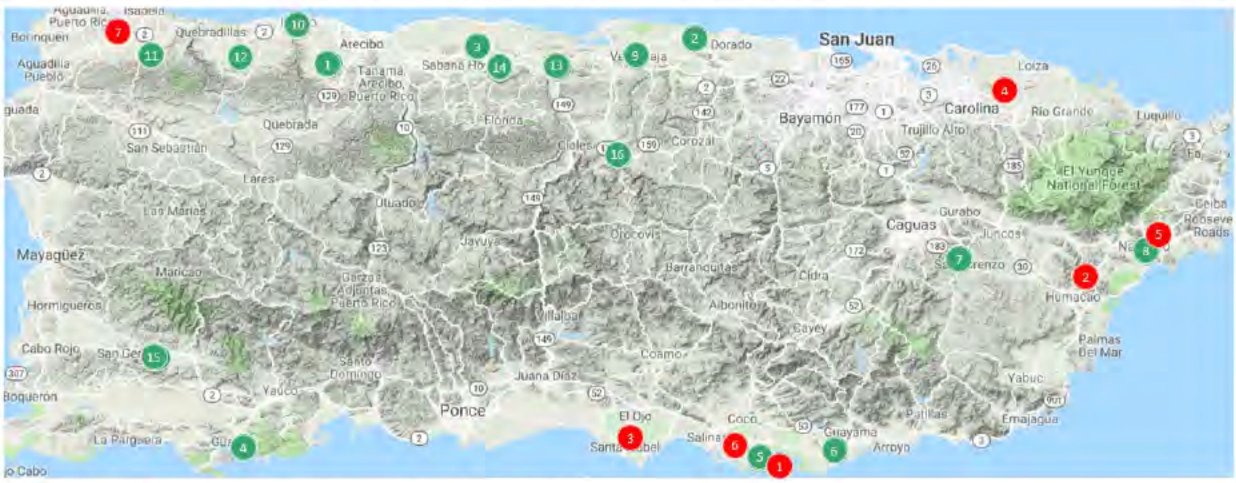
Figure ES-1 — Project Locations Overview



Operating Renewable Projects

1. AES Illumina
2. Humacao Solar Project
3. Pattern Santa Isabel
4. San Fermin Solar Farm
5. Punta Lima
6. Horizon Energy
7. Oriana Energy

Non-Operating Renewable Projects

1. Xzerta-Tec
2. SolarBlue
3. Blue Beetle
4. Montalva Solar Farm
5. Ciro One
6. Guayama Solar Energy
7. Solar Project San Juan
8. Vega Baja Solar Project
9. REA Vega Baja
10. REA Hatillo (North)
11. Caracol
12. Sierra
13. Atenas
14. ReSun
15. Solaner
16. Morovis

INTERCONNECTION SCOPE

S&L reviewed the proposed interconnection locations for the non-operating projects and evaluated the options to interconnect the projects. S&L reviewed the interconnection points and routes through site walkdowns, satellite imagery, and PREPA single-line diagrams and drawings. S&L prepared a conceptual approach for the interconnection of the projects, which was reviewed by PREPA Planning and Operations. A summary of the interconnection point, type, voltage, and estimated transmission-line length for each evaluated project is provided in Table ES-3.

Table ES-3 — Non-Operating Projects Interconnection Scope

#	Project Name	Interconnect Point	Interconnection Type	Capacity (MW)	Voltage (kV)	TL Length* (miles)
1	Xzerta-Tec	Hatillo TC	New Single Breaker with Modification	60	115	0.57
2	SolarBlue	Breñas (9201) Substation Expansion/Sectionalizer	New Substation Expansion	25	38	1.00
3	Blue Beetle	New Sectionalizer on Line 37400 Between Cambalache TC and Barceloneta TC	New Sectionalizer	30	115	0.20
4	Montalva Solar Farm	New Sectionalizer on Line 37100 Between San German TC and Guanica TC	New Sectionalizer; rebuild Line 37100 from Sectionalizer to San German TC	80	115	7.39
5	Ciro One	Aguirre Steam Plant Transmission Center (Aguirre SP TC)	New Single Breaker with Modification	90	115	3.51
6	Guayama Solar Energy	Jobos TC	New Single Breaker with Modification	25	38	1.19
7	Solar Project San Juan	New Sectionazlier Expansion to the existing San Lorenzo (3301) substation	New Sectionalizer	20	38	0.50
8	Vega Baja Solar Project	New Sectionalizer on Line 5400 between Punta Lima TO and Naguabo (2701)	New Sectionalizer	15	38	0.18
9	REA Vega Baja	Vega Baja TC	New Single Breaker with Modification	25	38	2.20
10	REA Hatillo (North)	Hatillo (7701) and TO Substation Expansion/Sectionalizer	New Sectionalizer	25	38	0.03
11	Caracol	Moca Sectionalizer	Existing GIS Substation	30	38	0.14
12	Sierra	Quebradillas Sectionalizer	New Single Breaker with Modification	25	38	0.14
13	Atenas	Manati TC	115-kV Bus Expansion	40	115	1.55
14	ReSun	New Sectionalizer on Line 37400 Between Cambalache TC and Barceloneta TC	New Sectionalizer	35	115	0.05
15	Solaner	San German TC (6406)	New Single Breaker with Modification	35	115	0.08

#	Project Name	Interconnect Point	Interconnection Type	Capacity (MW)	Voltage (kV)	TL Length* (miles)
16	Morovis	New Sectionalizer on Line 36100 Between Ciales (8701) and Morovis (8801)	New Sectionalizer	33.5	115	4.34

******

* Transmission line lengths were estimated based on site walkdowns and satellite imagery.

LOAD FLOW ANALYSIS RESULTS

S&L evaluated the integration of each project alone and with combinations of other operating and non-operating (proposed) projects. S&L performed power flow studies to evaluate the thermal impacts of the projects on the grid. The studies considered three types of contingencies cases based on PREPA's Transmission System Planning Criteria and NERC Guidelines:

- **N-1:** Either (i) the loss of any generator; or (ii) the loss of any individual transmission line or transformer of 38 kV or above
- **N-2 – Line + Line:** The loss of two transmission lines of 115 kV or above (these may share a common tower or right-of-way [ROW])
- **N-1-1 – Line/Generator + Line/Transformer/Generator:** One transmission line of 115 kV or above or generator is out for maintenance with the loss of one of the following: (i) transmission line or transformer of 115 kV or above; or (ii) a generator
    - After the first N-1-0 outage, system adjustments were allowed (e.g., transformer tap adjustments, phase-angle regulator adjustments, shunt adjustments, and/or generation re-dispatch), and the N-1-0 outages for these contingencies are transmission lines that, based on input from the PREPA Operations Division, are frequently out of service

A summary of the results of the study for the non-operating projects are identified in Table ES-4. S&L identified no violations or worsened existing violations for operating projects. This includes the increased capacity proposed by the projects.

Table ES-4 — Non-Operating Projects Thermal Violations Summary

#	Project Name	Interconnect Point	Interconnection Thermal Violations Summary Results
1	Xzerta-Tec	Hatillo TC	There are no violations when the project is considered on its own. When the project is considered in conjunction with other proposed non-operating projects located electrically along the same Line 37400 there are no violations with normal operation of the transmission system (no contingencies). However existing overloads are slightly increased following contingencies and some new overloads can appear. The new overloads may require the revision of the existing relay settings in the transmission system.*
2	SolarBlue	Breñas (9201) Substation Expansion/Sectionalizer	There are no violations when the project is considered on its own. When the project is considered in conjunction with other proposed non-operating projects located electrically along the same Line 37400 there are no violations with normal operation of the transmission system (no contingencies). However existing overloads are slightly increased following contingencies and some new overloads can appear. The new overloads may require the revision of the existing relay settings in the transmission system.*
3	Blue Beetle	New Sectionalizer on Line 37400 Between Cambalache TC & Barceloneta TC	There are no violations when the project is considered on its own or with the neighboring non-operating ReSun project. When the project is considered in conjunction with other proposed non-operating projects located electrically along the same Line 37400 there are no violations with normal operation of the transmission system (no contingencies). However existing overloads are slightly increased following contingencies and some new overloads can appear. The new overloads may require the revision of the existing relay settings in the transmission system.*
4	Montalva Solar Farm	New Sectionalizer on Line 37100 Between San German TC and Guanica TC; rebuild Line 37100 from Sectionalizer to San German TC	There are no violations when the project is considered with normal operation of the transmission system (no contingencies). There are some violations for N-1-1 contingency cases when the project is considered alone. There are some violations for N-1-1 contingency cases when the project is considered with the non-operating Solaner project. The output of the facility would need to be curtailed if this contingency occurs.
5	Ciro One	Aguirre SP TC	No Violations
6	Guayama Solar Energy	Jobos TC	No Violations

#	Project Name	Interconnect Point	Interconnection Thermal Violations Summary Results
7	Solar Project San Juan	New Sectionazlier Expansion to the existing San Lorenzo (3301)	There are no violations when the project is considered with normal operation of the transmission system (no contingencies). Following an N-1 contingency of either of the two Line 9300 segments connecting to Solar Project San Juan, the remaining branch may reach its thermal limit, and the project may need to be temporarily curtailed.
8	Vega Baja Solar Project	New Sectionalizer on Line 5400 between Punta Lima TO & Naguabo (2701)	No New Violations ******
9	REA Vega Baja	Vega Baja TC	There are no violations when the project is considered on its own or with the non-operating Atenas project ****** When the project is considered in conjunction with other proposed non-operating projects located electrically along the same Line 37400 there are no violations with normal operation of the transmission system (no contingencies). However existing overloads are slightly increased following contingencies and some new overloads can appear. The new overloads may require the revision of the existing relay settings in the transmission system.*
10	REA Hatillo (North)	Hatillo 7701 & TO Substation Expansion/Sectionalizer	There are no violations when the project is considered on its own. When the project is considered in conjunction with other proposed non-operating projects located electrically along the same Line 37400 there are no violations with normal operation of the transmission system (no contingencies). However existing overloads are slightly increased following contingencies and some new overloads can appear. The new overloads may require the revision of the existing relay settings in the transmission system.*
11	Caracol	Moca Sectionalizer	No Violations
12	Sierra	Quebradillas Sectionalizer	No Violations

#	Project Name	Interconnect Point	Interconnection Thermal Violations Summary Results
13	Atenas	Manati TC	There are no violations when the project is considered on its own or with the non-operating REA Vega Baja project ****** When the project is considered in conjunction with other proposed non-operating projects located electrically along the same Line 37400 there are no violations with normal operation of the transmission system (no contingencies). However existing overloads are slightly increased following contingencies and some new overloads can appear. The new overloads may require the revision of the existing relay settings in the transmission system.*
14	ReSun	New Sectionalizer on Line 37400 Between Cambalache TC & Barceloneta TC	There are no violations when the project is considered on its own or with the neighboring non-operating Blue Beetle project. When the project is considered in conjunction with other proposed non-operating projects located electrically along the same Line 37400 there are no violations with normal operation of the transmission system (no contingencies). However existing overloads are slightly increased following contingencies and some new overloads can appear. The new overloads may require the revision of the existing relay settings in the transmission system.*
15	Solaner	San German TC	No violations when the project is considered on its own. Some violations occur for N-1-1 contingency cases when considered with an 80-MW Montalva non-operating project.
16	Morovis	New Sectionalizer on Line 36100 Between Ciales (8701) & Morovis (8801)	No Violations

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INTERCONNECTION COST ESTIMATES

Based on the scope of the conceptual interconnection established, S&L prepared AACE Class 5 cost estimates for the interconnection of each non-operating project. The interconnection cost estimates are summarized in Table ES-5 for each project. Two projects, Blue Beetle and ReSun, interconnect at the same new sectionalizer; therefore, the projects will split the cost of the sectionalizer when both projects move forward. Additionally, S&L developed a separate cost estimate for each of the two projects should one of them not to move forward.

Table ES-5 — Non-Operating Projects Interconnection Cost Estimates

#	Project Name	Interconnect Point	TL Cost	TC/Substation Cost	Total Cost Estimate*
1	Xzerta-Tec	Hatillo TC	$1,110,000	$2,100,000	$3,210,000
2	SolarBlue	Breñas (9201) Substation Expansion/Sectionalizer	$1,800,000	$4,040,000	$5,840,000
3	Blue Beetle	New Sectionalizer on Line 37400 Between Cambalache TC and Barceloneta TC	$760,000	$2,180,000	$2,940,000
—	Blue Beetle (w/o ReSun)	New Sectionalizer on Line 37400 Between Cambalache TC and Barceloneta TC	$760,000	$3,960,000	$4,720,000
4	Montalva Solar Farm	New Sectionalizer on Line 37100 Between San German TC and Guanica TC;, rebuild Line 37100 from Sectionalizer to San German TC	$11,940,000	$3,800,000	$15,740,000

#	Project Name	Interconnect Point	TL Cost	TC/Substation Cost	Total Cost Estimate*
5	CIRO One	Aguirre SP TC	$5,000,000	$3,100,000	$8,100,000
6	Guayama Solar Energy	Jobos TC	$2,030,000	$2,880,000	$4,910,000
7	Solar Project San Juan **	New Sectionazlier Expansion to the existing San Lorenzo (3301)	$900,000	$6,900,000	$7,800,000
8	Vega Baja Solar Project	New Sectionalizer on Line 5400 between Punta Lima TO and Naguabo (2701)	$750,000	$3,760,000	$4,510,000
9	REA Vega Baja	Vega Baja TC	$5,200,000	$2,900,000	$8,100,000
10	REA Hatillo (North)	Hatillo 7701 and TO Substation Expansion/Sectionalizer	$200,000	$3,800,000	$4,000,000
11	Caracol	Moca Sectionalizer	$450,000	$580,000	$1,030,000
12	Sierra	Quebradillas Sectionalizer	$525,000	$2,880,000	$3,405,000
13	Atenas	Manati TC	$3,000,000	$6,300,000	$9,300,000
14	ReSun	New Sectionalizer on Line 37400 Between Cambalache TC and Barceloneta TC	$460,000	$2,180,000	$2,640,000
—	ReSun (w/o Blue Beetle)	New Sectionalizer on Line 37400 Between Cambalache TC and Barceloneta TC	$460,000	$3,960,000	$4,420,000
15	Solaner	San German TC (6406)	$800,000	$3,300,000	$4,100,000
16	Morovis	New Sectionalizer on Line 36100 between Ciales (8701) and Morovis (8801)	$5,740,000	$6,350,000	$12,090,000

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* The cost estimates are inclusive of the interconnection work reimbursable to the developer per the terms of the PPOA. It excludes costs that the developer is responsible for as part of the interconnection, such as those for land acquisition and telecommunication to the facility.

** At the time of this report, the interconnection for Solar Project San Juan had not been finalized between PREPA, and the developer; therefore, the scope and cost estimate are subject to change.

1. INTRODUCTION

From 2009 to 2012, the Puerto Rico Electric Power Authority (PREPA) entered into power purchase and operations agreements (PPOAs)—among other agreements—with 60 developers of renewable energy projects. As detailed in the "PREPA – Operating PPOA Justification Memo" and the "PREPA – Non-Operating PPOA Justification Memo," both dated May 26, 2020, PREPA management determined in 2019 that nine of the agreements with projects currently in operation (Operating PPOAs) and 19 of the agreements which reached various stages of development (Non-Operating PPOAs) should be renegotiated to better align PREPA's finances with PREPA's fiscal plan. To support PREPA in the renegotiation of these PPOAs, Sargent & Lundy (S&L) performed an initial interconnection screening of the projects. S&L prepared this report to summarize the methodology and results of the initial interconnection study support work.

1.1. PROJECTS SUMMARY

Beginning in July 2019, PREPA requested S&L to review the termination points, the transmission line (TL) routes, and the feasibility for several of the operating and non-operating projects and their associated interconnection to the PREPA system. Lists of the non-operating and operating projects are provided in Table 1-1 and Table 1-2, respectively. The projects are located throughout Puerto Rico. The locations of the projects that have reached renegotiated terms are shown on a map in Figure 1-1.

Table 1-1 — Non-Operating Solar Projects

#	Project Name	Capacity (MW)	Contract Status	Location
1	Xzerta-Tec	60	Reached Agreement	Hatillo
2	SolarBlue	25	Reached Agreement	Vega Alta
3	Blue Beetle	30	Reached Agreement	Arecibo
4	Montalva Solar Farm	80	Reached Agreement	Guanica
5	CIRO One	90	Reached Agreement	Salinas
6	Guayama Solar Energy	25	Reached Agreement	Guayama
7	Solar Project San Juan	20	Reached Agreement	San Lorenzo
8	Vega Baja Solar Project	15	Reached Agreement	Naguabo
9	REA Vega Baja	25	Reached Agreement	Vega Baja
10	REA Hatillo (North)	25	Reached Agreement	Hatillo
11	Caracol	30	Reached Agreement	Moca
12	Sierra	25	Reached Agreement	Quebradillas

#	Project Name	Capacity (MW)	Contract Status	Location
13	Atenas	40	Reached Agreement	Manati
14	ReSun	35	Reached Agreement	Arecibo
15	Solaner	35	Reached Agreement	San German
16	Morovis	33.5	Reached Agreement	Morovis

******

Table 1-2 — Operating Renewable Projects

#	Project Name	Type	Capacity (MW)	Uprate Capacity (MW)	Contract Status	Location
1	AES Ilumina	Solar	20	5	Reached Agreement	Guayama
2	Humacao Solar Project	Solar	40	Not Proposed	Reached Agreement	Humacao
3	Pattern Santa Isabel	Wind	75	20	Reached Agreement	Santa Isabel
4	San Fermin Solar Farm	Solar	20	4.5	Reached Agreement	Loiza
5	Punta Lima	Wind	26	Not Proposed	Reached Agreement	Naguabo
6	Horizon Energy	Solar	10	10	Reached Agreement	Salinas
7	Oriana Energy	Solar	50	10	Reached Agreement	Aguadilla

******

Figure 1-1 — Project Locations Overview

Operating Renewable Projects

1. AES Illumina
2. Humacao Solar Project
3. Pattern Santa Isabel
4. San Fermin Solar Farm
5. Punta Lima
6. Horizon Energy
7. Oriana Energy

Non-Operating Renewable Projects

1. Xzerta-Tec
2. SolarBlue
3. Blue Beetle
4. Montalva Solar Farm
5. Ciro One
6. Guayama Solar Energy
7. Solar Project San Juan
8. Vega Baja Solar Project
9. REA Vega Baja
10. REA Hatillo (North)
11. Caracol
12. Sierra
13. Atenas
14. ReSun
15. Solaner
16. Morovis

1.2. SCOPE AND METHODOLOGY SUMMARY

S&L evaluated the grid interconnection feasibility of the non-operating renewable energy projects and the operating projects that are seeking to increase their capacity. For the non-operating projects, the evaluations included (i) performing power flow studies to evaluate the thermal impacts of the projects on the grid; (ii) developing conceptual interconnection arrangement documents; and (iii) preparing AACE level 5 cost estimates for the planned interconnections. To support the evaluations, S&L also performed various site walkdowns and desktop studies. After review of each project location, a conceptual plan was developed for the interconnection from the solar facility to a PREPA substation, transmission center (TC), or transmission line. S&L developed cost estimates, including labor, materials, engineering, design, and support for the conceptual plans. Additionally, S&L evaluated operating projects requesting capacity increases. This analysis typically only included a power flow study to evaluate the thermal impacts of the projects on the grid.

Occasionally, throughout the analysis period, the location of certain project sites, the interconnection point, and/or the size of the project would be revised based on discussions with the developers, requirements of the PREPA system, or negotiation developments. The analysis was iterative, and S&L informed PREPA throughout the process and provided input on interconnection matters for the PPOA negotiations. The methodology used in S&L's analysis is further described in Section 2.

2. METHODOLOGY

For the analysis, the project developers typically provided the site coordinates, capacity, and voltage. PREPA provided the interconnection point and voltage to use in the interconnection study. At times, the capacity, location, or voltage would be revised; thus, S&L performed additional analysis based on the revised information.

S&L also considered PREPA design parameters for developing the transmission line and substation interconnection scope. PREPA recently approved their design criteria documents (DCDs). The DCDs considered include the following:

- PREPA Transmission Design Criteria
- PREPA Substation Civil & Substation Design Criteria
- PREPA Protection and Control Design Criteria
- PREPA Distribution Design Criteria

Based on the above DCDs, PREPA is developing new standards that will be used for future transmission and distribution (T&D) projects and generation interconnections.

When reviewing the project size and interconnection voltage, S&L considered PREPA's interconnection guideline of projects of no greater than 25 MW connecting on the 38-kV system.

Overall, S&L's analysis was a screening-level study that developed the general scope and evaluated the ability to interconnect a project at a given location. As outlined in the recently agreed PPOAs, a full set of interconnection studies and interconnection facilities studies will be performed several months after the effective date of each PPOA. These studies will define the specific detailed interconnection requirements for each project.

2.1. TRANSMISSION LINE ROUTE AND SUBSTATION INTERCONNECTION

When feasible, S&L performed an initial site walkdown to determine if the planned solar project's substation location and the proposed interconnection point were feasible. If, based on the findings, the transmission line route or interconnection point were determined to have challenges or were infeasible, S&L worked with PREPA and the developer to determine an alternative interconnection plan. If required, S&L performed a site walkdown of the alternative. S&L performed site walkdowns for all sites except Caracol and Sierra, in which cases S&L performed desktop analyses based on available single-line diagrams and satellite imagery.

2.1.1. Transmission Line Routes

S&L selected the conceptual transmission line routes to avoid areas where costly and time-consuming wet drilling or rock drilling would be required. Additionally, S&L selected the conceptual transmission line routes to create the most direct path to the selected interconnection point while avoiding mountainous terrain, mogotes, and water crossings where feasible. In addition, S&L selected the routes to avoid residential, commercial, and population dense areas—to the extent possible—to mitigate the need for significant right of way acquisitions, business closures, and road closures during construction. Finally, S&L considered future maintenance requirements and route access for the proposed corridors.

2.1.2. Substation Interconnection

Determining the interconnection point to the PREPA system required iterative interconnection conceptual approaches to meet the needs of the solar developers and the transmission line routing. For some of the non-operating projects, existing substations will be modified; however, in some instances, a new sectionalizer will be required to interconnect the solar project.

S&L reviewed the PREPA or developer proposed interconnection point and the PREPA transmission single-line diagram to determine if the proposed interconnection point was an acceptable location to PREPA and the developer. S&L visited the proposed interconnection facility to determine if there was adequate space to install the new interconnection equipment, metering, and protection and controls. When a site visit was not possible, S&L relied on the PREPA system's single-line diagrams, drawings (if available), and satellite images.

Following completion of the initial review and the site walkdown of the proposed interconnection location, S&L created a conceptual interconnection plan and cost estimate (see Section 2.3) to review with PREPA, then with the developers when applicable, to determine if the interconnection point and scope was satisfactory to all parties. If either party had issues with the conceptual interconnection approach or cost estimate, S&L worked with PREPA and the developers to determine a new interconnection point or location for the project.

S&L considered three interconnection approaches as options for the projects: single breaker, single breaker with modification, and new sectionalizing substation. When an open bay in the identified interconnection substation was available, S&L evaluated if any modifications were needed to allow the interconnection of the project. If limited or no modifications were required, S&L proposed the "single breaker" option with associated protection and control.

In some cases, modifications to the existing equipment, breakers, protection and control, structures, and/or the control house would be required to support the interconnection and expansion of the substation. This

constituted the "single breaker with modification" approach. In cases where connecting to an existing substation or transmission center is not feasible a new three-way sectionalizing station—including a new prefabricated modular control house, fencing, breakers, metering, protection and control, structures, and other equipment as required—was proposed. The three-way sectionalizing station was designed to use a single-breaker approach, specifically used to bisect an existing transmission line or independently append to an existing transmission center.

2.2. LOAD FLOW ANALYSIS

S&L used an analytical model to evaluate (via power flow analysis) the thermal impacts the projects may have on the PREPA T&D system to determine if the equipment can accept the additional generation. The simulations identified which T&D components and facilities (such as transmission lines or transformers) may be overloaded beyond their thermal limits by each individual projects' power injection. S&L performed the analysis both under normal operating conditions and after system contingencies. This analysis is considered a screening-level study; a full set of interconnection studies will be performed for each project after the effective date of each PPOA. These studies will include additional analyses, such as determining the duty ratings of the system, dynamic analyses, and elements of compliance with PREPA's minimum technical requirements (MTRs).

2.2.1. PSS/E Model and Contingency Files

S&L used an analytical model of PREPA's T&D system—using Power System Simulator for Engineering (PSS/E) files and including contingency support files—as input for this analysis. The contingency analysis used Transmission Adequacy & Reliability Assessment (TARA) software. S&L used the PREPA T&D system model for the various studies in 2019 and 2020. In the second half of 2019, S&L updated and validated the PREPA T&D system model; the updated model more accurately represents the current configuration of PREPA's system. One of the primary purposes for this model is to study the impact of power generation additions and reductions on the T&D system. This model was updated in the following ways to better reflect the current and expected future generation availability based on discussions with the PREPA Operations Division:

- **Costa Sur Generating Station:** Unit 5 is taken out of service, and Unit 6 is operating at 300 MW of generation—this is to reflect the loss of this plant following an earthquake in January of 2020; one unit is expected to be operating in the long term on this site
- **EcoEléctrica Generating Station:** Operating at 500 MW, this is a typical generation level for this power plant
- **Mayagüez Generating Station:** This station is operating at 175 MW (there are no changes from the base model, but its generation value was verified due to its importance in frequency regulation)

The sum of the above generation changes results in a net generation loss which is compensated by increasing generation evenly among the remaining thermal units.

2.2.2. Methodology

Each project was added to the PSS/E model, dispatched to the project's interconnection limit (maximum capacity in MW) size with a power factor capability of 0.85. S&L evaluated projects in groups based on proximity to other evaluated projects to capture cumulative potential impacts if all projects were to reach commercial operation. Projects evaluated together and their impacts are discussed in the respective results section for the project. In all cases, the combined total of new generation projects is dispatched against existing thermal generation uniformly rather than adjusting individual units.

S&L developed a contingency list based on PREPA's "Transmission System Planning Criteria" and "NERC Standard TPL-001 — Transmission System Planning Performance Requirements." In general, S&L simulated the following contingencies:

- **N-1:** Either (i) the loss of any generator; or (ii) the loss of any individual transmission line or transformer of 38 kV or above
- **N-2 – Line + Line:** The loss of two transmission lines of 115 kV or above (these may share a common tower or right-of-way [ROW])
- **N-1-1 – Line/Generator + Line/Transformer/Generator:** One transmission line of 115 kV or above or generator is out for maintenance with the loss of one of the following: (i) transmission line or transformer of 115 kV or above; or (ii) a generator
    - After the first "N-1-0" outage, system adjustments were allowed (e.g., transformer tap adjustments, phase-angle regulator adjustments, shunt adjustments, and/or generation re-dispatch), and the N-1-0 outages for these contingencies are transmission lines that, based on input from the PREPA Operations Division, are frequently out of service

"N-1-1" contingencies represent a transmission line or generator outage followed by system adjustment (transformer tap adjustments, phase-angle regulator adjustments, shunt adjustments, and generation re-dispatch) and finally followed by a contingency. "N-2" events represent two concurrent facilities out of service. Per PREPA's transmission planning criteria, generation can be re-dispatched following the events to reduce circuit overloads and improve voltage regulation. "N-2 – generic line + transformer" contingencies are considered extreme and are not simulated for this analysis.

S&L used the following simulation methodology:

1. Adjustments to the system were disabled post-contingency—transformer tap adjustments, adjustments to the phase-angle regulator, and shunt adjustments were disabled.

2. Normal (Rate A) line and transformer apparent power (MVA) ratings are used as the post-contingency rating. Line ratings were provided by the PREPA Operations Division based on operational guidelines. These new line ratings were used in the base, not the contingency case; however, the nominal ratings within the PSS/E model were used when evaluating contingency impacts.

3. Following a contingency, which removes a load or generator, all dispatchable thermal units share the generation adjustment to maintain generation and load balance.

As some thermal overloads are present in the base system during some system contingencies (prior to the addition of new generation), only the impact of adding the new generation is evaluated. If the addition of the new generation causes a branch to become overloaded, or if an existing overload is made worse by 3% or greater of the branch rating, the result is flagged for PREPA's review.

2.3. COST ESTIMATE

Based on the conceptual interconnection plan (as discussed in Section 2.1) S&L developed an AACE Class 5 cost estimate. The Class 5 estimate is used for conceptual screening of projects with less than 2% design completion. S&L developed cost estimates separately for the transmission line route and transmission center, sectionalizer, or substation interconnection.

2.3.1. Transmission Line Routes

For the transmission line cost estimates, S&L considered the engineering, management, procurement, material, and construction costs for the project. The transmission line engineering and management cost estimate considered the following:

- Each project is executed independently
- Projects will be installed in phases
- Engineering and construction support will apply for the duration of the project
- Environmental and permitting requirements and support are required
- Construction management personnel are necessary
- Industry-typical subcontractors are utilized when needed
- A ROW specialist is utilized
- A geophysical survey is conducted
- A geotechnical survey is conducted
- There are environmental field studies conducted as needed

The transmission line procurement and materials portion of the cost estimate considered the following:

- The PREPA DCD structure types, hardware preferences, and structural loading criteria
- A typical conductor size and type for all projects except when specified by the developer
- The use of optical ground wire for shielding and communication

The transmission construction portion of the cost estimate considered the following:

- Independent project execution
- Mobilization and demobilization of construction crews
- ROW acquisition support, clearing, access and restoration (as required)
- The required direct embedment or drilled pier for the structures
- Installation and removal of existing structures and wires (as required)
- Construction management personnel

S&L also evaluated the transmission line cost on an average $/mile cost to determine if the estimated cost was consistent with the IRP criteria of $1.5M per mile for a solar facility interconnection.

2.3.2. Substation Interconnection

To develop the substation interconnection (the termination point) cost estimate, including sectionalizer and substation upgrades, S&L considered the engineering, management, procurement, material, and construction costs for the conceptual project. This included the following assumptions and criteria:

- Independent project execution
- Phased execution for each project
- Engineering and construction support for the duration of the project
- Environmental and permitting requirements and support
- Construction management personnel
- Utilization of industry-typical subcontractors when needed, such as when conducting:
    - A geophysical survey
    - A geotechnical study
    - Environmental field studies
- Estimates based upon typical industry standards and best practices

The substation procurement and materials portion of the cost estimate considered the following:

- Material procurement and support for stock and long lead material items

- Standard design structure types and general assemblies were used as applicable
- Typical conductor/bus size and equipment ratings for all projects
- Engineered structures and fabrication design as required

The substation construction portion of the cost estimate considered the following:

- Independent project execution
- Mobilization and demobilization of construction crews
- Land acquisition support, clearing, access and restoration (as required)
- Installation, relocation, and removal of existing structures and wires (as required)
- Construction management personnel
- Testing, commissioning, and general support through energization

3. XZERTA-TEC

Xzerta-Tec Solar I LLC, the project company, intends to build Xzerta-Tec, a 60-MW solar project in Hatillo, Puerto Rico, as shown in Figure 3-1. The project intends to interconnect to the PREPA grid at the existing Hatillo TC at 115 kV. The key components of the project are shown in Table 3-1.

Table 3-1 — Xzerta-Tec Interconnection Summary

Project Name	Interconnection Point	MW Capacity	Voltage (kV)	TL Length (miles)
Xzerta-Tec	Hatillo TC	60	115	0.57

Figure 3-1 — Xzerta-Tec Location and Route

3.1. ANALYSIS

3.1.1. Transmission Line and Interconnection

S&L performed a site walkdown at Xzerta-Tec to verify that open bays exist on the 38-kV and 115-kV bus at the existing Hatillo TC for a new interconnection termination point. The walkdown confirmed that there are adequate bays to support the interconnection on either the 38-kV or 115-kV bus. However during negotiations, the developer requested to increase the project size from 20 MW to 60 MW. The increase in capacity required the interconnection to be moved from the 38-kV to the 115-kV bus.

The transmission line route routes were reviewed through satellite imagery and a walkdown. S&L prepared a conceptual interconnection approach which was reviewed by PREPA Planning and Operations.

3.1.2. Load Flow Analysis

Xzerta-Tec is to interconnect into the Hatillo TC substation along 115-kV Line 39100. In addition, several other solar developers also have proposed to interconnect at various locations along nearby Line 37400, either connecting directly to the line or a lower voltage. The projects are:

- Xzerta-Tec (Section 3)
- SolarBlue (Section 4)
- Blue Beetle (Section 5)
- REA Vega Baja (Section 11)
- REA Hatillo (North) (Section 12)
- Atenas (Section 15)
- ReSun (Section 16)

******

S&L performed a power flow analysis that included these projects in various combinations together as well as individually to evaluate any thermal limitations. The results of the various analyses that included Xzerta-Tec are discussed below.

3.1.2.1. Xzerta-Tec Alone

When studied alone, this new generation project does not introduce any new thermal violations or worsen any existing thermal violations. As there is relatively little generation relative to the transmission available out of the Cambalache TC, there is enough capacity available in this area for a new generation project.

3.1.2.2. Combinations

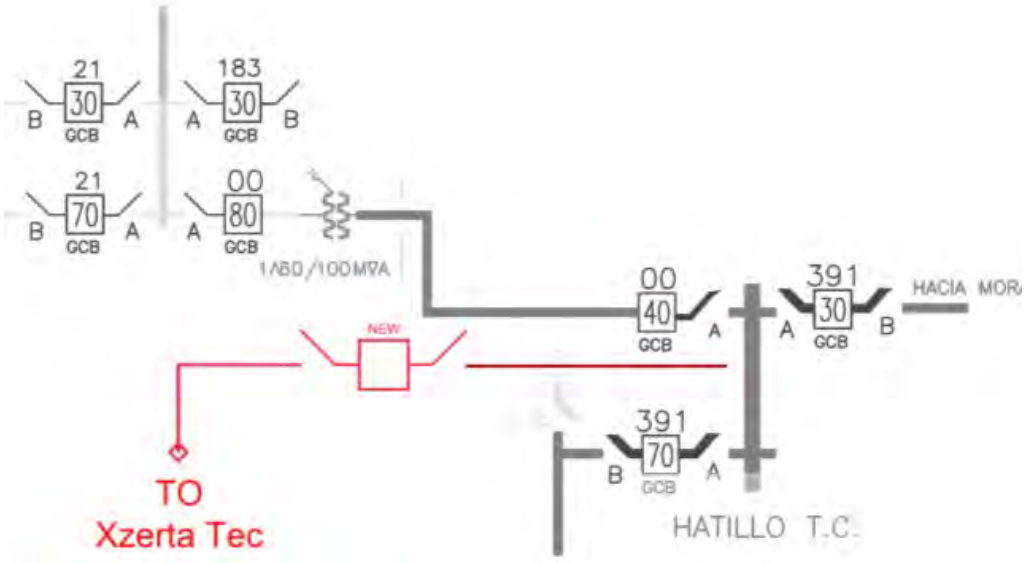
S&L performed two additional load flow studies as discussed in Section 5.1.2.5 and 5.1.2.6. When Xzerta-Tec is combined with the various other projects, new overloads are identified on Line 36400 between Dos Boca and Jyayuya following N-1 contingency cases in the south. The results are shown in Table 5-4 and Table 5-5.

3.2. SCOPE OF INTERCONNECTION

The project will connect to the PREPA system at the Hatillo TC, as shown in Figure 3-2. The scope of the interconnection includes the following:

- A new 0.57-mile, 115-kV transmission line from the project site to the Hatillo TC; the new line will cross under the existing 230-kV Line 50500 and over the existing 38-kV Lines 2100 and 18300
- Installation of a new 115-kV gas circuit breaker with gang-operated disconnect switches and surge arrestors at the existing open bay of the 115-kV box structure
- Installation of primary and backup metering using independent current and voltage transformers on a metering structure directly outside the newly installed breaker
- Installation of a new relay, protection, control, and communication equipment required in the existing control house; it is expected that the control room can accommodate the required equipment, and the scope includes updating existing relaying as required to support the new termination

Figure 3-2 — Xzerta-Tec Interconnection



3.3. COST ESTIMATE

Based on the above scope of work, S&L provided an AACE Class 5 cost estimate for the transmission and conceptual interconnection approach. The total estimated cost for the interconnection, including the transmission line, is $3,210,000. This estimate is based on the transmission line's scope of work estimate of approximately $1,110,000, and the substation scope of work estimate of approximately $2,100,000.

Note: The cost estimates are inclusive of the interconnection work reimbursable to the developer per the terms of the PPOA. It excludes costs that the developer is responsible for as part of the interconnection, such as those for land acquisition and telecommunication to the facility.

4. SOLARBLUE

SolarBlue Bemoga LLC, the developer, intends to build the (25-MW) SolarBlue in Vega Alta, Puerto Rico, as shown in Figure 4-1. The project intends to interconnect to the PREPA grid at the existing Breñas (9201) Substation at 38 kV. The key components of the project are shown in Table 4-1.

Table 4-1 — Solar Blue Interconnection Summary

Project Name	Interconnection Point	MW Capacity	Voltage (kV)	TL Length (miles)
SolarBlue	Breñas (9201)	25	115	1

Figure 4-1 — Solar Blue Location and Route

4.1. ANALYSIS

4.1.1. Transmission Line and Interconnection

S&L performed a site walkdown at the Breñas (9201) Substation to determine the suitability of the substation. The walkdown confirmed the existing substation did not have adequate space, and S&L proposed to install a sectionalizer on Line 7800. After meeting with PREPA and the developer, S&L was informed there was an existing design to expand the Breñas (9201) Substation and interconnect SolarBlue on the substation expansion. Additionally, S&L performed an initial and follow-up review of the transmission

line termination in the field to determine if the preliminary route was constructible and evaluate the feasibility of the new route. S&L was also informed that SolarBlue had acquired the transmission line ROW and PREPA had acquired the land required for the Breñas (9201) Substation expansion.

4.1.2. Load Flow Analysis

SolarBlue's proposed interconnection into the 38-kV Breñas (9201) Substation along Line 7800 is a 38-kV branch connected through transformers to Line 37400. This is one of nine projects studied along Line 37400. It is located further east along Line 37400, is smaller, and is interconnecting at a lower voltage (38 kV). In the power flow study, S&L considered the SolarBlue project in various combinations with the following projects, as well as on its own, to determine if the project would worsen or create any new thermal violations.

- Xzerta-Tec (Section 3)
- Blue Beetle (Section 5)
- REA Vega Baja (Section 11)
- REA Hatillo (North) (Section 12)
- Atenas (Section 15)
- ReSun (Section 16)

******

Due to the eastern location, small size, and interconnection voltage, the project is generally isolated from the congestion in the middle of Line 37400. As a result, SolarBlue does not cause any new overloads or worsen any existing overloads. Initially, the project was proposed as a 20 MW project. Ultimately, PREPA and the developer agreed upon 25 MW as the project size.

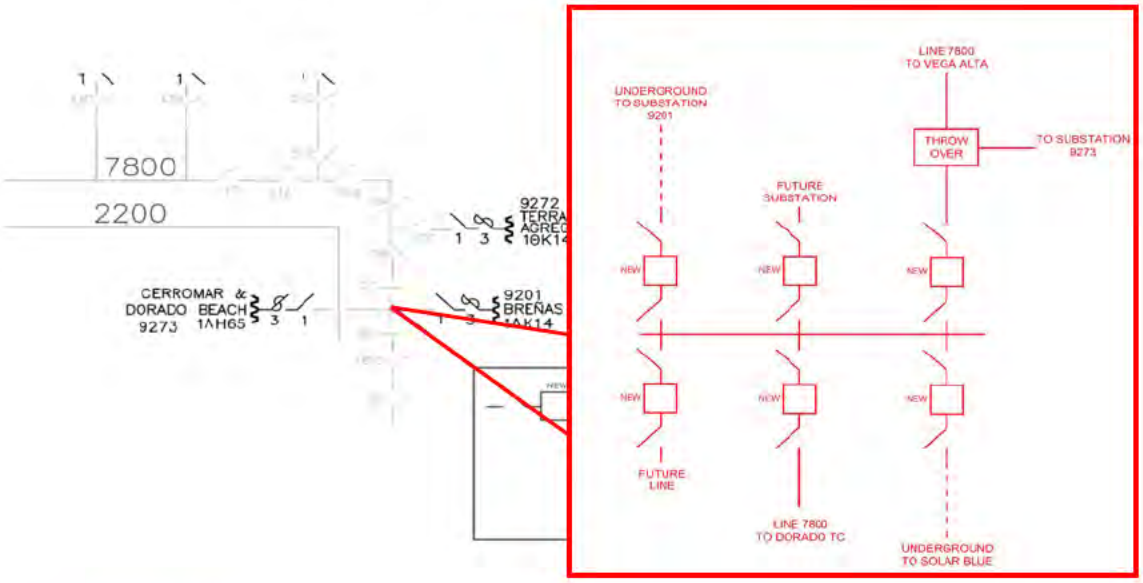
If SolarBlue is considered with Blue Beetle, ReSun, REA Vega Baja, Atenas, ****** the existing 38-kV overloads on Line 2200—caused by the loss of Line 37400 between Vega Baja to Dorado—is alleviated (See Section 5.1.2.4). SolarBlue provides a power source near the Dorado TC, which reduces the reliance on Line 2200 to send power east from Vega Baja to Dorado following this contingency. Additional combinations considered are discussed in Sections 5.1.2.5 and 5.1.2.6. ******

4.2. SCOPE OF INTERCONNECTION

The project will connect to the PREPA system at the Breñas (9201) Substation, as shown in Figure 4-2. The scope of the interconnection includes the following:

- A new 1.00-mile, underground, 38-kV transmission line routed in a duct bank to the Breñas (9201) Substation termination point
- Installation of a new six-bay 38-kV box structure expansion in the south end of the Breñas (9201) Substation yard
- Installation of a new three-way, throw-over switch structure between Line 7800 to Dorado Beach, Substation 9273, and the new six-bay box (lattice) structure
- Installation of a new 38-kV metering structure for SolarBlue
- Modification of the existing transmission 38-kV termination box structure to support an expansion of the bus to the new three-way throw-over switch structure
- Installation of a new security fence, lighting, and applicable security equipment
- Installation of a new prefabricated control house

Figure 4-2 — Solar Blue Interconnection



4.3. COST ESTIMATE

Based on the above scope of work, S&L provided an AACE Class 5 cost estimate for the transmission and conceptual interconnection approach. The total estimated cost for the interconnection, including the transmission line, is $5,840,000. This estimate is based on the transmission line's scope of work estimate of approximately $1,800,000 and the substation scope of work estimate of approximately $4,040,000.

Note: The cost estimates are inclusive of the interconnection work reimbursable to the developer per the terms of the PPOA. It excludes costs that the developer is responsible for as part of the interconnection, such as those for land acquisition and telecommunication to the facility.

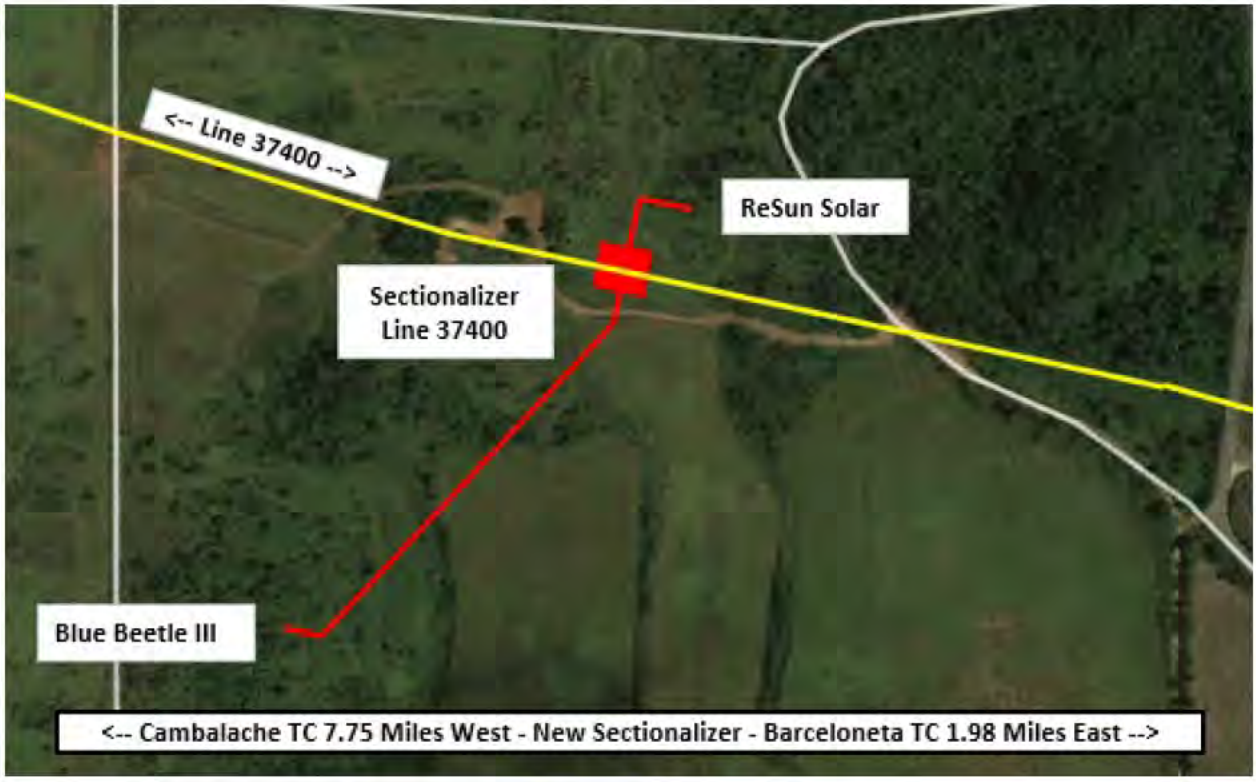
5. BLUE BEETLE

ESA Renewables LLC, the project sponsor, intends to build Blue Beetle III, a 30-MW solar project in Arecibo, Puerto Rico, as shown in Figure 5-1. The project intends to interconnect to the PREPA grid with a new sectionalizer that will be located on and bisect Line 37400 (115 kV) between the Cambalache and Barceloneta TCs. A second project, ReSun Solar may also terminate at the new sectionalizer. The conceptual interconnection approach incorporates an option for both interconnection terminations or may be used as stand-alone sectionalizer, as necessary.

Table 5-1 — Blue Beetle Interconnection Summary

Project Name	Interconnection Point	Capacity (MW)	Voltage (kV)	TL Length (miles)
Blue Beetle	Line 37400 (Near Barceloneta TC)	30	115	0.20

Figure 5-1 — Blue Beetle Location and Route



5.1. ANALYSIS

5.1.1. Transmission Line and Interconnection

S&L performed a site walkdown at the Blue Beetle and the ReSun interconnection point on Line 37400. S&L recommended (and PREPA Planning and Operations agreed) to install a new four-way sectionalizer

at the location shown in Figure 5-1 to service both the Blue Beetle and the ReSun projects. Using satellite imagery in addition to the site walkdown, S&L reviewed the transmission line routes and found them feasible.

5.1.2. Load Flow Analysis

In addition to the ReSun project, there are several other solar projects along Line 37400 as discussed in Section 3.1.2:

- Xzerta-Tec (Section 3)
- SolarBlue (Section 4)
- REA Vega Baja (Section 11)
- REA Hatillo (North) (Section 12)
- Atenas (Section 15)
- ReSun (Section 16)

******

S&L studied Blue Beetle with six different combinations of the above projects to provide an understanding of what thermal violations may be present for each combination. Line 37400 has a capacity of 239 MVA. Additionally, there are several load centers along this line, reducing the need to export the full capacity of these projects solely on Line 37400. ******

5.1.2.1. Blue Beetle Alone and Combination 1

The first combination studied included Blue Beetle and ReSun. When considered alone or together, S&L found there were no new thermal violations and no existing violations were worsened.

Considered projects:

- Blue Beetle
- ReSun

5.1.2.2. Combination 2

The second combination considered the following projects along Line 37400:

- Blue Beetle
- ReSun

- REA Vega Baja (combined interconnection on Line 37400, previously considered)
- Atenas (combined interconnection on Line 37400, previously considered)

******

When these projects are considered with full capacity and simplifying the interconnection of REA Vega Baja, Atenas, ****** as one combined project, new overloads are introduced and some existing overloads are worsened during an N-1 contingency. Multiple sections of the 38-kV Line 2200 near the Barceloneta TC are impacted following the loss of the 115/38-kV step-down transformer at the Cambalache TC. This forces the Cambalache 38-kV system to be supplied largely through the Barceloneta TC step-down transformers. All projects along this line contribute to these overloads, but due to proximity, Blue Beetle and ReSun are the largest contributors. These overloads are documented in Table 5-2.

Note that the 115/38-kV step-down transformer at the Hatillo TC is out of service. This outage reduces available paths to supply power to the local 38-kV system and reduces the redundancy of the system, making it less resilient to operate through contingencies and contributing to the overloads. Replacing or repairing this transformer alleviates the overloads caused by the loss of the Cambalache TC transformer by providing another path for power to flow to the 38-kV system from the west. ******

Table 5-2 — Combination 2 Overload Results

Branch (Line Name/Circuit #)	Line Number	Voltage (kV)	Contingency	Rating (MVA)	Pre-Project Post-Contingency % Loading	Post-Cont. % Loading	Difference % Loading
Barceloneta 38 kV – UN 38 kV/1	2200	38	N-1 Cambalache 115/38-kV Transformer	48	125.57	130.12	4.55
Factor 38 kV – Acu Are 38 kV/1					117.95	122.51	4.56
Factor 38 kV – Ads 38 kV/1					99.47	104.33	4.86
Superacu Are 38 kV – TAP ACB2285C 38 kV/1					119.25	123.82	4.57
Cutler Hamer 38 kV – ADS 38 kV/1					95.76	100.67	4.91
Merck 38 kV – Une 38 kV/1					124.51	129.06	4.55
Merck 38 kV – Tap Acb2285c 38 kV/1					120.29	124.88	4.59

5.1.2.3. Combination 3

The third combination considered the same projects as the second combination with their full capacity, but with each project at different interconnection locations, as identified below.

Considered projects:

- Blue Beetle
- ReSun
- REA Vega Baja (38-kV Vega Baja TC)
- Atenas (115-kV Manati TC)

******

In this configuration, new overloads are introduced and existing overloads are worsened during two N-1 contingency cases. As in Combination 2, multiple sections of 38-kV Line 2200 near the Barceloneta TC are impacted following the loss of the 115/38-kV step-down transformer at the Cambalache TC. This forces the Cambalache 38-kV system to be supplied largely through the Barceloneta TC step-down transformers. All projects along this line contribute to these overloads, but due to proximity, Blue Beetle and ReSun are the largest contributors.

As mentioned previously, the 115/38-kV step-down transformer at the Hatillo TC is out service. This outage reduces available paths to supply power to the local 38-kV system and reduces the redundancy of the system, making it less resilient to operate through contingencies and contributing to the overloads identified. Replacing or repairing this transformer alleviates the overloads caused by the loss of the Cambalache TC's transformer by providing another path for power to flow to the 38-kV system from the west.

In addition to the above overloads, the change of the REA Vega Baja project to the 38-kV system introduces new overloads for the contingency of a loss of the Vega Baja-to-Dorado section of Line 37400. This causes power to loop through the 38-kV system east from Vega Baja towards Dorado. The overloads from these two N-1 contingency cases are documented in Table 5-3. These new overloads may require the revision of the existing relay settings in the transmission system.

Table 5-3 — Combination 3 Overload Results

Branch (Line Name/Circuit #)	Line Number	Voltage (kV)	Contingency	Rating (MVA)	Pre-Project Post-Contingency % Loading	Post-Cont. % Loading	Difference % Loading
Barceloneta 38 kV – Une 38 kV/1	2200	38	N-1 Cambalache 115/38-kV Transformer	48	123.89	128.53	4.64
Factor 38 kV – Superacu Are 38 kV/1					116.28	121.02	4.74
Factor 38 kV – ADS 38 kV/1					97.89	102.88	4.99
Superacu Are 38 kV – TAP ACB2285C 38 kV/1					117.58	122.3	4.72
Merck 38 kV – Une 38 kV/1					122.83	127.48	4.65
Merck 38 kV – Tap ACB2285C/1					118.62	123.33	4.71
Vega Alta 38 kV – Sams Vegalta 38 kV/1			N-1 Vega Baja 115 to Dorado 115/1	40	65.15	109.52	44.37
Sjuan Cement 38 kV – Santa Ana 38 kV/1					61.98	106.68	44.7
Santa Ana 38 kV – GE Vega Alta 38 kV/1					61.98	106.69	44.71
Ge Vega Alta 38 kV – Sams Vegalta 38 kV/1					63.7	108.23	44.53

5.1.2.4. Combination 4

Combination 4 adds the SolarBlue project to the combination considered in Combination 3.

- Blue Beetle
- ReSun
- REA Vega Baja (38-kV Vega Baja TC)
- Atenas (115-kV Manati TC)

******

- SolarBlue (38-kV Breñas [9201])

Interconnecting SolarBlue to the 38-kV system near the Dorado TC alleviates overloads seen in Combination 3 associated with the N-1 contingency of a loss of the Vega Baja-to-Dorado section of Line 37400. Adding generation to the 38-kV system between the Vega Baja and Dorado TCs reduces the need to send power east through Line 2200 from Vega Baja to Dorado. Adding SolarBlue has no impact on the

additional overloads on Line 2200 near the Barceloneta TC due to the loss of the Cambalache TC's 115/38-kV transformer (Table 5-3).

5.1.2.5. Combination 5

Building on Combination 4, Combination 5 adds generation from Xzerta-Tec ******
The considered projects for Combination 5 are as follows:

- Blue Beetle
- ReSun
- REA Vega Baja (38-kV Vega Baja TC)
- Atenas (115-kV Manati TC)

******

- SolarBlue (38-kV Breñas [9201])
- Xzerta-Tec (115-kV Hatillo TC)

******

In addition to the projects of Combination 4, this combination includes Xzerta-Tec ******

the addition of Xzerta-Tec introduces new overloads on Line 36400 between Dos Boas and Jayuya following N-1 contingencies of several line segments of Line 3900 in the south. These thermal overloads are documented in Table 5-4.

The overloads due to the loss of the Cambalache Transformer discussed in Combinations 3 and 4 are also made marginally worse (Table 5-3). The two available gas turbines (GTs) at Cambalache were also dispatched to their maximum capacity of 82.5 MW each in this scenario, but they had only a small impact due to interconnection into the 230-kV system at the Cambalache TC.

As mentioned previously, the 115/38-kV step-down transformer at the Hatillo TC is out service. This outage reduces available paths to supply power to the local 38-kV system and reduces the redundancy of the system, making it less resilient to operate through contingencies, which may contribute to the overloads identified. Replacing or repairing this transformer alleviates the overloads caused by the loss of the Cambalache Transformer by providing another path for power to flow to the 38-kV system from the west. ****** The minor new overloads, if not alleviated as previously described, may require the revision of the existing relay settings in the transmission system.

Table 5-4 — Combination 5 Overload Results

Branch (Line Name/Circuit #)	Line Number	Voltage (kV)	Contingency	Rating (MVA)	Pre-Project Post-Contingency % Loading	Post-Cont. % Loading	Difference % Loading
Dos Boca 115 kV to Jayuya 115 kV/1	36400	115	N-1 Ponce 115 kV - Cerri Jdiazt 115 kV/1	59	81.91	109.87	27.96
			N-1 Jdiaz TC 115 kV - Cerri Jdiazt 115 kV/1		81.91	109.88	27.97
Barceloneta 38 kV – Une 38 kV/1	2200	38	N-1 Barceloneta 38 kV - UNE 38 kV/1	48	123.89	129.5	5.61
Factor 38 kV – Superacu Are 38 kV/1			N-1 Factor 38 kV - Superacu Are 38 kV/1		116.28	121.9	5.62
Factor 38 kV – ADS 38 kV/1			N-1 Factor 38 kV - ADS 38 kV/1		97.89	103.75	5.86
Superacu Are 38 kV – Tap ACB2285C 38 kV/1			N-1 Superacu Are 38 kV - Tap ACB2285C 38 kV/1		117.58	123.21	5.63
Cutler Hamer 38 kV – ADS 38 kV/1			N-1 Cutler Hamer 38 kV - ADS 38 kV/1		94.19	100.09	5.9
Merck 38 kV – Une 38 kV/1			N-1 Merck 38 kV - Une 38 kV/1		122.83	128.44	5.61
Merck 38 kV – Tap ACB2285C 38 kV/1			N-1 Merck 38 kV - Tap ACB2285C 38 kV/1		118.62	124.27	5.65

5.1.2.6. Combination 6

Combination 6 includes all projects considered in Combination 5 plus the addition of REA Hatillo (North). This combination includes all projects on or near Line 37400 as well as the two GT units at Cambalache at their 82.5-MW maximum capacity. The projects and their interconnection points are identified below:

- Blue Beetle
- ReSun
- REA Vega Baja (38-kV Vega Baja TC)
- Atenas (115-kV Manati TC)

******

- SolarBlue (38-kV Breñas [9201])
- Xzerta-Tec (115-kV Hatillo TC)

******

- REA Hatillo (North) (Hatillo automatic switch [TO] bus on Line 2100)

This combination improves some overloads experienced in Combination 5 as REA Hatillo (North) provides sufficient generation to the northern 38-kV system to alleviate the overloads caused by the loss of the Cambalache step-down transformer; however, the overloads on Line 36400 between Dos Bocas and Jayuya, following the loss of Line 3900 in the south, are made marginally worse as shown in Table 5-5.

As mentioned previously, the 115/38-kV step-down transformer at Hatillo is out service. This outage reduces available paths to supply power to the local 38-kV system and reduces the redundancy of the system, making it less resilient to operate through contingencies, which may contribute to the overloads identified. Replacing or repairing this transformer would also alleviate the overloads caused by the loss of the Cambalache Transformer by providing another path for power to flow to the 38-kV system from the west. The new overloads, if not alleviated as previously described, may require the revision of the existing relay settings in the transmission system.

Table 5-5 — Combination 6 Overload Results

Branch (Line Name/Circuit #)	Line Number	Voltage (kV)	Contingency	Rating (MVA)	Pre-Project Post-Contingency % Loading	Post-Cont. % Loading	Difference % Loading
Dos Boca 115 kV - Jayuya 115 kV/1	36400	115	Ponce 115 kV – Cerri Jdiazt 115 kV/1	59	81.91	113.75	31.84
			Jdiaz TC 115 kV – Cerri Jdiazt 115 kV/1		81.91	113.76	31.85

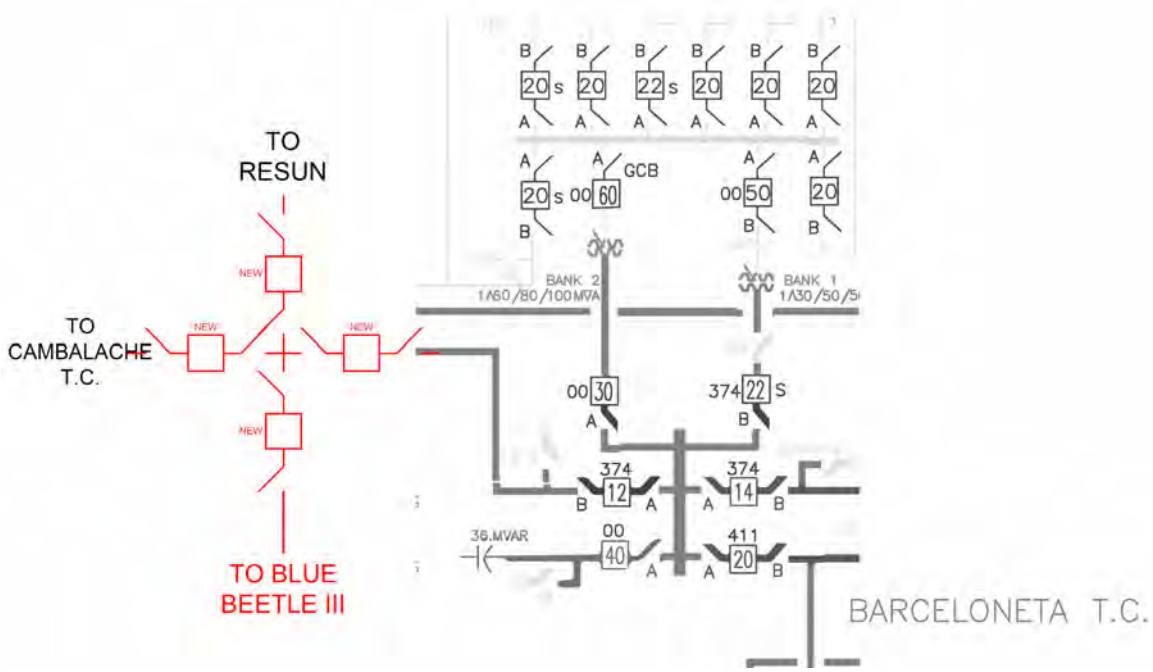
5.2. SCOPE OF INTERCONNECTION

The project will connect to the PREPA system at the new sectionalizer that will be located on and bisect Line 37400 between the Cambalache and Barceloneta TCs, as shown in Figure 5-2. The scope of work is

inclusive of both the ReSun and Blue Beetle installations with exception to what is mentioned in this Section 5.2. The scope of the interconnection includes the following:

- A new 0.2-mile, 115-kV transmission line routed through open fields terminating at a new sectionalizing substation
- Installation of a new 115-kV sectionalizing box structure (the structure should be capable of supporting up to four termination points, including breakers, switches, surge arrestors, and metering)
- Installation of a new prefabricated control house
- Installation of a new relay, protection, control, and communication equipment in the control house
- Installation of a new security fence, lighting, and applicable security equipment
- Installation of three new 115-kV circuit breakers with gang-operated disconnect switches and surge arrestors; a fourth 115-kV circuit breaker, switches, metering, protection, controls, communication, and all other necessary equipment will be installed for ReSun, if required
- Installation of a new 115-kV metering structure for Blue Beetle
- Installation of new conduit, trenching, and ground grid, as applicable
- Installation of primary and backup metering using independent current and voltage transformers on a metering structure

Figure 5-2 — Blue Beetle Interconnection



5.3. COST ESTIMATE

Based on the above scope of work, S&L provided two AACE Class 5 cost estimates for the transmission and conceptual interconnection approach. One estimate requires that a second solar development, ReSun, is executed in conjunction with the Blue Beetle development. In this scenario, the total estimated cost for the interconnection for Blue Beetle, including the transmission line, is $2,940,000. This estimate is based on the transmission line's scope of work estimate of approximately $760,000 and the substation scope of work estimate of approximately $2,180,000.

The second estimate independently installs Blue Beetle without ReSun. The total estimated cost for the interconnection, including the transmission line, is $4,720,000. This estimate is based on the transmission line's scope of work estimate of approximately $760,000 and the substation scope of work estimate of approximately $3,960,000.

Note: The cost estimates are inclusive of the interconnection work reimbursable to the developer per the terms of the PPOA. It excludes costs that the developer is responsible for as part of the interconnection, such as those for land acquisition and telecommunication to the facility.

6. MONTALVA SOLAR FARM

Greenbriar Capital Corp, the project sponsor, intends to build Montalva Solar Farm, an 80-MW solar project in Guanica, Puerto Rico as shown in Figure 6-1. The project intends to interconnect to the PREPA grid with a new sectionalizer that will be located on Line 37100 between the San German TC and at 115 kV.

Table 6-1 — Montalva Interconnection Summary

Project Name	Interconnection Point	MW Capacity	Voltage (kV)	TL Length (miles)
Montalva	Line 37100 Sectionalizer	80	115	7.39 (total)

Figure 6-1 — Montalva Location and Route

6.1. ANALYSIS

6.1.1. Transmission Line and Interconnection

S&L performed a walkdown of the Montalva interconnection point on Line 37100. Together with PREPA, S&L determined that a new sectionalizer would be installed at the location identified in Figure 6-1; however, several options to service the new interconnection point were developed and reviewed with PREPA:

1. Building a new 115-kV line from the Guanica TC to a new interconnection point at an open bay at the substation, eliminating the need for a sectionalizer

2. Rebuilding the entire Line 37100 from the Guanica TC to the San German TC and installing a sectionalizer to service the Montalva project

3. Rebuilding a portion of Line 37100 from a newly installed sectionalizer to the San German TC

4. Only installing a sectionalizer at the location indicated in Figure 6-1 with no transmission line rebuilds

After review of the four options with PREPA, Option 3 was selected to improve the reliability of grid in the area by rebuilding a portion of Line 37100. The other options were not selected either due to a higher cost or a concern about the reliability of the interconnection.

6.1.2. Load Flow Analysis

Line 37100, where Montalva is located, has a thermal capacity of 145.4 MVA between Mayaguez and Acacias, 137.4 MVA between the Acacias TC and the Guanica TC, and 239 MVA from the Guanica TC to the Costa Sur TC. Based on discussion with PREPA's Operations Division, Line 37100 is considered a weak line and frequently trips, particularly the section between the Acacias TC and the San German TC. The 115/38-kV step-down transformer at the Guanica TC is currently not in service, which limits 38-kV system support to the Acacias TC and the San German TC in the west and Costa Sur to the east.

As the line section between the Acacias and San German TCs trips frequently, it is modeled as a base N-1-0 outage for the simulated N-1-1 contingency cases. This outage is then combined with a contingency of any 115-kV or above transmission element (line or transformer). These N-1-1 contingency cases are particularly relevant to projects interconnecting along Line 37100.

Two additional solar projects also proposed to interconnect on Line 37100 with Montalva: Solaner (Section 17) ****** S&L considered various combinations and sizes of the three projects. The combination of projects, along with the project sizes considered, resulted in various types of thermal violations. The analysis determined that the project would need to be reduced in size from the originally planned 100 MW to 80 MW. The combinations, sizes, and violations are discussed below. ********

6.1.2.1. Montalva Alone

If only Montalva is considered to interconnect onto Line 37100 without any additional generators, the results vary depending on the project size considered. For instance, a project size of 73 MW does not introduce any new thermal violations or worsen any existing thermal violations. This is true for N-1, N-2, and N-1-1 contingency cases.

A project size of 80 MW also does not introduce any new thermal violations with normal operation of the transmission system (no contingencies). The project also does not introduce any new thermal violations or worsen any existing thermal violations for N-1 and N-2 contingency cases; however, S&L identified overloads for the N-1-1 contingency case of an outage of Line 37100 between the Acacias TC and the San German TC followed by a loss of a section of the line east of the Montalva sectionalizer. This equates to a loss of both ends of Line 37100, requiring all existing generation on Line 37100 to flow down through the San German TC (6406) 115/38-kV transformer, overloading the 38-kV branches in the area. The overloads are shown in Table 6-2. The output of the project would need to be curtailed in this event.

Table 6-2 — Contingency Overloads Considering Montalva Alone at 80 MW

Branch (Line Name/Circuit #)	Line Number	Voltage (kV)	Contingency	Rating (MVA)	Pre-Project Post-Contingency % Loading	Post-Cont. % Loading	Difference % Loading
San German TC 38 kV to Loctite 38 kV/1	1200	38	N-1-1 – Line 37100 – Acacias 115 kV to Sgermantc 115 kV/1 followed by Guanica 115 kV to Montalva 115 kV/1	20	40.97	109.65	68.68
Sabana Grande 38 kV to Loctite 38 kV/1					44.94	104.82	59.88

6.1.2.2. Combination of Montalva and Solaner

S&L studied both Montalva and Solaner interconnecting on Line 37100. When Montalva at 80 MW and Solaner at 35 MW are interconnected with Line 37100, the projects do not introduce any new thermal violations with normal operation of the transmission system (no contingencies). The projects also do not introduce any new thermal violations, and no existing thermal overloads are made worse for N-1 or N-2 contingency cases; however, S&L identified overloads for the N-1-1 contingency case of an outage of Line 37100 between the Acacias TC and the San German TC (6406) followed by a loss of a section of the line east of Montalva sectionalizer. This equates to a loss of both ends of Line 37100, and all the generation on Line 37100 is required to flow through the San German TC (6406) 115/38-kV transformer, overloading 38-kV branches in the area. Additionally, if there is an outage of the remaining Costa Sur Unit (Unit 6 operating

at 300 MW) prior to the contingency of Line 37100 between the Guanica TC and Montalva, there may not be enough generation to support the 38-kV system in the area around Costa Sur to prevent an overload on Line 1200 near the San German TC (6406) to make up for the lost power source. The overloads are shown in Table 6-3. The output of the project would need to be curtailed in this event.

Table 6-3 — Overloads Considering Montalva at 80 MW and Solaner at 35 MW

Branch (Line Name/Circuit #)	Line Number	Voltage (kV)	Contingency	Rating (MVA)	Pre-Project Post-Contingency % Loading	Post-Cont. % Loading	Difference % Loading
S.German TC 38 kV to Loctite 38 kV/1	1200	38	******	20	31.96	103.58	71.62
Yauco 2 38 kV to Sabana Grande 38 kV/1			******		93.62	127.80	34.18
Sabana Grande 38 kV to Loctite 38 kV/1					58.77	156.81	98.04
S.German TC 38 kV to Loctite 38 kV/1					54.16	161.27	107.11
Yauco 2 38 kV to Sabana Grande 38 kV/1			N-1-1 – Line 37100 – Acacias 115 kV to Sgermantc 115 kV/1 followed by Guanica 115 kV to Montalva 115 kV/1		78.85	140.50	61.65
Sabana Grande 38 kV to Loctite 38 kV/1					44.94	169.36	124.42
S.German TC 38 kV to Loctite 38 kV/1					40.97	173.75	132.78
Yauco 2 38 kV to Sabana Grande 38 kV/1			N-1-1 – Line 37100 – Acacias 115 kV Sgermantc 115 kV/1 followed by		93.72	127.80	34.08
Sabana Grande 38 kV to Loctite 38 kV/1					58.75	156.80	98.05

Branch (Line Name/Circuit #)	Line Number	Voltage (kV)	Contingency	Rating (MVA)	Pre-Project Post-Contingency % Loading	Post-Cont. % Loading	Difference % Loading
			******				
S.German TC 38 kV to Loctite 38 kV/1					54.08	161.26	107.18

Overloads are also identified for the N-1-1 contingency case of an outage of Line 37100 between Acacias TC and San German TC followed by the loss of another section of the line. This equates to a loss of both ends of Line 37100, and all the generation on Line 37100 must then flow down through the San German 115/38-kV transformer, which overloads both the step-down transformer and 38-kV branches in the area. Additionally, if there is an outage of any generator at Costa Sur or EcoEléctrica prior to the contingency of Line 37100 between Guanica to Montalva, there may not be enough support to the 38-kV system in the area around Costa Sur to prevent an overload on Line 1200 near San German to make up for the lost power source. The output of the project may need to be curtailed in this event. Thermal loading increased from a range of 32% to 94% before, to a range of 104% to 174% following the N-1-1 contingency events with the inclusion of both projects

6.1.2.3. Combination of Montalva, Solaner, ******

Lastly, S&L considered interconnecting Montalva (80 MW), with Solaner (35 MW)******

. S&L identified overloads for the N-1-1 contingency case of an outage of Line 37100 between the Acacias TC and the San German TC (6406)****** .

This requires all the generation on Line 37100 to flow through the San German TC 115/38-kV transformer, which slightly overloads its nominal capacity, and overloading several 38-kV branches in the area.

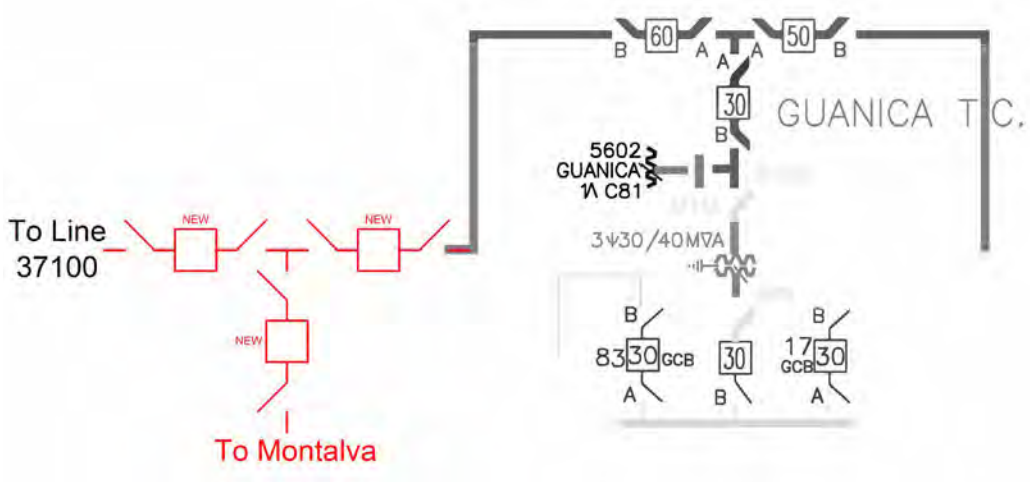
6.2. SCOPE OF INTERCONNECTION

The project will connect to the PREPA system at the new sectionalizer that will be located on and bisect Line 37100 between the San German TC and the Guanica TC, as shown in Figure 6-2. The scope of the interconnection includes the following:

- A short (~150 ft) 115-kV strain span from Montalva to the sectionalizer
- Approximately 7.38 miles of Line 37100 will be rebuilt from the sectionalizer to the San German TC along the existing ROW
- Installation of a new 115-kV sectionalizing box structure; the structure will be designed to support up to four termination points including breakers, switches, surge arrestors, and metering
- Installation of a new prefabricated control house

- Installation of a new relay, protection, control, and communication equipment
- Installation of a new security fence, lighting, and applicable security equipment
- Installation of three new 115-kV circuit breakers with gang-operated disconnect switches and surge arrestors
- Installation of a new 115-kV metering structure
- Installation of new conduit, trenching, and ground grid, as applicable
- Installation of primary and backup metering using independent current and voltage transformers on a metering structure
- At San German TC and Guanica TC, the existing protection and control schemes will need to be updated as necessary to match the new sectionalizer in Line 37100
- Implementation of a protection scheme that will curtail the total generation of Montalva, if necessary, in the event of an N-1-1 contingency on Line 37100; this scheme would be implemented to avoid the overloading of any equipment at San German TC and the 38-kV system

Figure 6-2 — Montalva Interconnection



6.3. COST ESTIMATE

Based on the above scope of work, S&L provided an AACE Class 5 cost estimate for the transmission and conceptual interconnection approach. The total estimated cost for the interconnection, including the transmission line, is $15,740,000. This estimate is based on the transmission line's scope of work estimate of approximately $11,940,000 and the substation scope of work estimate of approximately $3,800,000.

Note: The cost estimates are inclusive of the interconnection work reimbursable to the developer per the terms of the PPOA. It excludes costs that the developer is responsible for as part of the interconnection, such as those for land acquisition and telecommunication to the facility.

7. CIRO ONE

CIRO Group, the project sponsors, intends to build CIRO One, a 90-MW solar project in Salinas, Puerto Rico, as shown in Figure 7-1. The project intends to interconnect to the PREPA grid at the existing 115-kV Aguirre Steam Plant Transmission Center (Aguirre SP TC). The key components of the project are shown in Table 7-1.

Table 7-1 — CIRO One Interconnection Summary

Project Name	Interconnection Point	MW Capacity	Voltage (kV)	TL Length (miles)
CIRO One	Aguirre SP TC	90	115	3.51

Figure 7-1 — CIRO One Location and Route

7.1. ANALYSIS

7.1.1. Transmission Line and Interconnection

S&L performed a site walkdown at the CIRO One collector site and the Aguirre SP TC . A number of options were considered to interconnect the CIRO One project, including different voltages, locations, and transmission line routes. Ultimately, PREPA's Planning and Operations and the developer agreed the interconnection transmission line would be primarily routed to the Aguirre SP TC utilizing the existing PREPA ROW.

7.2. LOAD FLOW ANALYSIS

S&L evaluated the CIRO One project as a standalone project and in conjunction with nearby projects.

As a standalone project, the CIRO One project is proposed to connect directly into the 115-kV Aguirre SP TC. S&L's analysis determined that this project does not introduce any new thermal violations or worsen any existing thermal violations. The Aguirre SP TC is one of the strongest export buses on the entire PREPA system. There are four 230-kV export lines and three 115-kV export lines. This provides ample capacity and redundancy, even with the existing generation at Aguirre.

S&L also considered CIRO One with nearby existing and proposed new generation. The analysis considered the projects at their full capacity.

- Jobos GTs (21 MW – Existing Generation)
- Yabucoa GTs (21 MW – Existing Generation)
- CIRO One (New Generation, Section 7)
- Guayama Solar Energy (New Generation, Section 8)

******

- Humacao Solar Project (Fonroche) (Existing Generation, Section 20.2)
- Pattern Santa Isabel (Uprate, Section 20.3)
- Horizon Energy (Uprate, Section 20.6)

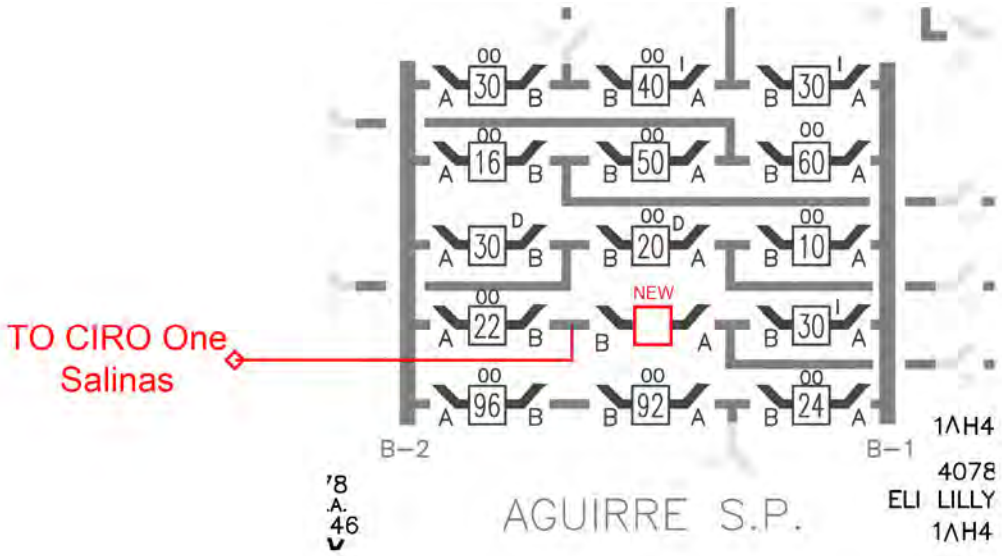
The analysis did not identify any thermal violations for all modeled contingency cases and combinations and no existing thermal violations were worsened. S&L assumed typical dispatch capacity of the existing Aguirre complex (592-MW dispatch) and AES coal generators (388-MW dispatch) in the analysis, as these generators primarily interconnect directly into the 230-kV system, which has significant capacity to export power.

7.3. SCOPE OF INTERCONNECTION

The project will connect to the PREPA system at the Aguirre SP TC, as shown in Figure 7-2. The scope of the interconnection includes the following factors:

- CIRO One's interconnect with the transmission line will consist of approximately 3.51 miles of 115-kV overhead line between the CIRO One collector station and the PREPA Aguirre SP TC 115-kV switchyard primarily through PREPA's existing ROW corridor
- As the line approaches Aguirre, it will turn east and pass under the existing 230-kV and 115-kV transmission lines; approximately 100'x100' of additional ROW will need to be acquired for the new transmission line
- Installation of a new 115-kV breaker in the open bay of a breaker and a half scheme located in the existing box structure will be required; the breaker will be located in the center bay (half breaker) and separate the two existing bus breakers
- Installation of a new 115-kV metering structure at the newly installed 115-kV transmission line termination point on the exterior of the existing box structure will be necessary
- Installation of primary and backup metering—using independent current and voltage transformers on a metering structure at the newly installed 115-kV transmission line termination point on the exterior of the existing box structure—is required
- There will be installation of a new relay, protection, control, and communication equipment required for the new termination in the existing control house; the existing protection and control schemes will need to be updated as necessary

Figure 7-2 — CIRO One Interconnection



7.4. COST ESTIMATE

Based on the above scope of work, S&L provided an AACE Class 5 cost estimate for the transmission and conceptual interconnection approach. The total estimated cost for the interconnection, including the transmission line, is $8,100,000. This estimate is based on the transmission line's scope of work estimate of approximately $5,000,000 and the substation scope of work estimate of approximately $3,100,000.

Note: The cost estimates are inclusive of the interconnection work reimbursable to the developer per the terms of the PPOA. It excludes costs that the developer is responsible for as part of the interconnection, such as those for land acquisition and telecommunication to the facility.

8. GUAYAMA SOLAR ENERGY

Guayama Solar Energy LLC, the project company, intends to build the Guayama Solar Energy, a 25-MW solar project in Guayama, Puerto Rico, as shown in Figure 8-1. The project intends to interconnect to the PREPA grid at the existing Jobos TC at 38 kV. The key components of the project are shown in Table 8-1.

Table 8-1 — Guayama Interconnection Summary

Project Name	Interconnection Point	MW Capacity	Voltage (kV)	TL Length (miles)
Guayama Solar Energy	Jobos TC	25	115	1.19

Figure 8-1 — Guayama Location and Route

8.1. ANALYSIS

8.1.1. Transmission Line and Interconnection

S&L performed a site walkdown at Guayama Solar Energy to verify that open bays exist on the 38-kV bus for a new interconnection termination point. The walkdown confirmed that there are adequate bays to support the interconnection. Additionally, S&L reviewed the proposed transmission line route through satellite imagery and a walkdown. S&L confirmed with PREPA that the transmission line route should utilize the existing Line 15200 ROW.

8.1.2. Load Flow Analysis

S&L evaluated this project as a standalone project and in conjunction with nearby projects. The analysis determined that Guayama does not introduce any new thermal violations or worsen any existing thermal

violations. The Jobos TC has sufficient capacity and redundancy with four 115-kV export lines. This provides sufficient capacity and redundancy.

S&L also considered Guayama Solar with nearby existing and proposed new generation. The analysis considered the projects at their full capacity.

- Jobos GTs (21 MW – Existing Generation)
- Yabucoa GTs (21 MW – Existing Generation)
- CIRO One (New Generation, Section 7)
- Guayama Solar Energy (New Generation, Section 8)

******

- Humacao Solar Project (Fonroche) (Existing Generation, Section 20.2)
- Pattern Santa Isabel (Uprate, Section 20.3)
- Horizon Energy (Uprate, Section 20.6)

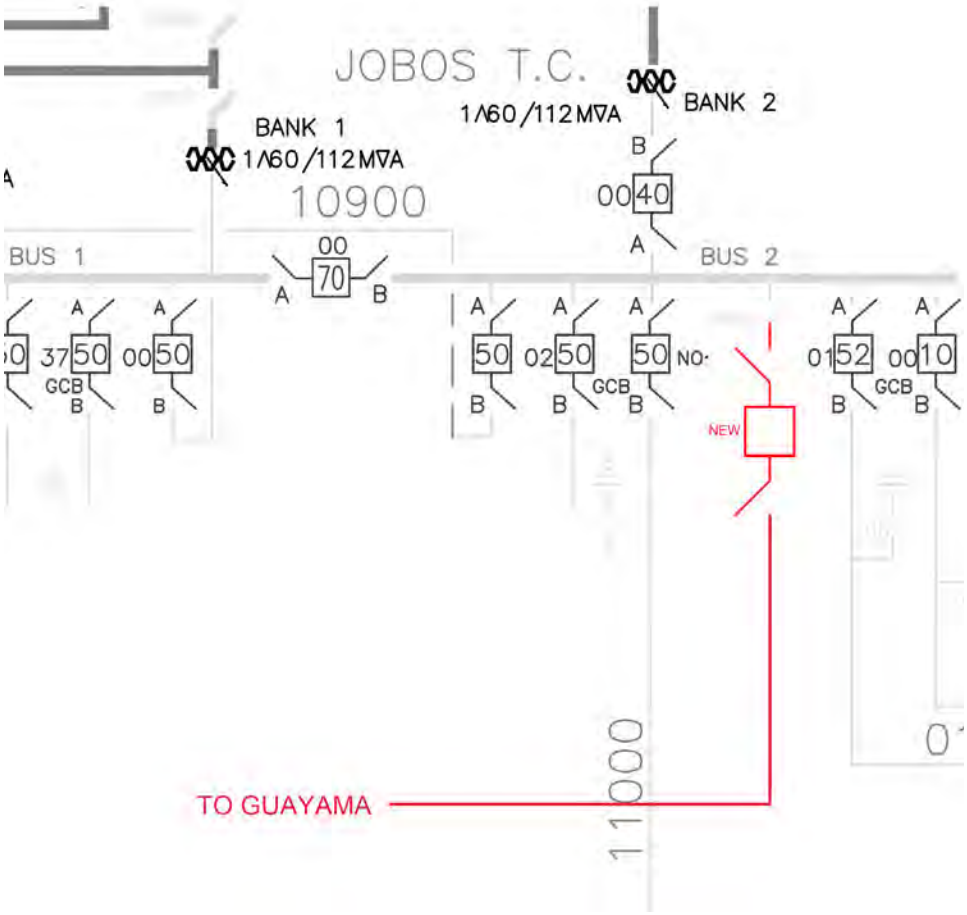
The analysis did not identify any thermal violations for all modeled contingency cases and combinations, and no existing thermal violations were worsened. S&L assumed the typical dispatch capacity of the existing Aguirre complex (592 MW) and AES coal generators (388 MW) in the analysis, as these generators primarily interconnect directly into the 230-kV system, which has significant capacity to export power.

8.2. SCOPE OF INTERCONNECTION

The project will connect to the PREPA system at the Jobos TC as shown in Figure 8-2. The scope of the interconnection includes the following considerations:

- The Guayama Solar Energy interconnect transmission line, which will consist of approximately 1.19 miles of 38-kV overhead line between the Guayama Solar Energy collector station and the PREPA Jobos TC
- Installation of a new 38-kV breaker in the open bay of the existing box structure
- Installation of primary and backup metering using independent current and voltage transformers on a metering structure directly outside the newly installed 38-kV breaker
- Installation of a new relay, protection, control, and communication equipment required in the existing control house (the existing protection and control schemes may need to be updated)

Figure 8-2 — Guayama Solar Energy Interconnection



8.3. COST ESTIMATE

Based on the above scope of work, S&L provided an AACE Class 5 cost estimate for the transmission and conceptual interconnection approach. The total estimated cost for the interconnection, including the transmission line, is $4,910,000. This estimate is based on the transmission line's scope of work estimate of approximately $2,030,000 and the substation scope of work estimate of approximately $2,880,000.

Note: The cost estimates are inclusive of the interconnection work reimbursable to the developer per the terms of the PPOA. It excludes costs that the developer is responsible for as part of the interconnection, such as those for land acquisition and telecommunication to the facility.

9. SOLAR PROJECT SAN JUAN

Fonroche Energy, the project developer, intends to build Solar Project San Juan, a 20-MW solar project in San Lorenzo, Puerto Rico, as shown in Figure 9-1. The project intends to interconnect through an expansion of the San Lorenzo (3301) Substation. The key components of the project are shown in Table 9-1.

Table 9-1 — Solar Project San Juan Interconnection Summary

Project Name	Interconnection Point	Capacity (MW)	Voltage (kV)	TL Length (miles)
Solar Project San Juan	Substation 3301 Expansion	20	38	0.5

Figure 9-1 — Solar Project San Juan Primary Location and Route

9.1. ANALYSIS

9.1.1. Transmission Line and Interconnection

Since 2013, the project originally intended to interconnect to the PREPA system on Line 9300, which is part of the 38-kV system near Juncos TC. The interconnection included a new sectionalizing substation that would bisect Line 9300 between the Gautier Benitez Sectionalizer and the San Lorenzo (3301) Substation at 38 kV. S&L reviewed the original planned interconnection point and transmission line and found it to be feasible. However, after discussions with the developer the land acquisition for the sectionalizer and the transmission line route would be very difficult. Therefore, PREPA Planning and Operations approved a secondary option to interconnect the project by expanding the existing San Lorenzo 3301 substation. This option provides a shorter transmission line route and lower overall cost.

S&L reviewed the transmission line route and 3301 San Lorenzo substation expansion through aerial imagery and pictures provided by PREPA. The analysis determined that a new box bay sectionalizer will be installed to the North of the 3301 San Lorenzo substation. The developer would be responsible for acquiring the land for this expansion. S&L prepared a conceptual interconnection approach, which was reviewed by PREPA Planning and Operations.

9.1.2. Load Flow Analysis

The interconnection point along Line 9300 provides the project with two line segments (each rated 19.7 MVA) to evacuate the power. S&L's load flow analysis identified no thermal violations as a result of this project, and the project could uprate from the originally planned 15 MW to 20 MW; however, there was one exception: Following an N-1 contingency of either of the two Line 9300 segments connecting to Solar Project San Juan, the remaining branch may reach its thermal limit and the project may need to be temporarily curtailed. In general, there are no nearby existing generators or proposed generation projects with which this project may compete for system capacity.

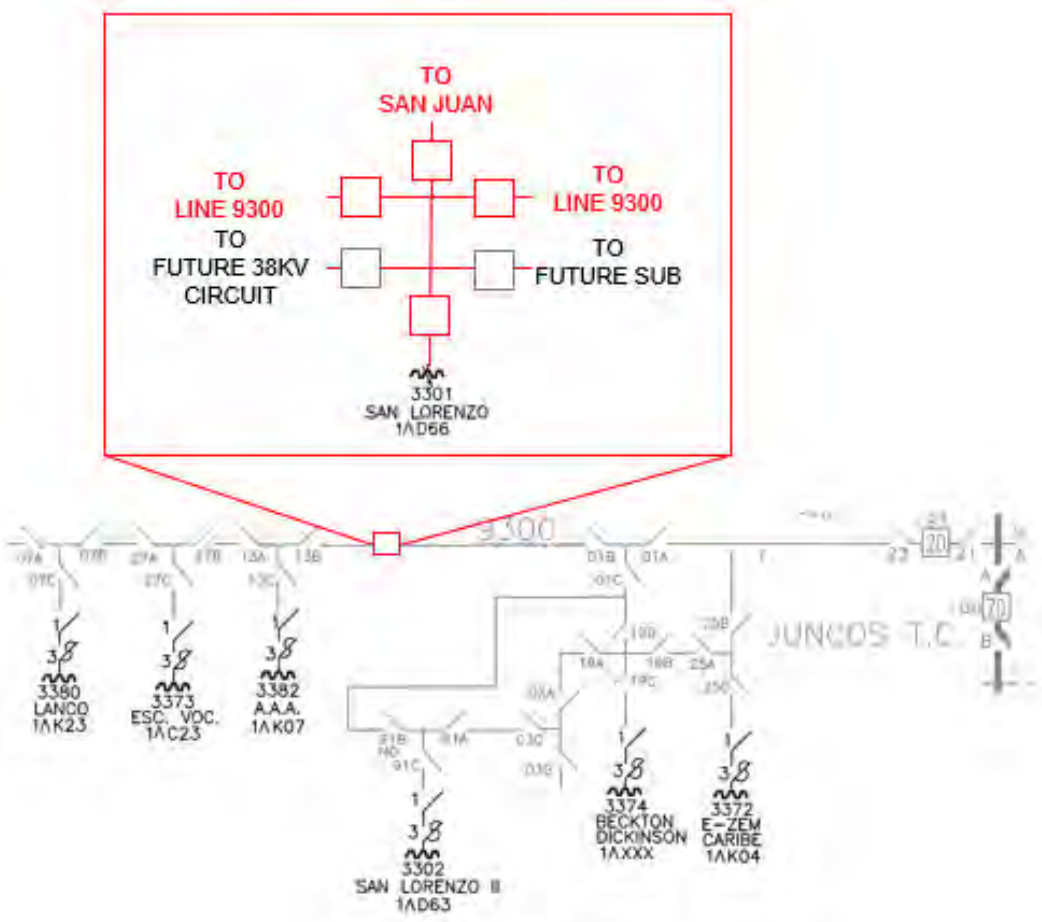
It should be noted that a segment of Line 9300 between the interconnection point and Gautier Benitez is out of service within the PSS/E model. It is not clear if this line is typically operated out of service or if this line is unavailable. If service to this line were to be restored, this would provide a third path for export power for San Juan and connect it to the Caguas TC, which would be beneficial to the PREPA grid.

9.2. SCOPE OF INTERCONNECTION

The scope of the new transmission line to interconnect the project to the existing San Lorenzo (3301) substation (as shown in Figure 9-2) includes the following:

- A new 0.50-mile, 38-kV transmission line routed through open fields, that will include a river crossing, to connect the solar collector site to terminate at the San Lorenzo (3301) Substation
- Installation of a new 38-kV sectionalizing box structure extension
- Installation of a new relay, protection, control, and communication equipment required in the existing control house, with a potentially required a control-house expansion
- Installation new 38-kV circuit breakers, including gang-operated disconnect switches and surge arrestors
- Installation of a new 38-kV metering structure for the project
- Installation of new conduit, trenching, and ground grid in the sectionalizing substation as applicable
- Installation of primary and backup metering using independent current and voltage transformers on the metering structure

Figure 9-2 — Solar Project San Juan Interconnection



9.3. COST ESTIMATE

S&L developed an AACE Class 5 cost estimate for the alternate transmission and interconnection route. The total cost of the interconnection and transmission line is $7,800,000. The cost estimate was broken down into the transmission line scope of work, estimated to cost approximately $900,000, and the substation scope, estimated to cost approximately $6,900,000.

At the time this report was issued, the interconnection for Solar Project San Juan had not been finalized between PREPA, and the developer; therefore, the scope and cost estimate are subject to change.

Note: The cost estimates are inclusive of the interconnection work reimbursable to the developer per the terms of the PPOA. It excludes costs that the developer is responsible for as part of the interconnection, such as those for land acquisition and telecommunication to the facility.

10. VEGA BAJA SOLAR PROJECT

Fonroche Energy, the project developer, intends to build the Vega Baja Solar Project, a 15-MW solar project in Naguabo, Puerto Rico, as shown in Figure 10-1. The project intends to interconnect to the PREPA grid with a new sectionalizer that will be located on Line 5400 between the Punta Lima TO and Naguabo (2701) at 38 kV. Line 5400 is an extension of the Daguao TC 38-kV system. The key components of the project are shown in Table 10-1.

Table 10-1 — Vega Baja Interconnection Summary

Project Name	Interconnection Point	Capacity (MW)	Voltage (kV)	TL Length (miles)
Vega Baja	Line 5400 (Punta Lima TO)	15	38	0.18

Figure 10-1 — Vega Baja Location and Route

10.1. ANALYSIS

10.1.1. Transmission Line and Interconnection

S&L performed a site walkdown at the Vega Baja Solar Project interconnection point on Line 5400. It was determined that a new sectionalizer will be installed at the location in Figure 10-1 for the project. The transmission line routes were reviewed through satellite imagery and a walkdown and found to be feasible. S&L prepared a conceptual interconnection approach, which was reviewed by PREPA Planning and Operations.

10.1.2. Load Flow Analysis

Line 5400 between the project and the Daguao TC (continuing east from Punta Lima) has a rating of 20 MVA per the PSS/E model. The 20 MVA rating provides a 15-MW ceiling for Vega Baja.

S&L studied the project with the existing (not currently operating) Punta Lima Wind Farm (27-MW capacity) and the Daguao GTs (42-MW capacity) due to their proximity to Vega Baja and their ties into the 115-kW Daguao TC. ******

S&L identified no new thermal violations as a result of this project. ******

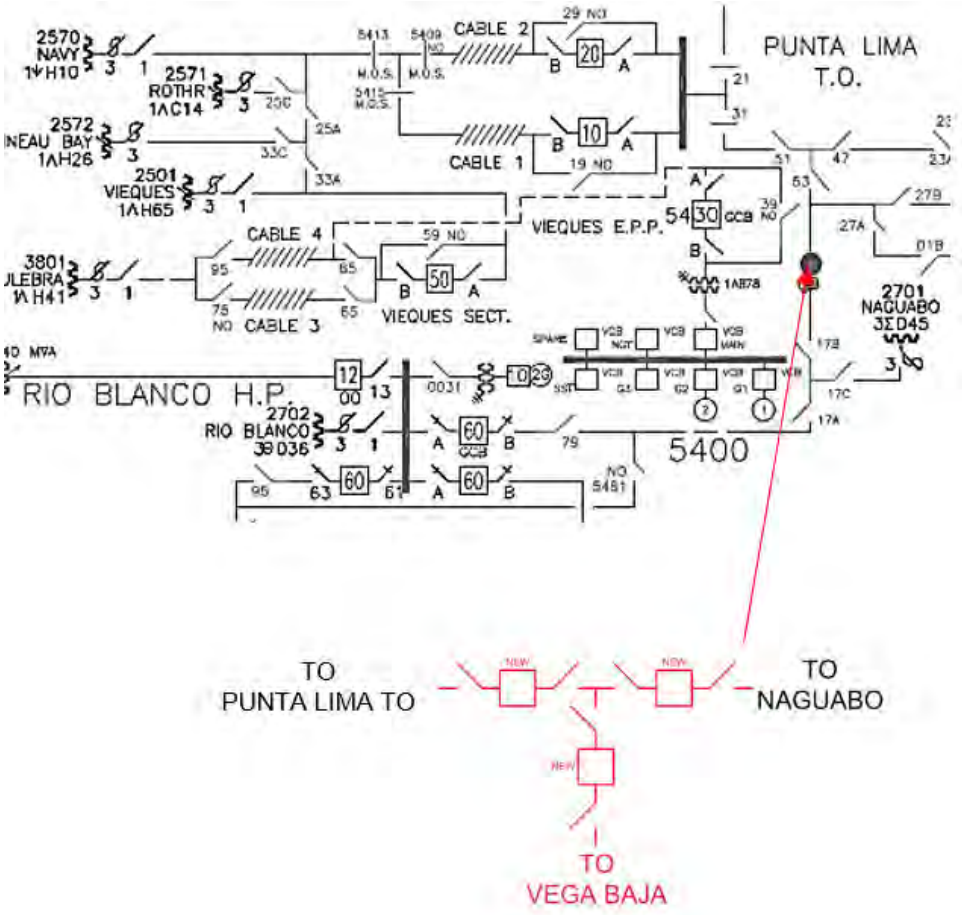
******

10.2. SCOPE OF INTERCONNECTION

The project will connect to the PREPA system at the new sectionalizer that will be located on and bisect Line 5400 between the Punta Lima TO and Naguabo (2701), as shown in Figure 10-2. The scope of the interconnection includes the following:

- A new 0.18 mile 38-kV transmission line routed through open field and terminating at the new sectionalizing substation
- Installation of a new 38-kV sectionalizing box structure capable of supporting up to four termination points, including breakers, switches, surge arrestors, and metering as needed
- Installation of a new prefabricated control house
- Installation of a new relay, protection, control, and communication equipment required in the control house
- Installation of a new security fence, lighting, and applicable security equipment
- Installation of three new 38-kV circuit breakers with gang-operated disconnect switches and surge arrestors
- Installation of a new 38-kV metering structure
- Installation of new conduit, trenching, and ground grid as applicable
- Installation of primary and backup metering using independent current and voltage transformers on a metering structure

Figure 10-2 — Vega Baja Interconnection



10.3. COST ESTIMATE

S&L developed an AACE Class 5 cost estimate for the transmission and interconnection. The total cost of the interconnection and transmission line is $4,510,000. The cost estimate was broken down into the transmission line scope of work, estimated to cost approximately $750,000, and the substation scope, estimated to cost approximately $3,760,000.

Note: The cost estimates are inclusive of the interconnection work reimbursable to the developer per the terms of the PPOA. It excludes costs that the developer is responsible for as part of the interconnection, such as those for land acquisition and telecommunication to the facility.

11. REA VEGA BAJA

Renewable Energy Authority LLC, the project company, intends to build REA Vega Baja, a 25-MW solar project in Vega Baja, Puerto Rico, as shown in Figure 11-1. The project intends to interconnect to the PREPA grid at the existing Vega Baja TC at 38 kV. The key components of the project are shown in Table 11-1.

Table 11-1 — REA Vega Baja Interconnection Summary

Project Name	Interconnection Point	MW Capacity	Voltage (kV)	TL Length (miles)
REA Vega Baja	Vega Baja 38 TC	25	38	2.2

Figure 11-1 — REA Vega Baja Location and Route

11.1. ANALYSIS

11.1.1. Transmission Line and Interconnection

S&L performed a site walkdown at the Vega Baja TC to verify that open bays exist on the 38-kV bus for a new interconnection termination point. The walkdown confirmed that a bay extension would be required for the new bus position.

The transmission line route routes were reviewed through satellite imagery and a walkdown. S&L determined that the path was feasible for the project. The developer provided the final underground transmission line route, and associated drawings for review. S&L reviewed these plans with PREPA and modified the conceptual plans and termination points according to REA's plans.

11.1.2. Load Flow Analysis

There are several other solar non-operational projects along or adjacent to Line 37400. In the power flow study, S&L considered the REA Vega Baja project in various combinations with the following projects, as well as on its own, to determine if the project would worsen or create any new thermal violations:

- Xzerta-Tec (Section 3)
- SolarBlue (Section 4)
- Blue Beetle (Section 5)
- REA Hatillo (North) (Section 12)
- Atenas (Section 15)
- ReSun (Section 16)

******

11.1.2.1. REA Vega Baja Alone or Including Atenas ******

When S&L studied REA Vega Baja alone and in combination with Atenas ****** , no new thermal violations were introduced, and any existing thermal violations were not worsened. The combinations studied included REA Vega Baja at 115 kV along Line 37400 in combination with Atenas ****** as well as REA Vega Baja at 38 kV at the Vega Baja TC with Atenas ****** interconnecting into the 115-kV Manati TC. There is sufficient capacity in the area, along with local load, to accommodate these projects. ******

11.1.2.2.Additional Combinations

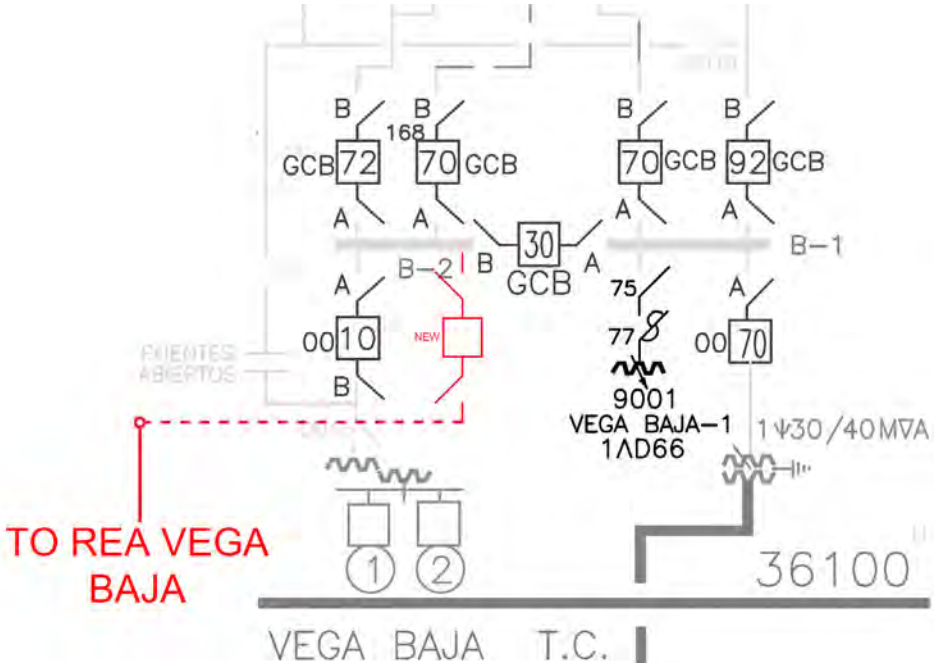
S&L performed five additional load flow studies, as discussed in Section 5.1.2.2 through 5.1.2.6. When REA Vega Baja is combined with the various other projects, new overloads are identified following several different N-1 contingency cases. The results are available in Table 5-2 through Table 5-5.

11.2.SCOPE OF INTERCONNECTION

The project will connect to the PREPA system at the Vega Baja TC, as shown in Figure 11-2. The scope of the interconnection includes the following:

- The REA Vega Baja interconnect transmission line consisting of approximately 2.20 miles of 38-kV underground line between the REA Vega Baja collector station and the PREPA Vega Baja TC
- Installation of a new 38-kV box structure with underground termination risers for the new 38-kV cable from REA Vega Baja
- Installation of a new 38-kV metering structure
- Revision of the existing transmission 38-kV termination box structure to support an expansion of the existing bus to the new box structure to support a breaker and the underground termination to REA Vega Baja
- Installation of a new 38-kV gas circuit breaker for REA Vega Baja with manually gang-operated disconnect switches at the new 38-kV box structure
- Installation of primary and backup metering using independent current and voltage transformers on a metering structure directly outside the newly installed 38-kV box structure
- Installation of a new relay, protection, control, and communication equipment required in the existing control house

Figure 11-2 — REA Vega Baja Interconnection



11.3. COST ESTIMATE

Based on the above scope of work, S&L provided an AACE Class 5 cost estimate for the transmission and conceptual interconnection approach. The total estimated cost for the interconnection, including the transmission line, is $8,100,000. This estimate is based on the transmission line's scope of work estimate of approximately $5,200,000 and the substation scope of work estimate of approximately $2,900,000.

Note: The cost estimates are inclusive of the interconnection work reimbursable to the developer per the terms of the PPOA. It excludes costs that the developer is responsible for as part of the interconnection, such as those for land acquisition and telecommunication to the facility.

12. REA HATILLO (NORTH)

The Stella Group, the project sponsor, intends to build REA Hatillo (North), a 25-MW solar project in Hatillo, Puerto Rico, as shown in Figure 12-1. The project intends to interconnect to the PREPA grid at the existing 38-kV Hatillo 7701/TO substation. The key components of the project are shown in Table 12-1.

Table 12-1 — REA Hatillo (North) Interconnection Summary

Project Name	Interconnection Point	MW Capacity	Voltage (kV)	TL Length (miles)
REA Hatillo (North)	Hatillo 7701/TO	25	38	0.03

Figure 12-1 — REA Hatillo Location and Route

12.1. ANALYSIS

12.1.1. Transmission Line and Interconnection

The REA Hatillo (North) development is adjacent to PREPA's 38-kV 7701/TO substation. The conceptual interconnection walkdown confirmed that a bay extension is required at the Hatillo 7701/TO substation for the new bus position and that existing equipment would need to be relocated. S&L prepared a conceptual interconnection approach, which was reviewed by PREPA Planning and Operations.

12.1.2.Load Flow Analysis

REA Hatillo (North) is proposed to interconnect into the 38-kV Hatillo TO, which is a substation along Line 37400. In addition to REA Hatillo (North), several other solar developers have also proposed to interconnect at various locations along Line 37400, either connecting directly to the line or a lower voltage. The projects are:

- Xzerta-Tec (Section 3)
- SolarBlue (Section 4)
- Blue Beetle (Section 5)
- REA Vega Baja (Section 11)
- REA Hatillo (North) (Section 12)
- Atenas (Section 15)
- ReSun (Section 16)

******

Line 37400 has a capacity of 239 MVA; however, there are several load centers along this line, reducing the need to export the full capacity of these projects solely on Line 37400.

S&L performed a power flow analysis that included these projects in various combinations together as well as individually to evaluate any thermal limitations there may be. The results of the various analyses that included REA Hatillo (North) are discussed below.

12.1.2.1.REA Hatillo (North) Alone

This new generation project alone does not introduce any new thermal violations or worsen any existing thermal violations. This project is isolated on the 38-kV system near the Hatillo TC as the existing 115/38-kV step-down transformer is out of service. As there is sufficient load in the local 38-kV system, no overloads are identified.

12.1.2.2.Additional Combinations

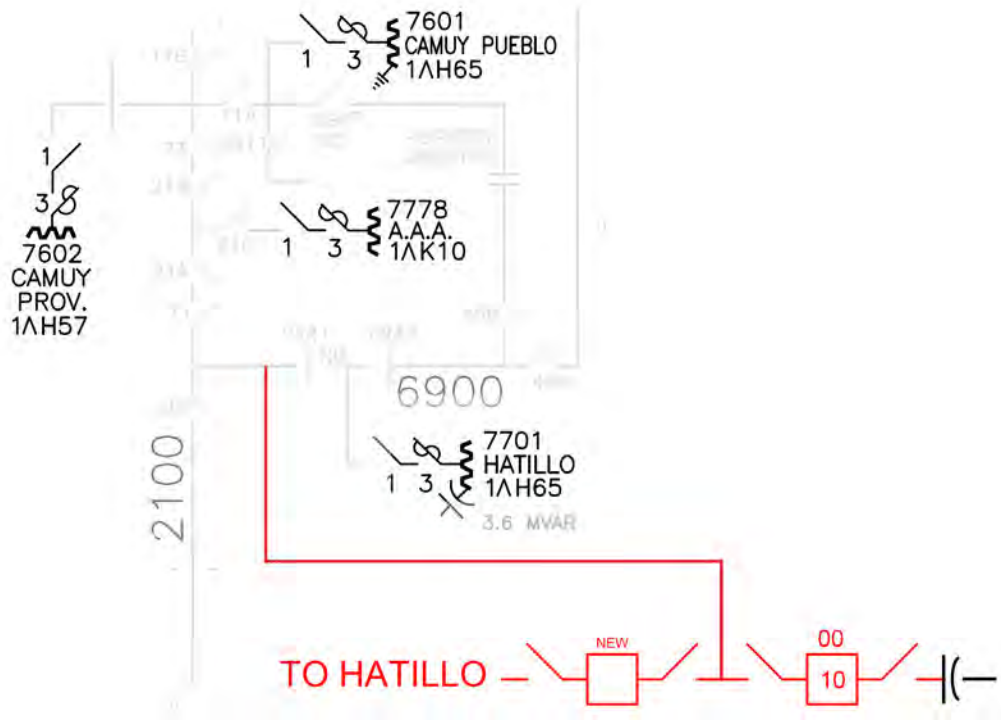
S&L also evaluated REA Hatillo (North) in Combination 6 as discussed in Section 5.1.2.6. This combination identifies new thermal overloads on Line 36400 between Dos Boca and Jayuya following contingencies in the south. The results are shown in Table 5-5.

12.2. SCOPE OF INTERCONNECTION

The project will connect to the PREPA system at the Hatillo 7701/TO, as shown in Figure 12-2. The scope of the interconnection includes the following:

- An interconnection transmission line between the REA Hatillo (North) and the Hatillo 7701/TO substation new box structure consisting of an approximate 150-ft slack span of 38-kV line
- Installation of a new 38-kV box structure expansion in the area of the existing capacitor bank, including lightning protection
- Relocation of the existing capacitor bank
- Installation of a new 38-kV metering structure
- Modification of the existing transmission 38-kV termination box structure to support an expansion of the bus to the new box structure to support a breaker and the REA Hatillo (North) interconnection termination
- Installation a new 38-kV gas circuit breaker for the REA Hatillo (North) with manually gang-operated disconnect switches at the new 38-kV box structure
- Installation of primary and backup metering using independent current and voltage transformers on a metering structure north of the newly installed 38-kV box structure
- Updating the existing primary and backup bus protection and control to include the new breaker addition
- Installation of a new relay, protection, control, and communication equipment required for the new termination in the existing control house (it is likely that the existing control room will need to be expanded to accommodate the required equipment)

Figure 12-2 — REA Hatillo (North) Interconnection



12.3. COST ESTIMATE

Based on the above scope of work, S&L provided an AACE Class 5 cost estimate for the transmission and conceptual interconnection approach. The total estimated cost for the interconnection, including the transmission line, is $4,000,000. This estimate is based on the transmission line's scope of work estimate of approximately $200,000 and the substation scope of work estimate of approximately $3,800,000.

Note: The cost estimates are inclusive of the interconnection work reimbursable to the developer per the terms of the PPOA. It excludes costs that the developer is responsible for as part of the interconnection, such as those for land acquisition and telecommunication to the facility.

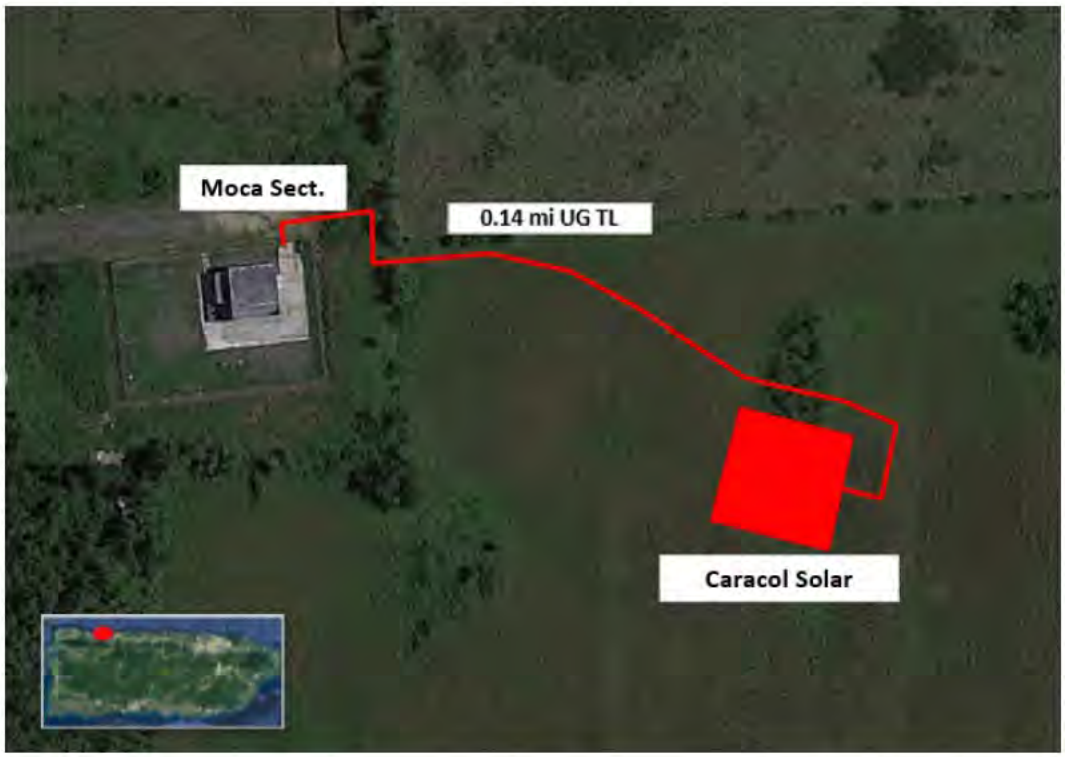
13. CARACOL

Caracol Solar LLC, the project company, intends to build Caracol, a 30-MW solar project in Moca, Puerto Rico, as shown in Figure 13-1. The project intends to interconnect to the PREPA grid at the existing 38-kV Moca Sectionalizer. The key components of the project are shown in Table 13-1.

Table 13-1 — Caracol Interconnection Summary

Project Name	Interconnection Point	MW Capacity	Voltage (kV)	TL Length (miles)
Caracol	Moca Sectionalizer	30	38	0.14

Figure 13-1 — Caracol Location and Route



13.1. ANALYSIS

13.1.1. Transmission Line and Interconnection

S&L completed a desktop review of Caracol Solar LLC's proposed interconnection location based on the solar collector site location provided by the developer, the PREPA system single-line diagram, and satellite images to evaluate the suitability of the interconnection point and determine a transmission line route. The desktop review found there is an open bay position available and determined that the existing Moca

Sectionalizer can adequately support the new Caracol termination. Additionally, inspection indicated that a termination point and line route were feasible.

13.1.2. Load Flow Analysis

S&L's load flow analysis determined that the 30-MW Caracol project at the 38-kV Moca substation does not introduce any new thermal violations or worsen any existing thermal violations. S&L found the topology in the area of interconnection can support a 30-MW injection given the following factors:

1. The project is located near the main 38-kV Mora TC, making it less susceptible to overloading the 38-kV system

2. The 38-kV line between Moca substation and Mora TC also has a 65.8-MVA rating with no additional load or generation competing for capacity

3. Mora TC has two 115-kV/38-kV parallel step-down transformers which creates redundancy in protecting the 38-kV system from being isolated

4. There are both 115-kV and 230-kV lines exporting from the Mora TC with the only other generation at Mora (115 kV) being the operating Oriana Solar Facility at 50 MW; note that the load flow analysis for this project was considered with Oriana Solar (Section 20.7) dispatched at its proposed capacity of 60 MW, as Oriana interconnects directly into the 115-kV Mora TC

Due to the above factors, PREPA made an exception for the project to allow the 30-MW project on the 38-kV system.

S&L also evaluated the project with the proposed new Sierra Solar Project (Section 14) and the uprate of the Oriana Energy Solar Project (Section 20.7). S&L considered the full capacity of the projects in the model. The analysis did not identify any thermal violations for all modeled contingency cases and combinations, and no existing thermal violations were worsened. The Mora TC has two 230-kV and one 115-kV line to export power, providing ample capacity.

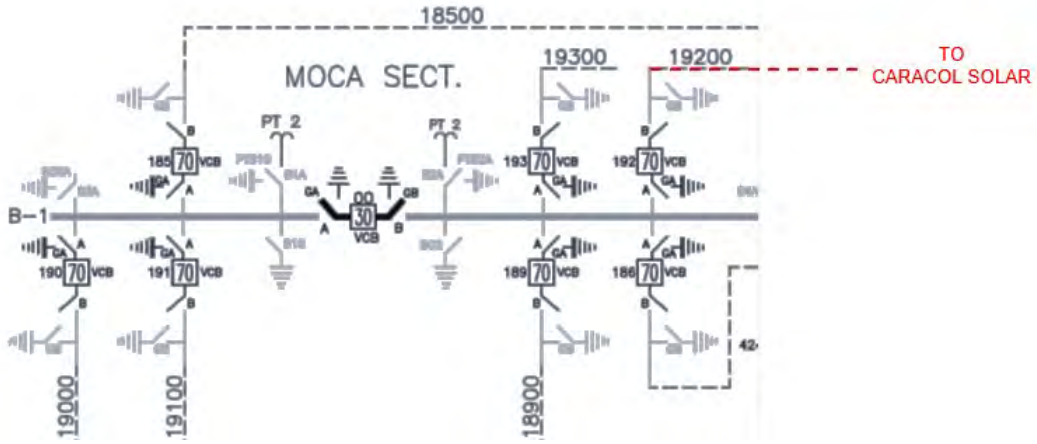
13.2. SCOPE OF INTERCONNECTION

The project will connect to the PREPA system at the Moca Sectionalizer, as shown in Figure 13-2. The scope of the interconnection includes the following factors:

- A new 0.14-mile underground 38-kV transmission line will be routed in a new duct bank to the Moca substation termination point

- The new 38-kV transmission line will be terminated using a riser structure and cable racks inside the existing 38-kV Moca Sect at an empty bay location
- S&L was unable to confirm if a breaker was already installed; therefore, the scope assumes a new 38-kV GIS breaker will be installed for Caracol Solar
- Metering equipment, including metering accuracy current and voltage transformers, will be installed at the termination point of the Caracol project at the Moca Sectionalizer, if feasible; coordination with the GIS manufacturer will be required to determine the design requirements and if an additional auxiliary structure will be required
- Installation of a new relay, protection, control, and communication equipment required for the new termination in the existing control house will be required; S&L expects the control house can accommodate the required equipment

Figure 13-2 — Caracol Interconnection



13.3. COST ESTIMATE

Based on the above scope of work, S&L provided an AACE Class 5 cost estimate for the transmission and conceptual interconnection approach. The total estimated cost for the interconnection, including the transmission line, is $1,030,000. This estimate is based on the transmission line's scope of work estimate of approximately $450,000 and the substation scope of work estimate of approximately $580,000.

Note: The cost estimates are inclusive of the interconnection work reimbursable to the developer per the terms of the PPOA. It excludes costs that the developer is responsible for as part of the interconnection, such as those for land acquisition and telecommunication to the facility.

14. SIERRA

Sierra Solar Farm LLC, the project company, intends to build Sierra, a 25-MW solar project in Quebradillas, Puerto Rico, as shown in Figure 14-1. The project intends to interconnect to the PREPA grid at the existing Quebradillas Sectionalizer at 38 kV. The key components of the project are shown in Table 14-1.

Table 14-1 — Sierra Interconnection Summary

Project Name	Interconnection Point	MW Capacity	Voltage (kV)	TL Length (miles)
Sierra	Quebradillas Sectionalizer	25	38	0.14

Figure 14-1 — Sierra Location and Route

14.1. ANALYSIS

14.1.1. Transmission Line and Interconnection

A desktop review was performed for Sierra project. Satellite imagery and PREPA's system one-lines were used to determine if there was an available termination point at the Quebradillas Sectionalizer. Through this inspection, S&L validated that the termination point and line route were feasible.

14.1.2. Load Flow Analysis

S&L evaluated the project alone and in combination with the proposed new Caracol Project (Section 13) and the uprate of the Oriana Energy Solar Project (Section 20.7) as discussed below.

14.1.2.1. Sierra Alone

The proposed project does not introduce any new thermal violations or worsen any existing thermal violations. The topology in the area of interconnection can support a 25-MW injection given the following factors:

1. The project is located near the main 38-kV Mora substation, making it less susceptible to overloading the 38-kV system
2. The 38-kV line between the Quebradillas Sectionalizer and Mora TC also has a 48-MVA rating
3. The Mora TC has two 115-kV/38-kV parallel step-down transformers, which creates redundancy in protecting the 38-kV system from being isolated
4. There are both 115-kV and 230-kV lines exporting power from the Mora TC

14.1.2.2. Sierra Including Nearby Projects

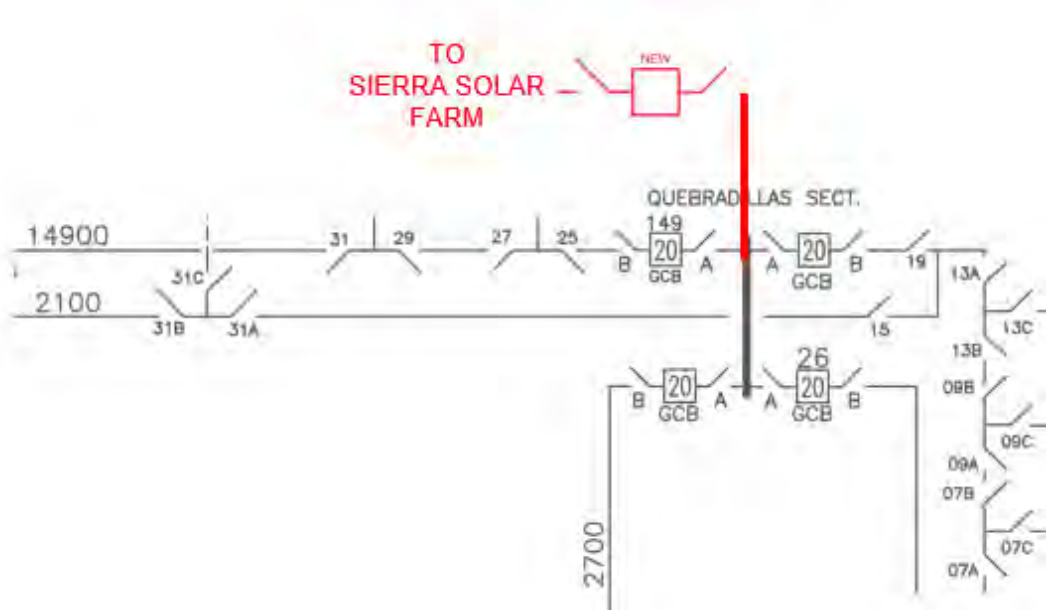
S&L considered the full capacity of the Sierra, Caracol, and Oriana projects in the model. The analysis did not identify any thermal violations for all modeled contingency cases and combinations, and no existing thermal violations were worsened. As discussed above, the Mora TC has two 230-kV lines and one 115-kV line to export power, providing ample capacity.

14.2. SCOPE OF INTERCONNECTION

The project will connect to the PREPA system at the Quebradillas Sectionalizer, as shown in Figure 14-2. The scope of the interconnection includes the following:

- The Sierra Solar Facility's interconnect transmission line, to consist of approximately 0.14 miles of 38-kV underground line between Sierra Solar and the PREPA Quebradillas Sectionalizer
- Installation of a new 38-kV box structure
- Installation of a new 38-kV metering structure
- Modification of the existing transmission 38-kV termination box structure to support an expansion of the bus to the new box structure to support a breaker and the Sierra Solar interconnection
- Installation a new 38-kV underground to overhead termination structure
- Installation a new 38-kV gas circuit breaker for Sierra Solar, with manually gang-operated disconnect switches at the new 38-kV box structure
- Installation of a new relay, protection, control, and communication equipment required in the existing control house

Figure 14-2 — Sierra Interconnection



14.3. COST ESTIMATE

Based on the above scope of work, S&L provided an AACE Class 5 cost estimate for the transmission and conceptual interconnection approach. The total estimated cost for the interconnection, including the transmission line, is $3,405,000. This estimate is based on the transmission line's scope of work estimate of approximately $525,000 and the substation scope of work estimate of approximately $2,880,000.

Note: The cost estimates are inclusive of the interconnection work reimbursable to the developer per the terms of the PPOA. It excludes costs that the developer is responsible for as part of the interconnection, such as those for land acquisition and telecommunication to the facility.

15. ATENAS

National Energy Partners is sponsoring Desarrollos del Norte Inc. d/b/a Atenas Solar Farm to build a 40-MW solar project in Manati, Puerto Rico, as shown in Figure 15-1. The project is planned to interconnect to PREPAs system at the existing Manati TC at 115 kV. The key components of the project are shown in Table 15-1.

Table 15-1 — Atenas Interconnection Summary

Project Name	Interconnection Point	MW Capacity	Voltage (kV)	TL Length (miles)
Atenas	Manati TC	40	115	1.55

Figure 15-1 — Atenas Location

15.1. ANALYSIS

15.1.1. Transmission Line and Interconnection

S&L performed a site walkdown at the Manati TC to verify that open bays exist on the 115-kV bus for a new interconnection termination point. A preliminary review of the initial interconnection location, at the existing 38-kV Manati Sectionalizer, determined that it required a costly transmission line to be built around the town of Manati. A new interconnection location for the project was selected, the 115-kV Manati TC, which allowed the developer to increase the size of the project from the planned 20 MW to 40 MW.

The walkdown of the new interconnection point confirmed that a bay extension will be required for the new bus position and that existing equipment would need to be relocated. The transmission line route routes were reviewed through satellite imagery and a walkdown; it was determined that the path was feasible for the project. S&L prepared a conceptual interconnection approach, which was reviewed by PREPA Planning and Operations.

15.1.2. Load Flow Analysis

Atenas is proposed to connect into the 115-kV Manati TC, which is along Line 37400. Several other solar developers also have proposed to interconnect at various locations along Line 37400, either connecting directly to the line or a lower voltage. The projects are:

- Xzerta-Tec (Section 3)
- SolarBlue (Section 4)
- Blue Beetle (Section 5)
- REA Vega Baja (Section 11)
- REA Hatillo (North) (Section 12)
- Atenas (Section 15)
- ReSun (Section 16)

******

Line 37400 has a capacity of 239 MVA; however, there are several load centers along this line, reducing the need to export the full capacity of these projects solely on Line 37400.

S&L performed a power flow analysis that included these projects in various combinations together as well as individually to evaluate any thermal limitations. The results of the various analyses that included Atenas are discussed below.

15.1.2.1.Atenas Alone or Including REA Vega Baja ******

When S&L studied Atenas alone or in combination with REA Vega Baja ****** , no new thermal violations were introduced, and any existing thermal violations were not worsened. The combinations studied included Atenas at 115 kV along Line 37400 in combination with REA Vega Baja ****** as well as REA Vega Baja at 38 kV at the Vega Baja TC with Atenas ****** interconnecting into the 115-kV Manati TC. There is sufficient capacity in the area, along with local load, to accommodate these projects. ******

15.1.2.2.Additional Combinations

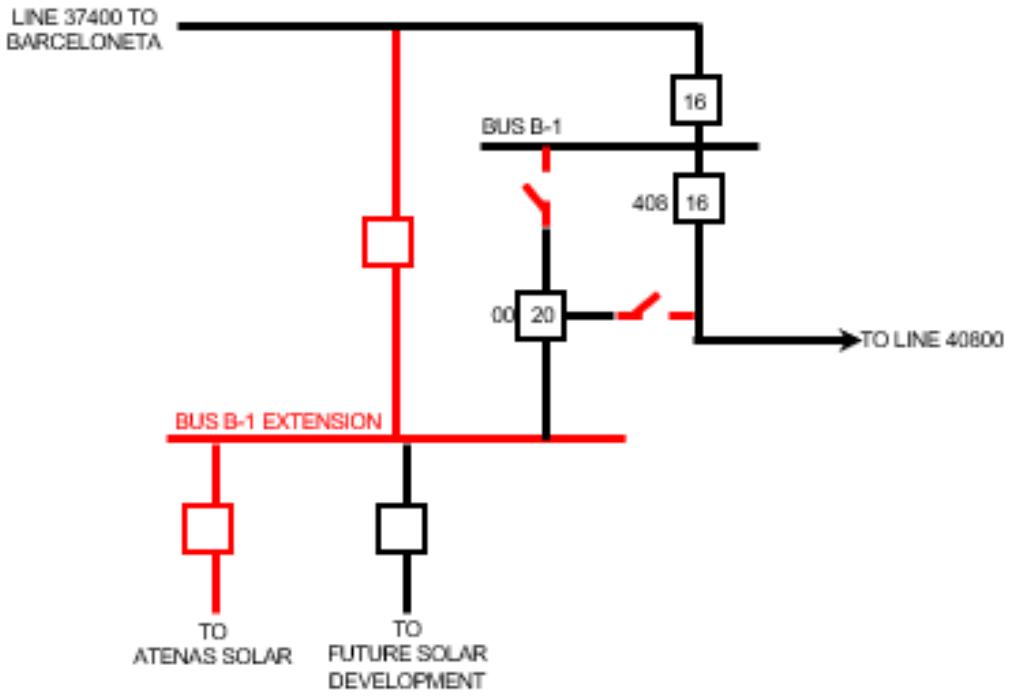
S&L performed five additional load flow studies, as discussed in Section 5.1.2.2 through 5.1.2.6. When Atenas is combined with the various other projects, new overloads are identified following several different N-1 contingency cases. The results are available in Table 5-2 through Table 5-5.

15.2.SCOPE OF INTERCONNECTION

The project will connect to the PREPA system at the Manati TC, as shown in Figure 15-2. The scope of the interconnection includes the following:

- A new 1.55-mile, 115-kV transmission line routed mostly through open fields and crossing a commercial area
- A two-bay extension of the Manati TC 115-kV bus along the south-west corner of the existing yard, designed to accommodate future terminations, where the new transmission line will terminate
- Installation of two new 115-kV breakers to interconnect with the existing Line 37400
- Installation of a new metering structure for the project
- Demolition and relocation of a warehouse in the southwest corner of the yard to make room for the 115-kV bus expansion and transmission termination
- Expansion of the existing control house to accommodate the new relay, protection, control, and communication equipment required for the bus extension

Figure 15-2 — Atenas Interconnection



15.3. COST ESTIMATE

Based on the above scope of work, S&L provided an AACE Class 5 cost estimate for the transmission and conceptual interconnection approach. The total estimated cost for the interconnection, including the transmission line, is $9,300,000. This estimate is based on the transmission line scope of work estimate of approximately $3,000,000 and the transmission center scope of work estimate of approximately $6,300,000.

Note: The cost estimates are inclusive of the interconnection work reimbursable to the developer per the terms of the PPOA. It excludes costs that the developer is responsible for as part of the interconnection, such as those for land acquisition and telecommunication to the facility.

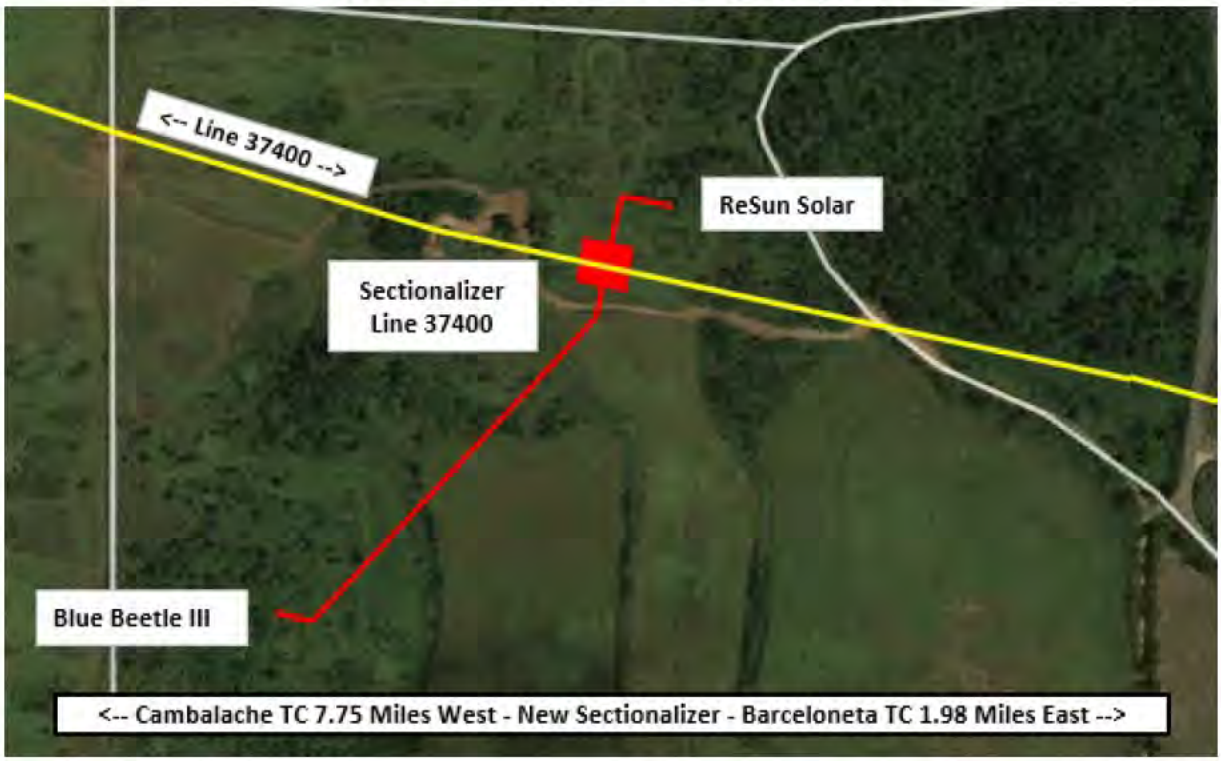
16. RESUN

ReSun Barceloneta, LLC, the project company, intends to build ReSun, a 35-MW solar project in Arecibo, Puerto Rico, as shown in Figure 16-1. The project intends to interconnect to the PREPA grid with a new sectionalizer that will be located on and bisect Line 37400 between the Cambalache TC and Barceloneta TC at 115 kV. Blue Beetle may also terminate at the new sectionalizer. The conceptual interconnection approach can incorporate both interconnection terminations or may be used as a standalone sectionalizer if needed. The key components of the project are shown in Table 16-1.

Table 16-1 — ReSun Interconnection Summary

Project Name	Interconnection Point	MW Capacity	Voltage (kV)	TL Length (miles)
ReSun	Line 37400 (Near Barceloneta)	35	115	0.05

Figure 16-1 — ReSun Location and Route



16.1. ANALYSIS

16.1.1. Transmission Line and Interconnection

S&L performed a site walkdown at the Blue Beetle and the ReSun interconnection point on Line 37400. S&L recommended, and PREPA Planning and Operations agreed, to install a new four-way sectionalizer

at the location shown in Figure 16-1 to service both the Blue Beetle and the ReSun projects. Using satellite imagery in addition to the site walkdown, S&L reviewed the transmission line routes and found them feasible. S&L prepared an approach, which was reviewed by PREPA Planning and Operations.

16.1.2.Load Flow Analysis

The ReSun project is proposed to connect into a new four-way sectionalizer along line 37400 between Barceloneta TC and Cambalache TC. Several other solar developers also have proposed to interconnect at various locations along Line 37400, either connecting directly to the line or a lower voltage. The projects are the following:

- Xzerta-Tec (Section 3)
- SolarBlue (Section 4)
- Blue Beetle (Section 5)
- REA Vega Baja (Section 11)
- REA Hatillo (North) (Section 12)
- Atenas (Section 15)
- ReSun (Section 16)

******

Line 37400 has a capacity of 239 MVA; however, there are several load centers along this line, reducing the need to export the full capacity of these projects solely on Line 37400.

S&L performed a power flow analysis that included these projects in various combinations together as well as individually to evaluate any thermal limitations there may be. The results of the various analyses that included ReSun are discussed below.

S&L performed six load flow studies as discussed in Section 5.1.2.1 through Section 5.1.2.6. Since ReSun shares the sectionalizer interconnection with Blue Beetle (Section 5), the thermal injection results are the same. When ReSun is combined with the various other projects, new overloads are identified following several different N-1 contingency cases. The results are available in Table 5-2 through Table 5-5.

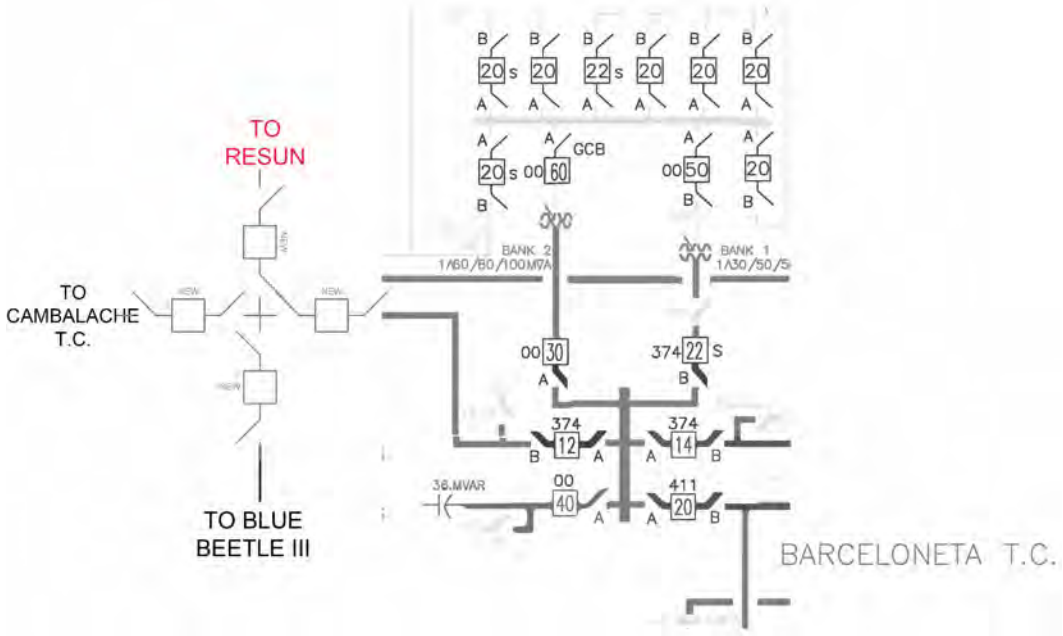
16.2.SCOPE OF INTERCONNECTION

The project will connect to the PREPA system at the new sectionalizer that will be located on and bisect Line 37400 between the Cambalache TC and Barceloneta TC, as shown in Figure 16-2. The scope of work

is inclusive of both the ReSun and Blue Beetle installations with exception to what is mentioned herein. The scope of the interconnection includes the following:

- A new 0.05-mile, 115-kV transmission line routed through open fields terminating at a new sectionalizing substation
- Installation of a new 115-kV sectionalizing box structure; the structure should be capable of supporting up to four termination points, including breakers, switches, surge arrestors, and metering
- Installation of a new prefabricated control house
- Installation of a new relay, protection, control, and communication equipment required in the control house
- Installation of a new security fence, lighting, and applicable security equipment according to PREPA standards
- Installation of three new 115-kV circuit breakers, including gang-operated disconnect switches and surge arrestors; a fourth 115-kV circuit breaker, switches, metering, protection, controls, communication, and all other necessary equipment will be installed for Blue Beetle if required
- Installation of a new 115-kV metering structure for ReSun
- Installation of new conduit, trenching, and ground grid, as applicable
- Installation of primary and backup metering using independent current and voltage transformers on a metering structure

Figure 16-2 — ReSun Interconnection



16.3. COST ESTIMATE

Based on the above scope of work, S&L provided two AACE Class 5 cost estimates for the transmission and conceptual interconnection approach. One estimate requires that a second solar development, Blue Beetle, is executed in conjunction with the ReSun development. Based on this scenario, the total estimated cost to ReSun for the interconnection, including the transmission line, is $2,640,000. This estimate is based on the transmission line's scope of work estimate of approximately $460,000 and the substation scope of work estimate of approximately $2,180,000.

The second estimate independently installs ReSun without Blue Beetle. Based on this scenario, the total estimated cost for the interconnection, including the transmission line, is $4,420,000. This estimate is based on the transmission line's scope of work estimate of approximately $460,000, and the substation scope of work estimate of approximately $3,960,000.

Note: The cost estimates are inclusive of the interconnection work reimbursable to the developer per the terms of the PPOA. It excludes costs that the developer is responsible for as part of the interconnection, such as those for land acquisition and telecommunication to the facility.

17. SOLANER

Solaner Puerto Rico One, LLC, the project company, intends to build Solaner, a 35-MW solar project in San German, Puerto Rico, as shown in Figure 17-1. The project intends to interconnect to the PREPA grid at the existing San Germain TC (115 kV). The key components of the project are shown in Table 17-1.

Table 17-1 — Solaner Interconnection Summary

Project Name	Interconnection Point	Capacity (MW)	Voltage (kV)	TL Length (miles)
Solaner	San German TC (6406)	35	115	0.08

Figure 17-1 — Solaner Location and Route

17.1. ANALYSIS

17.1.1. Transmission Line and Interconnection

S&L performed a site walkdown at the San German TC to verify that open bays exist on the 115-kV bay for a new interconnection termination point. The walkdown confirmed that there are adequate bays to support the interconnection. The transmission line route routes were reviewed through satellite imagery and a

walkdown; it was determined that the path was feasible for the project. S&L prepared a conceptual interconnection approach, which was reviewed by PREPA Planning and Operations.

17.1.2. Load Flow Analysis

S&L considered several variations of this project along with two other solar projects also proposed to interconnect to Line 37100: ****** Montalva (Section 6). Depending on the combination of projects as well as the project size considered, S&L identified various thermal violations.

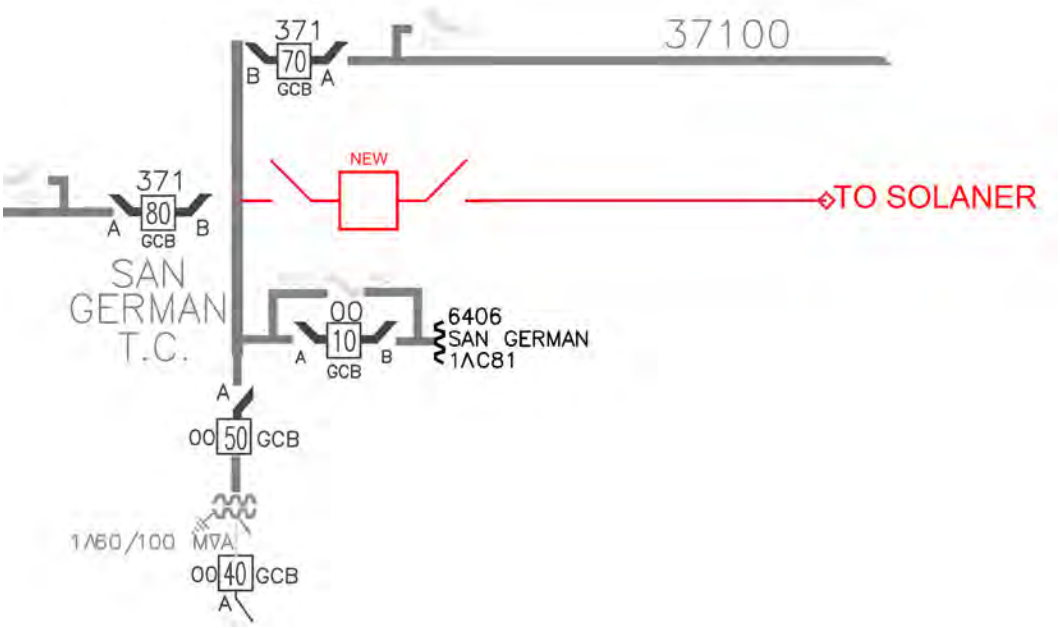
S&L studied Solaner as a standalone project with both 25-MW and 35-MW capacities. When studied alone (at either capacity) or with ****** , S&L did not identify any new thermal violations or worsened existing thermal violations; however, when S&L studied Solaner with Montalva, several thermal violations were identified. These violations are discussed with the Montalva project in Section 6.1.2. ********

17.2. SCOPE OF INTERCONNECTION

The project will connect to the PREPA system to the San German TC (6406), as shown in Figure 17-2. The scope of the interconnection work includes the following:

- Construction of approximately 0.08 miles of 115-kV underground line between the Solaner Collector station and the San German TC
- Installation of a new 115-kV gas circuit breaker with manually gang-operated disconnect switches at the new 115-kV box structure
- Installation of primary and backup metering using independent current and voltage transformers on a metering structure directly outside the newly installed 115-kV box structure
- Installation of a new relay, protection, control, and communication equipment required for the new termination in the existing control house

Figure 17-2 — Solaner Interconnect



17.3. COST ESTIMATE

Based on the above scope of work, S&L provided an AACE Class 5 cost estimate for the transmission and conceptual interconnection approach. The total estimated cost for the interconnection, including the transmission line, is $4,100,000. This estimate is based on the transmission line's scope of work estimate of approximately $800,000 and the substation scope of work estimate of approximately $3,300,000.

Note: The cost estimates are inclusive of the interconnection work reimbursable to the developer per the terms of the PPOA. It excludes costs that the developer is responsible for as part of the interconnection, such as those for land acquisition and telecommunication to the facility.

18. MOROVIS

Morovis Solar LLC, the project company, intends to build the Morovis, a 33.5-MW solar project in Morovis, Puerto Rico, as shown in Figure 18-1. The project intends to interconnect to the PREPA grid with a new sectionalizer that will be located on and bisect Line 36100 between the Ciales 8701 Substation and Morovis (8801) Substation at 115 kV. The key components of the project are shown in Table 18-1.

Table 18-1 — Morovis Interconnection Summary

Project Name	Interconnection Point	Capacity (MW)	Voltage (kV)	TL Length (miles)
Morovis	Line 36100 (New Sectionalizer)	33.5	115	4.34

Figure 18-1 — Morovis Location and Route

18.1. ANALYSIS

18.1.1. Transmission Line and Interconnection

S&L performed a site walkdown at the Morovis interconnection point on Line 36100. S&L determined that a new sectionalizer will be installed at the location in Figure 18-1. The transmission line routes were reviewed through satellite imagery and a walkdown; they were found to be feasible. S&L prepared an approach which was reviewed by PREPA Planning and Operations.

18.1.2.Load Flow Analysis

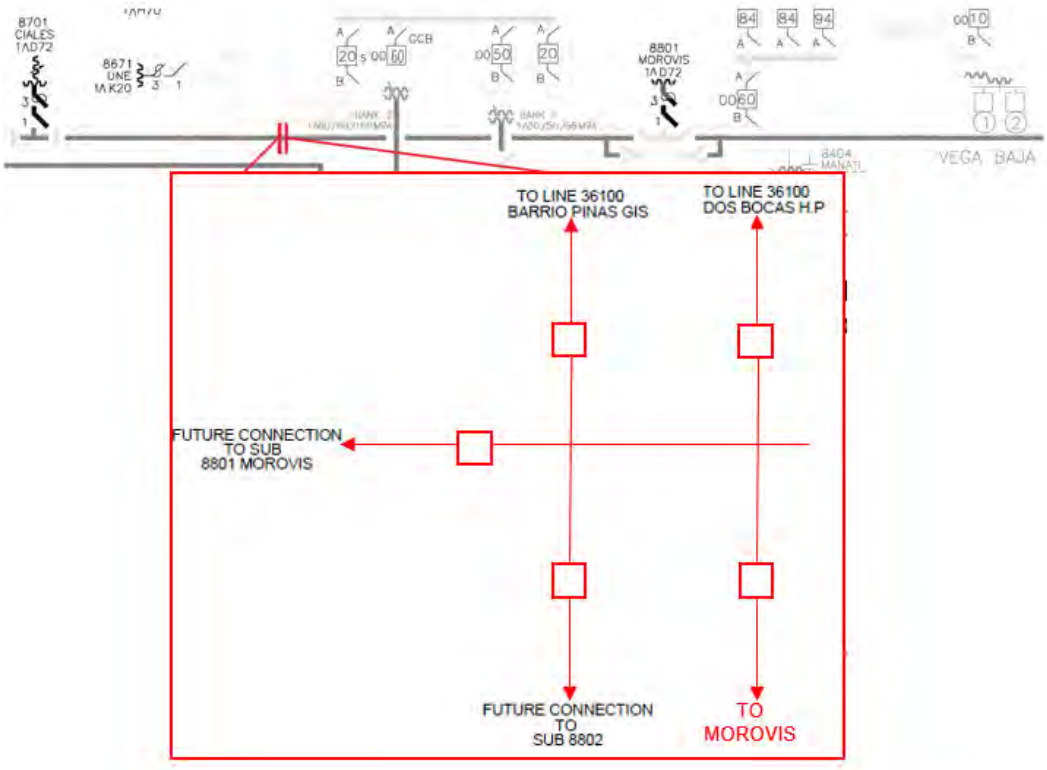
S&L's load flow analysis originally considered the project's capacity of up to 58.5 MW. The PSS/E study identified no thermal violations as a result of the full 58.5-MW addition of this project. However, the nominal capacity of the project was later modified to 33.5 MW. Morovis is the only project considered on Line 36100 west of San Juan, and there is no nearby existing generation with which this project must share line capacity. Additionally, Line 36100 has a capacity of 91.6 MVA, which allows for ample margin above the 33.5-MW capacity of the project.

18.2.SCOPE OF INTERCONNECTION

The project will connect to the PREPA system at the new sectionalizer that will be located on and bisect Line 36100 between the Ciales 8701 Substation and the Morovis (8801) Substation, as shown in Figure 18-2. The scope of the interconnection includes the following:

- The Morovis interconnect transmission line, which will consist of approximately 4.34 miles of 115-kV overhead line between Morovis and a new sectionalizer station on existing Line 36100, 3.8 miles east of the Ciales (8701) Substation and 0.6 miles west of the Morovis (8801) Substation
- Installation of a new 115-kV sectionalizing 2-bay box structure; the structure will be capable of supporting up to five termination points including breakers, switches, surge arrestors, and metering
- Installation of a new prefabricated control house
- Installation of three new 115-kV gas circuit breakers for Morovis with manually gang-operated disconnect switches at the new 115-kV sectionalizing structure
- Installation of primary and backup metering equipment using independent current and voltage transformers on a metering structure for Morovis

Figure 18-2 — Morovis Interconnection



18.3. COST ESTIMATE

Based on the above scope of work, S&L provided an AACE Class 5 cost estimate for the transmission and conceptual interconnection concepts. The total estimated cost for the interconnection, including the transmission line, is $12,090,000. This estimate is based on the transmission line's scope of work estimate of approximately $5,740,000 and the substation scope of work estimate of approximately $6,350,000.

Note: The cost estimates are inclusive of the interconnection work reimbursable to the developer per the terms of the PPOA. It excludes costs that the developer is responsible for as part of the interconnection, such as those for land acquisition and telecommunication to the facility.

19. OTHER NON-OPERATING PROJECTS

S&L studied three additional non-operating projects. The analysis included a site walkdown to determine the validity and scope of an interconnection, a load flow analysis in PSS/E, and development of a cost estimate for the interconnection. Although the project developers were not able to reach an agreement with PREPA, the findings of the load flow studies are provided for reference.

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20. OPERATING PROJECTS

During renegotiation of the PPOAs, several operating projects requested to increase their project capacity. S&L evaluated if the uprate introduced new thermal violations or worsened any existing violations using the PSS/E model in a power flow analysis. The results of these studies are discussed below.

20.1. AES ILUMINA

AES Illumina is an existing 20-MW solar project located on Line 10900 near the Jobos TC. The project interconnects to the PREPA system at 38 kV.

Table 20-1 — AES Ilumina Interconnection Summary

Project Name	Interconnection Point	Existing Capacity (MW)	Uprated Capacity (MW)	Voltage (kV)
AES Ilumina	Line 10900 (Near Jobos TC)	20	25	38

AES Ilumina proposed to uprate their solar generation project from a capacity of 20 MW to 25 MW. S&L evaluated the proposed update and determined that the increased generation does not introduce any new thermal violations or worsen any existing thermal violations. S&L also evaluated the uprate with the non-operating projects CIRO One (Section 7) and Guayama Solar Energy (Section 8) and with existing GTs at Jobos without thermal violations or increases to existing thermal violations. The Jobos TC has sufficient capacity and redundancy with four 115-kV export lines.

20.2. HUMACAO SOLAR PROJECT

Humacao Solar Project (also known as Fonroche) is a 40-MW project that connects to the PREPA system at 115 kV at Humacao TC.

Table 20-2 — Humacao Interconnection Summary

Project Name	Interconnection Point	Existing Capacity (MW)	Uprated Capacity (MW)	Voltage (kV)
Humacao	Humacao 115 kV TC	40	40	115

The developer did not propose an uprate in capacity for the project; therefore, S&L did not perform a power flow analysis.

20.3. PATTERN SANTA ISABEL

Pattern Santa Isabel is a 75 MW wind project located in Santa Isabel, Puerto Rico. The project connects to the PREPA system at Pattern TC at 115 kV. The developer proposed to increase the capacity of the project to 95 MW.

Table 20-3 — Pattern Santa Isabel Interconnection Summary

Project Name	Interconnection Point	Existing Capacity (MW)	Uprated Capacity (MW)	Voltage (kV)
Pattern – Santa Isabel	Pattern 115 kV TC	75	95	115

20.3.1.Pattern Uprate Alone

The analysis indicated that this uprate does not introduce any new thermal violations or worsen any existing thermal violations. The interconnection point is on Line 40300, which has limited generation on the line and large generators at both ends of the line. As a result, the flow along the line is maintained rather low, allowing for sufficient capacity for additional generation on this line. Line 40300 has a thermal capacity of 231 MVA.

20.3.2.Pattern Uprate Including Nearby Projects

S&L also evaluated the project considering nearby existing and proposed new generation projects dispatched at full capacity in the PSS/E model and various contingency cases. The projects considered in the combinations were as follows:

- Jobos GTs (21 MW - Existing Generation)
- Yabucoa GTs (21 MW - Existing Generation)
- CIRO One (New Generation, Section 7)
- Guayama Solar Energy (New Generation, Section 8)

******

- Humacao Solar Project (Fonroche) (Existing Generation, Section 20.2)
- Pattern Santa Isabel (Uprate, Section 20.3)
- Horizon Energy(Uprate, Section 20.6)

The analysis did not identify any thermal violations for all modeled contingency cases and combinations, and no existing thermal violations were worsened. S&L assumed typical dispatch capacity of the existing Aguirre complex (592-MW dispatch) and AES coal generators (388-MW dispatch) in the analysis, as these generators primarily interconnect directly into the 230-kV system, which has significant capacity to export power.

20.4.SAN FERMIN SOLAR FARM

The developers of San Fermin Solar Farm (San Fermin) proposed to increase the capacity of the project from 20 MW to 24.5 MW. The project connects to the San Fermin Substation at 38 kV; the project is electrically near the Canovanas TC.

Table 20-4 — San Fermin Interconnection Summary

Project Name	Interconnection Point	Existing Capacity (MW)	Uprated Capacity (MW)	Voltage (kV)
San Fermin	San Fermin 38 kV (Near Canovanas 38 kV TC)	20	24.5	38

The analysis found that this uprate does not introduce any new thermal violations or worsen any existing thermal violations. The 38-kV system near Canovanas has sufficient margin to support the uprate. Additionally, 115-kV Line 36800 and Line 41200 have enough capacity to support more generation at Canovanas. As this area in the east lacks generation in general relative to its load this uprate alleviates some of the transmission load to import power to the area.

There is no existing generation or new generation projects with which this uprate may compete for system capacity.

20.5.PUNTA LIMA

The Punta Lima wind farm connects to the PREPA system at the Daguao TC at 115 kV. The project developers did not propose an uprate to the project that was analyzed with this study. Note that this operating project was severely damaged by Hurricane María and has not operated since. The project owner plans to rebuild the project and is in discussion with PREPA on the matter.

Table 20-5 — Punta Lima Interconnection Summary

Project Name	Interconnection Point	Existing Capacity (MW)	Uprated Capacity (MW)	Voltage (kV)
Punta Lima	Daguao 115-kV TC	26	26	115

20.6.HORIZON ENERGY

Horizon Energy is a solar project that interconnects to the PREPA system on the 38-kV level near the Jobos TC. The project developer proposed an uprate of 5 MW from 10 MW to 20 MW.

Table 20-6 — Horizon Interconnection Summary

Project Name	Interconnection Point	Existing Capacity (MW)	Uprated Capacity (MW)	Voltage (kV)
Horizon	Carcel Juv 38 kV (Near Jobos TC)	10	20	38

20.6.1.Horizon Energy Uprate Alone

The analysis indicated that this uprate does not introduce any new thermal violations or worsen any existing thermal violations. The lines on the 38-kV system near Horizon Energy are rated for 48 MVA and have enough margin to support the uprate. Additionally, the Jobos TC has sufficient capacity and redundancy

with four 115-kV export lines. This provides sufficient capacity and redundancy even with the existing gas turbine generation at Jobos.

20.6.2.Horizon Energy Uprate Including Nearby Projects

S&L also evaluated the project considering nearby existing and proposed new generation projects dispatched at full capacity in the PSS/E model and various contingency cases. The projects considered in the combinations were as follows:

- Jobos GTs (21 MW - Existing Generation)
- Yabucoa GTs (21 MW - Existing Generation)
- CIRO One (New Generation, Section 7)
- Guayama Solar Energy (New Generation, Section 8)

******

- Humacao Solar Project (Fonroche) (Existing Generation, Section 20.2)
- Pattern Santa Isabel (Uprate, Section 20.3)
- Horizon Energy (Uprate, Section 20.6)

The analysis did not identify any thermal violations for all modeled contingency cases and combinations and no existing thermal violations were made worse. S&L assumed typical dispatch capacity of the existing Aguirre complex (592-MW dispatch) and AES coal generators (388-MW dispatch) in the analysis as these generators primarily interconnect directly into the 230-kV system which has significant capacity to export power.

20.7.ORIANA ENERGY

The Oriana Energy solar project connects to the Mora Substation at 115 kV. The current capacity of the project is 50 MW with a proposed increase to 60 MW.

Table 20-7 — Oriana Interconnection Summary

Project Name	Interconnection Point	Existing Capacity (MW)	Uprated Capacity (MW)	Voltage (kV)
Oriana	Line 2700 (Moca Substation)	50	60	115

S&L evaluated the project alone and with the proposed new solar projects Caracol (Section 13) and Sierra (Section 14). S&L considered the full capacity of the projects in the model. The analysis did not identify any thermal violations for all modeled contingency cases and combinations and no existing thermal violations were made worse. The Mora TC has two 230-kV and one 115-kV line to export power providing ample capacity.

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Exhibit E

Review of Legacy Solar PV PPOAS and Recommendations for Disposition

prepared by New Energy Partners, Inc. dated December 23, 2020.

[*Este documento ha sido presentado sellado.*]

Exhibit F

Non-Operational Amended PPOAs Template.

AMENDED AND RESTATED

RENEWABLE POWER PURCHASE AND OPERATING AGREEMENT

BETWEEN

PUERTO RICO ELECTRIC POWER AUTHORITY

AND

[●]

DATED [●]

TABLE OF CONTENTS

AMENDED AND RESTATED

POWER PURCHASE AND OPERATING AGREEMENT

BETWEEN

PUERTO RICO ELECTRIC POWER AUTHORITY

AND

[●]

THIS AMENDED AND RESTATED POWER PURCHASE AND OPERATING AGREEMENT (the "**Agreement**") is entered into and effective as of this [●] day of [●] (the "**Effective Date**") by and between the **PUERTO RICO ELECTRIC POWER AUTHORITY** (including any successor thereto, "**PREPA**"), a public corporation and governmental instrumentality of the Commonwealth of Puerto Rico, created by Act of May 2, 1941, No. 83, as amended, employer identification number [●], represented in this act by its Executive Director, Mr. [●], of legal age, [married], [engineer] and resident of [●], Puerto Rico; and [●] ("**SELLER**"), a [●] company, authorized to do business in Puerto Rico, employer identification number [●], with its principal office at [●], and represented in this act by its [●], Mrs. [●], of legal age, [married], and a resident of [●], who is authorized to sign this Agreement on behalf of SELLER as certified by the Resolution dated [●]. PREPA and SELLER are herein individually referred to as a "**Party**" and collectively referred to as "**Parties**."

RECITALS

WHEREAS,

(A) PREPA and SELLER are parties to that certain Power Purchase and Operating Agreement, dated as of [●] (the "**Original Effective Date**"), as amended, supplemented, and modified from time to time (the "**Pre-Restatement PPOA**");

(B) SELLER proposes to develop a [●] MW Facility at the Site, and sell the Net Electrical Output exclusively to PREPA;

(C) PREPA is the electric utility engaged in the generation, transmission, distribution, and sale of electric energy within the Commonwealth of Puerto Rico and desires to purchase all of the Net Electrical Output and Green Credits produced by the Facility;

(D) On July 2, 2017, PREPA commenced proceedings under Title III of the Puerto Rico Oversight, Management and Economic Stability Act before the District Court for the District of Puerto Rico (the "**PROMESA Court**"), which is being administered under Case No. 17-4780 (LTS); and

(E) The Parties desire to amend and restate the Pre-Restatement PPOA in its entirety and to extend the Term of the Pre-Restatement PPOA as so amended and restated, as set forth in this Agreement, and acknowledge that (i) this Agreement contains terms that are substantially similar to those of the Pre-Restatement PPOA and (ii) the modifications to the Pre-Restatement PPOA set forth in this Agreement do not render this Agreement a new agreement between the Parties.

NOW THEREFORE, in consideration of these premises and of the mutual covenants and agreements set forth herein, SELLER and PREPA, intending to be legally bound, hereby agree to the following:

ARTICLE 1. DEFINITIONS AND INTERPRETATION

1.1 Definitions

Whenever the following terms appear in this Agreement, they shall have the meaning stated below:

"**AAA**" means the American Arbitration Association.

"**AC**" means alternating electrical current.

"**Additional Interconnection Facilities**" means all equipment and facilities (including SELLER's back-up meters and metering equipment), located on SELLER's side of the Interconnection Point, constructed and installed for the purpose of interconnecting the remainder of the Facility with the Grid System, as further described in Appendix B.

"**Affected Party**" has the meaning set forth in Article 15.1.

"**Affiliate**" means, with respect to a Person, each such other Person that, directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such Person, where, for purposes of this definition, "controls" (including "controlled by" and "under common control with") means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such Person, whether through the ownership of voting securities or otherwise.

"**Agreement**" has the meaning set forth in the first paragraph of this Agreement.

"**Agreement Year**" means the period, which begins on the Commercial Operation Date of the Facility and ends on the first anniversary thereof, and each one (1) year period thereafter commencing on each anniversary date; provided that the last Agreement Year shall expire on the expiration of the Term or early termination of this Agreement.

"**Ambient Conditions**" has the meaning set forth in paragraph I(a) of Appendix F.

"**Ancillary Services**" means any services capable of being made available to the Grid System by the Facility (other than the delivery of Net Electrical Output from time to time), including automatic generation control, energy storage or spinning reserve, synchronous condenser mode, reactive power support, operating reserve, frequency control, ramp rate control, voltage control, black start capability, voltage support, emergency stand-by support, or others.

"**Applicable Law**" means, with respect to any Person, any constitution, treaty, statute, law, rule, regulation, ordinance, judgment, order, decree, governmental consent or approval or any published directive, guideline, requirement or other governmental restriction, which has the force of law, or any determination by, or interpretation of any of the foregoing by, any judicial authority, binding on such Person or its property whether in effect as of the Effective Date or thereafter and specifically includes, without limitation, the Bulk-Power System EO.

"**Applicable Standards**" means the PREPA Transmission and Distribution Standards, any other applicable PREPA standards that have been made available to SELLER, and any other codes, standards or requirements set forth in any Applicable Law, including any applicable federal, state or local code, the latest rules and regulations of the Institute of Electronic and Electrical Engineers (IEEE), National Electrical Manufacturer's Assoc. (NEMA), American Concrete Institute (ACI),

American National Standards Institute (ANSI), the National Electrical Code, the National Electric Safety Code (NESC) National Fire Protection Association Code (NFPA), International Code Council Code (ICC), and the North American Electric Reliability Corporation (NERC) to the extent not in consistent with the foregoing, in each case as modified from time to time.

"**Approved Design**" has the meaning set forth in Article 9.4(b).

"**Assumption Order**" means an order of the PROMESA Court that approves of and authorizes the assumption by PREPA of this Agreement.

"**Assumption Order Date**" means the date that the PROMESA Court has issued the Assumption Order.

"**Average Net Derating**" means, for each Event Interval, the average volume of energy by which (i) the Expected NEO for such period exceeds (ii) the Net Electrical Output during such period, provided that if clause (ii) exceeds clause (i), then the Average Net Derating shall equal zero (0).

"**Award**" has the meaning set forth in Article 22.12(b).

"**Balance**" has the meaning set forth in Article 18.2(b).

"**Base Design Capacity**" means the lesser of (i) the Nominal Capacity and (ii) the total installed solar field AC electrical generating capacity, constructed at the Site in accordance with the Approved Design, and made available at the Interconnection Point on the Commercial Operation Date, as evidenced by the results of the Performance Tests (adjusted for Ambient Conditions at the time of testing in accordance with the Testing Protocol and without exceeding the limits of the Approved Design) used to establish the Commercial Operation Date pursuant to Article 12.2.

"**Base Period**" means the period beginning with the Initial Synchronization Date and ending on the last Day of the last Billing Period of the Term.

"**Base Tariff**" has the meaning set forth in Appendix C.

"**Base Volume**" has the meaning set forth in Appendix C.

"**Billing Period**" has the meaning set forth in Article 10.4.

"**Breach**" has the meaning set forth in Article 17.1.

"**Bulk-Power System EO**" means E.O. 13920 of May 1, 2020 as supplemented by and including the rules and regulations published by the Department of Energy in connection therewith, as such may be modified from time to time.

"**Business Day**" means a Day other than (a) a Saturday, a Sunday or a Day on which commercial banks in San Juan, Puerto Rico are required or authorized to close, or (b) any other Day recognized as a holiday by PREPA, which, as of the date of this Agreement, are those Days listed on Appendix A hereto. PREPA will promptly notify SELLER in writing of any changes to the holidays recognized by PREPA.

"**Changes**" has the meaning set forth in Article 18.1(b).

"Claims" means liabilities, judgments, losses, costs (including court costs, reasonable attorneys' fees and costs of investigation), fines, penalties, expenses, damages, claims, suits and demands, of whatsoever kind or nature.

"**Commercial Operation Date**" means the first Day following the date on which SELLER has certified to PREPA, in accordance with Article 12.2(d), that (a) the Facility (i) has been installed, completed, tested, and commissioned, together with the PREPA Interconnection Facilities, (ii) has demonstrated a Generating Capacity (as adjusted for Ambient Conditions at the time of testing in accordance with the Testing Protocol and without exceeding the limits of the Approved Design) that meets no less than eighty-five percent (85%) of the Nominal Capacity (or, to the extent that the Generating Capacity is less than eighty-five percent (85%) of the Nominal Capacity, the Parties have amended the Nominal Capacity in accordance with Article 12.2(c)), (iii) is capable of providing Net Electrical Output to PREPA at the Interconnection Point, and (iv) is available for continuous operation by SELLER, in each case, in accordance with Prudent Electrical Practices and this Agreement, including the provisions of Article 4, Article 9, and Article 12, and (b) SELLER has obtained, and maintains in force, all material Permits required for the construction and operation of the Facility.

"**Consulting Technical Expert**" means a Person or Persons mutually agreed by the Parties to review the Energy Yield Assessment Report or other technical matters, assist in the resolution of technical issues, and/or issue a technical recommendation in connection with Technical Disputes, as specified at the time of such Consulting Technical Expert's appointment, which Person shall be selected within sixty (60) Days after the Effective Date, or, if not so selected, shall be selected by the AAA upon the request of either Party. For the avoidance of doubt, the Parties may agree on different Consulting Technical Experts for different purposes under the Agreement.

"**Contract Rate**" has the meaning set forth in Appendix C.

"**COR3**" means the Puerto Rico Central Office for Reconstruction, Recovery and Resiliency.

"**Court of Competent Jurisdiction**" means the state courts of the Commonwealth of Puerto Rico, the United States District Court for the District of Puerto Rico, the United States Court of Appeals for the First Circuit, and the United States Supreme Court.

"**Day**" means the 24-hour period beginning and ending at 12:00 midnight Puerto Rico Time.

"**DC**" means direct electrical current.

"**Deemed NEO**" means, for any Deemed NEO Period, the volume of energy deemed available at the Interconnection Point (up to the Expected NEO for such period), but not taken by PREPA as a result of a PREPA Risk Event, in each case as determined in accordance with Appendix F.

"**Deemed NEO Period**" has the meaning set forth in Article 8.4.

"**Defects Liability Period**" has the meaning set forth in Article 12.3(b).

"**Development Abandonment**" means that SELLER permanently ceases the development and construction of the Facility or the PREPA Interconnection Facilities prior to the Commercial Operation Date, which abandonment shall be deemed to have occurred only after all of SELLER's or its construction contractors' personnel have failed to be present on the Site and SELLER has otherwise ceased development and construction activities related to the Facility for more than one

hundred and twenty (120) consecutive Days (other than as a result of a Force Majeure, a Legal Challenge or any act or omission by PREPA, including a Breach by PREPA of its obligations hereunder).

"**Direct Costs**" means the demonstrated, out-of-pocket, actual costs and charges reasonably incurred by SELLER or its subcontractors for equipment, materials, services and labor (including payroll burden and expenses) which are directly attributable to the performance of PIF Construction Works, and not including corporate, general and administrative costs including home office functions, sales, marketing, accounting, human resources, information technology, payroll, profit, research, development, quality assurance and control, purchasing, safety, management, administration, warranties, insurances or offsite or unabsorbed costs.

"**Dispute**" has the meaning set forth in Article 22.12(a).

"**Dispute Notice**" has the meaning set forth in Article 22.12(a).

"**dollars**" and "**$**" means United States dollars.

"**Effective Date**" has the meaning set forth in the first paragraph of this Agreement.

"**Emergency**" means an operational condition or situation affecting the Grid System (including system security and reliability or a declaration of an emergency event under Applicable Law or by any Governmental Authority) that, in the sole and reasonable judgment of PREPA, is likely to result in imminent significant disruption of service to a significant number of customers or is imminently likely to endanger life or property.

"**Energy Yield Assessment Report**" means a report, prepared by SELLER and approved by the Consulting Technical Expert, that sets out an estimate of the energy (kWh) expected to be delivered by the Facility (daily, monthly, and annually) to the Interconnection Point and specifically defines the Facility's P90 Energy Yield and P50 Energy Yield applicable to each Agreement Year during the Term.

"**Environmental Costs**" has the meaning set forth in Article 18.1.

"**Equity Transfer**" has the meaning set forth in Article 20.4.

"**Equivalent Force Majeure Derated Hours**" means, for any Agreement Year, the number of hours equal to (a) the sum of the fractions obtained by dividing the Average Net Deratings for each Force Majeure Event Interval to date during such Agreement Year by the Expected NEO applicable to such Force Majeure Event Interval *divided by* (b) six (6).

"**Equivalent Grid System Derated Hours**" means, for any Agreement Year, the number of hours equal to (a) the sum of the fractions obtained by dividing the Average Net Deratings for each Grid System Event Interval to date during such Agreement Year by the Expected NEO applicable to such Grid System Event Interval *divided by* (b) six (6).

"**Event Day**" has the meaning set forth in Appendix F.

"**Event Interval**" means any Time Interval (without double counting) in which (a) the Facility has the capability (technically and with sufficient solar irradiation) to make Expected NEO for such Time Interval available for delivery at the Interconnection Point, (b) SELLER has provided PREPA

with written notice of such capability in accordance with Article 7.3, and (c) a PREPA Risk Event occurs.

"**Expected Annual NEO**" means, for each Agreement Year, the sum of the Expected NEO (calculated to assume full Facility Availability of the Base Design Capacity by setting the factor "FA" equal to 1.0 in the calculation of Expected NEO set forth in Appendix F) for each Time Interval of each hour of such year, other than any Permitted Outage Hour.

"**Expected Losses**" means (i) incidence angle irradiance losses, (ii) irradiance losses due to module soiling, (iii) conversion losses due irradiance level, (iv) conversion losses due to cell temperature above STP efficiency, (v) conversion losses due to module quality, (vi) conversion losses due to light induced module degradation, (vii) conversion losses due to mismatched modules and strings, (viii) DC ohmic wiring and combiner losses, (ix) DC to AC inverter conversion losses, (x) step-up field transformer losses, (xi) inverter nighttime power consumption, (xii) AC ohmic wiring field collection losses, (xiii) collector substation losses, (xiv) battery in charger losses, (xv) battery global losses, (xvi) battery out inverter losses, (xvii) Facility and auxiliaries power consumption, and (xviii) Interconnection Facilities and main step-up transformer losses.

"**Expected NEO**" has the meaning set forth in Appendix F.

"**Facility**" means a photovoltaic solar energy system located at the Site, capable of making Generating Capacity that meets the Nominal Capacity available at the Interconnection Point, including the Additional Interconnection Facilities and any energy storage system, approved capacity expansion or other upgrades to such solar energy system from time to time.

"**Facility Availability**" has the meaning defined in Part II if Appendix F.

"**Facility Construction Contract**" means the primary contract for the construction of the Facility to be entered into between SELLER and one or more contractors.

"**Facility Performance Model**" has the meaning set forth in Appendix F.

"**Facility Study**" means an engineering study conducted by PREPA (or its designated advisor) to determine required modifications to PREPA's transmission and distribution system, including the cost and scheduled completion date for such modifications, required to provide needed grid support services to integrate the Facility.

"**Federal Funding Date**" means the date when a Governmental Authority first makes available (a) equity, debt, grants, funds, insurance, performance bonds, guarantees, additional Tax Credits or other tax benefits or another form of support to SELLER or the Project Lenders; or (b) grants, funds or another form of credit support to PREPA (other than funding designated for construction of the Grid System), which in either case improves the credit profile of PREPA, reduces cost to SELLER to develop, construct, own or operate the project or otherwise reduces the risk to Project Lenders of financing the development and construction of the Facility, during the Term.

"**Final Design**" has the meaning set forth in Article 9.4(a).

"**FNTP Date**" or "**Full Notice To Proceed Date**" means the first date on which SELLER has (a) obtained all Permits, authorizations and real property rights needed to start construction of the Facility and the PREPA Interconnection Facilities, (b) secured the necessary financing and equity for the construction of the Facility and the PREPA Interconnection Facilities (including execution

of documents between SELLER and the Project Lenders that provide binding commitments for funding for the construction of the Facility) and satisfied all conditions associated with, and made, the initial draw of funds for such construction, (c) entered into the Facility Construction Contract, the Interconnection Construction Contract and any other agreements necessary to make the Production available to PREPA in accordance with this Agreement, (d) provided the Operation Security required pursuant to Article 17.3, (e) received PREPA's confirmation of the Approved Design, and (f) given each of its primary contractor(s) under the Facility Construction Contract and the Interconnection Construction Contract a full, unconditional notice to proceed with construction of the Facility and PREPA Interconnection Facilities, respectively, in each case as evidenced by a certificate issued by SELLER to PREPA in a form reasonably acceptable to PREPA.

"**FOMB**" means the Financial Oversight and Management Board of Puerto Rico, or any successor thereto.

"**Force Majeure**" has the meaning set forth in Article 15.1.

"**Force Majeure Event Interval**" means, for any Agreement Year, an Event Interval in which a PREPA Risk Event occurs pursuant to paragraph (a) of such definition.

"**Force Majeure Waiting Period**" means, for each Agreement Year, [three hundred (300)] hours.

"**GAAP**" means Generally Accepted Accounting Principles, as promulgated by the Financial Accounting Standards Board or its predecessors or successors.

"**Generating Capacity**" means, at any given time, the instantaneous net AC electrical generating capacity of the photovoltaic solar field (expressed in kW and exclusive of battery capacity) made available from the Facility at the Interconnection Point based on the prevailing Ambient Conditions at such time.

"**Governmental Authority**" means any court, tribunal or governmental or quasi-governmental body, regulatory body, agency, authority, office, department, commission, board, bureau, public corporation, municipality or instrumentality, in each case at any federal, state, Commonwealth of Puerto Rico, county, municipal, or local level, having jurisdiction over a Party, the Facility or the Site, and includes the FOMB, COR3, P3A and the PREB.

"**Green Credits**" has the meaning set forth in Article 22.17(c).

"**Grid System**" means the interconnected network of high voltage transmission lines, low voltage distribution lines, and associated electric substations owned by PREPA (including, after handover on the Commercial Operation Date in accordance with Article 12, the PREPA Interconnection Facilities), which transmit and distribute electricity to users of electricity in the Commonwealth of Puerto Rico.

"**Grid System Event**" means, for any Time Interval, any condition in the Grid System that prevents or impairs PREPA from taking a volume of energy available at the Interconnection Point, up to the Expected NEO for such Time Interval, including (a) a curtailment, disconnection or other dispatch instruction issued by PREPA (or lack thereof), or (b) any condition in the Grid System (including an Emergency) that causes or may cause physical damage to the Facility or life endangerment, which includes any damage to, or tripping of, the protection relays installed in the Facility with settings as instructed by PREPA, but in each case excluding any such event resulting from a Force Majeure affecting PREPA or a breach by PREPA of this Agreement.

"**Grid System Event Interval**" means, for any Agreement Year, an Event Interval in which a PREPA Risk Event occurs pursuant to paragraph (b) of such definition.

"**Grid System Waiting Period**" means, for each Agreement Year, [forty (40)] hours.

"**Guaranteed Commercial Operation Date**" means the date that occurs [eighteen (18) months] after the FNTP Date, as extended in accordance with Article 4.5.

"**Guaranteed FNTP Date**" means the date that occurs [●] after the earlier of (i) December 31, 2020 and (ii) the Assumption Order Date, as such period may be extended in accordance with Article 4.5.

"**Guaranteed Interconnection Date**" means the date that occurs on the [first anniversary] of the FNTP Date, as extended in accordance with Article 4.5.

"**hour**" means each period of sixty (60) minutes, with the first such period for any Day beginning at 12:00 midnight (Puerto Rico Time) and including each 60-minute interval thereafter.

"**IF Completion Notice**" has the meaning set forth in Article 9.5(c).

"**Indemnitees**" means, with respect to either PREPA or SELLER, (i) permitted successors and assigns, and (ii) as to both the Party and its permitted successors and assigns, their respective lenders, Affiliates, directors, officers, equity-holders, partners, employees, representatives, agents and contractors, and each of their respective heirs, successors and assigns.

"**Initial Synchronization Date**" means the first date when SELLER's electricity generating equipment is synchronized with the Grid System.

"**Interconnection Construction Contract**" means the primary contract for the construction of the PREPA Interconnection Facilities to be entered into between SELLER and one or more contractors, which shall include provisions with respect to the requirements set forth in Part [IV] of Appendix B.

"**Interconnection Facility Requirements**" means the interconnection facility requirements (other than MTRs) set forth in Part II of Appendix B, as PREPA may modify or replace from time to time after the Effective Date.

"**Interconnection Facilities**" means the PREPA Interconnection Facilities and the Additional Interconnection Facilities.

"**Interconnection Point**" means the physical point where the Facility connects to the Grid System, as specified in Part II of Appendix B.

"**Interconnection Study**" means a study conducted by PREPA in accordance with Article 4.2.

"**Interest**" means the compensation for the accrual of monetary obligations under this Agreement computed Monthly and prorated daily from the time each such obligation is past due based on an annual interest rate equal to the lesser of: (a) (1) (x) for payments due under Article 18 and (y) for payments due under Article 11 during the first five (5) Days after such a payment is due, in each case, the Prime Commercial Lending Rate as set by Citibank NA., New York, New York or any other bank as mutually agreed by the Parties or any other equivalent rate as mutually agreed by the Parties (for the purposes of this definition, the "**Prime Rate**"), and (2) for payments due under

Article 11 beginning on the sixth (6^{th}) Day after such a payment is due, the Prime Rate plus five percent (5%); and (b) the maximum rate allowable under Article 1649 of the Puerto Rico Civil Code or successor statute applicable to past due amounts. The provisions of this definition shall not be construed to limit the applicable rate of interest on the project debt.

"**kW**" means kilowatt.

"**kWh**" means kilowatt hour.

"**Legal Challenge**" means any action, suit or proceeding brought or commenced by a third party (excluding any Affiliate of a Party) seeking to contest the validity of this Agreement, any Permits or the development, construction or operation of the Facility or PREPA Interconnection Facilities which materially impairs the ability of the Parties to perform their respective obligations hereunder or delays the development, construction or operation of the Facility or PREPA Interconnection Facilities.

"**Long-Stop Date**" means the date that occurs one hundred eighty (180) Days after the Guaranteed Commercial Operation Date, as extended in accordance with Article 4.5.

"**Modification Limit**" means the lesser of (i) one percent (1%) of the total cost as of the Commercial Operation Date of the modules, inverters and racking system at the Facility, and any substation equipment on SELLER's side of the Interconnection Point, and (ii) one million five hundred thousand dollars ($1,500,000).

"**Month**" means a calendar month which shall begin at 12:00 midnight on the last Day of the preceding calendar month and end at 12:00 midnight on the last Day of the current calendar month.

"**Monthly Payment**" has the meaning set forth in Appendix C.

"**MTRs**" means the minimum technical requirements applicable to the Facility for connection of the Facility to the Grid System, set forth in Appendix I, as PREPA may modify or replace from time to time after the Effective Date.

"**m^2**" means square meter.

"**Net Electrical Output**" or "**NEO**" means the net electrical energy output (expressed in kWh) delivered to PREPA from the Facility, as measured in accordance with Article 10.2.

"**Net Power Output**" means, at any given time, the instantaneous net electrical power output (expressed in kW) made available from the Facility at the Interconnection Point.

"**Nominal Capacity**" means [●] kW.

"**Non-Scheduled Outage**" means an interruption of all or a portion of the electrical output of the Facility that is required for any purpose including inspection, preventive maintenance, or corrective maintenance and which has not been included in the Scheduled Outage Program.

"**Operating Procedures**" has the meaning set forth in Article 4.8.

"**Operation Security**" has the meaning set forth in Article 17.3.

"**Original Effective Date**" has the meaning set forth in Recital A.

"**P3A**" means the Public-Private Partnership Authority of Puerto Rico, any successor thereto, as administrator of the agreement with the T&D Operator.

"**P50 Energy Yield**" means, for each Agreement Year, an estimate of the Net Electrical Output, which the Facility can deliver to the Interconnection Point with a probability of occurrence of fifty percent (50%), based on forecasted Ambient Conditions, for such year, other than any period of Scheduled Outages, expressed as kWh, and based on the assumption that the Facility can make available Generating Capacity up to the Nominal Capacity, net of Expected Losses.

"**P90 Energy Yield**" means, for each Agreement Year, an estimate of the Net Electrical Output, which the Facility can deliver to the Interconnection Point with a probability of occurrence of ninety percent (90%), based on forecasted Ambient Conditions, for such year, other than any period of Scheduled Outages, expressed as kWh, and based on the assumption that the Facility can make available Generating Capacity up to the Nominal Capacity, net of Expected Losses.

"**Party**" and "**Parties**" has the meaning set forth in the first paragraph of this Agreement.

"**Pending Permit Delay**" means, for any Permit for which SELLER has duly and properly applied for and is exercising diligent efforts to obtain, the denial of or delay in granting such Permit by the relevant Governmental Authority, without justifiable cause and through no fault of SELLER, materially impairs the ability of SELLER to perform a material obligation under this Agreement.

"**Performance Tests**" has the meaning set forth in Article 12.2(a).

"**Permanent Closing**" means, after the Commercial Operation Date, (a) the available hours for the Facility equal zero (0) for any period of twenty-four (24) consecutive Months, excluding periods of outages due to Force Majeure, Legal Challenge or any action or omission of PREPA, including a Breach of this Agreement, or (b) the available hours for the Facility equal zero (0) for any period of forty-two (42) consecutive Months whether or not a Force Majeure event has been claimed by SELLER, excluding periods of outages due to any action or omission of PREPA.

"**Permits**" means all permits, licenses, approvals, authorizations, consents, variances or waivers issued by federal, Commonwealth of Puerto Rico and local agencies, commissions, authorities, and regulatory bodies with jurisdiction over SELLER and the Facility which are necessary for the development, construction, ownership, operation, maintenance or financing of the Facility and the Interconnection Facilities.

"**Permitted Outage Hour**" means, for any Agreement Year, (a) any hour in which a Scheduled Outage, PREPA Risk Event or Force Majeure affecting SELLER occurs and (b) any of the first forty (40) hours of Non-Scheduled Outages, in each case, during such year (without double counting).

"**Person**" means an individual, partnership, corporation, limited liability company, joint venture, association, joint-stock company, trust, unincorporated organization, or a government or agency or political subdivision thereof.

"**PIF Construction Works**" has the meaning set forth in Article 4.6.

"**PIF Land Rights**" has the meaning set forth in Article 4.4(b).

"**Post-Effective Date Taxes**" has the meaning set forth in Article 18.

"**Post-Effective Date Environmental Costs**" has the meaning set forth in Article 18.

"**Pre-Restatement PPOA**" has the meaning set forth in Recital A.

"**PREB**" means the Puerto Rico Energy Bureau, or any successor thereto.

"**PREPA**" has the meaning set forth in the first paragraph of this Agreement.

"**PREPA Delay LDs**" has the meaning set forth in Article 14.4(a).

"**PREPA Interconnection Facilities**" or "**PIF**" means all equipment and facilities (including the primary meter and metering equipment), located on PREPA's side of the Interconnection Point, constructed and installed or upgraded for the purpose of interconnecting the Facility with the remainder of the Grid System, as further described in Appendix B and not to include communication, control and protection equipment for which this Agreement assigns responsibility to SELLER.

"**PREPA Transmission and Distribution Standards**" means the rules, regulations, codes and/or standards that have been made available to SELLER, as such may be modified from time to time.

"**PREPA Risk Event**" means, for any Time Interval of any Agreement Year, the inability or failure of PREPA to take a volume of net electrical energy made available at, but not delivered to, the Interconnection Point, up to the Expected NEO for such Time Interval, as a result of any of any of the following events:

(a) a Force Majeure affecting PREPA;

(b) a Grid System Event; or

(c) a breach by PREPA of this Agreement,

which, in each case, did not result from an act or omission of SELLER, a Force Majeure affecting SELLER, or the circumstances described in Article 7.2.

"**Prepayment**" has the meaning set forth in Article 4.6.

"**Production**" means all energy generated by the Facility (including any Net Electrical Output) and all Ancillary Services and Green Credits from the output of or otherwise in connection with the Facility.

"**Project Lenders**" means any Person providing, arranging, insuring or guaranteeing all or part of the construction or permanent financing or other funding, including any tax equity financing, for the Facility or any portion thereof, or any agent, trustee or other Person representing or acting on behalf of any such Person.

"**PROMESA Court**" has the meaning set forth in Recital D.

"**Proposed Initial Synchronization Date**" has the meaning set forth in Article 4.7.

"**Prudent Electrical Practices**" means those practices, methods, conduct and actions (including the practices, methods, conduct and acts engaged in or approved by a significant portion of the utility scale solar electric power industry in the United States and Puerto Rico) that, at a particular

time, in the exercise of reasonable discretion at the time a decision was made, could reasonably have been used in electrical engineering and operations to operate equipment for the generation, transmission, distribution and delivery or electricity, in a manner consistent with Applicable Law and Applicable Standards for reliability, safety and economy. Prudent Electrical Practices are not limited to the optimum practice, method or act to the exclusion of all others, but rather is a spectrum of possible practices, methods or acts which can fall within this description.

"**Prudent Utility Practices**" means those practices, methods, conduct and actions (including the practices, methods, conduct and acts engaged in or approved by a significant portion of the power industry in the United States and Puerto Rico) that, at a particular time, in the exercise of reasonable discretion at the time a decision was made, could have been expected to accomplish the desired result in a manner consistent with Applicable Laws and Applicable Standards for reliability, safety and economy. Prudent Utility Practices are not limited to the optimum practice, method or act to the exclusion of all others, but rather is a spectrum of possible practices, methods or acts which can fall within this description.

"**PSS/E**" means power system simulation for engineering, a commercial software developed by Siemens PTI Inc.

"**Qualified Bank**" means a commercial bank or other financial institution located within Puerto Rico, the United States or a country (or other jurisdiction) reasonably acceptable to PREPA, which has, as of the date of issuance or renewal of such guarantee, a long-term counterparty credit rating of at least "A" by Standard & Poor's Ratings Services, a long-term foreign currency deposit rating of "A2" by Moody's Investors Services Inc., or, if either such rating agency is no longer in business or no longer rating the obligations in question, an equivalent rating from another internationally recognized rating agency selected by SELLER with the written consent of PREPA; provided that, if such financial institution's ratings match such minimum ratings, no other credit rating agency shall have placed such financial institution on credit watch with negative implications.

"**Qualified Operator**" means SELLER, an Affiliate of SELLER, or, if a third party, an entity with at least three (3) years' experience operating solar energy facilities of a similar type and size as the Facility or another qualified and experienced operator reasonably acceptable to PREPA.

"**Reference Pyranometers**" has the meaning set forth in Part I of Appendix F.

"**Reimbursement Amount**" has the meaning set forth in Article 4.6.

"**Reimbursement Installment**" has the meaning set forth in Article 4.6.

"**SCADA**" means supervisory control and data acquisition system, as installed by SELLER in accordance with PREPA requirements.

"**Scheduled Outage**" means a planned interruption of the delivery by the Facility of Net Electrical Output that has been coordinated in advance between PREPA and SELLER with a mutually agreed commencement and duration, and set out in the Scheduled Outage Program pursuant to Article 8.

"**Scheduled Outage Program**" has the meaning set forth in Article 8.1.

"**SELLER**" has the meaning set forth in the first paragraph of this Agreement.

"**SELLER Delay LDs**" has the meaning set forth in Article 14.4(b).

"**SELLER Liability Cap**" has the meaning set forth in Article 13.5.

"**Shareholder**" means, for any time of determination, any direct holder of capital stock in SELLER at such time."

"**Site**" means the approximately [●] acres of land located in [●], Puerto Rico, as further described in Appendix G.

"**Sponsor**" means [●], or any successor thereto permitted under Article 20.4.

"**T&D Operator**" means any future operator of Puerto Rico's electric power transmission and distribution system or any of its Affiliates, including PREPA's assignee under the circumstances described in Article 20.2.

"**Tax Credits**" means the production or investment tax credits (including any grants or payment in lieu thereof) and any tax deductions or other benefits under the Internal Revenue Code or other Applicable Law available as a result of the ownership and operation of the Facility or the output generated by the Facility (including, without limitation, tax credits (including any grants or payments in lieu thereof) and accelerated and/or bonus depreciation).

"**Taxes**" has the meaning set forth in Article 18.

"**Technical Determination**" has the meaning set forth in Article 22.12(c).

"**Technical Dispute**" has the meaning set forth in Article 22.12(c).

"**Technical Input**" has the meaning set forth in Article 9.4(b).

"**Term**" has the meaning set forth in Article 5.1.

"**Termination Balance**" has the meaning set forth in Article 18.2.

"**Termination Date**" has the meaning set forth in Article 16.1.

"**Testing Protocols**" means PREPA's standard protocols for testing and commissioning of photovoltaic solar projects, comprising steps for establishing (a) an indication of the date, time and duration of the tests, (b) the procedure for specific tests, including tests related to MTR compliance and reliable operation; (c) the success or failure criteria for the tests; and (d) the system for documenting the results of the tests.

"**Time Interval**" means, with respect to each of the six (6) consecutive, full ten (10) minute periods during each hour of each Agreement Year, any one (1) of such periods.

"**Transfer**" has the meaning set forth in Article 20.2.

"**Wholly-Owned Affiliate**" means, with respect to a Shareholder, any Person that:

(a) owns directly or indirectly one hundred percent (100%) of the issued share capital and voting rights of such Shareholder;

(b) has one hundred percent (100%) of its issued share capital and voting rights owned directly or indirectly by such Shareholder; or

(c) has one hundred percent (100%) of its issued share capital and voting rights owned directly or indirectly by another Person which owns directly or indirectly one hundred percent (100%) of the issued share capital and voting rights of such Shareholder.

"**Year**" means a calendar year, which shall be the twelve (12) Month period beginning 12:00 midnight on December 31 and ending at 12:00 midnight on the subsequent December 31.

1.2 Rules of Interpretation

The rules of interpretation listed below shall be followed when interpreting this Agreement:

(a) Words importing the singular also include the plural and vice versa.

(b) References to natural persons or parties include any person having legal capacity.

(c) References to a Person include such Person's successors and assigns; provided, however, that with respect to a Party and its rights and obligations under this Agreement, references to a Party shall only include such Party's successors and assigns if such successors and assigns are permitted by this Agreement.

(d) Words importing one gender include the other gender.

(e) The words "include" and "including" mean "including, but not limited to" and corresponding grammatical variants.

(f) Except as otherwise expressly stated herein, all references in this Agreement to this Agreement (including the Appendices hereto) or to contracts, agreements, or other documents shall be deemed to mean this Agreement (including the Appendices hereto) and such contracts, agreements or other documents, as the same may be modified, supplemented, or amended from time to time.

(g) Except as otherwise expressly stated herein, all references to Preambles, Recitals, Sections, Articles, and Appendices in this Agreement are references to the Preamble, Recitals, Sections, Articles, and Appendices of this Agreement.

(h) Words and abbreviations not defined in this Agreement which have generally accepted technical or design, engineering, or construction industry meanings are used in this Agreement in accordance with such recognized meanings.

(i) The terms "hereof," "herein," "hereto," "hereunder" and words of similar or like import, refer to this entire Agreement, together with its Appendices, and not any one particular Article, Section, Appendix, or other subdivision of this Agreement.

(j) The headings contained in this Agreement are used solely for convenience and do not constitute a part of the Agreement between the Parties hereto, nor should they be used to aid in any manner in the construction of this Agreement.

(k) References to PREPA in the definition of Grid System Event and Articles 6.1, 7.1, 7.2, 7.3, 8.3, and 8.8 include its dispatching center(s) and the T&D Operator, as applicable.

(l) Terms used in the present tense may be interpreted as referring to the past tense and vice versa.

ARTICLE 2. SALE AND PURCHASE OF ENERGY

SELLER agrees to sell and make available to PREPA all of the Production of the Facility, and PREPA agrees to purchase all of the Production of the Facility, based on Monthly Payments determined in accordance with Appendix C, as of and following the Initial Synchronization Date, in each case subject to the terms and conditions of this Agreement.

ARTICLE 3. NOTICES

3.1 General

All notices and other communications hereunder shall be in writing, other than dispatch, curtailment or disconnect orders, which may be oral and immediately confirmed via e-mail, and shall be deemed duly given upon receipt after being delivered by hand or sent by e-mail with read receipt confirmation, registered or certified mail, return receipt requested, postage prepaid or by recognized overnight courier service, addressed as follows:

If to SELLER to:

[●]
Attention: [●]
E-mail: [●]

If to PREPA:

Puerto Rico Electric Power Authority
Attention: [●]
1110 Ponce de León Avenue
Office #809
San Juan, Puerto Rico
E-mail: [●]

3.2 Change of Address or Persons

Either Party hereto may change, by notice as above provided, the Persons or addresses to which all such notices are to be sent.

ARTICLE 4. PRE-OPERATION PERIOD

4.1 Preliminary Information

SELLER shall submit to PREPA (a) an Energy Yield Assessment Report, (b) SELLER's preliminary and non-binding Facility's licensing and milestone construction schedules, (c) a preliminary engineering design of the Facility and the PREPA Interconnection Facilities, consistent with Prudent Electrical Practices, the Interconnection Facility Requirements and the MTRs, (d) a proposed relay protection scheme (to include the PREPA Interconnection Facilities and the Additional Interconnection Facilities), and (e) the data required in [Part [III] of Appendix B], including a certified PSS/E mathematical model of the specific photovoltaic facility, the

manufacturer's performance data and expected output curves, as reasonably required to perform the Interconnection Study, in each case within [ninety (90)] Days after the Effective Date. SELLER shall notify PREPA of any material changes to SELLER's licensing and construction milestone schedules, energy estimates and other data so provided. SELLER shall submit progress reports on the development, construction and financing of the Facility to PREPA by the fifth (5th) Business Day of every Month commencing on the first Month following the Effective Date and until the Commercial Operation Date.

4.2 Interconnection Study and Facility Study

No later than [sixty (60)] Days after receiving all of the information provided by SELLER under Article 4.1, PREPA shall perform the evaluations and studies required for the integration of the Facility's anticipated Net Electrical Output into the Grid System (not to exceed the Nominal Capacity), including an Interconnection Study and Facility Study in accordance with Prudent Utility Practices, and provide the results of such studies to SELLER for preparation of the Final Design in accordance with Article 9.4. The Interconnection Study and Facility Study shall, at a minimum, (a) determine the power capabilities of the major interconnection equipment required to complete the Interconnection Facilities, (b) specify the maximum fault currents necessary to specify short circuit duty and interrupting ratings, (c) approve or disapprove generator step-up (GSU) transformer impedance and transformer tap ranges necessary for proper control of voltage and reactive power flow, (d) quantify impact to PREPA's system and the actions and costs required to mitigate such impact for inclusion in the Reimbursement Amount, (e) designate the PREPA dispatching centers that will coordinate the operation of the Facility, and (f) specify the final design requirements for the Facility and the PREPA Interconnection Facilities. At the time PREPA delivers to SELLER such Interconnection Study and Facility Study, PREPA shall also deliver to SELLER such other information required by SELLER to design the Interconnection Facilities in accordance with the Grid System requirements and to protect the Facility from damage that may result from the Grid System performance, including (but not limited to) voltage and frequency fluctuations.

4.3 Changes to Nominal Capacity

SELLER shall design and operate the Facility and associated protection schemes such that at no time shall Net Power Output at the Interconnection Point exceed the Nominal Capacity unless required by the MTRs. SELLER shall have the right to request that PREPA accept an increase to the Nominal Capacity and, if approved by PREPA, pay to PREPA the amount resulting from the product of (a) $5.00/kW, *multiplied by* (b) such increase (expressed in kW) of the Nominal Capacity, to account for PREPA's costs incurred to repeat the evaluations and studies as contemplated by Article 4.2 in respect of such increase. PREPA shall have the right to approve or reject such request in its sole discretion, and if PREPA approves such request, then the Parties shall amend the Nominal Capacity, the Energy Yield Assessment Report and the Guaranteed FNTP Date as reasonably necessary to accommodate such increase and respective evaluations and studies.

4.4 Performance

(a) SELLER shall exercise reasonable efforts to ensure that the FNTP Date occurs by the Guaranteed FNTP Date. SELLER shall (i) develop, design, finance, permit, obtain land rights (including all rights-of-way, easements, Permits, consents, development rights and other real property rights) necessary for, acquire all materials and equipment necessary for, construct, install, test, and commission the Facility and the PREPA Interconnection Facilities, (ii) transfer the PREPA Interconnection Facilities to PREPA, and (iii) otherwise

ensure that the Commercial Operation Date occurs, in each case no later than the Guaranteed Commercial Operation Date, in accordance with this Agreement (including Article 9, Article 12, and Appendix B), the MTRs, the Approved Design, the Interconnection Facility Requirements, Prudent Electrical Practices, and Applicable Law. SELLER agrees that the works required as part of the Interconnection Facilities that will be performed within PREPA's active system (including, for example, works conducted at a PREPA substation or to interconnect such facilities) may, at PREPA's election, be executed by PREPA and its contractor (at SELLER's expense), or by SELLER (as described in the Facility Study). If PREPA elects to perform, or have its contractor perform, such work inside PREPA's active system, then SELLER shall provide the equipment and materials required by PREPA, or its contractor, to complete such work.

(b) The transfer by SELLER to PREPA of the PREPA Interconnection Facilities shall include, to the fullest extent allowed by Applicable Law, the underlying equipment supply contracts, the Interconnection Construction Contract and other contracts, all remaining equipment-supplier warranties in respect of PREPA's Interconnection Facilities and SELLER's rights-of-way, easements, permits, consents, development rights and other real property rights for such facilities (the "**PIF Land Rights**"), and SELLER shall make such transfer on the Commercial Operation Date in accordance with Article 12.3.

(c) If SELLER is unable or fails to perform the obligations in paragraphs (a) and (b) of this Article 4.4 in respect of the PREPA Interconnection Facilities, then PREPA shall have the right to perform, or cause to be performed, such obligations, and in the case of obtaining the PIF Land Rights only, SELLER shall reimburse PREPA for any costs that PREPA incurs to acquire such rights.

4.5 Extensions of Time

Each Party (the "**First Party**") shall have the right to an extension of the time for completion or occurrence of any obligation under this Article 4 where (a) a breach of a material obligation under this Agreement by the other Party, (b) any unreasonable delay by the other Party in the performance of a material obligation under this Agreement, (c) any Force Majeure (as determined in accordance with Article 15) or (d) a Legal Challenge, in each case directly delays the First Party from achieving such completion or occurrence, but only to the extent that (i) such delay would not have occurred but for the occurrence of the relevant event described in Paragraphs (a) through (d) above, and (ii) the First Party exercises its best efforts to mitigate the effects of such delay. If the First Party exercises the foregoing right, then the time for completion or occurrence of such obligation shall extend by the number of Days equal to the time during which the event giving rise to the delay prevented the First Party from performing such obligation.

4.6 Remuneration

As sole, full and final remuneration for the development, design, financing, permitting, procurement of materials and equipment in respect, construction, installation, testing, commissioning and completion of the PREPA Interconnection Facilities in accordance with this Agreement (the "**PIF Construction Works**"), PREPA shall reimburse SELLER for the Direct Costs reasonably incurred in completing such PIF Construction Works (in the aggregate, the "**Reimbursement Amount**"), as determined and approved by PREPA in consultation with a Consulting Technical Expert up to a maximum amount not to exceed $[●]. PREPA shall pay the Reimbursement Amount in three hundred (300) equal installments (each, a "**Reimbursement Installment**") during each Billing Period of the initial twenty-five (25) Agreement Years amortized

at an annual rate of eight and a half percent (8.5%). PREPA may elect to pre-pay any portion of the Reimbursement Amount at any time by providing thirty (30) Days' written notice to SELLER of such election and paying such amount (a "**Prepayment**"). After PREPA makes a Prepayment, the Parties shall recalculate the remaining balance of the Reimbursement Amount and each remaining Reimbursement Installment based on the balance of the Reimbursement Amount then-remaining due after giving effect to the Prepayment. PREPA shall have the right to appoint, and SELLER shall grant access and provide reasonable documentation to, a Consulting Technical Expert for the purpose of monitoring and verifying SELLER's performance of, and costs incurred for, the PIF Construction Works; provided that the Consulting Technical Expert shall be subject to applicable safety and security procedures generally applied by SELLER to individuals given access to the site of such works and shall not materially impede, hinder, interfere with or otherwise delay the execution of the PIF Construction Works unless reasonably required. SELLER shall transfer all of the PIF Land Rights to PREPA in accordance with Article 12.3 at no cost and such amounts shall not, for the avoidance of doubt, be included in the Reimbursement Amount.

4.7 Synchronization

SELLER shall notify PREPA in writing of the proposed Initial Synchronization Date (the "**Proposed Initial Synchronization Date**") and the start-up and testing schedule for the Facility and the PREPA Interconnection Facilities not later than sixty (60) Days prior to such Proposed Initial Synchronization Date. SELLER shall have the right to postpone or accelerate such date with at least two (2) weeks' advance written notice to PREPA. PREPA and SELLER shall agree on the actual Initial Synchronization Date, subject to compliance with Article 9, and PREPA shall have the right to have a representative present at the Facility on the Initial Synchronization Date.

4.8 Protocols and Procedures

No later than [one hundred twenty (120)] Days after the Effective Date, PREPA shall deliver to SELLER standard (a) Testing Protocols and (b) Operating Procedures (as defined herein) for the integration of the photovoltaic solar projects with the Grid System. The "**Operating Procedures**" shall be the procedures as to how to integrate the Net Electrical Output into the Grid System. Topics covered shall include, but not necessarily be limited to method of day-to-day communications, key personnel lists for both SELLER and PREPA's dispatching centers, clearances and switching practices, outage scheduling, daily available capacity and energy reports, a redacted and otherwise scaled down version of the Facility's complex operations log, reactive power support and Emergency procedures, including policies for the delivery by PREPA to SELLER of prompt written notice of the occurrence of all Emergency and follow-up and frequent status reports on any ongoing Emergency. No later than one hundred eighty (180) Days prior to the Initial Synchronization Date, the Parties shall mutually agree to any adjustments or additions to such Testing Protocol (including in respect of the Performance Tests) and Operating Procedures applicable to the Facility, taking into consideration Prudent Electrical Practices, Prudent Utility Practices, the MTRs, and the design of the Facility and its interconnection to the Grid System, and the terms and conditions of this Agreement. The Testing Protocol and Operating Procedures shall each align with this Agreement and may only be modified with the written consent of the Parties. In the event of any conflict between the terms and conditions of this Agreement and the Testing Protocol or Operating Procedures, the terms and conditions of this Agreement shall prevail.

4.9 Exchange of Information

For purposes of conducting any investigations and evaluations as the Parties may deem reasonable and necessary to determine the feasibility of the Facility, the PREPA Interconnection Facilities and

the technical aspects related to the sale of Net Electric Output of the Facility, the Parties agree to cooperate reasonably and in good faith and provide each other and their respective Representatives reasonable and timely access to relevant personnel, advisors (including environmental consultants), properties, and books and records, provided the information is not privileged, confidential or protected under other agreements with third parties or by law or regulation. Subject to the conditions stated in the previous sentence, each Party hereby agrees to cooperate and exchange information necessary to permit, finance, construct and operate the Facility. Notwithstanding anything in this Agreement to the contrary, SELLER shall remain solely responsible for permitting, financing, constructing and operating the Facility.

4.10 Cooperation

To the extent legally permitted, the Parties agree to cooperate reasonably and in good faith in the mutually beneficial endeavor to obtain (i) control of, or other required access and rights to, the real property upon which the Facility and the PREPA Interconnection Facilities will be located, (ii) financing for the Facility and the PREPA Interconnection Facilities, and (iii) all necessary Permits, endorsements and approvals for siting and construction of the Facility and the PREPA Interconnection Facilities. Notwithstanding anything in this Agreement to the contrary, SELLER shall remain solely responsible for obtaining the items set out in subparagraphs (i) through (iii).

ARTICLE 5. TERM

5.1 Initial Term

The term of this Agreement (the "**Term**") shall begin with the Original Effective Date and shall continue for a period of twenty-five (25) Agreement Years after the Commercial Operation Date, unless extended or earlier terminated in accordance with the terms hereof. If the Term is extended, the word "Term" shall thereafter be deemed to mean the original Term so extended.

5.2 Extension

The Term of this Agreement may be extended by mutual agreement of the Parties for up to two (2) consecutive periods of five (5) Agreement Years each, following the expiration of the initial twenty-five (25) Agreement Years of the Term. Either Party may notify its desire to extend the Term to the other Party in writing as provided for under this Article 5.2 not less than eighteen (18) months prior to the expiration of the initial Term or extended Term, as the case may be. During any extension, all provisions contained herein remain in effects unless otherwise agreed.

ARTICLE 6. REPRESENTATIONS, WARRANTIES, AND COVENANTS

6.1 Operations

SELLER covenants and warrants to operate and maintain the Facility or ensure that the Facility shall be operated and maintained by a Qualified Operator, in each case, in accordance with (a) the Operating Procedures, (b) the instructions of PREPA, (c) Prudent Electrical Practices, and (d) Prudent Utility Practices, including synchronizing, voltage and reactive power control.

6.2 Compliance with Law

SELLER shall, at all times and in all material respects, comply with Applicable Law, including the Bulk-Power System EO and such other laws applicable to (i) the use, occupancy, and operation of

the Facility, and (ii) SELLER as an Electric Power Company or Electric Power Generation Company (each, as defined under Act 57-2014), as the case may be. SELLER shall give all required notices, shall procure and maintain all Permits and other permits for the development and construction of the PREPA Interconnection Facilities, and shall pay all charges and fees required in connection therewith. SELLER shall complete all environmental impact studies necessary for the design, construction, operation and maintenance of the Facility and the PREPA Interconnection Facilities. Once obtained, SELLER shall submit to PREPA copies of all material Permits and permits contemplated by this Article 6.2. Furthermore, pursuant to Section 5(f) of Act 120-2018 and subject to the provisions of this Agreement, SELLER shall at all times comply with the public policy and regulatory framework applicable to the Facility.

6.3 Fines and Penalties

Each Party shall have sole responsibility for the payment of any and all fines or other penalties incurred or imposed upon such Party or its agents, suppliers, employees or subcontractors for noncompliance by such Party, its agents, employees, suppliers, or subcontractors with Applicable Law to or in connection with, (a) in the case of SELLER, the development and construction of the PREPA Interconnection Facilities, and the development, construction, ownership and/or the proper operation of the Facility, except to the extent such noncompliance is due to any act or omission of PREPA, and (b) in the case of PREPA, the proper operation of the Grid System, except to the extent such noncompliance is due to any act or omission of SELLER, in each case as determined by applicable Governmental Authority having jurisdiction over the Facility, subject to the indemnification provisions of Article 14.

6.4 SELLER Representations and Warranties

SELLER represents and warrants as of the Effective Date as follows:

(a) SELLER is a [[●] company], duly organized, validly existing under the laws of [●]; SELLER has all requisite power and authority to conduct its business, to own its properties, and to execute, to deliver, and to perform its obligations under this Agreement;

(b) The execution, delivery, and performance by SELLER of this Agreement have been duly authorized, and do not and will not (i) require any additional internal consent or approval of SELLER; or (ii) violate any provision of SELLER's certificate of formation or operating agreement, or any material indenture, contract or agreement to which it is a party or by which it or its properties may be bound, or any Applicable Law, determination or award presently in effect;

(c) SELLER is not in default under any document or instrument referred to in clause (ii) of the preceding paragraph (b), which default could reasonably be expected to have a material adverse effect on the ability of SELLER to perform its obligations under this Agreement;

(d) This Agreement is a legal, valid and binding obligation of SELLER, enforceable against SELLER in accordance with its terms, except as may be limited by applicable bankruptcy, insolvency or similar laws affecting the enforcement of rights generally; and

(e) Except as previously disclosed in writing, there is no pending action or proceeding in which SELLER is a party before any court, governmental agency or arbitrator that could reasonably be expected to affect materially and adversely the financial condition or operations of SELLER or the ability of SELLER to perform its obligations under, or which

purports to affect the legality, validity or enforceability of, this Agreement as in effect on the date hereof.

6.5 Restrictions on Asset Transfers

In the event SELLER intends to sell the Facility, or any portion of the Facility, or substantially all of its assets, directly or indirectly, it shall notify PREPA of its intention to sell sixty (60) Days in advance of the intended date of such sale. PREPA shall have the right to approve the new owner, which approval shall not be unreasonably withheld, conditioned or delayed; provided that no such approval shall be required if (a) the transfer of SELLER's assets is part of any foreclosure on any mortgage, lien, pledge, charge or other encumbrance granted to the lenders under any non-recourse project financing related exclusively to such assets and such lenders or their agent has entered into a direct agreement with PREPA in respect of the collateral assignment of this Agreement, (b) such new owner constitutes a permitted assignee under Article 20.3, or (c) the new owner provides to PREPA (i) its audited financial statements as per GAAP, demonstrating that such new owner has a tangible net worth of at least twenty-five million dollars ($25,000,000) (or its direct or indirect parent has a tangible net worth of at least seventy-five million dollars ($75,000,000)), (ii) evidence reasonably acceptable to PREPA that such new owner is or has engaged a Qualified Operator, and (iii) the certifications and documentation required by Appendix H, but construing references to SELLER therein as references to such new owner. In each case, (1) SELLER shall ensure that any regulatory approvals required have been obtained in respect of such transfer and such transfer otherwise complies with Applicable Law and (2) if requested by PREPA, the Parties and such new owner shall enter into an agreement under which (A) SELLER assigns and transfers all of its rights and obligations under this Agreement to such new owner, and (B) such new owner expressly assumes all liabilities of SELLER arising under this Agreement prior to the date of such assignment.

6.6 SELLER's Financial Statements

SELLER agrees that, following the FNTP Date, and thereafter during the Term of this Agreement, it will cause to be delivered to PREPA its audited financial statements for the most-recently completed fiscal year, prepared in accordance with GAAP, no later than ninety (90) days following the completion of such fiscal year.

6.7 SELLER's Officers

SELLER agrees that it will cause to be delivered to PREPA an annual certification of the names of its corporate officers.

6.8 Confidentiality

(a) Each Party (the "**Receiving Party**") agrees that all Agreement terms and information obtained from the other Party (the "**Disclosing Party**"), which is not otherwise generally available to the public (but without limitation of any liability the Receiving Party may have to the Disclosing Party for information having become generally available to the public through the negligence or willful misconduct of any of the Receiving Party, its Affiliates or their respective employees, agents and representatives), shall be kept confidential and used solely by the Receiving Party in connection with the performance of its obligations under this Agreement. Disclosure of such information may be made only within the Receiving Party's organization to key personnel, and to third parties serving as the Receiving Party's legal, financial or technical advisors, whose duties justify their need to

review and know such material. The Receiving Party shall require each Person (and personnel thereof) to agree in writing for the benefit of the Disclosing Party to maintain the confidentiality of such information.

(b) To the extent a Receiving Party is required to disclose such information by any court, governmental agency or to the extent necessary to secure governmental approval or authorization, such Receiving Party shall promptly notify the Disclosing Party and use its commercially reasonable efforts to seek a confidentiality agreement that assures confidential treatment of the information consistent with the terms of this Article 6.8(b). ln the event the Receiving Party is not successful in obtaining a confidentiality agreement, such Receiving Party shall use commercially reasonable efforts to obtain through court action the appropriate protective order. Notwithstanding the foregoing, PREPA may disclose the terms and conditions of this Agreement to (a) FOMB, PREB, COR3, P3A, the PROMESA Court, and any Governmental Authority for the purposes of obtaining the consents and approvals, together with such additional information as may be required to obtain such consents and approvals, (b) the COR3 or P3A, any owner of the Grid System, and any potential or then-existing T&D Operator and their respective advisors and lenders, and (c) the Puerto Rico Comptroller's Office through the filings required by Applicable Law, which will make this Agreement subject to the open records requirement.

6.9 PREPA's Current Expenses

PREPA hereby represents and warrants that, throughout the Term for so long as the Trust Indenture dated January 1, 1974, as amended, between PREPA and The Chase Manhattan Bank (National Association) as successor trustee remains in effect, PREPA shall treat all payments to SELLER under this Agreement as current expenses as defined by the terms of the Trust Agreement dated as of January 1, 1974, as amended, between PREPA and State Street Bank and Trust Company, as successor trustee, and any successor indentures or agreement, including any amendments, supplements or modifications thereto.

6.10 Local Content

(a) SELLER agrees to use its commercially reasonable efforts, when soliciting and obtaining personnel to perform services for the Facility in Puerto Rico, to achieve a goal that is not less than thirty percent (30%) of the total personnel hours expended in the construction of the Facility prior to the Commercial Operation Date and not less than fifty percent (50%) expended in SELLER's performance of the services pursuant to this Agreement following the Commercial Operation Date shall be performed by individuals who are *bona fide* residents of Puerto Rico as defined in Article 6.10(c).

(b) SELLER agrees to use its commercially reasonable efforts, when soliciting and selecting subcontractors and vendors to perform services for the Facility in Puerto Rico, to achieve a goal that not less than thirty percent (30%) of the total personnel hours expended in the construction of the Facility prior to the Commercial Operation Date, as measured by person-hours on an annual basis, shall be performed by business concerns that are owned and controlled by one or more individuals who are *bona fide* residents of Puerto Rico as defined in Article 6.10(c). For purposes of the preceding sentence, "**owned and controlled**" means a business: (i) which is at least fifty-one percent (51%) owned by one or more of such individuals (e.g., in the case of a corporate form of organization such individuals must hold at least fifty-one percent (51%) of all voting stock of the corporation; in the case of a partnership or other form of business concern such individuals must hold

at least fifty-one percent (51%) of the beneficial interests in the partnership or business concern); and (ii) whose management and daily business operations are controlled by one or more of such Persons (who need not be owners of the business).

(c) For purposes of this Article 6.10(c), an individual shall be considered a *bona fide* resident of Puerto Rico, if said individual has been a resident of Puerto Rico immediately prior to commencing work on the Facility. To the extent that despite SELLER's reasonable efforts SELLER has failed to achieve the goals set forth in Article 6.10(a) or Article 6.10(b), SELLER may for purposes of calculating satisfaction of said goals include the services of individuals who at some time prior to commencing work on the Facility, but not necessarily including the period of time immediately prior to commencing work on the Facility, were residents of Puerto Rico for at least five (5) consecutive years and who relocated to Puerto Rico in order to perform work on the Facility. SELLER shall, in good faith, be entitled to rely on the representation of each individual applicant and of each subcontractor or vendor as to whether such individual, subcontractor or vendor meets the criteria set forth herein. SELLER shall require equivalent undertakings from its subcontractors.

(d) Nothing contained herein shall be interpreted as obligating SELLER to take any action which would be in violation of the Applicable Law or any affirmative action program or equal opportunity obligation to which SELLER or its Affiliates are or may be bound under Applicable Law.

6.11 PREPA Representations and Warranties

PREPA represents and warrants as of the Effective Date as follows:

(a) Pursuant to Act No. 83 of May 2, 1941, as amended, PREPA is a public corporation duly organized and validly existing under the laws of the Commonwealth of Puerto Rico and has all requisite power and authority to conduct its business as now conducted, to own its properties, and to execute, to deliver, and to perform its obligations under this Agreement;

(b) The execution, delivery and performance by PREPA of this Agreement have been duly authorized by PREPA's Governing Board in accordance with Applicable Law, and (i) do not and will not require any additional internal consent or approval of PREPA; and (ii) do not and will not violate any provision of Act No. 83 of May 2, 1941, as amended, or its regulations, or any material indenture, contract or agreement to which it is a party or by which its properties may be bound;

(c) PREPA is not in default under any document or instrument referred to in clause (ii) of the preceding paragraph (b), which default could reasonably be expected to have a material adverse effect on the ability of PREPA to perform its obligations under this Agreement; and

(d) This Agreement is a legal, valid, and binding obligation of PREPA, enforceable against PREPA in accordance with its terms, except as may be limited by applicable bankruptcy, insolvency or similar laws affecting the enforcement of rights generally.

6.12 Subcontracting

Neither Party shall be relieved of its obligations under this Agreement as a result of subcontracting any of its obligations to a third party.

ARTICLE 7. DISPATCHING

7.1 General

PREPA may require SELLER to curtail, reduce or increase (subject to Facility limitations) the Net Power Output, or to disconnect or connect the Facility, for any reason in accordance with Prudent Utility Practices, subject to Article 8.3 and payment for Deemed NEO as required under Article 8.4. Some of these situations may include, but are not limited to, operating problems that may affect safety margins or reliability levels in the Grid System, power quality problems as well as outages and disconnections ("vías libres") of the transmission center or line due to disturbances, maintenance, and/or improvement, and any Emergency.

7.2 SELLER Non-Compliance

Notwithstanding Articles 7.1 and 8.3, PREPA may curtail or reduce the Net Power Output, or disconnect the Facility, without liability for Deemed NEO or otherwise, when the following conditions are present:

(a) the Facility fails to comply with Article 12.1 or the MTRs, which include but are not limited to power factor, low/high voltage ride through, low/high frequency ride through, voltage control requirements, power quality requirements, ramp rate control, and frequency response, as set forth on the Effective Date or, if PREPA has amended the MTRs, then only if such amendment is applicable to the Facility pursuant to Article 9.6;

(b) SELLER fails to perform annual tests for compliance with the MTRs as required in Article 12.2(a); and

(c) SELLER fails to keep the Facility PSS/E mathematical models current with the future versions of the PSS/E program thirty (30) Days after a PSS/E version upgrade is notified in writing by PREPA to SELLER, provided however that: (i) the notice includes all the necessary technical information to update the models, and (ii) the upgrade of these models is feasible in that time period.

For the avoidance of doubt, any curtailment, reduction or disconnection due to (a) and (b) above may be of an extended or permanent nature if not cured by SELLER in a timely manner, and shall end, as instructed by PREPA, promptly after SELLER cures such non-compliance.

7.3 Availability Estimates

For each Day following the Commercial Operation Date, SELLER shall provide to PREPA written estimates of short term, next Day and next week Expected NEO and expected average and peak Net Power Output for expected operating hours (expressed in kW over each such hour of each Day), based on (a) the previous Day NEO and average and maximum Net Power Output for expected operating hours, (b) the estimated strength of the solar irradiation and other expected Ambient Conditions for the next Day and week according to the meteorological forecast for the region and site, and (c) the results of the Facility Performance Model. The Parties shall include in the Operating Procedures the procedures and protocols necessary for providing said estimates.

7.4 Acknowledgment

PREPA acknowledges no intent to reduce Net Electrical Output by curtailment or disconnection under this Agreement outside of those circumstances described in this Article 7 and Article 8.

ARTICLE 8. CONTROL AND OPERATION OF THE FACILITY

8.1 Scheduled Outage Program

SELLER shall, at least sixty (60) Days prior to the Commercial Operation Date, submit a written schedule of Scheduled Outages ("**Scheduled Outage Program**") for the remaining portion of the first Year of the Facility's operations and, if the Commercial Operation Date occurs after September 1, for the following one (1) Year, setting forth the proposed Scheduled Outage periods. Thereafter, SELLER shall submit to PREPA, in writing, by September 1 of each Year, its proposed Scheduled Outage Program for the next Year.

8.2 Notice of Non-Scheduled Outages

SELLER shall use commercially reasonable efforts to notify PREPA of any Non-Scheduled Outages at least twenty-four (24) hours in advance and coordinate all Non-Scheduled Outages with PREPA.

8.3 Restrictions on Curtailment and Disconnection

If PREPA requires SELLER to curtail or reduce the Net Power Output, or disconnect the Facility, under Article 7.1, then (a) the Facility will remain in such state until SELLER has received permission to reconnect or resume production from PREPA; (b) to the extent caused by an Emergency or operating problem, (i) any such curtailment, reduction or disconnection shall be of no greater scope and of no longer duration than as required consistent with Prudent Utility Practices, and (ii) PREPA shall diligently use all commercially reasonable efforts to remedy the Emergency or operating problem; and (c) PREPA shall treat the Facility no less favorably than other similarly situated solar photovoltaic facilities connected to the Grid System (including PREPA's own solar photovoltaic facilities, if any), consistent with Prudent Utility Practices (taking into account project size, location, operating conditions, and other circumstances). PREPA shall, as soon as practicable after the occurrence of the curtailment, reduction or disconnection, provide written notice to SELLER describing the particulars of the occurrence and its estimated duration. If SELLER disputes the causes of the curtailment, reduction or disconnection included in the aforementioned report, then such dispute shall be resolved in accordance with the dispute resolution process provided for in Article 22.12.

8.4 Deemed NEO

PREPA shall have no liability to SELLER in connection with any disconnection, curtailment or other reduction in, or failure by PREPA to take, net electrical output at the Interconnection Point, during any Billing Period, for any reason whatsoever, other than payment for Deemed NEO in accordance with this Article 8.4. PREPA shall pay for Deemed NEO in respect of:

(a) any Force Majeure Event Interval that occurs during an Agreement Year if and only if, at the start of such interval, the Equivalent Force Majeure Derated Hours accumulated to date in such year exceed the Force Majeure Waiting Period applicable to such year;

(b) any Grid System Event Interval that occurs during an Agreement Year if and only if, at the start of such interval, the Equivalent Grid System Derated Hours accumulated to date in such year exceed the Grid System Waiting Period applicable to such year; and

(c) any Event Interval in which a PREPA Risk Event occurs pursuant to paragraph (c) of such definition,

(each such interval, a "**Deemed NEO Period**"). As set forth in Appendix C, PREPA's liability pursuant to this Article 8.4 for any single disconnection, curtailment or other reduction resulting in a Deemed NEO Period shall be offset by any insurance proceeds actually received by SELLER from any insurance policy that SELLER may obtain in respect of PREPA Risk Events.

8.5 Obligation to Cooperate

Each Party shall cooperate with the other in establishing Emergency plans, including recovery from a local or widespread electrical blackout; voltage reduction in order to effect load curtailment; and other plans which may arise. SELLER shall make technical information and data available to PREPA concerning start-up times and black-start capabilities.

8.6 Rescheduling

If the Facility has a Scheduled Outage or a Non-Scheduled Outage, and such Scheduled Outage or Non-Scheduled Outage occurs or would occur coincident with an Emergency, PREPA may request that SELLER shall make commercially reasonable efforts, consistent with Prudent Utility Practices and with PREPA's approval, to reschedule the Scheduled Outage or Non-Scheduled Outage or if the Scheduled Outage or Non-Scheduled Outage has begun, to expedite the completion thereof.

8.7 Production Shortfall

If for any Agreement Year, the aggregate Net Electrical Output of such Agreement Year falls below eighty-five percent (85%) of the Expected Annual NEO for such Agreement Year, then SELLER shall grant PREPA a credit of an amount equal to the product of (a) $0.005/kWh multiplied by (b) the total shortfall volume (expressed in kWh) described above that falls below eighty-five percent (85%) of the Expected Annual NEO for such Agreement Year. PREPA shall have the right to use such credit to offset its payment obligations hereunder to SELLER beginning with the first invoice of the subsequent Agreement Year, and continuing until PREPA has received full value for such credit. In the event that any such unapplied credit exists as of the end of the Term, SELLER shall pay PREPA an amount equal to such unapplied credit no later than ninety (90) Days after the Termination Date.

8.8 Communication

SELLER shall provide, install, wire, commission, repair, and replace (as necessary) as a minimum at its expense the following communication facilities linking the Facility with PREPA:

(a) One Remote Terminal Unit ("**RTU**"), including setup installation and configuration, which shall be specified by PREPA;

(b) Two independent telecommunication circuits, including one voice grade to link the SCADA system to the Facility's RTU using DNP protocol through a designated PREPA communication node, and a second fiber optic circuit to link PREPA's network to the

Facility in order to access protection equipment, revenue meters and the dynamic system monitor through the ruggedcom security device as specified by PREPA;

(c) A voice telephone extension for the purpose of communicating with the Monacillos Transmission Center and Ponce Transmission Center;

(d) A telephone line and equipment to transmit and receive e-mail messages to confirm the oral communication between PREPA and SELLER; and

(e) Dynamic system monitor equipment, components, and system in accordance with Appendix D, for recording the power disturbance caused by electro-mechanic swings and to measure the system response to the swing disturbance.

Items provided by SELLER in accordance with this Article 8.8 shall be subject to the approval of PREPA, which approval shall not be unreasonably withheld or delayed.

8.9 Record Keeping

(a) Each Party shall keep complete and accurate books, accounts, records and other data required for the proper administration of all transactions with respect to the matters which are the subject of or in connection with this Agreement.

(b) All such records shall be maintained for a minimum of five (5) years after the preparation of such records or data and for any additional length of time required by regulatory agencies with jurisdiction over the Parties; provided, however, that neither Party shall dispose of or destroy any records without thirty (30) Days' prior written notice to the other Party. Within ten (10) Days after receipt of the notice of intention to destroy or dispose, the other Party shall have the right to require the notifying Party in writing to retain and deliver to it certain records at its sole cost and expense. Any records so notified shall be delivered to the Party requesting their return in no more than ten (10) Days.

(c) SELLER shall maintain an accurate and up-to-date operating log at the Facility with records of (i) real and reactive power for each hour, (ii) changes in operating status and Scheduled Outages, (iii) any unusual conditions found during inspections, (iv) any safety incident, accident or other occurrence at the Site that results in injury to persons or damage to property, (v) data and other inputs for, and outputs from, the Facility Performance Model, and (vi) all other data in relation to testing, metering, invoicing, payments, Claims, Changes, reimbursements, credits and any other charges to PREPA.

(d) Either Party shall have the right from time to time, upon fourteen (14) Days' written notice to the other Party and during regular business hours, to examine the records and data of the other Party relating to the proper administration of this Agreement any time during the period the records are required to be maintained.

8.10 Certification of Testing

At PREPA's request, SELLER shall provide certifications of tests and inspections of the electric and protection equipment, which may impact the Grid System. PREPA shall have the right to visit and visually monitor the Facility during operation and testing, including any Performance Tests.

ARTICLE 9. FACILITIES DESIGN AND INTERCONNECTION

9.1 General

PREPA agrees to allow the Facility to interconnect to the Grid System at the Interconnection Point in accordance with the terms of this Agreement, including Article 9.5. Appendix B sets forth: (a) a description of the Interconnection Facilities, (b) a specification of the Interconnection Point, and (c) the information required for the Interconnection Study needed to interconnect the Facility to the Grid System.

9.2 Protection Relays and Control

(a) SELLER shall provide PREPA with complete protection systems (including relay devices and relay settings), in accordance with Appendix E, for review and inspection by PREPA not later than ninety (90) Days prior to the Proposed Initial Synchronization Date. SELLER shall submit the protection requirements in three stages: (1) design; (2) protection report, *i.e.*, the settings that shall be performed according to the Approved Design; and (3) the tests that shall be performed with the approved settings.

(b) If these are not found to be acceptable to PREPA, SELLER agrees to comply with any reasonable request made by PREPA to provide the protection requirements, including relay settings, prior to the Initial Synchronization Date. PREPA agrees to give any comments or suggested changes pursuant to this Article 9.2 within thirty (30) Days after SELLER submits the protection requirements at each stage to PREPA; provided that, PREPA has at least ten (10) Days to evaluate after receipt of each individual submission. If the Parties are unable to reach an agreement within ninety (90) Days after PREPA's receipt of the complete set of protection requirements, including relay settings, then the dispute will be resolved in accordance with Article 22.12.

9.3 Voltage Schedule

PREPA shall prepare and submit to SELLER a written voltage schedule for the Facility, no later than thirty (30) Days prior to the Proposed Initial Synchronization Date. From and after the Commercial Operation Date, PREPA may change such voltage schedule upon thirty (30) Days' prior written notice, or in accordance with the Operating Procedures, provided that such voltage schedule is in accordance with the MTRs. SELLER shall use such voltage schedule in the operation of its Facility. This voltage schedule shall be based on the normally expected operating conditions for the Facility and the reactive power requirements of the Grid System.

9.4 Final Design

(a) No later than [●] days after SELLER's receipt of the Interconnection Study, Facility Study, and the other information required to be delivered to SELLER by PREPA under Article 4.2, SELLER shall submit to PREPA the final engineering design of the Facility and the PREPA Interconnection Facilities (the "**Final Design**"). SELLER agrees to ensure that the Final Design will be consistent with Prudent Utility Practices and in all material respects with the Facility Study, the Interconnection Study, the Interconnection Facility Requirements, and the MTRs. SELLER agrees to install the equipment necessary to comply with the MTRs, which include but are not limited to power factor, low/high voltage ride through, low/high frequency ride through, voltage control requirements, power quality requirements, ramp rate control, and frequency response to the extent set forth in the MTRs

on the Effective Date or, if PREPA has amended the MTRs, then to the extent that such amendment is applicable to the Facility pursuant to Article 9.6.

(b) No later than thirty (30) Days following SELLER's delivery to PREPA of the Final Design, PREPA shall complete its review of the Final Design and deliver to SELLER written notice that PREPA either (i) accepts the Final Design (the "**Approved Design**") and confirms that the PREPA Interconnection Facilities will, if constructed in accordance with such design, be in compliance with PREPA's interconnection requirements and that the Facility and such PREPA Interconnection Facilities will be allowed to interconnect with the Grid System in accordance with this Agreement or (ii) does not accept such design, in which case PREPA shall simultaneously deliver to SELLER a written and detailed description of PREPA's objections to such design and PREPA's required modifications thereto, which modifications shall be made in good faith and be reasonable and consistent with Prudent Electrical Practices (the "**Technical Input**").

(c) If PREPA has provided Technical Input to SELLER in accordance with the foregoing, then no later than ten (10) Days following SELLER's delivery to PREPA of SELLER's revised Final Design, which revised Final Design shall be consistent with the MTRs and Technical Input, PREPA shall review such revised Final Design and notify SELLER in writing either that (i) such revised design constitutes the Approved Design or (ii) PREPA does not accept such design, in which case PREPA shall simultaneously deliver to SELLER further Technical Input. The foregoing process shall be repeated until an Approved Design is achieved.

(d) The Parties shall use good faith efforts to agree upon an Approved Design within sixty (60) Days of SELLER's submission of the revised Final Design, after SELLER has received PREPA's Technical Input for the first time. SELLER shall not, without PREPA's written consent, commence construction of the Facility or the PREPA Interconnection Facilities until the Approved Design is achieved; provided, that SELLER may, at its risk, order long-lead equipment prior to achievement of the Approved Design.

9.5 Interconnection Facilities

(a) Prior to the initial interconnection of the Facility with the Grid System on the Initial Synchronization Date, SELLER shall retain a contractor, approved in writing by PREPA (such approval not to be unreasonably withheld, delayed or conditioned after SELLER has submitted to PREPA information about the experience of the contractor), to perform the acceptance testing of the Interconnection Facilities, which testing shall be performed pursuant to the Testing Protocols provided by PREPA under Article 4.8. SELLER shall provide to PREPA no less than ten (10) Days' written notice of such testing and PREPA shall have a representative witness and evaluate the testing.

(b) No later than thirty (30) Days following completion of such testing and submission to PREPA of the testing book to be generated by the testing contractor, PREPA shall review such testing book and notify SELLER in writing that PREPA either (i) accepts such testing book or (ii) does not accept such testing book, in which case PREPA shall simultaneously deliver to SELLER a written and detailed description of PREPA's objections to such testing book and PREPA's required modifications thereto, which modifications shall be made in good faith and be reasonable and consistent with Prudent Electrical Practices. If PREPA has provided required modifications to the testing book, then no later than five (5) Days following SELLER's delivery to PREPA of a revised testing book consistent with

such modifications, PREPA shall review such revised testing book and notify SELLER in writing either that the same is approved or that PREPA continues to have required modifications thereto. The foregoing process shall be repeated until the testing book is approved by PREPA, such approval not to be unreasonably withheld, delayed or conditioned. PREPA shall have the right to finally determine whether the Interconnection Facilities have been adequately designed, constructed and tested and that the same comply with PREPA's requirements. PREPA shall use good faith efforts to accept SELLER's testing book within fifteen (15) Days after SELLER's delivery to PREPA of a revised testing book, after SELLER has received PREPA's objections to the testing book for the first time. PREPA acknowledges and agrees that SELLER is not providing design, engineering or testing services or advice to PREPA in respect of the Facility or the Additional Interconnection Facilities.

(c) As conditions to SELLER's right to interconnect with the Grid System, the following provisions shall apply:

1. SELLER shall provide written notice (which shall include a copy of the red line drawing used for the construction of the Interconnection Facilities) to PREPA that the Interconnection Facilities have been substantially completed and tested in accordance with Articles 9.5(a) and 9.5(b) (the "**IF Completion Notice**").

2. PREPA shall inspect (or the Parties shall appoint a Consulting Technical Expert to inspect) such Interconnection Facilities and the remainder of the Facility to confirm they were constructed in accordance with the Approved Design, which inspection and confirmation shall be completed promptly, but in any case within five (5) Business Days following PREPA's receipt of SELLER's IF Completion Notice.

3. If PREPA (or the Consulting Technical Expert, as applicable) determines in good faith that the Interconnection Facilities or remainder of the Facility have not been constructed in accordance with the Approved Design and that such deviation would, if the Facility is synchronized with the Grid System, adversely affect the operations of the Grid System, PREPA shall so advise SELLER in writing within five (5) Days following PREPA's inspection of the Interconnection Facilities and Facility and SELLER shall be required to correct or mitigate any such deviation prior to interconnecting the Facility to the Grid System and resubmit the IF Completion Notice (in which case the first sentence of this Article 9.5(c) shall again apply). If PREPA and SELLER are unable to reach an agreement as to whether the Interconnection Facilities have been constructed in accordance with the Approved Design after two (2) submissions of the IF Completion Notice by SELLER that have been found deficient by PREPA, the matter may be referred to dispute resolution pursuant to Article 22.12(c).

4. If PREPA determines that the Interconnection Facilities and the Facility have been constructed in accordance with the Approved Design, then the Parties shall proceed with testing and initial synchronization pursuant to Article 12.

(d) SELLER shall provide PREPA with as-built drawings of the Interconnection Facilities and the Facility within ninety (90) Days after the Commercial Operation Date and within ninety (90) Days after any material modification of the Interconnection Facilities or remainder of the Facility to the extent the information in such as-built drawings are affected.

(e) SELLER agrees to comply with any reasonable request made by PREPA to provide acceptable relay settings and protection scheme prior to the Initial Synchronization Date in accordance with Article 9.2. SELLER further agrees that control and protection scheme parameters such as: ramp rates, higher frequency fluctuations, low voltage ride-through, voltage support and dynamic power factor will be consistent in all material respects with the MTRs. SELLER shall procure equipment with electrical capabilities to comply with the above-mentioned parameters.

(f) SELLER shall own and be responsible for (at its own cost and expense) the safe and adequate operation and maintenance of all Additional Interconnection Facilities. After transfer from SELLER, PREPA shall own and, subject to Article 12.3(b), be responsible for the safe and adequate operation and maintenance of the PREPA Interconnection Facilities, and all risk of loss and ownership in respect thereof shall be borne exclusively by PREPA. If PREPA implements any change in the protection system relay settings, equipment, or studies due to any improvement at the Interconnection Facilities not required by PREPA, SELLER shall bear all reasonable costs and expenses incurred by PREPA.

9.6 Changes to MTRs

SELLER acknowledges and agrees that it has reviewed and accepted the document entitled "Minimum Technical Requirements for Interconnection of Photovoltaic (PV) Facilities", dated February 28, 2020, as the MTRs for this Agreement, subject to the remainder of this Article. PREPA reserves the right to change the MTRs in conformance with Prudent Utility Practices from time to time; provided, however, that SELLER shall not be obligated to implement any such change unless (a) SELLER has received written notice thereof, and (b) PREPA can demonstrate that, were it not for such change, imminent and substantial harm to human life, property, or the Grid System, specifically as it relates to reliability and safety margins, would result. In the event that SELLER is obligated to implement any such change, SELLER shall assume the cost of any required modifications to the Facility, up to a total cost which, when added to any costs previously required by PREPA and incurred by SELLER pursuant to this Article 9.6, Article 9.7, or Article 9.8, does not exceed the Modification Limit. In the event that such change reduces the Facility's ability to make available Net Electrical Output, the Parties shall treat that portion of SELLER's reasonably projected lost revenue under this Agreement arising out of such reduction as a cost of such change. If SELLER's costs from such change (as reasonably determined and evidenced in writing to PREPA), when added to any costs previously incurred by SELLER pursuant to this Article 9.6, Article 9.7, or Article 9.8, exceed the Modification Limit, then PREPA shall increase the Base Tariff to allow SELLER to recover that portion of the cost in excess of the Modification Limit in Monthly installments (a) in respect of modifications to the Facility, over a term of eighteen (18) months (and automatically reduce such Base Tariff back to the pre-increase level once SELLER has received the value of such excess) or (b) for a reduction of NEO, over the remaining Term. If PREPA has changed the MTRs, and such change applies to the Facility in accordance with this Article 9.6, such change shall not become effective until SELLER has had a reasonable period of time to comply with any such amended requirement. If required to address future changes in demand or to comply with the requirements of the Applicable Law or PREPA's Integrated Resource Plan, PREPA shall have the right to (i) subject to the remainder of this Article 9.6, amend the MTRs and this Agreement to require SELLER to install battery energy storage facilities upon mutually agreeable terms (in addition to any battery energy storage system required to comply with MTRs as of the Effective Date of this Agreement) and provide for the sale of Ancillary Services from such facilities, including for capacity in excess of Nominal Capacity, at rates to be agreed between the Parties, or (ii) at PREPA's own cost, construct battery energy storage facilities (and SELLER shall grant PREPA the necessary real property access), in each case as part of the Facility

or at the Site in accordance with Prudent Utility Practices and the technical limitations of the Facility.

9.7 Changes to Protection Scheme

PREPA reserves the right to modify or expand its requirements for protective devices in the Interconnection Facilities in conformance with Prudent Electrical Practices. Each Party shall notify the other in advance of any changes to its system, and the reasons for those changes, that would affect the proper coordination of protective devices on the two (2) interconnected systems or that would otherwise affect either Party's Interconnection Facilities. If PREPA desires to change its requirements for protective devices in consideration of imminent and substantial harm to human life, property, or PREPA's system or as those changes relate to reliability and safety margins, then SELLER shall implement such change. In the event that SELLER is obligated to implement any such change, SELLER shall assume the cost of any required modifications to the Facility, up to a total cost which, when added to any costs previously required by PREPA and incurred by SELLER pursuant to Article 9.6, this Article 9.7, or Article 9.8, does not exceed the Modification Limit. In the event that such change reduces the Facility's ability to make available Net Electrical Output, the Parties shall treat that portion of SELLER's reasonably projected lost revenue under this Agreement arising out of such reduction as a cost of such change. If SELLER's costs (as reasonably determined and evidenced in writing to PREPA) when added to any costs previously incurred by SELLER pursuant to Article 9.6, this Article 9.7 or Article 9.8, exceed the Modification Limit, then PREPA shall increase the Base Tariff to allow SELLER to recover that portion of the cost in excess of the Modification Limit in Monthly installments (a) for modifications to the Facility, over a term of eighteen (18) months (and automatically reduce such Base Tariff back to the pre-increase level once SELLER has received the value of such excess) or (b) for a reduction of NEO, over the remaining Term. In the event that PREPA is obligated to implement any change in the protection system relay settings, equipment, and studies due to any improvement at the Interconnection Facilities not required by PREPA, SELLER will assume the total cost without reimbursement.

9.8 Modeling

SELLER agrees to keep the Facility PSS/E mathematical models current with the future versions of the PSS/E program and the Facility Performance Model up to date. Current PSS/E mathematical models shall be provided to PREPA not later than thirty (30) Days after a PSS/E version upgrade is notified in writing. SELLER shall submit to PREPA a report from Siemens PTI or another third-party engineering firm that validates and certifies the Facility PSS/E mathematical model, including the subsequent revisions performed to keep the mathematical model current with the future version of the PSS/E program. Costs incurred by SELLER in excess of the Modification Limit in connection with changes to the PSS/E mathematical model resulting from changes to the MTRs or the protection relays after the Effective Date as per Article 9.6 or Article 9.7, respectively, shall be borne by PREPA as provided for under said Articles. Disputes will be referred directly by either Party to resolution pursuant to Article 22.12.

ARTICLE 10. METERING

10.1 Meter Ownership and Maintenance

PREPA shall own and maintain the meters and metering equipment used to measure the delivery and receipt of Net Electrical Output for payment purposes. SELLER shall install all meters and metering devices, subject to Article 4, including (i) the meters and metering equipment used to determine the Net Electrical Output delivered to PREPA, located at the point identified in Part I of

Appendix B, and (ii) SELLER's back-up meters and metering equipment as part of the Additional Interconnection Facilities; provided that such meters and metering devices shall be subject to PREPA's approval, which approval shall not be unreasonably withheld, conditioned or delayed, and which decision PREPA shall inform SELLER no later than fifteen (15) Days after SELLER's notice to PREPA regarding the installation of the proposed meters.

10.2 Meter Location and Inspection

The meters and metering equipment used to determine the Net Electrical Output delivered to PREPA shall be sealed. The seals may only be broken by PREPA personnel when the meters are to be inspected, tested or adjusted. PREPA shall give SELLER ten (10) Days' prior written notice thereof and SELLER shall have the right to have a representative present during the meter inspection, testing or adjustment. If either Party believes that there has been a meter failure or stoppage, it shall immediately notify the other Party to coordinate an inspection or test at the earliest convenient date.

10.3 Meter Testing and Calibration

(a) At least annually, at PREPA's cost and, in addition from time to time upon two (2) weeks' prior written notice by either Party at its cost (unless the results demonstrate that meters for which PREPA has operation and maintenance responsibility are outside the limits established in American National Standard Institute Code for Electricity Metering (ANSI C12.16, latest version: "ANSI C12.16"), in which case such additional tests shall be at PREPA's cost), PREPA will test and calibrate the meter(s), including backup meters, in accordance with the provisions for meter testing as established by ANSI C12.16. When, as a result of such a test, a meter is found to be within the range specified by the standard, no adjustment will be made to the amount paid to SELLER for Net Electrical Output delivered to PREPA. If the meter is found to be outside the range specified by the standard, (a) the meter shall be adjusted, repaired, replaced, and/or recalibrated as near as practicable to a condition of zero (0) error by the Party owning such defective or inaccurate device at that Party's expense; and (b) PREPA will use the backup meters to calculate the correct amount of Net Electrical Output delivered to PREPA for the actual period during which inaccurate measurements were made.

(b) If the actual period cannot be determined to the mutual satisfaction of the Parties, a period equal to the time elapsed since the most recent test, but in no case for a period in excess of six (6) Months will be used. If the backup meters are not available, or if the testing of the backup meters demonstrates that those meters are out of calibration, the meter readings shall be adjusted based on the corrected meter readings of the most accurate meter for the actual period during which inaccurate measurements were made. If the actual period cannot be determined to the mutual satisfaction of the Parties, for a period equal to one half of the time elapsed since the most recent test, but in no case for a period in excess of six (6) Months will be used.

(c) To the extent that the adjustment period covers a period of deliveries for which payment has already been made by PREPA, PREPA shall use the corrected measurements as determined in accordance with this Article 10.3 to recalculate the amount due for the period of the inaccuracy and shall subtract the previous payments by PREPA for this period from such recomputed amount. If the difference is a positive number, the difference shall be paid by PREPA to SELLER; if the difference is a negative number, that difference shall be paid by SELLER to PREPA or PREPA may offset such amounts against payments due to SELLER by PREPA hereunder. Payment of such difference by the owing Party shall be

made not later than thirty (30) Days after the owing Party receives written notice of the amount due, unless PREPA elects payment via an offset. Each Party shall comply with any reasonable request of the other Party concerning the sealing of meters, the presence of a representative of the other Party when the seals are broken and the test is made, and other matters affecting the accuracy of the measurement of electricity delivered from the Facility.

10.4 Meter Reading

For purposes of this Agreement, "**Billing Period**" shall be defined as a Month during the Base Period, provided that (a) the first such period shall begin on first Day of the Base Period and end on the final Day of the Month in which such Day occurs, and (b) the last such period shall begin on the first Day of the Month in which such Day occurs and end on final Day of the Base Period. During each one (1) Year period following the Initial Synchronization Date, PREPA shall read the meters at least twelve (12) times (prorated for any partial Year) to determine the amount of Net Electrical Output delivered to PREPA from the Facility for each Billing Period. At PREPA's option, PREPA may choose to read the meters more frequently and total such readings in accordance with the applicable Billing Periods. PREPA shall provide SELLER with a written statement containing the reading details and totals within ten (10) Days following the end of each Billing Period. SELLER shall be notified of any site meter readings and may, at its option, be present for such reading.

ARTICLE 11. PAYMENT AND BILLINGS

11.1 Invoicing

On or before the fifteenth (15^{th}) Day following the end of each Billing Period (or if later, within five (5) Days after SELLER receives the meter reading data pursuant to Article 10.4), SELLER shall provide PREPA with a written invoice for the Monthly Payment for such Billing Period, including the details of the applicable Net Electrical Output delivered to PREPA, any Deemed NEO, Expected NEO, Green Credits, Base Tariff, Contract Rate, Ancillary Services, Base Volume, information necessary to determine Facility performance versus Expected Annual NEO (including the sum of Expected NEO and NEO for each Time Interval to date in the relevant Agreement Year, as well as projections of Expected NEO and NEO based on forecasted Ambient Conditions through the end of such year), insurance payments, credits owing to PREPA and an itemized statement of all other charges under this Agreement, including any Reimbursement Installment, in each case as applicable to such Billing Period, and the undisputed portion of such invoice shall be paid by PREPA within forty-seven (47) Days after the end of the Billing Period. Interest shall accrue on the payments due to SELLER commencing on the Day after the date on which PREPA is required to make any such payment pursuant to the preceding sentence.

11.2 Payment Set-Off

Notwithstanding the payment requirements set forth in this Article, any amounts owed to a Party by the other Party pursuant to this Agreement that are not paid when due to the Party to whom they are owed, may, at the discretion of such obligee Party, be offset against the amounts due to the other Party from such obligee Party; provided that such amounts are undisputed or have been determined to be owed to the obligee Party by a final determination pursuant to Article 22.12; and provided, further, that the obligee Party shall provide the other Party with five (5) Business Days' advance written notice describing in reasonable detail the amounts to be set off before effecting any such set off.

11.3 Payment Method

Payments to a Party shall be made by wire transfer to an account with a bank to be specified by such Party in writing, which specification shall be notified to the other Party at least thirty (30) Days prior to the Initial Synchronization Date, or with such other banks as may thereafter be specified by a Party in writing at least ten (10) Days prior to the date in which payment is due. Either Party may, by written notice to the other, change the address to which such payments to the notifying Party are to be sent.

ARTICLE 12. TESTING AND INITIAL SYNCHRONIZATION

12.1 Capacity Limit

Subject to Article 4.3 and the following sentence, SELLER declares (but does not represent, warrant or covenant) that the maximum Generating Capacity of the Facility at commencement of commercial operations is expected to be sufficient to meet the Nominal Capacity under reasonably expected Ambient Conditions. SELLER acknowledges and agrees that, to remain interconnected to the Grid System, the Net Power Output of the Facility at the Interconnection Point shall not exceed the Nominal Capacity at any time under any Ambient Conditions, unless required by the MTRs.

12.2 Testing

(a) On or promptly after the Initial Synchronization Date, SELLER shall perform tests to verify that the Facility complies with each of the MTRs and other criteria set out in the Testing Protocol, establish the Generating Capacity and power curve of the Facility under various Ambient Conditions, and confirm that the maximum Net Power Output under any such conditions does not exceed the Nominal Capacity (unless required by the MTRs), in each case in accordance with Testing Protocol (the "**Performance Tests**"). SELLER shall submit to PREPA, for evaluation and approval, such test reports certified by an experienced and duly qualified independent laboratory or company (which laboratory or company shall be subject to PREPA's approval, such approval not to be unreasonably withheld, conditioned or delayed) with expertise specialized in acceptance and other relevant tests of renewable power generating facilities (but not a manufacturer's test report) evidencing that the Facility meets each of the MTRs. The Performance Tests shall be witnessed by and coordinated with PREPA's personnel, and the Parties may resolve disputes regarding Performance Tests by referral to a Consulting Technical Expert under Article 22.12(c). These tests shall be repeated on an annual basis, no later than July 1st during each Agreement Year, in order to maintain the Facility interconnected to the Grid System. For the avoidance of doubt, manufacturer's test reports shall not be accepted as a means to comply with this requirement. SELLER shall provide PREPA with at least thirty (30) Days' advance written notice of all Performance Tests, field tests or other matters that PREPA is entitled to witness hereunder. The Parties shall cooperate in good faith to determine mutually acceptable dates for such testing, and PREPA may have an eyewitness during the performance of the tests.

(b) If the Performance Tests of the Facility pursuant to paragraph (a) above establishes that the maximum Generating Capacity of the Facility (as adjusted for Ambient Conditions at the time of testing in accordance with the Testing Protocol and without exceeding the limits of the Approved Design) falls more than fifteen percent (15%) below the Nominal Capacity, or otherwise fails to comply with the MTRs or criteria set out in the Testing Protocol, then

SELLER shall exercise its best efforts to improve the performance of the Facility, and the Parties shall repeat such tests as soon practicable until satisfying the MTRs and criteria set out in Testing Protocol.

(c) If upon retesting the maximum Generating Capacity of the Facility demonstrated by Performance Tests (as adjusted for Ambient Conditions at the time of testing in accordance with the Testing Protocol and without exceeding the limits of the Approved Design) remains more than fifteen percent (15%) below the Nominal Capacity, then, as a condition to the occurrence of the Commercial Operation Date, PREPA shall receive a credit of $200/kW for each kW of such Generating Capacity shortfall below eighty-five percent (85%) of the Nominal Capacity, as a liquidated damage, that PREPA can use to offset future payments under this Agreement, and the Parties shall amend the Nominal Capacity under this Agreement (and the Energy Yield Assessment Report) to reflect the results of such testing. SELLER acknowledges and agrees that such liquidated damage represents a fair and reasonable estimate of the loss which PREPA will suffer if such a Generating Capacity shortfall occurs, and accordingly hereby waives its right to dispute the validity of this Article 12.2(c).

(d) Following the successful completion of the initial set of Performance Tests of the Facility:

1. SELLER shall notify PREPA in writing of the test results, the Base Design Capacity and the Commercial Operation Date by issuing a certificate thereof, signed by SELLER and the Consulting Technical Expert, confirming that (i) the Performances Tests demonstrate that the Facility meets all technical requirements for the Commercial Operation Date, (ii) SELLER has obtained, and maintains in force, all material Permits required for the construction and operation of the Facility, and (iii) the Facility and the PREPA Interconnection Facilities comply in all material respects with Applicable Law. PREPA shall confirm and countersign such notification, such confirmation not to be unreasonably withheld, and if the demonstrated Base Design Capacity falls below the Nominal Capacity, then subject to paragraph (c) above, the Parties shall amend this Agreement to reduce the Nominal Capacity accordingly.

2. SELLER shall submit to PREPA a revised PSS/E mathematical model that represents the as-built Facility. This PSS/E model shall include all necessary functionality to properly model the Facility for both steady-state and dynamic simulations. SELLER shall also submit a Facility PSS/E validation report. This report shall be focused on PSS/E simulation results that show the model MTR compliance and performance, based on final adjustment and parameter settings of MTR and commissioning field tests as required in this Agreement.

12.3 Completion of PREPA Interconnection Facilities

(a) On the Commercial Operation Date, SELLER:

1. shall execute and deliver to PREPA a deed, in a form reasonably acceptable to PREPA, under which, and hereby confirms that, it (i) transfers good and valid legal title to the PREPA Interconnection Facilities and PIF Land Rights to PREPA free and clear of all liens and any other Claims by third parties (including, with respect to the PIF Land Rights, a Constitución de Servidumbre de Paso de Líneas Eléctricas y Otros Fines, Cesión Traspaso y Garantía or deed by notary public, as

applicable, in each case in a form reasonably acceptable to PREPA), (ii) agrees that PREPA shall take over such facilities, (iii) releases, and forever discharges, PREPA and its respective officers, directors, agents, and employees, and all lands, PIF Land Rights, chattels and other real and personal property connected with or a part of the site of the PREPA Interconnection Facilities from any and all contractual liens and any other liens arising by operation of Applicable Law or otherwise in connection with, or arising out of, the performance of SELLER's obligations under this Agreement, and (iv) specifically waives and releases any lien, right, security interest or encumbrance of any kind in connection with this Agreement, the Interconnection Construction Contract or Applicable Law, established by SELLER, its contractors at any tier, materialmen, laborers and all other persons or entities furnishing services, labor or materials in connection with SELLER's obligations under this Agreement and all other interests therein and all improvements and materials placed on such site or machinery furnished in connection with such work; and

2. shall be deemed to represent and warrant to PREPA that (i) the design, engineering, procurement, construction and completion of the PREPA Interconnection Facilities conform in all material respects with this Agreement, the Approved Design and all Applicable Law; (ii) the PREPA Interconnection Facilities are fit for their intended purpose and free from material defects and deficiencies of any kind, and designed, engineered and constructed in accordance with those practices, methods, techniques, standards and procedures which are generally accepted and followed by prudent, diligent, skilled and experienced contractors with respect to the procurement, erection and installation of equipment at, and the engineering, design and construction of, electrical transmission lines of a similar nature and magnitude; (iii) PREPA owns good and valid title to the entirety of the PREPA Interconnection Facilities and PIF Land Rights free and clear of any lien or Claim and SELLER has not received nor become aware of any notice of intention to claim a lien, or proceeding to establish a lien, arising out of or in connection with such facilities or SELLER's work related thereto; and (iv) SELLER has complied with the requirements of Part IV of Appendix B.

(b) From the Commercial Operation Date until seven hundred thirty (730) Days thereafter (the "**Defects Liability Period**"), SELLER shall repair or replace any defect of any part of the PREPA Interconnection Facilities (and any physical damage to any other part caused thereby), which may appear during the Defects Liability Period. For any portion of such facilities which SELLER repairs or replaces during the Defects Liability Period, the Defects Liability Period for such portion shall extend for a period of seven hundred thirty (730) Days after the date on which SELLER completes such repair or replacement. If any defect or damage appears during the Defects Liability Period, PREPA shall, promptly after becoming aware thereof, notify SELLER thereof. As soon as reasonably practicable after receiving notice of such defect or damage from PREPA, SELLER shall commence all repair or replacement work required to rectify such defect and/or damage. In the event that SELLER fails to carry out, or commence, such repair or replacement work, PREPA shall have the right to engage and pay other persons to carry out the same and all reasonable, documented costs incurred by PREPA in connection therewith shall be recoverable from SELLER and may, at the election of PREPA, be deducted from any monies due or that become due to SELLER under this Agreement or drawn on the Operation Security. SELLER shall procure that the contractor under the Interconnection Construction Contract obtains warranties for equipment used in such construction works from the respective

manufacturers. Unless agreed with PREPA, SELLER shall ensure that such warranties extend for at least the Defects Liability Period with respect thereto and shall obligate any such manufacturer to rebuild, remove and replace any equipment supplied by such manufacturer which has a defect or deficiency, in each case in a manner and on terms and conditions substantially similar to those contained herein. The installation of all materials used in the construction of the PREPA Interconnection Facilities shall be in strict accordance with any relevant manufacturer's requirements. In the event that a manufacturer fails to honor its warranty based in whole or in part on a claim of defective installation, SELLER shall be liable for the cost of the associated removal, replacement, rebuilding and repair. SELLER shall perform all work contemplated by this paragraph (b) at its own cost.

ARTICLE 13. LIABILITY

13.1 General

From and after the Commercial Operation Date, each Party shall be responsible for the energy and facilities, located on its respective side of the Interconnection Point. The Net Electrical Output made available by SELLER to PREPA under this Agreement shall become the property of PREPA at the Interconnection Point at which point title to the Net Electrical Output and all risk of loss associated to such energy is transferred to PREPA, and, except as provided in Article 13.2 below, SELLER shall not be liable to PREPA for loss or damage to PREPA's generation, transmission, and distribution system, resulting directly or indirectly from the use, misuse or presence of said energy once it passes the Interconnection Point.

13.2 Foreseeable Damages

Each Party shall be liable for all foreseeable damages suffered by the other as a necessary consequence of SELLER or PREPA's respective negligent performance or omissions or failure to perform its respective obligations under this Agreement, including during any cure period in accordance with Article 16, as stated under Article 1060 of the Puerto Rico Civil Code, subject to the terms of Article 13.3 below.

13.3 No Liability

Notwithstanding anything to the contrary in this Agreement, neither Party nor its officers, directors, agents, employees and representatives shall in any event be liable to the other Party or its officers, directors, agents, employees or representatives for Claims for incidental, consequential or indirect damages to persons or property, whether arising in tort, contract or otherwise, connected with or resulting from performance or non-performance under this Agreement including without limitation, Claims made by either Party's customers or suppliers, or Claims made by third parties, or Claims made by either Party for lost profits (except payments specifically provided for in Article 11), provided, however, that the payments described in Article 8.4, 14.3, and 14.4, shall not be subject to the restrictions set forth in this Article 13.3.

13.4 Obligation to Pay

Nothing in this Article 13 shall relieve either Party of its obligation to make payments that become due pursuant to Article 11.

13.5 Liability Cap

SELLER's liability to PREPA under this Agreement, whether based on contract, warranty or tort, including errors or omissions, negligence, indemnity (including without limitation the indemnity provisions set forth in Article 14 hereof), strict liability or otherwise, or any other claim or cause of action, with respect to any and all Claims or causes of action shall not exceed the amount (the "**SELLER Liability Cap**") equal to (a) prior to the expiration of the Defects Liability Period, the Reimbursement Amount, and (b) after the expiration of the Defects Liability Period, the amount of the Operation Security; provided, however, that SELLER's liability for payment of any amounts under Article 8.7, Article 12.2(c), Article 14.3, Article 14.4(b) and Article 16.2, or for which SELLER receives (or would have received had it complied with the terms of this Agreement) insurance proceeds, shall not be subject to the SELLER Liability Cap.

ARTICLE 14. INDEMNIFICATION

14.1 General

Subject to the provisions of this Article 14, each Party (the "**Indemnifying Party**") shall indemnify and hold harmless the other Party and each of its Indemnitees from and against any and all damages, Claims, losses, liabilities, actions, causes of action, costs, expenses and obligations (including all attorneys' fees) whether arising in contract, tort or otherwise to third parties for or on account of injury, bodily or otherwise, or death of persons or for damage to or destruction of third party property, in each case to the extent resulting from or arising out of the Indemnifying Party's violation of law, negligence, willful misconduct or failure to perform under this Agreement.

14.2 Notice of Claim

In the event any Party to this Agreement receives notice of any Claim or cause of action for which such Party elects to assert a right of indemnification and of being held harmless from the other Party, the Party receiving such notice must give prompt written notice to the other Party of the claim. The Party required to give the indemnification and hold harmless under the terms and provisions of this Agreement will have control of the defense of any such Claim or cause of action (except to the extent prevented by any legal conflict of interest) including the selection of counsel to handle same. In addition to the counsel so selected, the Party being indemnified and held harmless shall be entitled to be represented by counsel of his or its own choosing but, in such event, the cost and expense of said additional counsel shall be borne by the indemnitee.

14.3 Claims Arising from Environmental Harm

As of the Effective Date and for the Term, SELLER shall indemnify and hold harmless PREPA for any and all judgments (including expenses such as reasonable costs and attorneys' fees) required to be incurred by PREPA as a result of Claims of any nature whatsoever resulting from any environmental harm due to the actions of SELLER or SELLER's agents or employees in the design, planning, construction or operation of the Facility or the PREPA Interconnection Facilities or arising as a result of the presence at the Facility of pollutants, hazardous substances, materials or wastes in excess of amounts and concentrations permitted by Applicable Law then in effect. In the event SELLER fails to reimburse PREPA for such expenses within thirty (30) Days of receipt of written notice from PREPA stating that such expenses were incurred, PREPA may offset the amount of such expenses against amounts due SELLER from PREPA under this Agreement. In the event SELLER disputes that claimed expenses are due to the actions of SELLER or SELLER's agents, such dispute shall be resolved pursuant to Article 22.12.

14.4 Delay Liquidated Damages

If the Commercial Operation Date does not occur by the Guaranteed Commercial Operation Date, then:

(a) if the Commercial Operation Date would have occurred by the Guaranteed Commercial Operation Date but for PREPA's failure to complete one or more of its obligations under Article 4 by the required time, as extended under Article 4.5, and the Facility is otherwise ready to commence the Performance Tests and achieve commercial operations on a continuous basis, then PREPA shall pay to SELLER, as SELLER's sole and exclusive remedy in respect of such delay, an amount equal to:

1. for each Day of delay after the Guaranteed Commercial Operation Date until the earlier to occur of (i) the Day that PREPA completes such obligation(s), and (ii) the Long-Stop Date, the product of (A) $[0.125]/kW *multiplied by* (B) the Nominal Capacity; and

2. for each Day of delay after the Long-Stop Date until the earlier to occur of (i) the Day that PREPA completes such obligation(s), and (ii) the Termination Date, the product of (A) the Base Tariff *multiplied by* (B) the Expected NEO for such Day, determined in accordance with Appendix F;

in each case, as liquidated damages (the "**PREPA Delay LDs**"); provided that (x) upon the occurrence of Commercial Operation Date, if the Base Design Capacity established by the initial Performance Tests falls below Nominal Capacity, as applicable thereof, then the Parties shall reduce the PREPA Delay LDs, and SELLER shall credit PREPA's account for any overpayment, according to the ratio that such Base Design Capacity bears to the Nominal Capacity; and (y) the Term shall be reduced by one (1) Day for each Day that PREPA pays PREPA Delay LDs under Article 14.4(a) (2); and

(b) other than in respect of any Day for which PREPA owes PREPA Delay LDs in accordance with Article 14.4(a), for each Day of delay after the Guaranteed Commercial Operation Date until the earlier of (i) the Commercial Operation Date, and (ii) the Long-Stop Date, SELLER shall pay to PREPA, as PREPA's sole and exclusive remedy in respect of such delay, an amount equal to the product of (i) $[0.125] /kW *multiplied by* (ii) the Nominal Capacity, as liquidated damages (the "**SELLER Delay LDs**").

Each Party acknowledges and agrees that the PREPA Delay LDs and SELLER Delay LDs set forth in this Article 14.4 represent a fair and reasonable estimate of the losses which SELLER and PREPA will respectively suffer if the Commercial Operation Date does not occur by the Guaranteed Commercial Operation Date, and accordingly hereby waives its right to dispute the validity of this Article 14.4.

ARTICLE 15. FORCE MAJEURE

15.1 Definition

"**Force Majeure**" means any event beyond the reasonable control of the affected Party (the "**Affected Party**") not resulting from the fault or negligence of the Affected Party claiming the Force Majeure. Except as provided in Article 15.4, the Affected Party claiming the Force Majeure shall be excused from performing hereunder and shall not be liable for damages or otherwise to the extent the non-performance or inability to perform is due to a Force Majeure event. The burden of

proof as to whether a Force Majeure event has occurred and caused a non-performance or inability to perform shall be on the Affected Party claiming the Force Majeure. The suspension of performance shall be of no greater scope and of no longer duration than is required by the Force Majeure event, consistent with Prudent Utility Practices. Notwithstanding this Article 15.1 or Article 15.2, Force Majeure shall not include any promulgation by the Department of Energy of implementation rules for the Bulk-Power System EO after the Effective Date.

15.2 Instances of Force Majeure

Provided that the provisions of Article 15.1 are met, Force Majeure events may include the following: acts of God, strikes, industrial disturbances, acts of public or foreign enemy, war, blockades, boycotts, riots, insurrections, epidemics, earthquakes, storms, sabotage, works to rule, go-slows and other public agitation, other than by employees of the Affected Party or its contractors or suppliers; invasion, terrorism, rebellion, plague, lightning, hurricane, natural calamity, floods, civil disturbances, lockouts, fires, serial defects, explosions, interruptions of services due to the act or failure to act of any Governmental Authority (other than PREPA); Pending Permit Delays (provided that the Affected Party's performance may be excused for no more than three hundred sixty-five (365) Days); and failure of any subcontractor or supplier of the Affected Party to perform as a result of an event that would constitute a Force Majeure hereunder.

15.3 Notice

A Party claiming excuse due to Force Majeure shall, within ten (10) Days after the occurrence of the Force Majeure, give the other Party written notice describing the particulars of the occurrence and, if possible, its estimated duration and shall diligently use all commercially reasonable efforts, consistent with Prudent Utility Practices, to remedy its inability to perform and resume its performance under this Agreement; provided that this obligation shall not require the settlement of any strike, walkout or other labor dispute on terms which, in the sole judgment of the Party involved in the dispute are contrary to its best interest.

15.4 Consequences

Subject to Article 8.4(a), neither Party shall be excused by reason of Force Majeure from the obligation to make any payments, when due, to the other Party.

15.5 Disputes

If a Party Disputes the other Party's claim of Force Majeure, such Dispute shall be resolved pursuant to Article 22.12.

ARTICLE 16. TERMINATION

16.1 Termination Date

Subject to Article 16.3, this Agreement shall terminate on the earliest date (the "**Termination Date**") to occur of the following:

(a) expiration of the Term of this Agreement as provided in Article 5;

(b) the date of mutual written consent of the Parties;

(c) the date identified in a written notice by the non-defaulting Party following the occurrence of a Breach under Article 17, provided that (i) such date shall occur no earlier than thirty

(30) Days after the issuance of such notice, and (ii) if such Breach is curable, (A) it remains uncured on the identified date and (B) such date shall be extended by up to ninety (90) Days after the issuance of such notice so long as the Party in Breach diligently pursues a cure;

(d) the date identified by PREPA in a written notice following any failure by SELLER to achieve the FNTP Date by the Guaranteed FNTP Date; or

(e) the date that SELLER's liability to PREPA under this Agreement with respect to any and all Claims or causes of action equals or exceeds the SELLER Liability Cap.

The deadlines in sub-paragraphs (c) and (d) shall each be extended on a day-for-day basis for any delay in achieving such deadline due to a Force Majeure event, Legal Challenge or any delay caused by any act or omission of the Party seeking to terminate this Agreement, but in no event longer than forty-eight (48) Months (notwithstanding Article 4.5), as extended by any delay caused by any act or omission of the Party seeking to terminate this Agreement. With the exception of item (c) dealing with termination following the occurrence of a Breach, the termination of this Agreement pursuant to the above items shall not give rise to liability or other obligation against either Party.

16.2 Reimbursement to PREPA

If PREPA terminates this Agreement in accordance with Article 16.1 as a result of a Breach under Article 17.1(b)1, 17.1(b)2, 17.1(b)3, or 17.1(b)4, then SELLER shall, within thirty (30) Days following such termination, reimburse PREPA for any and all costs and expenses incurred by PREPA in connection with the PREPA Interconnection Facilities pursuant to Article 4.4(c) and Article 4.6, failing which PREPA shall have the right to draw on the Operation Security for such amount.

16.3 No Discharge of Obligations

Cancellation, expiration or earlier termination of this Agreement shall not relieve the Parties of obligations incurred prior to, or as a result of, such cancellation, expiration or earlier termination of this Agreement, which by their nature should survive such events, including this Article 16.3. Articles [6.8, 8.7, 8.9, 13, 14, 15, 16, 17.3, [19.1], and 22] shall survive the Terminate Date, provided that Articles [6.8 and 14] shall expire one (1) year and two (2) years after the Termination Date, respectively. Without limiting the foregoing, termination of this Agreement shall not discharge either Party hereto from any Claim or obligation it owes to the other Party under this Agreement by reason of any transaction, loss, cost, damage, expense or liability which shall occur or arise (or the circumstances, events, or basis of which shall occur or arise) prior to the Termination Date. It is the intent of the Parties hereby that any such Claim or obligation owed (whether the same shall be known or unknown at termination or whether the circumstances, events or basis of the same shall be known or unknown at termination) shall survive the Termination Date. Except as otherwise expressly contemplated by this Agreement, any indebtedness by either Party to the other shall be considered payable within ninety (90) Days after the Termination Date.

16.4 Removal of Facility and Related Equipment

Following the Termination Date, SELLER shall be entirely responsible (at its sole cost, risk and expense) for owning, operating, maintaining and ultimately removing the Facility and related equipment at the end of their useful life in accordance with all Applicable Laws.

ARTICLE 17. BREACH OF AGREEMENT, DELAYS AND SECURITY

17.1 Definition

A "**Breach**" of this Agreement shall be deemed to exist upon any of the following events:

(a) A default by a Party in the due and punctual payment of any monetary amount to be paid to the other Party when and as the same becomes due and payable, and the same is not cured within ten (10) Days after the date on which the defaulting Party receives written notice from the other Party of such failure, other than disputed amounts, which shall be subject to determination under Article 22.12;

(b) for SELLER only as the defaulting Party,

1. failure to complete and test the Interconnection Facilities by the Guaranteed Interconnection Date, as evidenced by issuance of the IF Completion Notice;

2. the non-occurrence of the Commercial Operation Date by the Long-Stop Date;

3. the occurrence of a Development Abandonment;

4. the occurrence of a Permanent Closing;

5. the aggregate Net Electrical Output during any two consecutive Agreement Years falls below seventy percent (70%) of the aggregate Expected Annual NEO for such years; or

6. failure to deliver or maintain the Operation Security in accordance with Article 17.3; and

(c) a default in any material respect by a Party in the performance of, or in compliance with, any of the other material terms, covenants, or conditions contained in this Agreement, and the same is not cured within one hundred twenty (120) Days after the date on which the defaulting Party receives written notice from the non-defaulting Party of such failure, or such longer period (not to exceed an additional cure period of one hundred fifty (150) Days if the default is capable of being cured and the defaulting Party is diligently pursuing such cure),

provided in each case that such event shall not become a Breach if it results from (i) other than in respect of a Permanent Closing under paragraph (b)(4) of this Article 17.1, the occurrence of a Force Majeure, or (ii) a breach by the non-defaulting Party of the provisions of this Agreement.

17.2 Remedies and Disputes

Upon the occurrence of a Breach, the non-defaulting Party shall be entitled to invoke its remedies under this Agreement and/or under Applicable Law. Any Disputes in connection with the existence of a Breach shall be resolved the matter in the manner prescribed in Article 22.12.

17.3 Operation Security

(a) No later than the FNTP Date, SELLER shall provide to PREPA, at SELLER's sole expense, an irrevocable direct pay letter or letters of credit issued by a Qualified Bank, or

a guaranty provided by a guarantor with an investment grade credit rating as determined by Moody's or Standard and Poor's, which such issuing bank or guarantor and forms of letter of credit or guaranty shall be subject to PREPA's approval, such approval not to be unreasonably withheld, conditioned or delayed, in each case in the amount of:

1. prior to the Commercial Operation Date, the sum of (i) [the maximum amount of SELLER Delay LDs under Article 14.4(b) (i.e., the product of $0.125 /kW *multiplied by* the Nominal Capacity multiplied by one hundred eighty (180) days)], *plus* (ii) $[30.00]/kW *multiplied by* the Nominal Capacity of the Facility (expressed in kW); and

2. [from and after the Commercial Operation Date, the product of $[30.00]/kW *multiplied by* the Nominal Capacity of the Facility (expressed in kW)],

(the "**Operation Security**").

(b) If the Nominal Capacity is increased in accordance with the terms of this Agreement, SELLER agrees to increase the Operation Security by the amount equal to (i) prior to the Commercial Operation Date, PREPA's additional cost to construct the PREPA Interconnection Facilities resulting from such increase, and (ii) from and after the Commercial Operation Date, the product of $30.00/kW *multiplied by* the increase of the Nominal Capacity of the Facility.

(c) The Operation Security shall be maintained until sixty (60) Days after the Term of this Agreement, provided that (a) if the Operation Security will expire or cease to exist prior to the end of the Term, then SELLER shall provide a replacement Operation Security in compliance with paragraph (a) above at least thirty (30) Days prior to such expiration, and (b) if the issuer of the Operation Security ceases to meet the requirements of paragraph (a) above, then SELLER shall provide a replacement Operation Security from a Qualified Bank or qualifying guarantor, as applicable, at least twenty (20) Days after becoming aware of such event.

(d) Upon a Breach under Article 17 by SELLER, PREPA may draw from the Operation Security required above to offset any damages PREPA may be entitled to under this Agreement; provided that, other than a Breach under Articles 17.1(b)2 or 17.1(b)6, PREPA either obtains (a) the written agreement of SELLER to the level of such damages (after giving effect to the deduction of any amounts which SELLER asserts are due and payable to it from PREPA but remain unpaid), or (b) obtains a judgment pursuant to the Dispute resolution mechanism provided in Article 22.12 requiring that SELLER pay such amount to PREPA free of any escrow or similar security arrangement. If the Operation Security will expire or cease to exist prior to such agreement or judgment, or if SELLER fails to provide a replacement Operation Security in accordance with paragraph (c) above, then PREPA may draw from the Operation Security an amount equal to the lesser of (i) PREPA's Claim, and (ii) the remaining undrawn face amount of the Operation Security (after giving effect to the deduction of any amounts which SELLER has asserted to PREPA, on or before the date of such drawing, are due and payable to it from PREPA but remain unpaid); provided that PREPA places the amount so drawn in an escrow account in a bank, and pursuant to escrow arrangements reasonably acceptable to SELLER, until the appropriate amount of damages due to PREPA (after giving effect to the aforesaid deductions, if any) is determined or, if earlier, until a replacement Operation Security is provided to PREPA (upon which issuance of a replacement Operation Security, the

amounts deposited in the escrow account shall immediately be released to SELLER). Following such agreement or determination, PREPA may draw from the escrow account (or from any replacement Operation Security) and retain amounts equal to the amount of damages, if any, determined in the aforesaid manner to be due to PREPA, and PREPA shall deliver to SELLER all amounts remaining in the escrow account, if any. The costs of such escrow account shall be borne by PREPA. Drawing under the Operation Security shall not be the exclusive remedy available to PREPA.

ARTICLE 18. TAXES AND ENVIRONMENTAL COSTS

18.1 Costs Arising from Changes

(a) For purposes of this Agreement, "**Taxes**" shall mean any and all taxes, fees or other charges of any nature, excluding income taxes and repatriation (tollgate) taxes, that are imposed or assessed on or as a result of the ownership or operations of the Facility by a Governmental Authority responsible for implementing tax laws, rules, regulations or orders. "**Environmental Costs**" shall mean any and all fixed and variable costs incurred by SELLER resulting from the imposition or assessment on or as a result of the ownership or operations of the Facility by Applicable Law relating to the environment issued by a Governmental Authority. "**Post-Effective Date Taxe**s" shall mean all Taxes resulting from Applicable Law enacted, approved or issued after the Effective Date. "**Post-Effective Date Environmental Costs**" shall mean all Environmental Costs resulting from Applicable Law enacted, approved or issued after the Effective Date.

(b) SELLER shall be responsible for all income taxes, repatriation (tollgate) taxes, Taxes and Environmental Costs applicable to the construction and operation of the Facility; provided that, subject to Article 18.2, PREPA shall reimburse SELLER for all additional costs (net of cost reductions) resulting from changes in the payments of Taxes by SELLER that are the result of the enactment of Post-Effective Date Taxes and for all changes in SELLER's Environmental Costs that are the result of the enactment of Post-Effective Date Environmental Costs, all applicable to SELLER by reason of the ownership or operation of Facility for the purpose of the sale by SELLER to PREPA of Net Electrical Output (collectively called "**Changes**"). Such Changes payable by PREPA according to the foregoing shall be paid to SELLER by an equitable adjustment to the Base Tariff on a per kWh basis over the remainder of the Term.

18.2 Tracking Account

(a) All such Changes paid by PREPA according to the preceding Article 18.1, shall be recorded in an unfunded tracking account to be maintained by PREPA. SELLER shall be entitled, upon reasonable notice and during business hours, to audit PREPA's records reflecting the balance in the tracking account and to identify and object to any error in such calculations. If the Parties are unable to agree on an adjustment to the balance in the tracking account within thirty (30) Days of PREPA's receipt of SELLER's objection, then such matter may be referred to dispute resolution by either Party pursuant to Article 22.12.

(b) If there is a balance in the tracking account at the end of the twenty second (22nd) Agreement Year ("**Balance**"), SELLER agrees that PREPA may withhold up to fifty percent (50%) of the amounts due in each Billing Period thereafter. The retained amount shall be subtracted from the Balance provided such amount is undisputed or determined to be owed pursuant to a final determination pursuant to Article 22.12. This monthly retention

shall be eliminated when the Balance equals zero; provided that if any portion of the Balance has not been repaid at the end of the twenty-fifth (25th) Agreement Year plus any extension as per Article 5, PREPA shall have the option to extend the Term for up to an additional two (2) Agreement Years as necessary to repay the Balance plus Interest by applying such monthly retention as set forth above. If there is a deficit in the tracking account at the end of the twenty-fifth (25th) Agreement Year, an amount sufficient to compensate SELLER for such deficit shall be paid by PREPA to SELLER within forty-seven (47) Days provided such amount is undisputed or determined to be owed pursuant to a final determination pursuant to Article 22.12. In the event this Agreement is terminated according to Article 16, and there is a balance in the tracking account ("**Termination Balance**"), such Termination Balance plus Interest shall be paid to PREPA within thirty (30) Days of the Termination Date provided such amounts are undisputed or determined to be owed pursuant to a final determination pursuant to Article 22.12. Notwithstanding, during the Term of this Agreement and before any termination of this Agreement takes place, SELLER shall have the option to prepay all or any portion of the Balance or the anticipated Termination Balance, if applicable, at any time or from time to time.

(c) The Parties agree that payments or credits by PREPA for Changes as a result of a Post-Effective Date Tax or a Post-Effective Date Environmental Cost shall be subject to an annual Fiscal Year audit and shall be properly adjusted if applicable. Both Parties shall be entitled to participate in such audit.

18.3 Other Fees

SELLER will promptly pay and discharge all lawful Taxes, assessments and governmental charges or levies imposed upon it or in respect of all or any part of its property or business, all trade accounts payable in accordance with usual and customary business terms, and all Claims for work, labor or materials which, if unpaid, might become a lien or charge upon any of its property; provided, however, that SELLER shall not be required to pay any such tax, assessment, charge, levy, account payable or Claim if: (a) the validity, applicability or amount thereof is being contested in good faith by appropriate actions or proceedings which will prevent the forfeiture or sale of any property of SELLER or any material interference with the use thereof by SELLER, and (b) SELLER shall set aside on its books reserves deemed by it to be adequate with respect thereto. PREPA shall pay or cause to be paid all taxes, fees and other charges of any nature on or with respect to the Net Electrical Output at and from the PREPA Interconnection Facilities, including, without limitation, taxes, fees or other charges of any nature assessed on or with respect to the purchase and sale of the Net Electrical Output at the Interconnection Point (including, without limitation, sales tax, excise tax, municipal license tax and value-added tax).

ARTICLE 19. INSURANCE[1]

19.1 SELLER Requirements

SELLER shall obtain and maintain in full force and effect from the FNTP Date and during the Term of this Agreement and thereafter as provided herein policies of insurance covering all operations engaged in by this Agreement, which shall be formally agreed with an insurance company authorized to do business in Puerto Rico, and to that effect it shall provide in original certificates of insurance and endorsements as follows:

[1] **NOTE**: Under review.

(a) Workman's Compensation Insurance: SELLER shall provide and maintain Workmen's Compensation Insurance as required by the Workmen's Compensation Act of the Commonwealth of Puerto Rico. SELLER - shall also be responsible for compliance with said Workmen's Compensation Act by all his subcontractors, agents, and invitees. SELLER shall furnish PREPA a certificate from the State Insurance Fund showing that all personnel employed in the work are covered by the Workmen's Compensation Insurance, in accordance with this Agreement. Imported technical personnel are exempted, as per Act of May 16, 1958 No 16. SELLER shall furnish evidence of such exemption and certificate from the insurance carrier covering said personnel.

(b) Commercial General Liability Insurance: SELLER shall provide and maintain Commercial General Liability Insurance with limits of $1,000,000 per occurrence and $2,000,000 aggregate.

(c) Automobile Liability Insurance: SELLER shall provide and maintain Automobile Liability Insurance with limits of $1,000,000 combined single limit covering all owned, non-owned and hired automobiles.

(d) Excess Umbrella Liability Insurance: SELLER shall provide and maintain Excess Umbrella Liability Insurance with limits of $4,000,000 per occurrence in excess of the limits of insurance provided in subparagraph (c) above.

(e) All Risk Physical Damage Property Insurance: SELLER shall provide and maintain All Risk Physical Damage Property Insurance, including machinery coverage to cover all real and personal property of SELLER (including earthquake and hurricane occurrence) to one hundred percent (100%) of replacement cost to the extent available on commercially reasonable terms as determined by SELLER and subject to a reasonable deductible, which shall be the total responsibility of SELLER. This policy of insurance shall be placed into effect on the Commercial Operation Date. The insurance as required in this Article 19.1(e) shall cover work at the Site and shall also cover portions of the work located away from the Site and portions of the work in transit. The policy shall include as insured property scaffolding, false work, and temporary buildings located at the Site.

(f) Machinery Insurance: SELLER shall provide and maintain machinery insurance, if any, required by the contract documents or by law, covering insured objects during installation and until final acceptance by PREPA. This insurance shall name as insured SELLER and PREPA.

(g) Employer's Liability Insurance: SELLER shall provide and maintain Employer's Liability Insurance with minimum bodily injury limits of $1,000,000 for each employee and $1,000,000 for each accident, covering against the liability imposed by law upon SELLER as a result of bodily injury, by accident or disease, including death arising out of and in the course of employment, outside of and in the course of employment, and outside of and distinct from any claim under the Workmen's Compensation Act of the Commonwealth of Puerto Rico.

(h) Business Interruption Insurance: SELLER shall provide and maintain Business Interruption Insurance with respect to the Facility to include business interruption/loss of income for at least thirty (30) months, with a waiting period of no more than thirty (30) Days, an extended period of indemnity of an additional ninety (90) Days, and coverage for extra expense incurred during any period of interruption based on actual loss sustained.

19.2 Requirements for the SELLER Policies

The Commercial General Liability Insurance and Automobile Liability Insurance required under Article 19.1 shall be endorsed to include:

(a) As Additional Insured, using ISO Additional Insured Endorsement CG 20 26 11 85 or a substitute providing equivalent coverage:

Puerto Rico Electric Power Authority
Risk Management Office
PO Box 364267
San Juan, PR 00936-4267

(b) A thirty (30) Days' cancellation or nonrenewable notice to be sent by certified mail with return receipt to the above address.

(c) An endorsement including this Agreement under contractual liability coverage and identifying it by number, date and the Parties.

(d) Waiver of Subrogation in favor of PREPA.

(e) The breach of any of the Warranties or Conditions in these policies by SELLER shall not prejudice PREPA's rights under this policy.

19.3 Contractor Requirements

The contractors and designers retained by SELLER to construct the Facility and the PREPA Interconnection Facilities shall obtain and maintain in full force and effect before the FNTP Date, policies of insurance covering all constructions engaged in by this Agreement, which shall be formally agreed with insurance companies authorized to do business in Puerto Rico, and to that effect SELLER shall provide in the original certificate of insurance and endorsements, as follows:

(a) Workmen's Compensation Insurance: SELLER shall cause its contractors to provide and maintain Workmen's Compensation Insurance as required by the Workmen's Compensation Act of the Commonwealth of Puerto Rico. SELLER shall also be responsible for compliance with said Workmen's Compensation Act by all its subcontractors, agents, and invitees. SELLER shall furnish PREPA a certificate from the State Insurance Fund showing that all personnel employed in the work are covered by the Workmen's Compensation Insurance, in accordance with this Agreement. Imported technical personnel are exempted, as per Act of May 16, 1958, No. 16. SELLER shall furnish evidence of such exemption and certificate from the insurance carrier covering said personnel.

(b) Employer's Liability Insurance: SELLER shall cause its contractors to provide and maintain Employer's Liability Insurance with minimum bodily injury limits of $1,000,000 for each employee and $1,000,000 for each accident, covering against the liability imposed by law upon SELLER as a result of bodily injury, by accident or disease, including death arising out of and in the course of employment and outside of and distinct from any claim under the Workmen's Compensation Act of the Commonwealth of Puerto Rico.

(c) Commercial General Liability Insurance: SELLER shall cause its contractors to provide and maintain Commercial General Liability Insurance ("**CGL**") with limits of $1,000,000 per occurrence and $2,000,000 aggregate. There shall be no endorsement or modification of the CGL limiting the scope of coverage for liability arising from pollution, explosion, collapse, or underground property damage. Continuing CGL insurance shall cover liability arising from products completed operations and liability assumed under an insured contract for at least three (3) years following substantial completion of the work

(d) Automobile Liability Insurance: SELLER shall cause its contractors to provide and maintain Automobile Liability Insurance with limits of $1,000,000 combined single limit covering all owned, non-owned and hired automobiles.

(e) Excess Umbrella Liability Insurance: SELLER shall cause its contractors to provide and maintain Excess Umbrella Liability Insurance with limits of $4,000,000 per occurrence in excess of the limits of insurance provided in subparagraph (c) above.

(f) Builder's Risk Insurance: SELLER shall cause its contractors to provide and maintain in force Builder's Risk Insurance for the entire work. Such insurance shall be written in an amount equal to the total contract sum as well as subsequent modifications of that sum. The insurance shall apply on a replacement cost basis and coverage shall be written on a completed value form as follows:

1. The insurance as required above shall be written to cover all risks of physical loss except those specifically excluded in the policy, and shall inure at least against the perils of fire, lightning, explosion, windstorm, hail, smoke, aircraft, vehicles, riot, civil commotion, theft, vandalism, malicious mischief, earthquake, and collapse.

2. Any deductible applicable to the insurance purchased in compliance with this requirement shall be paid by SELLER.

3. Waiver of Subrogation. SELLER shall waive all rights against PREPA and its officers, directors, agents, and employees for recovery for damages caused by fire and other perils to the extent covered by builder's risk or property insurance purchased pursuant to the requirements of this Agreement, or any other property insurance applicable to the work.

19.4 Requirements for the Contractor Policies

The Commercial General Liability Insurance and Automobile Liability Insurance required under Article 19.3 shall be endorsed to include:

(a) As Additional Insured, using ISO Additional Insured Endorsement CG 20 26 11 85 or a substitute providing equivalent coverage:

Puerto Rico Electric Power Authority
Risk Management Office
PO Box 364267
San Juan, PR 00926-4267

(b) A thirty (30) Days' cancellation or nonrenewable notice to be sent by certified mail with return receipt to the above address.

(c) An endorsement including this Agreement under contractual liability coverage and identifying it by number, date and the Parties.

(d) Waiver of Subrogation in favor of PREPA.

(e) The breach of any of the Warranties or Conditions in these policies by the relevant Contractor or designer shall not prejudice PREPA's rights under this policy.

ARTICLE 20. ASSIGNMENT

20.1 Restriction on Assignment

Except as otherwise provided in this Article 20, this Agreement shall not be assigned or transferred by either Party without the prior written consent of the other Party, which consent shall not be unreasonably withheld, conditioned or delayed. Any attempt to assign this Agreement without the prior written consent of the corresponding Party shall be void.

20.2 PREPA's Right to Assign

Notwithstanding the provisions of Article 20.1, the Parties acknowledge that PREPA is undergoing a transformation process, and therefore, both Parties agree that in the eventuality of the execution of a Partnership Contract, Sale Contract or any other PREPA Transaction (as these terms are defined in Act No. 120-2018, otherwise known as Puerto Rico Electric System Transformation Act, as amended), PREPA may sell, assign, convey, transfer, pledge, mortgage, sublease, delegate, hypothecate, or otherwise dispose (each, a "**Transfer**") any of its rights, title, or interest (by novation or other instrument) in this Agreement as permitted by Applicable Law and at any time, without SELLER's consent and without cost, expense or incremental liability to PREPA, to a T&D Operator or to any Governmental Authority of Puerto Rico; provided that PREPA shall notify SELLER no later than thirty (30) Days before the effective date of any such Transfer. Unless otherwise agreed by PREPA, following the Transfer, PREPA shall be released from all obligations under this Agreement to the extent such transferee assumes such obligations in writing.

20.3 SELLER's Right to Assign

SELLER shall have the right to assign this Agreement without PREPA's consent to the Project Lenders as collateral security in order to obtain financing or other funding. PREPA agrees to execute and deliver an agreement consenting to any assignment as collateral security in favor of the Project Lenders containing terms and conditions that are customary for transactions of this kind. PREPA agrees to cooperate in good faith in this regard and to provide other customary and reasonable documents and acknowledgments as the Project Lenders may reasonably request in connection with the financing of the Facility, including a direct agreement or consent to assignment in accordance with this Article 20.3 and a legal opinion addressed to the Project Lenders with respect to due authorization and capacity of PREPA to enter into such agreement or consent, in each case as reasonably acceptable to PREPA, provided that SELLER shall reimburse PREPA for the cost of negotiating and providing such documents, acknowledgments, opinions and agreements. In addition, SELLER shall have the right to assign this Agreement to any agent, trustee or other Person (including any corporation or partnership) representing the Project Lenders under the financing documents. If SELLER shall assign this Agreement as collateral security pursuant to this Article 20.3, then so long as the secured obligations, or any consolidation, modification or extension of such obligation shall remain outstanding, the following provisions shall apply:

(a) Following receipt by PREPA of written notice of such assignment, PREPA shall, if serving notice of Breach to SELLER pursuant to the provisions of this Agreement, also serve a copy of such notice of Breach upon the assignee, at the address provided in the notice of assignment.

(b) From and after the date that such notice has been given to an assignee, said assignee shall have thirty (30) Days to remedy an alleged Breach or, if SELLER is given an additional period of time to remedy such Breach, such an extended period for remedying or commencing the remedy of the alleged Breach, or causing the same to be remedied, equal to thirty (30) Days in addition to the cure period given to SELLER pursuant to the terms of this Agreement (or such additional period as PREPA may agree with, and for the benefit of, the Project Lenders).

(c) PREPA shall accept such performance by or on behalf of such assignee as if the same had been done by SELLER. If SELLER is in Breach of the obligations secured by any assignment of this Agreement, then PREPA shall, on notice from the Project Lenders, make any payments due under the Agreement to the Project Lenders and accept any performance of any obligations, whether or not there has been a Breach or default, from the Project Lenders.

(d) The making of an assignment pursuant to the preceding provisions of this Article shall not be deemed to constitute an assignment or transfer of this Agreement, nor shall any assignee referred to above, as such, be deemed to be an assignee or transferee of this Agreement so as to require such assignee, as such, to assume the performance of any of the terms and conditions of SELLER to be performed hereunder; provided, however, that the purchaser at any sale of this Agreement in any proceeding for the foreclosure of any assignment, or the assignee or transferee of this Agreement in any proceedings for the foreclosure of any assignment, or the assignee or transferee of this Agreement under any instrument of assignment or transfer in lieu of the foreclosure of any assignment, shall be deemed to be an assignee or transferee within the meaning of this subparagraph and shall be deemed to have agreed to perform all of the terms, covenants and conditions on the part of SELLER to be performed hereunder from and after the date of such purchase and assignment.

(e) Notwithstanding any other provision of this Agreement, any sale of SELLER's rights in this Agreement in any secured creditor's sale, any proceeding for the foreclosure of any assignment, or the assignment or transfer of this Agreement in lieu of the foreclosure of any assignment, shall be deemed to be a permitted sale, transfer or assignment of this Agreement, and this Agreement shall continue in full force and effect following any such sale, transfer or assignment.

(f) If this Agreement is terminated prior to the expiration of the Term due to a Breach by SELLER (in which case PREPA shall notify the Project Lenders of such termination) or if this Agreement is rejected or disaffirmed pursuant to any bankruptcy law or proceeding or other similar Applicable Law or proceedings affecting creditors' rights generally with respect to a bankruptcy proceeding relating to SELLER or otherwise, PREPA agrees, if there are outstanding obligations to a Project Lender, subject to the receipt of all necessary approvals, to enter into a new power purchase and operating agreement with the Project Lender (or its designee or nominee) on substantially similar terms to this Agreement; provided that such designee or nominee (x) is controlled by the Project Lender, (y) is approved by PREPA (which approval shall not be unreasonably withheld, delayed or conditioned), or (z) has a tangible net worth of at least twenty-five million dollars ($25

million) (or its direct or indirect parent has a tangible net worth of at least seventy-five million dollars ($75 million)), as evidenced by audited financial statements as per GAAP, and has, or engages, a Qualified Operator for the remainder of the Term upon all of the covenants, agreements, terms, provisions and limitations of this Agreement, effective as of the date of such termination, and in each case complies with SELLER requirements of Appendix H.

Notwithstanding the provisions of Article 20.1, SELLER reserves the right to assign all of its rights, title and interest under this Agreement to any Affiliate of SELLER without the consent of PREPA, provided that such Affiliate agrees to be bound by the terms of this Agreement and to fully perform the obligations of SELLER hereunder (including Appendix H), and each Sponsor maintains the same equity interest in such Affiliate as required by Article 20.4. PREPA shall be notified of SELLER's intention to assign this Agreement at least thirty (30) Days in advance. Upon such assignment, SELLER will thereafter be relieved of all obligations arising after the date of any assignment under this Agreement.

20.4 Restrictions on Equity Transfers

SELLER shall ensure that each [Sponsor] does not assign, sell or transfer (whether directly or indirectly) to any other Person any part of its ownership interests in SELLER or renounce any preferential subscription rights for ownership interests in connection with a capital increase (each, a "**Equity Transfer**") at any time without the prior approval of PREPA, provided, however, that a Sponsor may:

(a) at any time, create a security interest in its ownership interest in SELLER in favor of the Project Lenders and PREPA hereby approves any Equity Transfer thereof resulting from the enforcement of such security interests in accordance with the financing documents of the Project Lenders;

(b) at any time, effect an Equity Transfer to a Wholly-Owned Affiliate, provided that such Wholly-Owned Affiliate remains a Wholly-Owned Affiliate all times after such Equity Transfer; or

(c) from and after the second anniversary of Commercial Operation Date, effect an Equity Transfer to a person other than a Wholly-Owned Affiliate, provided that such Equity Transfer, when aggregated with all previous Equity Transfers, does not result in a transfer of more than forty-nine percent (49%) of the issued and outstanding shares and voting rights in SELLER to any Person other than a Sponsor or a Wholly-Owned Affiliate of a Sponsor.

ARTICLE 21. INTENTIONALLY LEFT BLANK

ARTICLE 22. MISCELLANEOUS PROVISIONS

22.1 Waiver and Amendment

This Agreement, including the appendices hereto, may be amended or waived only by written agreement between the Parties. A waiver of any Breach shall extend only to the particular Breach waived and shall not limit or otherwise affect any rights that either Party may have with respect to any other or future Breach. The Parties acknowledge and agree that any amendments to the economic or technical terms of this Agreement, or the scope of the Facility, require PREB approval.

22.2 Strict Performance

The failure of either Party to insist in any one or more instances upon strict performance of any provisions of this Agreement, or to take advantage of any of its rights hereunder, shall not be construed as a waiver of any such provisions or the relinquishment of any such right or any other right hereunder, which shall remain in full force and effect, unless such waiver is in a written agreement between the Parties.

22.3 No Third-Party Beneficiaries

This Agreement is intended solely for the benefit of the Parties hereto and, solely to the extent rights thereto are provided in this Agreement, for the benefit of the Project Lenders as third-party beneficiaries. Nothing in this Agreement shall be construed to create any duty to, or standard of care with reference to, or any liability to, any Person not a Party to this Agreement.

22.4 No Sharing of Benefit

No officer, employee, or agent of SELLER or PREPA or municipal governments shall be entitled to any share or part of this Agreement or to any benefit that may arise therefrom that would be in violation of any Applicable Law of the Commonwealth of Puerto Rico or policy of PREPA.

22.5 No Association, Joint Venture, or Partnership

This Agreement shall not be interpreted or construed to create an association, joint venture, or partnership between the Parties or to impose any partnership obligation or liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as, or be an agent or representative of, or to otherwise bind, the other Party.

22.6 SELLER Utilities

During the Base Period, PREPA agrees to provide electric service to SELLER as requested by SELLER, at the most advantageous rate available to SELLER, based on PREPA's approved tariff and shall be consistent with rates charged by PREPA to similar customers. SELLER shall be responsible for its own electricity prior to such date, and for all of its other utilities during the Term.

22.7 Signing Conditions

(a) The Parties shall complete their respective obligations set out in Appendix H on the Effective Date, including SELLER submitting the following upon signing of this Agreement:

1. Certification by SELLER, which indicates that it has filed its Income Tax Returns during the five (5) previous years, if required, and that it does not owe taxes to the Commonwealth of Puerto Rico; or is paying such taxes by an installment plan in full compliance with its terms;

2. An Income Tax Return Filing Certificate, issued by the Treasury Department of Puerto Rico, Area of Internal Revenues, assuring that SELLER has filed its Income Tax Return for the last five (5) years, if required. To obtain such Certificate, SELLER will use the Request for Copy and/or Certification of Income Tax Returns

Form issued by the Treasury Department of Puerto Rico. In addition, SELLER shall submit a Certification of Debt issued by the Area of Internal Revenues;

3. Certification issued by the Municipal Revenues Collection Center, assuring that SELLER does not owe any tax to such governmental agency. To obtain such Certification, SELLER will use the form issued by the Municipal Revenues Collection Center;

4. Certificate, issued by the Department of Labor and Human Resources of Puerto Rico, evidencing that SELLER has paid to the Department of Labor and Human Resources of Puerto Rico, if applicable, its employees' contributions, in accordance with the Puerto Rico Employment Security Act (unemployment, temporary disability or sickness or social security for chauffeurs); or is paying such contributions by an installment plan in full compliance with its terms. To obtain such Certificate, SELLER will use the form issued by the Department of Labor and Human Resources of Puerto Rico;

5. Certificate, issued by the Child Support Administration (ASUME) evidencing that SELLER is in compliance with the retention, if applicable, that as an employer must do; and

6. A sworn statement to the effect that, as of the Effective Date, neither SELLER nor any of its members, directors, managers, officers or employees have been convicted of, nor have they pled guilty to, any crime as enumerated in Article 3 of Public Law No. 458 of December 29, 2000 of the Commonwealth of Puerto Rico, as amended. In accordance with Article 6 of Public Law No. 458 of December 29, 2000 of the Commonwealth of Puerto Rico, as amended, SELLER acknowledges that its conviction or guilty plea for any of the crimes as enumerated in Article 3 of such Act shall entail, in addition to any other applicable penalty, the automatic rescission of this Agreement. In addition, but only to the extent required by Public Law No. 458, PREPA shall have the right to demand the reimbursement of payments made pursuant to this Agreement that directly result from the committed crime.

(b) If any of the previously required certifications referred to in Article 22.7(a) shows a debt, and SELLER has requested a review or adjustment of this debt, SELLER will certify that it has made such request at the Effective Date. If the requested review or adjustment is denied and such determination is final, SELLER will provide, immediately, proof of payment of this debt to PREPA; otherwise, SELLER accepts that the owed amount be offset by PREPA and retained at the origin, deducted from the corresponding payments.

(c) Specifically, SELLER recognizes that submittal of the aforementioned certifications and a document referred to in Article 22.7(a) is an essential condition of this Agreement.

22.8 Successors

This Agreement shall inure to the benefit of and be binding upon SELLER and PREPA and their respective successors and assigns.

22.9 Complete Agreement

This Agreement is intended by the Parties as the final expression of their agreement and is intended also as a complete and exclusive statement of the terms of their agreement with respect to the subject matter hereof and supersedes all prior written and oral understandings between the Parties with respect thereto.

22.10 Severability

If any provision hereof shall be held invalid, illegal or unenforceable by the holding of an arbitral authority convened pursuant to Article 22.12, such holding shall not invalidate or render unenforceable any other provision hereof.

22.11 Anticorruption and Antibribery

SELLER certifies as of the Effective Date that, to its actual knowledge, it does not receive payment or benefit of any nature for services rendered regularly through an appointment to a Governmental Authority of Puerto Rico.

22.12 Dispute Resolution[2]

(a) If a dispute arises between the Parties regarding the application, interpretation, enforceability, validity, performance, or breach of this Agreement or matters arising therefrom or relating thereto, whether sounding in contract, tort, unfair competition, law, equity or any other legal form (a "**Dispute**"), then such Dispute shall be resolved solely by either a Technical Determination (as defined and subject to the terms set forth in (b) below) or a final and binding arbitration in accordance with this Article 22.12(a). In the event of a Dispute under this Agreement, the disputing Party may promptly provide written notice of the Dispute (a "**Dispute Notice**") to the other Party. Following delivery of the Dispute Notice, the Parties shall either (i) agree in writing to submit such Dispute for a Technical Determination as provided in clause (c) below or (ii) absent such agreement, nominate a member of its respective senior management, who shall have decision-making authority on behalf of such Party, and such senior management members shall promptly meet and seek to achieve settlement, if possible, by negotiation and mutual agreement. If the Dispute is not resolved or submitted for Technical Determination within forty-five (45) Days after the Dispute Notice is received by the recipient Party (or such longer period of time as may be mutually agreed by the Parties in writing), then either Party may submit the Dispute to final and binding arbitration by issuing a demand for arbitration. The arbitration shall be conducted by a panel of three (3) arbitrators, one selected by each Party within ten (10) Days of the submission of the dispute and the third selected by the two Party-appointed arbitrators within twenty (20) Days of the appointment of the second arbitrator. Any arbitrator not timely selected shall, at the request of any Party, be appointed in accordance with AAA's listing, ranking and striking process. Unless otherwise agreed in writing by the Parties, discovery in each mandatory arbitration conducted pursuant to this Article 22.12(a) shall be completed within ninety (90) Days, and the arbitration panel may restrict the scope and number of discovery demands permitted, including but not limited to the number of depositions that may be taken, to ensure compliance with this 90-Day limitation.

[2] **NOTE**: PR counsel advise that the Puerto Rico Energy Bureau has primary and exclusive jurisdiction over disputes between PREPA and independent power producers. See 22 L.P.R.A§ 1054c (a)(6). To discuss.

During that period, the arbitrators shall be available to receive and consider all such evidence as is relevant and, within reasonable limits due to the restricted time period, to hear as much argument as is feasible, giving a fair allocation of time to each Party to the arbitration. The arbitrators shall use all reasonable means to expedite discovery and to sanction noncompliance with reasonable discovery requests or any discovery order.

(b) In addition, unless otherwise agreed in writing by the Parties, a hearing on each mandatory arbitration shall be conducted at the end of the discovery period but no later than one hundred and twenty (120) Days after appointment of the third arbitrator in the arbitration panel and the hearing shall be completed in no longer than five (5) Business Days. The arbitrators shall not consider any evidence or argument not presented during such period and shall not extend such period except by the written consent of both Parties. The arbitration panel shall render a written decision stating the reasons therefore (the "**Award**") as soon as practicable after the close of the hearing but, in any case, no later than thirty (30) Days after the close of the hearing. The arbitrators shall have the right only to interpret and apply the terms and conditions of this Agreement and to order any remedy allowed by this Agreement, but may not change any term or condition of this Agreement, deprive either Party of any right or remedy expressly provided hereunder, or provide any right or remedy that has been excluded hereunder. All hearings shall be held and the Award shall be rendered in San Juan, Puerto Rico. The Award shall be final and binding.

(c) If a Dispute hereunder is one that the Parties agree is of a technical nature that would be best resolved through a technical review in proceedings before the Consulting Technical Expert, either Party may submit such Dispute (a "**Technical Dispute**") for resolution by the Consulting Technical Expert (a "**Technical Determination**") by providing to the other Party and the Consulting Technical Expert a written notice, specifying the manner to be determined. Proceedings before the Consulting Technical Expert shall be held in San Juan, Puerto Rico, unless otherwise agreed in writing by the Parties. Within thirty (30) Days or the engagement of the Consulting Technical Expert for a Technical Dispute (or such longer period of time as the Parties may mutually agree in writing), the Consulting Technical Expert shall conduct a hearing; provided that the Parties may agree in writing to waive the hearing and have the Consulting Technical Expert reach a decision on the basis of written submissions alone. The Consulting Technical Expert shall render a written decision on the Technical Dispute as soon as practicable after the close of the hearing but, in any case, no later than fifteen (15) Days after the close of the hearing. The Consulting Technical Expert shall have no authority to award damages excluded by this Agreement, the Parties hereby waiving their right, if any, to recover such excluded damages in connection with any Technical Dispute.

(d) Any arbitration conducted pursuant to this Article 22.12 shall be governed by the Federal Arbitration Act, 9 U.S.C. § 1 et seq. which shall control over any local law regarding arbitration. The Award rendered in any such arbitration shall be final and binding on the Parties, may be entered and enforced in any Court of Competent Jurisdiction, and shall be subject to judicial review only on the grounds contained in the Federal Arbitration Act. Unless the Consulting Technical Expert or arbitral panel, as applicable, decides otherwise, the expenses of the arbitration proceedings, including the expenses of the Consulting Technical Expert and the arbitrators, but excluding the Parties' own expenses and attorneys' fees, shall be shared equally by the Parties. The Parties are committed to the prompt and efficient resolution of Disputes. Accordingly, if one or more arbitrations are already pending with respect to a Dispute under this Agreement, then any Party may request that any arbitration or any new Dispute arising under this Agreement be

consolidated into any prior arbitration. The new Dispute or arbitration shall be so consolidated; provided that the arbitral tribunal for the prior arbitration determines that: (i) the new Dispute or arbitration presents significant issues of law or fact common with those in the pending arbitration: (ii) no Party would be unduly prejudiced and (iii) consolidation under these circumstances would not result in undue delay for the prior arbitration. Any such order of consolidation issued by the arbitral tribunal shall be final and binding upon the Parties. The Parties waive any right they have to appeal or to seek interpretation, revision or annulment of such order of consolidation. The arbitral tribunal for the arbitration into which a new Dispute is consolidated shall serve as the arbitral tribunal for the consolidated arbitration. The Parties agree that upon such an order of consolidation, they will promptly dismiss any arbitration brought under this Agreement or any related Agreement, the subject of which has been consolidated into another arbitral proceeding under this Agreement or related agreement. The Parties also agree that the time limitations on discovery and hearing duration set forth in Article 22.12(a), above, shall apply to each consolidated arbitration, unless the arbitration panel determines that certain or all of those limitations are impracticable in a particular instance.

22.13 No Economic Interest

SELLER certifies as of the Effective Date, to its actual knowledge, that no public employee has any personal or economic interest in this Agreement.

22.14 Code of Ethics

SELLER agrees to comply with the provisions of Act of June 18, 2002, No. 84, as amended, which establishes a Code of Ethics for the Contractors, Suppliers and Economic Incentive Applicants of the Executive Agencies of the Commonwealth of Puerto Rico.

22.15 Independent Contractor

SELLER shall be considered as an independent contractor, for all material purposes under this Agreement, and all Persons engaged or contracted by SELLER for the performance of its obligations herein, shall be considered as its employees or agents or those of its subcontractors, and not as employees or agents of PREPA.

22.16 Invoice Certification

All invoices submitted by SELLER shall include the following Certification in order to be processed for payment by PREPA:

No Interest Certification:

Under penalty of absolute nullity, I hereby certify that to our actual knowledge no employee, official or director of PREPA is a Party or has any interest in the profits or benefits to be obtained under this Agreement, or if any employee, official or director of PREPA has any interest in the profits or benefits under this Agreement, a waiver has been previously obtained. I, also certify that the only consideration to provide the services under this Agreement is the payment agreed with PREPA's authorized representative under this Agreement. The total amount of this invoice is fair and correct. The services were provided and no payment has been received for this invoice.

SELLER's Signature

22.17 Green Credits

(a) Subject to the remainder of this article, in no case shall anything in this Agreement be construed to require SELLER to transfer to PREPA or any other Person any Tax Credits or any other tax benefit provided by any Governmental Authority.

(b) Contemporaneously with the sale of energy hereunder and in partial consideration for the Contract Rate, SELLER shall convey to PREPA, at no additional cost, all of the Green Credits associated with the Net Electrical Output of, or otherwise in connection with, the Facility. SELLER and PREPA shall execute reasonable documentation to confirm the registration of the Green Credits with the North American Renewables Registry or another similar registry acceptable to SELLER and PREPA ("**Registry**") and the transfer of such Green Credits as reasonably requested by PREPA in accordance with the rules of the Registry, in each case, at the expense of SELLER. PREPA shall have the sole right to own, market, trade, sell or otherwise transfer such Green Credits available to or in respect of the Facility to any Person, and any Green Credits that are now available or in the future might become available in respect of the Facility shall inure to the benefit of, and remain the property of, PREPA.

(c) The term "**Green Credits**" shall mean "renewable energy certificates" and "environmental and social attributes", as such terms are defined in the Puerto Rico Green Energy Incentives Act (Act No. 83 of July 19, 2010), renewable energy credits, environmental attributes, emissions reductions, offsets, allowances or benefits, however entitled (or payments in lieu thereof), whether monetary, fiscal or in the form of physical property, now or in the future available to the Facility, as a facility that generates or produces electricity by means of "green energy" (as such term is defined in the Puerto Rico Green Energy Incentives Act), or from renewable or non-polluting resources, granted or available to SELLER as the owner or operator of the Facility or otherwise, in each case, from any Governmental Authority or third party, including renewable energy credits established pursuant to the Green Energy Incentives Act of Puerto Rico, but shall exclude (i) any Tax Credits and grants in lieu thereof, (ii) other tax benefits or credits, (iii) any accelerated depreciation, and (iv) proceeds from (i) through (iii), in each case, associated with the Facility or otherwise available to SELLER, each of which (i) through (iii) are expressly reserved to SELLER.

22.18 Waiver of Immunity

PREPA unconditionally and irrevocably agrees that the execution, delivery and performance by it of this Agreement and the other project documents to which it is a party constitute private and commercial acts. In furtherance of the foregoing, PREPA hereby irrevocably and unconditionally agrees that to the extent permitted by Applicable Law, (a) should any proceedings be brought against PREPA or its assets in any jurisdiction in connection with this Agreement or any of the transactions contemplated by this Agreement, no Claim of immunity from such proceedings shall be claimed by or on behalf of PREPA on behalf of itself or any of its assets; (b) it waives any right of immunity which it or any of its assets now has or may have in the future in any jurisdiction in connection with any such proceedings; and (c) consents generally in respect of the enforcement of any judgment against it in any such proceedings in any jurisdiction, to the giving of any relief or the issuance of any process in connection with such proceedings, including the making, enforcement or execution against or in respect of any of its assets.

22.19 Counterparts

This Agreement may be executed in any number of counterparts with the same effect as if both Parties hereto had signed the same document. All counterparts shall be construed together and shall constitute one instrument.

22.20 Amendment and Restatement

This Agreement amends and restates the Pre-Restatement PPOA in its entirety. Each Party acknowledges and agrees that the execution and delivery of this Agreement does not constitute a novation of the Pre-Restatement PPOA. Each Party further agrees that (a) it hereby waives its rights relating to any breach or default of, or claim against, the other Party, as well as any right to any time extension for achieving any milestone or performing any other obligation under the Pre-Restatement PPOA or arising prior to the Effective Date, and (b) it will not pursue any claim, or request any refund, reimbursement or extension of time, in each case for any event that has occurred prior to the Effective Date.

22.21 Assumption Order

Promptly after the execution hereof, PREPA shall move for and use reasonable efforts to obtain the issuance of the Assumption Order. PREPA shall keep SELLER abreast of any proceedings before the PROMESA Court related to the Assumption Order and this Agreement.

ARTICLE 23. CHOICE OF LAW AND VENUE

This Agreement shall be governed by, construed and enforced in accordance with the laws of the Commonwealth of Puerto Rico without regard to any contrary result required under applicable conflicts of laws rules. The Parties herein agree that all Disputes arising hereunder shall be resolved pursuant to Article 22.12.

[SIGNATURES APPEAR ON THE FOLLOWING PAGE.]

IN WITNESS WHEREOF, the Parties hereto have agreed to execute this Agreement in San Juan, Puerto Rico, as of the date first written above.

PUERTO RICO ELECTRIC POWER AUTHORITY	[●]
_____	_____
José Ortiz Vázquez	[●]
Executive Director	[●]

APPENDIX A HOLIDAYS

The following holidays are recognized by PREPA. All holidays which fall on a Sunday are observed the following Monday.

DAY	CELEBRATION
January 1	New Year's Day
January 6	Three Kings Day
2nd Monday in January	E.M. de Hostos
3rd Monday in January	Martin Luther King
3rd Monday in February	George Washington
March 22	Abolition of Slavery
Friday of Holy Week	Good Friday
3rd Monday in April	Jose de Diego
Last Monday in May	Memorial Day
July 4	Independence Day
3rd Monday in July	Luis Munoz Rivera
4th Monday in July	Jose Celso Barbosa
July 25	Commonwealth Constitution
1st Monday in September	Labor Day
October 12	Columbus Day
November 11	Veterans Day
4th Thursday in November	Thanksgiving Day
December 25	Christmas Day

APPENDIX B INTERCONNECTION

I. Description of the Interconnection Facilities:

The electrical interconnection single line attached as Appendix B-1 identifies the Interconnection Point, PREPA Interconnection Facilities, the Additional Interconnection Facilities, and Metering location.

II. Interconnection Point Specifications:

The following are the interconnection specifications needed to be performed by the SELLER for the PREPA Interconnection Facilities. It is not intended to be an all-inclusive scope of work, as a Facility Study and an Interconnection Study will be required to determine the design as described in Article 4 (Pre-Operation Period).

(a) Preliminary Scope of Work:

1. [PREPA to provide]

(b) Codes and Standards Requirements:

All designs should be in accordance with the latest PREPA Design Criteria Documents (DCD's) and Standards, applicable ANSI/IEEE and NESC standards, and building codes. This includes but is not limited to:

1. PREPA Civil Design Criteria;
2. PREPA Protection and Control Design Criteria;
3. PREPA Substation Design Criteria;
4. PREPA Transmission Design Criteria;
5. PREPA Distribution Design Criteria;
6. PREPA Drawings and Specifications Design Criteria;
7. PREPA Telecommunication Design Criteria.
8. American National Standards Institute (ANSI);
9. NECA/BICSI 607, Standard for Telecommunications Bonding and Grounding Planning and Installation Methods for Commercial Buildings;
10. ALCOA (Formerly the Aluminum Company of America);
11. American Concrete Institute (ACI);
12. American Institute of Steel Construction (AISC);
13. American National Standards Institute (ANSI);
14. American Society for Testing and Materials International (ASTM);

15. American Society of Civil Engineers (ASCE);
16. American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE);
17. American Welding Society (AWS);
18. American Wood Protection Association (AWPA);
19. Association of Edison Illuminating Companies (AEIC);
20. ASTM International (ASTM);
21. Avian Power Line Interaction Committee (APLIC);
22. Building Industry Consulting Services International (BICSI);
23. Code of Federal Regulations (CFR);
24. Construction Specifications Institute (CSI);
25. Electric Power Research Institute (EPRI);
26. Federal Aviation Administration (FAA);
27. Federal Communications Commission (FCC);
28. General Owner Standard References;
29. Illuminating Engineering Society (IES);
30. Institute of Electrical and Electronics Engineers (IEEE);
31. Insulated Cable Engineers Association (ICEA);
32. International Electrotechnical Commission (IEC);
33. ITSIMM 6th Edition - Information Transport Systems Installation Methods Manual;
34. National Electrical Code (NEC);
35. National Electrical Manufacturers Association (NEMA);
36. National Electrical Safety Code (NESC);
37. National Fire Protection Association (NFPA);
38. NECA/BICSI 568, Standard for Installing Commercial Building Telecommunications cabling;
39. North American Electric Reliability Corporation (NERC);

40. OSPDRM 5th Edition - Outside Plant Design Reference Manual;

41. Puerto Rico Building Code 2018;

42. Puerto Rico Electric Power Authority (PREPA);

43. Regulations per the Commonwealth of Puerto Rico;

44. Rural Utilities Service (RUS), United States Department of Agriculture;

45. RUS 1724E-300, U.S. Dept. of Agriculture Design Guide for Rural Substations;

46. TDMM 14th Edition - Telecommunications Distribution Methods Manual;

47. Telecommunications Industry Association (TIA);

48. TIA 568-D, Generic Telecommunications Cabling for Customer Premises;

49. TIA 569-E, Telecommunication Provide the testing protocols Pathways and Spaces;

50. TIA 606-C, Administration Standard for Telecommunications Infrastructure;

51. TIA 607-D, Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications;

52. TIA-1005-A, Telecommunications Infrastructure Standard for Industrial Premises; and

53. TIA-758-B, Customer-Owned Outside Plant Telecommunications Infrastructure Standard.

(c) Transmission Line Requirements:

1. Tasks to be performed by SELLER:

i. all ROW/Easement acquisitions, including any studies, environmental permitting, real estate acquisitions, etc. required as per the Agreement;

ii. geotechnical soil borings, grounding tests, and studies along the transmission corridor and right of way;

iii. all applicable transmission designs and calculations typically found in typical transmission line design;

iv. stringing charts, engineered steel drawings, calculations, and PLS-CADD models of the transmission structures, including the applicable conductor size and OPGW (with 48 Fibers);

v. ampacity, shielding, and conductor sizing calculations for the transmission structure for the Interconnection Facilities;

vi. design and construction of foundations for transmission structures for the Interconnection Facilities;

vii. all transmission and distribution line design required for project completion; and

viii. evaluation of existing transmission and distribution poles that may be modified due to new conductors or equipment additions.

2. Tasks to be performed by PREPA: review and provide comments on all SELLER's drawings, submittals and design inputs for the SELLER's transmission line design.

(d) Transmission Center, Substation, Sectionalizer Requirements:

1. Tasks to be performed by SELLER:

i. all real estate acquisitions, including land surveys, land segregation, acquisition of land title/deeds, etc., studies (species, wetlands), and environmental permitting, etc. as required per the Agreement;

ii. all required upgrades resulting from calculations and studies are the responsibility of the SELLER;

iii. short circuit study, coordination studies, and settings;

iv. geotechnical soil borings, grounding tests, and studies at the Interconnection Facilities;

v. protection and control electrical design, following latest industry standards, e.g., IEEE Standards and PREPA standards;

vi. clearing, preparing the site, and civil design for the Interconnection Facilities, including vegetation removal and grading;

vii. removal and disposal of the topsoil layer at the site for Interconnection Facilities (if required);

viii. filling the site with adequate material (crushed stone), to bring to level and all adequate drainage of Interconnection Facilities;

ix. connect the equipment grounds with the grounding mat;

x. fill the site with six inches of gravel as per the grounding standard;

xi. construction of retaining walls and, or fence around the site as required for a complete and secure site;

xii. construction of new driveway / access road to the Interconnection Facilities as applicable;

xiii. construction of the grounding mat on the site and connection to existing grounding mat;

xiv. construction of foundations for the structures of the Interconnection Facilities;

xv. installation of structures for the Interconnection Facilities;

xvi. installation of equipment and auxiliaries for the Interconnection Facilities;

xvii. installation of the meter sockets and metering equipment for billing of Net Electrical Output;

xviii. provide all materials required to interconnect the new protection and control system with the existing one (if applicable), including, but not limited to, relay panel, breaker control panels, DC upgrades, etc.;

xix. installation of equipment and auxiliaries in the control house for the Interconnection Facilities;

xx. design of the new control house (if applicable) layout at Interconnection Facilities, including location, civil design, internal layout, electrical design for lightning, convenience outlets, battery bank, and 125Vac supply panels, disconnects, and other associated materials and localization areas for control and protection panels;

xxi. install and wire the Dynamic System Monitor (DSM);

xxii. install the control cables from the equipment to the control house;

xxiii. install and wire the AC and DC distribution panels;

xxiv. install and wire the 125 VDC battery bank and related auxiliaries as applicable;

xxv. all applicable AC and DC sizing calculations and verifications;

xxvi. install the wiring for the Transient Recorder as required by PREPA. For security reasons, PREPA's relay personnel will wire these signals from the terminal block to the Transient Recorder. In addition, the following signals are required for the Transient Recorder:

A. analog signals - Phase A, B, and C voltage signals;

B. analog signals - Phase A, B, and C current signals from each line CT;

C. digital 87L output - Output TRIP signals associated with the primary protection of each line;

D. digital BU output - Output TRIP signal associated with the secondary protection (21/50/51) of each line;

E. digital - Output TRIP signal associated with the breaker failure protection of each line;

F. digital - TRIP signal from bus differential protection; and

G. digital - Status signal from each breaker;

xxvii. programming the settings on the protection equipment for the Interconnection Facilities;

xxviii. cleaning, removal, and disposal of construction debris;

xxix. label the high voltage and auxiliary electrical equipment according to PREPA's practices; and

xxx. provide all spare parts as specified by PREPA.

2. Tasks to be performed by PREPA:

i. project oversight, schedule evaluation, monitoring, and authorizing scope of work modifications and deviations;

ii. evaluate submittals and design input for all design phases for the following packages:

A. civil and physical design for above and below grade for the new or modification to transmission center, substation or sectionalizer;

B. protection and control, telecommunications, electrical design, and programming;

C. transmission and distribution line design; and

D. shop drawings, technical data of equipment and materials, bill of material;

iii. evaluate all temporary and permanent modifications to the Interconnection Facility; and

iv. evaluate the proposed construction work outage sequence for entire project coordination.

(e) Transmission Center/ Substation Remote End Requirements (Only applicable to a PREPA Interconnection Facilities that sectionalizes an existing transmission line). The details of these remote end upgrades will be identified during the Facility Study and the Interconnection Study but will primarily include relaying upgrades/replacements to match the new sectionalizer relaying.

1. Tasks to be performed by SELLER:

i. all required upgrades resulting from calculations and studies are the responsibility of the SELLER;

ii. protection and control electrical design, following industry standards, e.g., IEEE Standards and PREPA standards;

iii. installation of equipment and auxiliaries for the Interconnection Facilities;

iv. provide all materials required to interconnect the new protection and control system with the existing one (if applicable), including, but not limited to, relay panel, breaker control panels, DC upgrades, etc.;

v. installation of equipment and auxiliaries in the control house for the Interconnection Facilities;

vi. all applicable AC and DC sizing calculations and verifications;

vii. programming the settings on the protection equipment for the Interconnection Facilities;

viii. cleaning, removal, and disposal of construction debris;

ix. install and wire the telecommunication equipment for the Interconnection Facilities;

x. programming the communication settings for the relays, meters, and all miscellaneous equipment;

xi. installation of conduits for control cables from the equipment to the control house. Installation of telecommunications pathways for the Interconnection Facilities, including conduits, cable trays, racks, among others;

xii. install telecommunications facilities and equipment, including all necessary jumper cables and peripherals;

xiii. install communications copper cable, including jumpers, and cross-connects and miscellaneous materials;

xiv. the telecommunications equipment labeling and color-coding should comply with ANSI/TIA 606 Standard;

xv. programming the telecommunications equipment (routers, firewalls, and network equipment);

xvi. install the fiber optic terminations for protection relays at the Interconnection Facilities;

xvii. all outages and construction work sequence plans will be coordinated with and approved by PREPA;

xviii. install the wiring for the Transient Recorder as required by PREPA. For security reasons, PREPA's relay personnel will wire these signals from the terminal block to the Transient Recorder. In addition, the following signals are required for the Transient Recorder:

A. analog signals - Phase A, B, and C voltage signals;

B. analog signals - Phase A, B, and C current signals from each line CT;

C. digital 87L output - Output TRIP signals associated with the primary protection of each line;

D. digital BU output - Output TRIP signal associated with the secondary protection (21/50/51) of each line;

E. digital - Output TRIP signal associated with the breaker failure protection of each line;

F. digital - TRIP signal from bus differential protection; and

G. digital - Status signal from each breaker;

xix. provide a PREPA's site representative and the required technical resources from PREPA to comply with the construction milestone schedule.

2. Tasks to be performed by PREPA:

i. evaluate all drawings, submittals and design inputs for the SELLER's remote end design;

ii. project oversight, schedule evaluation, monitoring, and authorizing scope of work modifications and deviations;

iii. evaluate submittals and design input for all design phases for the following packages:

A. protection and control, telecommunications, electrical design, and programming; and

B. shop drawings, technical data of equipment and materials, bill of material;

iv. evaluate all temporary and permanent modifications to the Interconnection Facilities; and

v. evaluate the proposed construction work outage sequence for entire project coordination.

(f) Telecommunication Requirements (In addition to the requirements as identified in Article 8.8):

1. Tasks to be performed by SELLER:

i. install, wire and program the SCADA Remote Terminal Units (RTUs) at the Interconnection Facilities and the Site;

ii. install and wire the telecommunication equipment for the Interconnection Facilities;

iii. programming the communication settings for the relays, meters, and all miscellaneous equipment connected to the RTU;

iv. installation of conduits for control cables from the equipment to the control house;

v. installation of telecommunications pathways at the Interconnection Facilities, including conduits, cable trays, racks, among others;

vi. provide and install telecommunications equipment power systems;

vii. program the DSM with the signal list provided by PREPA;

viii. the telecommunications equipment labeling, and color-coding should comply with ANSI/TIA 606 Standard;

ix. design of the control house layout at the Interconnection Facilities and collector Site includes location, civil design, internal layout, electrical design for lightning, convenience outlets, battery bank, and 125Vac supply panels, disconnects, and other associated materials and localization areas for SCADA, DSM, and telecommunication;

x. programming the telecommunications equipment (routers, firewalls, and network equipment); and

xi. install the fiber optic connections including 48-fiber OPGW, pathways, and terminations for the protection relays to allow the PREPA Interconnection Facilities to be fully operational.

2. Tasks to be performed by PREPA:

i. review and comment on all submittals and design input for all design phases for the telecommunications packages; and

ii. support the integration of the new equipment into the overall PREPA Network.

(g) Commissioning and Testing Requirements:

1. Tasks to be performed by SELLER:

i. all outages and construction work sequence plans will be coordinated with and approved by PREPA;

ii. provide the testing protocols and plans for PREPA's approval prior to performing any acceptance test and energization of any equipment;

iii. perform the acceptance and commissioning tests on the equipment and auxiliaries according to PREPA's practices and applicable standards at the SELLER collector site only, including voltage signals, current signals, relay outputs, breaker status and cable continuity;

iv. perform grounding tests at all sites including the transmission corridor;

v. perform testing on the interconnection of the transmission line;

vi. perform impedance testing to validate the proper installation of all transmission and high voltage conductors and bus;

vii. perform tests for the wiring of protection and control systems, RTU, DSM, Transient Recorder, and others associated services for the Interconnection Facility;

viii. perform adjustments and operation tests for the protection and control systems;

ix. submit all test reports signed and sealed by a PR licensed electrical engineer for PREPA's review;

x. perform preliminary testing of the protection, control and telecommunication system and the integration into SELLER's SCADA system. Depending on the type of alarm or signal into SELLER's SCADA system, PREPA personnel may act as a witness to validate the input. Final validation and acceptance of the SCADA integration will be performed by PREPA;

xi. perform operation tests for the telecommunication systems;

xii. perform operation tests for the DSM;

xiii. perform the operation tests on the equipment and auxiliaries;

xiv. perform operation tests for the transient recorder;

xv. verification of the OTDR tests for Fiber optic cable performed by SELLER for the following cables:

A. fiber cable between Interconnection Facilities and the Facility;

B. fiber cable for interconnection to PREPA's network;

C. fiber cable between new control room at Interconnection Facilities and meter cabinet located at the Interconnection Facilities; and

D. verification of Telecommunications facilities and equipment installations performed by SELLER at the Interconnection Facilities;

This work includes verification, testing, configuration, and inspection of equipment specified by PREPA and materials, cable installation, and testing by the SELLER;

xvi. provide a PREPA's site representative and the required technical resources from PREPA to comply with the Construction Milestone Schedule;

xvii. witness all tests and commissioning of the electrical equipment installed the Interconnection Facilities and the Site;

xviii. submit all test protocols for PREPA approval; and

xix. submit all test results in a test book for PREPA approval.

2. Tasks to be performed by PREPA:

i. evaluate the test results and settings of the protection relays for Interconnection Facilities;

ii. evaluate the test results and settings of the communication equipment at the Interconnection Facilities;

iii. witness all tests and commissioning of the electrical equipment installed in PREPA Interconnection Facilities;

iv. existing PREPA sites where protection and control components are being updated, modified, or interconnected with, the tests should be done exclusively by PREPA;

v. perform final SCADA tests by PREPA acceptance test personnel from the point where the SELLER consolidates SCADA data and transmits it to the PREPA SCADA system;

vi. perform the acceptance and commissioning tests on the equipment and auxiliaries according to PREPA's practices and applicable standards at the Interconnection Facility and remote ends; and

vii. perform end to end testing of all trips and controls by PREPA's Acceptance Tests Department personnel.

(h) Transfer of PREPA Interconnection Facilities: PREPA will provide the detailed requirements for the transfer of the PREPA Interconnection Facilities (including the transmission and distribution equipment, the real estate and ROW easements and environmental permitting and protection) no later than the Approved Design timeline as identified in Article 9.4. To initiate the transfer process, SELLER shall submit to PREPA:

1. company name;

2. contact person information;

3. physical address of the Site and PREPA Interconnection Facilities;

4. segregation plan;

5. schematic plan;

6. previous due diligences for the acquisition of the property; if the land was financed by a bank, this document is required as part of the purchase and sale;

7. copy and proof of submission of all required permits including the environmental permits;

8. this Agreement; and

9. relevant deeds and leases.

III. Information required for the Interconnection Study needed to interconnect the Facility to the Grid System:

SELLER shall provide the following information:

(a) Main Generator Step-up (GSU) Power Transformer Data

Item	Unit
Number of Transformers	—
Rating (ONAN/ONAF/OFAF)	MVA
Winding Type (2W, 3W)	—
Winding Nominal Voltages (Primary/secondary/tertiary)	kV
Winding Connection types: Delta or Wye (Primary/secondary/tertiary)	—
Fixed Taps available	Number of Taps / %V
Impedance on MVA base	Z1 %
	X/R Z1
	Z0 %
	X/R Z0

(b) Inverter Data and Inverter Step-Up Transformer Data (go to section (b)(i) if the solar photovoltaic and Battery Energy Storage System (BESS) are DC connected; go to section (b)(ii) if the solar photovoltaic and BESS are AC connected).

(i) If solar photovoltaic and Battery Energy Storage System (BESS) are DC connected:

Solar Photovoltaic and BESS Inverter step-up Transformer Data	
Item	**Unit**
Number of Transformers	—
Rating (ONAN/ONAF/OFAF)	MVA
Winding Nominal Voltages (Primary/secondary)	kV
Winding Connection types: Delta or Wye (Primary/secondary)	—

Fixed Taps available	Number of Taps / %V
Impedance on MVA base	Z1 %
	X/R Z1
	Z0 %
	X/R Z0

Solar Photovoltaic and BESS Inverter Data	
Item	**Unit**
Number of Inverters to Be Interconnected	—
Inverter Manufacturer	—
Inverter Model	—
Inverters MVA rating	MVA
Number of Inverters	—
Maximum design fault contribution current from inverter (based on IEC 60909)	
Initial symmetrical short-circuit current (Ik")	Amps
First Peak of short circuit current (ip)	Amps
Steady-state short circuit current (Ik)	Amps
Time to reach steady-state current	ms

(ii) If solar photovoltaic and Battery Energy Storage System (BESS) are AC connected:

Solar Photovoltaic Inverter step-up Transformer Data	
Item	**Unit**
Number of Transformers	—
Rating (ONAN/ONAF/OFAF)	MVA
Winding Nominal Voltages (Primary/secondary)	kV
Winding Connection types: Delta or Wye (Primary/secondary)	—
Fixed Taps available	Number of Taps / %V
Impedance on MVA base	Z1 %
	Z0 %

	X/R

Solar Photovoltaic Inverter Data	
Item	**Unit**
Number of Inverters to Be Interconnected	—
Inverter Manufacturer	—
Inverter Model	—
Inverters MVA rating	MVA
Number of Inverters	—
Maximum design fault contribution current from inverter (based on IEC 60909)	
Initial symmetrical short-circuit current (Ik")	Amps
First Peak of short circuit current (ip)	Amps
Steady-state short circuit current (Ik)	Amps
Time to reach steady-state current	ms

BESS Inverter step-up Transformer Data	
Item	**Unit**
Number of Transformers	—
Rating (ONAN/ONAF/OFAF)	MVA
Winding Nominal Voltages (Primary/secondary)	kV
Winding Connection types: Delta or Wye (Primary/secondary)	—
Fixed Taps available	Number of Taps / %V
Impedance on MVA base	Z1 %
	Z0 %
	X/R

BESS Inverter Data	
Item	**Unit**
Number of Inverters to Be Interconnected	—

Inverter Manufacturer	—
Inverter Model	—
Inverters MVA rating	MVA
Number of inverters	—
Maximum design fault contribution current from inverter (based on IEC 60909)	
Initial symmetrical short-circuit current (Ik")	Amps
First Peak of short circuit current (ip)	Amps
Steady-state short circuit current (Ik)	Amps
Time to reach steady-state current	ms

(c) Interconnection Facilities – Tie Line Data (complement to the line data in Part A)

Item	Unit
Positive sequence resistance (R) for entire length	p.u.*
Positive sequence reactance (X) for entire length	p.u.*
Zero sequence resistance (R0) for entire length	p.u.*
Zero sequence reactance (X0) for entire length	p.u.*
Line charging (B/2)	p.u.*

*On 100-MVA and nominal line voltage (kV) Base

(d) Equivalent Collector System Impedance Data

Item	Unit
Nominal voltage	kV
Rating	Amps
Positive sequence resistance (R) for entire length	p.u.*
Positive sequence reactance (X) for entire length	p.u.*
Zero sequence resistance (R0) for entire length	p.u.*
Zero sequence reactance (X0) for entire length	p.u.*
Line charging (B/2)	p.u.*

*On 100-MVA and nominal line voltage (kV) Base

(e) Additional Reactive Compensation Devices (if applicable)

Item	Unit
Type of Device	-
Total Reactive Capability	-
Q max	MVAr
Q min	MVAr

(f) Dynamic Models

The solar photovoltaic and BESS aggregate dynamic mathematical models are required in PSS/E format. If the solar photovoltaic and BESS are connected on the dc side, only a single inverter aggregate model is needed. If the solar photovoltaic and BESS are connected on the ac side, each inverter type requires a separate aggregate model.

PSS/E Generic Photovoltaic Solar and BESS Plant Dynamic Model
REGCAU1
REECCU1
REPCAU1

IV. Select Requirements for the Interconnection Construction Contract:

SELLER shall ensure that it and the contractor under the Interconnection Construction Contract:

(a) disposes of all garbage generated because of the work, in accordance with the all Applicable Law;

(b) upon completion of the work, hands over the PREPA Interconnection Facilities work area free of contaminants;

(c) disposes of non-hazardous waste material generated by the PREPA Interconnection Facilities at an authorized landfill;

(d) complies with all environmental laws, during and after construction, including:

1. submission to and receipt approval of the Project Environmental Assessment from the Department of Natural and Environmental Resources of Puerto Rico and any other environmental, state and municipality permits for the Interconnection Facilities;

2. all the terms and conditions established in the approvals of the submitted plans, Permits and endorsement from Governmental Authorities; and

3. once the Interconnection Facilities are finished, the closing of any of the acquired permits that require closure.

(e) mitigates any environmental concern and deficiencies found by PREPA's personnel or any regulatory agencies caused by them at any time.

Appendix B-1

Electrical Interconnection Single-Line

APPENDIX C COMPENSATION AND EXAMPLE OF PRICE CALCULATION

I. Monthly Payment

For each Billing Period, PREPA shall pay to SELLER a payment (the "**Monthly Payment**") that comprises (a) a payment in respect of any Net Electrical Output, *plus* (b) a payment in respect of any Deemed NEO. The Parties shall calculate the Monthly Payment for Billing Period "n" as follows:

$$\mathbf{MP_n = ((NEO_n + DNEO_n) * CR_n) – (IP_n + OC_n) + RI_n}$$

where:

MP_n = Monthly Payment for Billing Period "n", expressed in dollars;

NEO_n = Net Electrical Output as metered in accordance with Article 10.2 during Billing Period "n", expressed in kWh;

$DNEO_n$ = Deemed NEO for Billing Period "n", as determined in accordance with Appendix F, expressed in kWh;

CR_n = Contract Rate for Billing Period "n", as determined in accordance with Article II below, expressed in $/kWh;

IP_n = Insurance proceeds received by SELLER during Billing Period "n" from any insurance policy that SELLER may obtain in respect of PREPA Risk Events, expressed in dollars;

OC_n = Other credits or amounts to which PREPA has a right under this Agreement;

RI_n = Reimbursement Installment for Billing Period "n", expressed in dollars; and

n = such Billing Period.

If the Commercial Operation Date or a Change occurs during a Billing Period, then (a) the Parties shall perform the calculation set out above in respect of the periods (i) up to the Day of, and (ii) on and after the Day of, such occurrence, and (b) the Monthly Payment for such Billing Period shall comprise the sum of such amounts. SELLER acknowledges and agrees that the Monthly Payment, and through it the Contract Rate, represents the all-in payment for the Production of the Facility, including all Ancillary Services, Green Credits and costs to SELLER of complying with this Agreement.

II. Contract Rate

For each Billing Period, PREPA shall pay a tariff (the "**Contract Rate**") for the Net Electrical Output and Deemed NEO (if any) applicable to such Billing Period as follows:

(g) prior to the Commercial Operation Date, the Contract Rate shall equal fifty percent (50%) of the Base Tariff; and[3]

(h) on or after the Commercial Operation Date, the Contract Rate shall equal:

1. for the Net Electrical Output and Deemed NEO (if any) during the Agreement Year in which such Billing Period occurs, up to an aggregate volume equal to the Base Volume, the Base Tariff; and

2. for the incremental Net Electrical Output and Deemed NEO (if any) during such Agreement Year in excess of the Base Volume, eighty percent (80%) of the Base Tariff;

where:

"**Base Volume**" means, for each Agreement Year, the product of (i) the sum of the Expected NEO (calculated for the Base Design Capacity) for each Time Interval of such Agreement Year, *multiplied by* (ii) 1.15; provided that prior to the first Agreement Year, the Parties shall determine the Base Volume as if it were the first Agreement Year.

III. Base Tariff

During the Term, the tariff (the "**Base Tariff**") shall equal the sum of:

(a) subject to Section IV below, $[●]/kWh, escalated by [●] percent ([●]%) on July 1 of each Agreement Year (other than the Agreement Year in which the Commercial Operation Date occurs), provided that the rate (expressed in $/kWh) payable under this paragraph (a) in any Agreement Year shall never exceed a maximum of $0.141/kWh; and

(b) any adjustment (expressed in $/kWh) required to offset SELLER's additional costs (net of cost reductions) resulting from Changes, determined in accordance with Article 18.

IV. Federal Funding

If the Federal Funding Date occurs, then SELLER shall exercise commercially reasonable efforts to take advantage of the funding, financing, guarantee or other benefit made available to SELLER by the relevant Governmental Authority, and the Parties shall negotiate an equitable reduction of the Base Tariff.

V. Reimbursement Installment Calculation

The Reimbursement Installment equals the product of (i) the Reimbursement Amount *multiplied by* (ii) the following factor:

$$\frac{\left[(1+0.085)^{\left(\frac{1}{12}\right)}-1\right]}{\left[1-(1+0.085)^{\left(-\frac{300}{12}\right)}\right]}=0.00784164$$

[3] **NOTE**: In response to term sheet feedback, PREPA has included the requested tariff for test energy.

APPENDIX D TECHNICAL SPECIFICATIONS FOR THE DYNAMIC SYSTEM MONITOR

I. Introduction

The following specification defines the minimum requirements for an instrument used in the monitoring and register of dynamic disturbances on electric power systems and the supervision of generator performance according to Grid Codes.

II. Hardware

(a) Inputs:

1. The equipment shall have at least 32 analog inputs with the capacity to increase them to a minimum of 96 inputs depending in the application required analog signals. The minimum resolution for the A/D converter shall be of 16 bit. The sampling rate shall be programmable up to a minimum of 250 samples per cycle (15000 samples per second). The analog inputs shall permit at least the following types of signals:

    i. PT voltage (150 V rms minimum, Accuracy better or equal to 0.3%);

    ii. CT currents (5 A rms minimum, Accuracy better or equal to 0.3%);

    iii. DC voltages of at least 800 V (Accuracy better or equal to 0.3%);

    iv. Small Analog Signals (Accuracy better or equal to 0.3%);

        A. Current: 4 – 20 mA; and

        B. Voltage: 0 – 200 mV, 1V, 10 V;

2. The equipment shall have at least 16 digital inputs with the capacity to increase them to a minimum of 48 inputs depending in the application required digital signals. The minimum input voltage range of the digital inputs should be 0 – 150 V. The digital inputs should be included as a user defined software triggering input.

3. The equipment shall be able to record power system frequency with a resolution of at least 0.001Hz.

(b) The equipment shall have a built-in microprocessing unit with color monitor, keyboard and mouse from which all commands, controls and setup parameters may be entered. All setup parameters shall be store in a non-volatile media, to prevent loss of setup data if power is interrupted. This microprocessing unit shall be of industrial grade to insure long life in a typical substation or generation plant environment.

(c) Memory and storage capacity:

The equipment shall have a nonvolatile solid state memory (ex. SSD, flash, etc.) with the required capacity to stores at least one (1) year of continuous data based in typical recording periods and typical recording rates. Also the memory shall have a minimum storage capacity of 1,000 RMS Trigger events and 1,000

Instantaneous trigger events based in typical recording rates and recording periods. Typical recording periods and recording rates are:

i. RMS Trigger Recording Function (Recording rate of 1 sample per cycle on all the signals)

A. Pre-Trigger: 60 seconds

B. Post –trigger: 300 seconds

ii. Instantaneous Values Trigger Recording Function (recording rate of 250 samples per cycle on all instantaneous signals)

A. Pre-Trigger: 1 second

B. Post-Trigger: 2 seconds

iii. Continuous Recording Function—The recording rate is 1 sample per second on all the signals. This recording function is continuous, but saved in 24 hours period.

All the recording functions mentioned above shall work simultaneously. The equipment shall maintain the date and time in an internal battery-backed clock.

(d) Communication:

The equipment shall have at least two Ethernet 10/100/1000 Mbps port (LAN interface, TCP/IP Protocol) for local and remote network communication.

(e) Power Source:

The equipment shall have a redundant power supply. Two separate inputs (one AC and one DC) 100 – 240 VAC, 60 Hz and 100 – 150 DC. Some applications could require DC supply of 48 VDC + 10%, verify before the equipment acquisition.

(f) Measurement accuracy:

1. Voltage measurement error shall be less than + 0.3 % of reading.

2. Current measurement error shall be less than + 0.3% of reading.

III. Software

(a) The software platform of the equipment shall be compatible with the latest version of windows operating system.

(b) The equipment remote communication shall be thru TCP/IP network connectivity (LAN). The remote communication should permit at least the set up and data retrieval of the equipment. The equipment should have the capability to perform at least the following functions remotely:

1. Modification of the configuration

2. Retrieval of captured events

3. Remote event triggering

(c) The equipment shall have the capacity of time synchronization with GPS system. A GPS receiver and GPS antenna shall be included.

(d) Triggers:

1. The equipment shall support user defined programmable triggers. Triggering shall be initiated based upon primary quantities (voltage, current, and frequency), calculated quantities (watts, Var, power factor, apparent power, etc.), digital signals or small analog signals.

2. The trigger thresholds shall be based on limits, gradients, equations and status. Examples of trigger conditions that shall be available are:

i. Level threshold (high level, low level, in-band, out-band, etc.)

ii. Rate of change (ex. frequency variation (df/dt))

iii. Manual input (keyboard trigger)

iv. Request from remote computer

v. Event input status (digital signal status)

3. A re-trigger function shall be available which permits the equipment to generate a new event register if a second disturbance is detected while the recording of the first disturbance is still in process. This process should continue if more disturbances occur in the new registers.

(e) The acquisition software shall include a user defined pre-trigger interval option as well as a user defined post trigger interval for the information captured in the case of triggered events. The minimum range of the pre-trigger interval should be from 0 to 60 seconds and the minimum range for the post trigger interval should be 0 to 300 seconds. In addition, the date, time, and type of trigger that initiated the event shall be included as part of the disturbance record.

(f) The acquisition software shall have the following capabilities:

1. Time displays (ex. Oscilloscope)

2. Digital Status display (ex. High/Low, 1/0)

3. Multiple displays and multiple signals in displays in real time and off-line

4. Display resizing

5. Programmable conversion of range and units of signals

6. Independent range for signals

(g) The acquired data shall be available in a format directly compatible with Siemens Power Technologies International (Siemens PTI) PSS/E plotting software.

(h) The software shall support data export in ASCII, CSV and PSS/E formats.

(i) The software shall support image export in JPG, BMP or WMF formats.

(j) The software shall have the following analysis capabilities for the data and signals (primary and calculated):

1. Fast Fourier Transform (FFT)

2. Peak analysis

3. Filter functions

4. Series and scalar mathematic (square root, inversion, square, sum, gain, offset, etc.)

(k) The software shall perform the following power engineering calculations (on-line and off-line) and measurements:

1. Three phase and single phase Power (Real, reactive, apparent)

2. Power Factor

3. Power angle

4. rms line and phase voltage

5. rms current

6. Power system frequency

7. DC voltage and currents

8. AC voltage and currents

IV. General

(a) Environmental Conditions:

1. Operating temperature: 0° C to 50° C

2. Operating humidity: 95 %, non-condensing

(b) Equipment cabinet and corresponding accessories:

1. The cabinet should have test switches at the front of the panel for the three phase voltages and currents. The test switches should have a minimum rating of 600 V rms and 30 A rms; semi flush mounted, rear connected, equal or similar to ABB FT-1, style no. 129A514G01. The test switches should be assembled horizontally

in groups of three FT-1 switches per row, mounted on a 19 inches wide, three-rack unit (3RU) high panel suitable for rack mounting, similar to ABB FR3J014014014.

2. The signals (analog and digital) should terminate on terminal blocks inside the cabinet, before the connection to the Dynamic System Monitor. The AC, DC, digital, exciter voltage and exciter current signals should be in different terminal blocks. The terminal blocks should have a minimum rating of 600 V rms and 30 A rms (except the exciter voltages signals, see below). Examples of terminal blocks are: GE CR151B2 and Marathon 1512 STD. The current signals should terminate on shorting type heavy duty terminal blocks equal or similar to Marathon, catalog number 1506SC. The terminal blocks used for the excitation voltage of the generators must have a nominal voltage capacity greater than 800 V DC. A switch or breaker for isolation purposes is also required for the excitation voltage and current signals.

(c) Documentation:

1. The equipment shall include a documentation package that contains the user, operation and maintenance manuals and the mechanical and electrical equipment drawings. The documentation should be in hard copy and in digital format.

2. The equipment documentation shall include a copy of the software.

(d) Spare parts recommended by the equipment manufacturer shall be included in the dynamic system monitor purchase order.

(e) Warranty:

The equipment warranty shall include part and service for a period not less than 60 months from the delivery day.

(f) Equipment Training, Installation Support and Commissioning:

1. An on-site equipment operation and configuration training should be included.

2. The dynamic system monitor manufacturer shall perform the equipment commissioning and offer installation support.

APPENDIX E TECHNICAL REQUIREMENTS FOR OPERATION, PROTECTION, AND CONTROL

1. SELLER shall provide general protection practices, which comply with PREPA's written protection system practices, design criteria documents (DCDs) and philosophy, in all the electrical equipment related to the Interconnection Facilities according to the standards and PREPA requirements in order to ensure personnel safety and secure operation and interconnection with PREPA's systems. SELLER is responsible for the design, accurate relay settings (in accordance with the Approved Design) and testing of the protection that shall contain the evaluated Additional Interconnection Facilities' settings. PREPA will evaluate and approve only the protection design, settings and tests of the Additional Interconnection Facilities related to PREPA's system stability, security and optimal performance. Those protection designs, settings and tests of the Additional Interconnection Facilities not related to PREPA's system stability, security and optimal performance will not be evaluated by PREPA.

2. As further defined in Article 4 and Appendix B, SELLER shall be responsible for any protection related equipment, relays, scheme design, coordination and short circuit studies, and relay settings of all the protection equipment within PREPA's installation and remote terminals necessary to safely synchronize the Interconnection Facilities according to the latest technology and standards. For the avoidance of doubt, this includes the protection from (a) the PREPA Interconnection Facilities breaker to the Additional Interconnection Facilities and (b) the differential protection relay from the Additional Interconnection Facilities to PREPA's Interconnection Facilities.

3. SELLER shall submit a complete Additional Interconnection Facility protection report with all relay settings, including all calculations and considerations for the relay settings in addition to coordination and short circuit studies. In addition to the foregoing, the report shall also provide for, including but not limited to, the following:

   (a) The approved Additional Interconnection Facilities design single line drawings shall have all the equipment information and all the relay's input and output descriptions;

   (b) The Additional Interconnection Facilities relay settings shall include the logic, inputs, and outputs according to the Approved Design;

   (c) The backup overcurrent protection units of the Additional Interconnection Facilities relay shall be set so that PREPA does not provide short circuit current for more than one second;

   (d) The transformer from the Additional Interconnection Facilities to PREPA shall have Delta – WYE configuration to avoid zero sequence current contribution from the Facility during faults at the electrical system;

   (e) The Additional Interconnection Facilities transformer protection shall be set so that the Additional Interconnection Facilities does not provide short circuit current to PREPA or disconnects instantly;

   (f) The Additional Interconnection Facilities transformer protection shall provide an overvoltage protection unit on the delta side of the transformer to disconnect the Additional Interconnection Facilities during ground faults on the delta side of the transformer; and

(g) SELLER shall provide all the equipment data of the Additional Interconnection Facilities for PREPA's protection studies such as capacity, transformer and line impedances, current and voltage transformer ratios and information and short circuit duty, among others.

For the avoidance of doubt, PREPA does not assume, calculate or interpret any required item from manuals, graphs or relay curves, and SELLER shall ensure that all the required data is included in the report upon first submittal.

APPENDIX F DETERMINATION OF DEEMED NEO

The Parties shall determine the Deemed NEO for each Billing Period (or part thereof) during an Agreement Year by calculating the sum of the Deemed NEO for each Deemed NEO Period of such Billing Period. The Parties shall determine the Deemed NEO for each Deemed NEO Period, as well as Expected NEO or any Time Interval, in accordance with this Appendix F.

I. Facility Performance Model

(a) For the determination of Expected NEO and Deemed NEO and for recording, monitoring and forecasting purposes, SELLER shall use a commercially available computer program used to calculate the output of utility-scale photovoltaic projects (the "**Facility Performance Model**") that (i) accounts for and records (A) the global solar irradiation available on the plane of array of solar photovoltaic modules (expressed in kW/m2) (including global horizontal irradiation, direct normal irradiation and diffuse irradiation), in determination of incidence angle irradiance losses, (B) ambient conditions including air temperature, humidity, wind speed and module temperature (expressed in °C), and other data as deemed appropriate for calculating solar panel output including inverter efficiency, transformer efficiency and other Expected Losses (collectively, the "**Ambient Conditions**"), (C) the status of modules, inverters, MV transformers, and MV/HV step-up transformer(s) as available from the SCADA system of the Facility; and (D) NEO, Generating Capacity, power factor and other data, as applicable, and (ii) communicates such data and the Expected NEO and Deemed NEO, in each case for each Time Interval of each hour of each Day. SELLER shall automatically collect and communicate the data in this paragraph (a) to PREPA via its SCADA system. In collecting the required data, SELLER shall:

1. record average values over Time Intervals;

2. utilize a data logger on the Site and date-stamped collected data;

3. measure global solar irradiation on the plane of array of solar photovoltaic modules ("**GK**") using pyranometers mounted in the plane of array of photovoltaic modules (the "**Reference Pyranometers**"), with a number of sensors adequate to provide reliable measurements; not change the location of such Reference Pyranometers without the prior written agreement of PREPA; and group global solar irradiation data into bins of fifty watts per square meter (50 W/m^2) or other such increments as recommended by the Consulting Technical Expert;

4. measure the ambient temperature, humidity and wind speed using sensors mounted at appropriate locations within the Facility (the "**Reference Ambient Sensors**"), adequate to provide reliable measurements of the Ambient Conditions; and not change the location of such Reference Ambient Sensors without the prior written agreement of PREPA;

5. calculate module temperature including inverter efficiency, transformer efficiency and other Expected Losses using Prudent Electrical Practices, module characteristics, heat transfer coefficients and measured Ambient Conditions; and group such data into bins of five degrees Celsius (5 °C) or other such increments as recommended by the Consulting Technical Expert; and

6. calibrate Reference Pyranometers and Reference Ambient Sensors based on manufacturer's recommendations.

provided that, for any projection or forecast of Ambient Conditions that will occur in the future, the Parties shall determine Ambient Conditions based on the meteorological forecast for the region and site of the Facility during the relevant Time Intervals.

(b) The Ambient Conditions and other data required in paragraph (a) above for each Time Interval shall be stored and analyzed by the Facility Performance Model in order to determine the relationship between the Expected NEO and Net Electrical Output. SELLER shall ensure that the Facility Performance Model uses this suite of relationships, each a power curve corrected for cell temperature and Expected Losses to calculate the Expected NEO for each Time Interval within plus or minus five percent (5%) of the actual Net Electrical Output of the Facility for any month.

(c) The Facility Performance Model shall provide a mathematical representation of the Facility, including its technical configuration, and provide the following outputs:

1. Actual and projected performance ratios;

2. Comparison of Expected NEO versus actual Net Electrical Output;

3. Comparison of expected and actual average Generating Capacity;

4. Expected and actual Ambient Conditions; and

5. Forecasted values for Expected NEO over time periods required by this Agreement.

(d) At PREPA's request, SELLER shall report the status and outputs of the Facility Performance Model to PREPA or its designee in the following formats:

1. A hard copy of power curves showing binned values only;

2. A hard copy scatter plot showing the individual average Time Interval values of underlying data and the model outputs calculated in subparagraph (c) above; and

3. All raw data obtained from the SCADA system, Reference Pyranometers and Reference Ambient Sensors, in electronic format, to enable comparison of the raw data to the binned data.

(e) SELLER shall present an initial Facility Performance Model to PREPA for approval no later than the Initial Synchronization Date, and the Parties shall validate such model over a minimum period of thirty (30) Days prior to the Commercial Operation Date.

(f) SELLER shall keep such model up-to-date and accurate as regards the Facility's performance and ensure that the NEO for any hour does not deviate from the Expected NEO applicable to such hour by more than five percent (5%), or other such accuracy as deemed reasonable in writing by the Parties. To improve the accuracy of the Expected NEO and reflect actual conditions of the Facility's equipment, including but not limited to panel degradation and other Expected Losses, SELLER shall calibrate the Facility Performance

Model (i) on a quarterly basis, including at least thirty (30) Days prior to the start of each Agreement Year, and (ii) if the Expected NEO for any hour deviates from the actual NEO in such hour by more than five percent (5%), or other such accuracy as deemed reasonable in writing by the Parties, for any reason other than a PREPA Risk Event, then within three (3) Business Days of a Party becoming aware of such deviation.

(g) PREPA shall have the right to approve the Facility Performance Model and all changes to model parameters, which shall be validated over a minimum period of thirty (30) Days, such approval not to be unreasonably withheld. In each case, within ten (10) Business Days after receipt of each such proposed revisions, PREPA shall either approve such revisions or notify SELLER of further required revisions. SELLER shall submit its revised Facility Performance Model to PREPA within seven (7) Days after such notification, and PREPA shall notify SELLER of its approval or disapproval no later than seven (7) Days after such submittal. The failure of PREPA to respond within the applicable period, unless extended by mutual agreement, shall be deemed as approval by PREPA of SELLER's proposed Facility Performance Model for use in the determination of Expected NEO.

(h) The Parties acknowledge and agree that Disputes relating to the Facility Performance Model or determination of Generating Capacity, Expected NEO or Deemed NEO under this Appendix F shall constitute Technical Disputes.

II. Facility Availability

"**Facility Availability**" means the proportion of the Facility that is in a functional and operable state to make Net Electrical Output available at the Interconnection Point during any Time Interval of an Agreement Year. SELLER shall ensure that the Facility Performance Model, unless otherwise agreed in writing, determines the Facility Availability for any Time Interval of a given Day by using the following formula (subject to revisions agreed in writing between the Parties):

$$FA = \frac{\sum_{j=1}^{k} [WA]_j}{k}$$

where:

FA = Facility Availability calculated after "k" Time Intervals have elapsed;

j = the relevant Time Interval;

k = number of Time Intervals that have elapsed over the lesser of (i) the total number of Days since the Commercial Operation Date as of the date of such determination and (ii) thirty (30) Days; and

WA = weighted average of the availability of the Facility (considering that inverters may be of different capacities and contribute proportionately to the overall Generating Capacity), calculated for every Time Interval by using the following formula:

$$WA = \frac{\sum_{i=1}^{n} [UA_i \times UC_i]}{NC}$$

where:

NC = Nominal Capacity of the Facility, expressed in kW;

UC_i = nominal capacity of inverter "i", expressed in kW;

n = number of inverters in the Facility;

i = the relevant inverter; and

UA_i = availability of inverter "i", determined for each Time Interval by recording and analyzing the AC power output at the inverter terminal using the following formula:

$$UA_i = \frac{T - U_E - U_I}{T - U_E}$$

where:

T = number of "k" Time Intervals with array irradiance at or above 100 W/m^2;

U_E = number of Time Intervals from the "T" Time Intervals that constitute Event Intervals; and

U_I = number of Time Intervals from the "T" Time Intervals affected by failure or unavailability of inverter "i", other than Event Intervals,

provided that, for any Time Interval, if the failure or unavailability of inverter "i" commences (i) during the first five (5) minutes of such Time Interval, then such Time Interval shall be taken into account in the calculation of U_E or U_I above, as applicable, and (ii) during the last five (5) minutes of such Time Interval, then such Time Interval shall not be taken into account in the calculation above.

III. Expected NEO

The Parties shall determine, and ensure that the Facility Performance Model determines, the "**Expected NEO**" of the Facility as follows (subject to revisions agreed in writing between the Parties):

(a) Prior to the Commercial Operation Date, Expected NEO for any Day of delay pursuant to Article 14.4 shall be equal to the quotient of the P90 Energy Yield *divided by* the number of Days in such Year.

(b) For the first Agreement Year, the Facility's Expected NEO for any Time Interval "i" of a given Day "i" shall be based on the readings from the Reference Pyranometers, Ambient Sensors and the average performance of the Facility, corrected for cell temperature if significant, during the most recent seven (7) Days prior to such Day "i" in which no PREPA Risk Event occurred, as calculated in accordance with the following formula (subject to revisions agreed in writing between the Parties):

$$ENEO_i = \frac{\sum_{j=1}^{7} \left(\frac{NEO_j}{GK_j}\right)_j}{7} \times GK_i \times FA$$

where:

$ENEO_i$ = Expected NEO for Time Interval "i", expressed in kWh;

NEO_j = NEO of the Facility for each Day "j", expressed in kWh;

GK_j = global solar irradiance in the plane of array for each Day "j", expressed in kWh, and determined by taking the product of (a) the solar irradiance measured by the Reference Pyranometer during such Day "j", expressed in kWh/m^2, *multiplied by* (b) the area of the plane of array, expressed in m^2;

j = the most recent seven (7) Days prior to Day "i" in which no PREPA Risk Event occurred, numbered from one (1) to seven (7);

FA = the average of the Facility Availability for the lesser of (i) the total number of Time Intervals since the Commercial Operation Date or (ii) the most recent thirty (30) Days of Time Intervals, in either case, prior to Time Interval "i" in which no PREPA Risk Event occurred; and

GK_i = global solar irradiance in the plane of array for Time Interval "i", expressed in kWh, and determined by taking the product of (a) the solar irradiance measured by the Reference Pyranometer during Time Interval "i", expressed in kWh/m^2, *multiplied by* (b) the area of the plane of array, expressed in m^2; but capped for such Day "i" at the energy volume determined in accordance with paragraph III (a) above.

(c) After the end of the first Agreement Year, the Facility's Expected NEO for any Time Interval "i" shall be based on the Facility Performance Model and calculated using the following formula (subject to revisions agreed in writing between the Parties):

$$ENEO_i = \left(FA \times EP \times \frac{1\ \text{hour}}{6}\right)$$

where:

$ENEO_i$ = Expected NEO for Time Interval "i", expressed in kWh;

FA = the average of the Facility Availability for the most recent thirty (30) Days of Time Intervals prior to Time Interval "i" in which no PREPA Risk Event occurred; and

EP = estimated Generating Capacity of the Facility during Time Interval "i", as determined by the Facility Performance Model, capped at the Nominal Capacity, expressed in kW.

IV. Deemed NEO

The Parties shall determine the Deemed NEO for each Deemed NEO Period as follows:

(a) No later than five (5) Business Days after the Day in which such Deemed NEO Period occurs (the "**Event Day**"), SELLER shall notify PREPA of such Deemed NEO Period, and PREPA shall confirm the occurrence of the relevant PREPA Risk Event.

(b) The Parties shall compare the Expected NEO for such Deemed NEO Period, using the Facility Performance Model and data communicated through the SCADA system, with the actual Net Electrical Output of the Facility, if any, during such Deemed NEO Period, and determine the Deemed NEO for such Deemed NEO Period "n" as follows (subject to revisions agreed in writing between the Parties):

$$DNEO_n = (ENEO_n – NEO_n) \times AF_n$$

where:

$DNEO_n$ = Deemed NEO for Deemed NEO Period "n";

$ENEO_n$ = Expected NEO for Deemed NEO Period "n", expressed in kWh;

NEO_n = NEO of the Facility for Deemed NEO Period "n", expressed in kWh; and

[AF_n = adjustment factor, expressed as a decimal, to reflect the accuracy of the Facility Performance Model over the most recent thirty (30) Days preceding the Event Day in which no PREPA Risk Event occurred ("the "**Comparison Period**"), determined as follows:

$$AF_n = \frac{\sum_{i=1}^{x} NEOi}{\sum_{i=1}^{x} ENEOi}$$

where:

AF_n = adjustment factor for the relevant Event Day;

NEO_i = NEO of the Facility for Time Interval "i", expressed in kWh;

$ENEO_i$ = Expected NEO for Time Interval "i", expressed in kWh;

x = 4320, the number of Time Intervals during the Comparison Period; and

i = each Time Interval during the Comparison Period;

provided that AF shall never exceed one (1).][4]

4 **NOTE**: PREPA suggests using AF to adjust for accuracy

(c) Notwithstanding the foregoing, Deemed NEO shall equal zero (0) for any Deemed NEO Period in respect of which:

1. SELLER has not provided a Facility Performance Model approved by PREPA, such approval not to be unreasonably withheld;

2. SELLER fails to provide, or there is any interruption to, the input data or outputs of the Facility Performance Model required in Section I for such hour; or

3. $NEO_n \geq ENEO_n$, each as defined in Section IV(b) above.

(d) Where the Expected NEO and Deemed NEO has been determined, PREPA or SELLER may dispute the Deemed NEO calculated in terms of this Appendix retrospectively, as a Technical Dispute, if the Deemed NEO calculated based on the Facility Performance Model proves to be different from the Deemed NEO calculated in terms of this Appendix. Overpayments made by PREPA may be set-off against payment due by PREPA, and underpayments may be included in the invoice for the Billing Period after such underpayment was determined. The amount of the overpayment or underpayment determined in this paragraph shall bear Interest from the date of such overpayment or underpayment to, but excluding, the date of repayment or set-off, as the case may be.

APPENDIX G FACILITY SITE

[●][5]

5 **NOTE**: SELLER to provide schematic of Site

APPENDIX H SIGNING CONDITIONS

I. SELLER shall provide:

(a) an original certificate of tax status and compliance from the Commonwealth of Puerto Rico for the five (5) previous years, under Article 22.7;

(b) an income tax return filing certificates issued by the Treasury Department of Puerto Rico, Area of Internal Revenues for the last five (5) years, under Article 22.7;

(c) a certificate of Debt issued by the Area of Internal Revenues, under Article 22.7;

(d) a certificate issued by the Municipal Revenues Collection Center, under Article 22.7;

(e) a certificate issued by the Department of Labor and Human Resources of Puerto Rico, under Article 22.7;

(f) a certificate issued by the Child Support Administration (ASUME), under Article 22.7;

(g) a sworn statement, as of the Effective Date, evidencing compliance with Article 3 of Public Law No. 458 of December 29, 2000 of the Commonwealth of Puerto Rico, as amended, under Article 22.7;

(h) a certification, as of the Effective Date, that, to its actual knowledge, no public employee has any personal or economic interest in this Agreement, under Article 22.13;

(i) a certification, as of the Effective Date, that, to its actual knowledge, it does not receive payment or benefit of any nature for services rendered regularly through an appointment to a Governmental Authority of Puerto Rico, under Article 22.11;

(j) if any of the previously required certifications referred to in Article 22.7(a) show a debt, and SELLER has requested a review or adjustment of this debt, a certification that it has made such request at the Effective Date; and

(k) a legal opinion from external counsel in a form reasonably acceptable to PREPA, confirming the representations and warranties made by SELLER under Article 6.

II. The Parties shall:

(a) have obtained FOMB and PREB approvals in respect of this Agreement; and

(b) [●].[6]

[6] **NOTE**: To discuss progress of draft Facility Study and other technical documents as signing approaches.

APPENDIX I MINIMUM TECHNICAL REQUIREMENTS

[*separately attached*.]

Exhibit G

Redline versions v. Non-Operational Amended PPOAs Template.

[*Este documento ha sido presentado sellado.*]