



An Engineer's Guide to Interconnection Regulations in Maryland

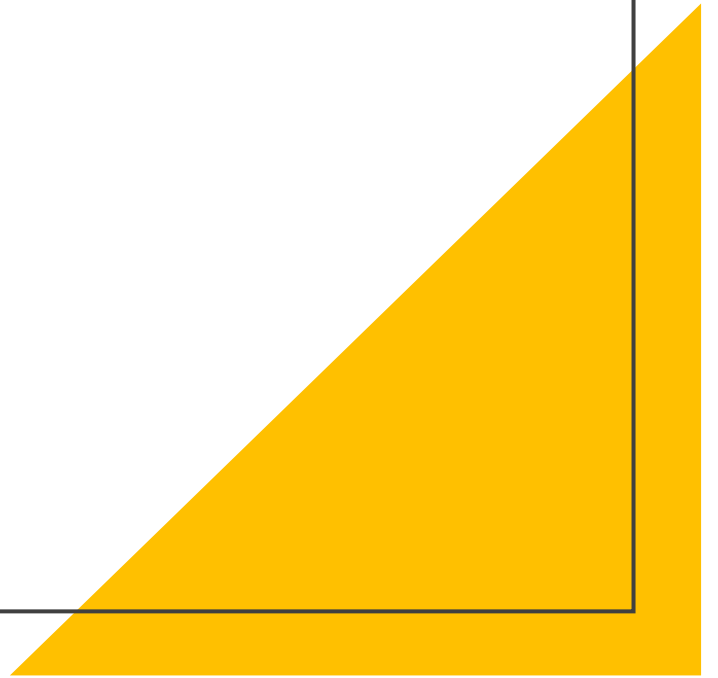
James A. Mirabile, P.E.

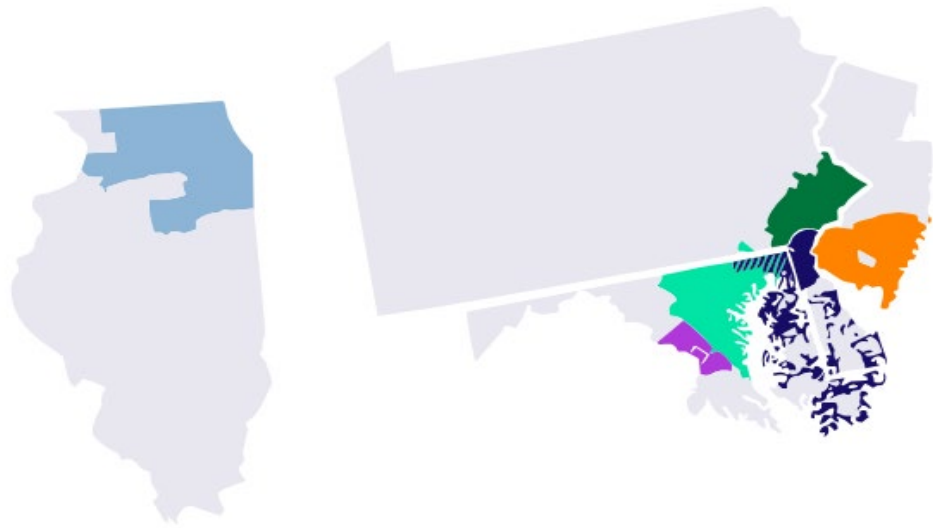
Principal Engineer

Baltimore Gas and Electric Co

Discussion Items

- Markets
- Overview of Maryland Interconnection Regulations
- BGE programs and technical highlights
- Interconnection Queue & Timeline



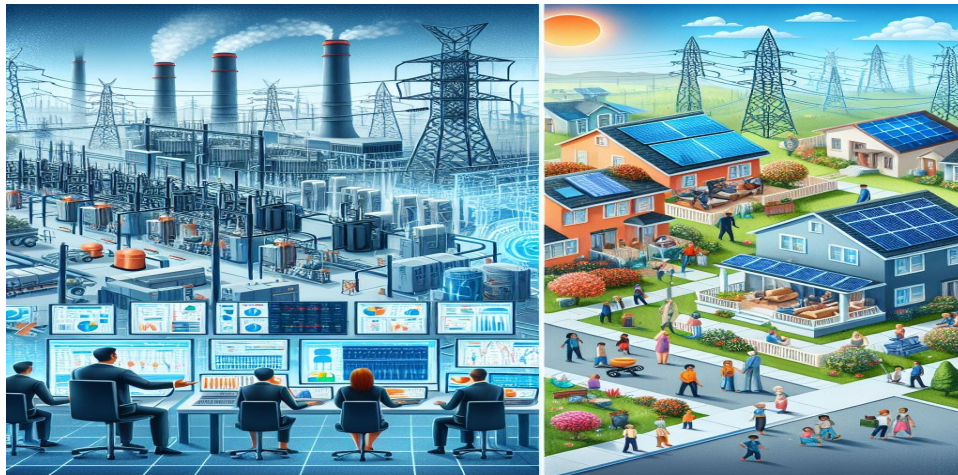


Exelon Corporation

- Deregulated
- Operating in the PJM RTO

Wholesale vs Retail

- The wholesale market is administered by PJM
 - Large-scale projects greater than 20 MW
 - Connected to transmission lines – voltages greater than or equal to 69 kV
 - Regulated by the federal government
 - Complex interconnection process
- The retail market is administered by the utility
 - Smaller scale projects usually less than 20 MW
 - Connected to distribution lines – voltages up to 35 kV
 - Regulated by the states
 - Streamlined interconnection process



Maryland Regulation

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ML 199669

PUBLIC SERVICE COMMISSION

IN THE MATTER OF TRANSFORMING
MARYLAND'S ELECTRIC DISTRIBUTION
SYSTEMS TO ENSURE THAT ELECTRIC
SERVICE IS CUSTOMER-CENTERED,
AFFORDABLE, RELIABLE AND
ENVIRONMENTALLY SUSTAINABLE IN
MARYLAND

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BEFORE THE
PUBLIC SERVICE COMMISSION
OF MARYLAND

PC44

Issue Date: September 26, 2016

NOTICE OF PUBLIC CONFERENCE

Newest Regulations

Recent legislation had directed PSC to take ambitious action for DER enablement and is accelerating F2222 readiness efforts

Title 20 PUBLIC SERVICE COMMISSION

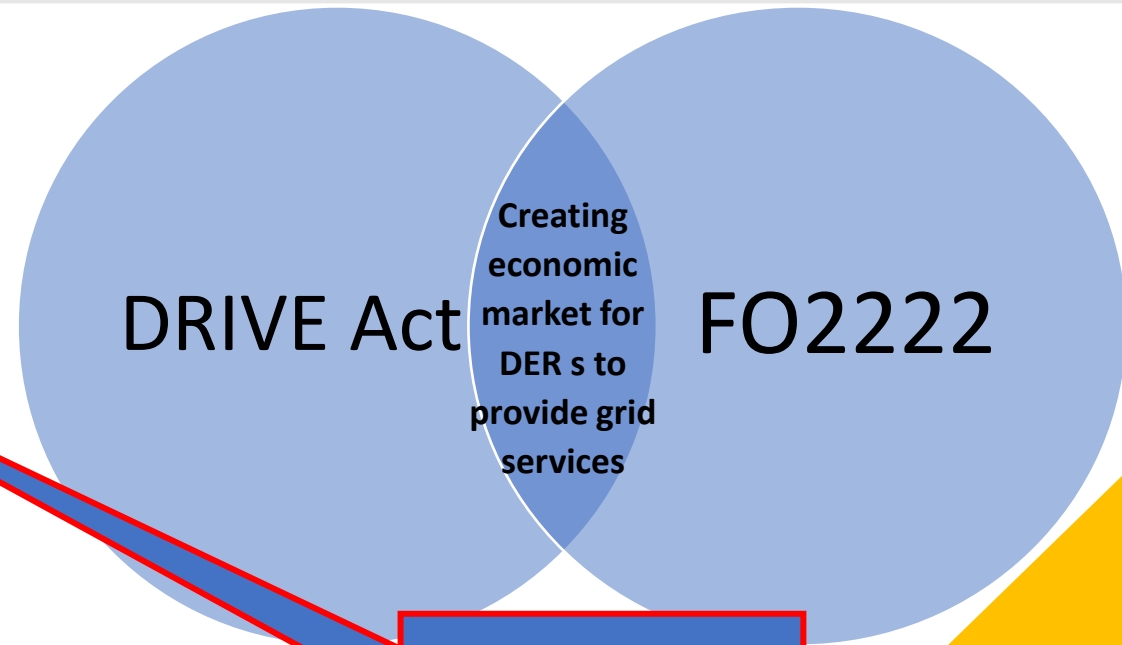
Subtitle 50 SERVICE SUPPLIED BY ELECTRIC COMPANIES

Chapter 13 Grid Services

Authority: Public Utilities Article, §§2-113, 2-121, 5-101, 5-303, §§7-1001-1006 and 7-206
Annotated Code of Maryland

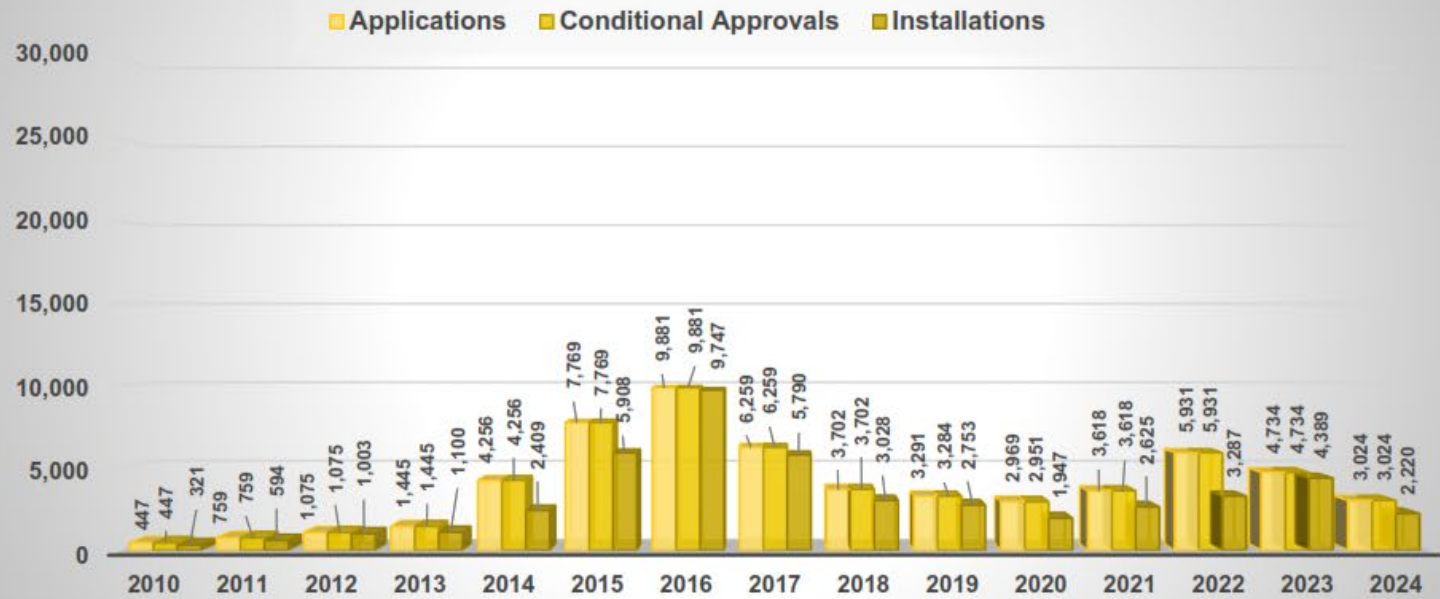
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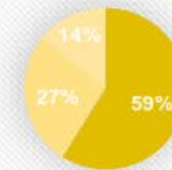
WG Leader has drafted 13 new sections for review; Regulations will be finalized by October 2024

BGE Interconnection Volumes



| Interconnection Data | | | # Installs by Energy Source | | |
|----------------------|---------------|---------------|-----------------------------|-----------|----------|
| Type | MW | # Installs | Solar | Wind | Other |
| Residential | 360.20 | 46,391 | 46,369 | 22 | 0 |
| Commercial | 164.19 | 1,018 | 1,013 | 5 | 0 |
| Community | 86.68 | 64 | 64 | 0 | 0 |
| Utility Scale > 2 MW | 0 | 0 | 0 | 0 | 0 |
| Total | 611.07 | 47,473 | 47,446 | 27 | 0 |

% of MW by Type



■ Residential ■ Commercial ■ Community

LAUNCH OUR
Solar Calculator

Acceptable Inverters
Review the included resources to find approved inverters used to connect your solar energy generating system to the grid.
Inverters we accept when connecting to the energy grid

Do you have solar? Let BGE help you connect to the grid. (PDF)

Sample Interconnection Agreement (PDF)

Energy Storage Supplemental Form (PDF)

Large Project Queue (PDF)

Process timeline for primary service (PDF)

Community Solar Process Flow (PDF)

Construction Requirements (PDF)

PTO requirements (PDF)

Guidance for Community Solar Subscriber Organization Names (PDF)


BGE Quick Reference Guide For DER Requirements (PDF)

Developers & Contractors

Customers are increasingly supplementing BGE energy with self-generated power. Interconnection is the process of registering and connecting power generation equipment to BGE's electric distribution system.

Applying for Interconnection
Determine if your equipment can be submitted to BGE to interconnect.

Choosing an Application
There are four levels of applications. We'll help you select the right one.
Apply Now



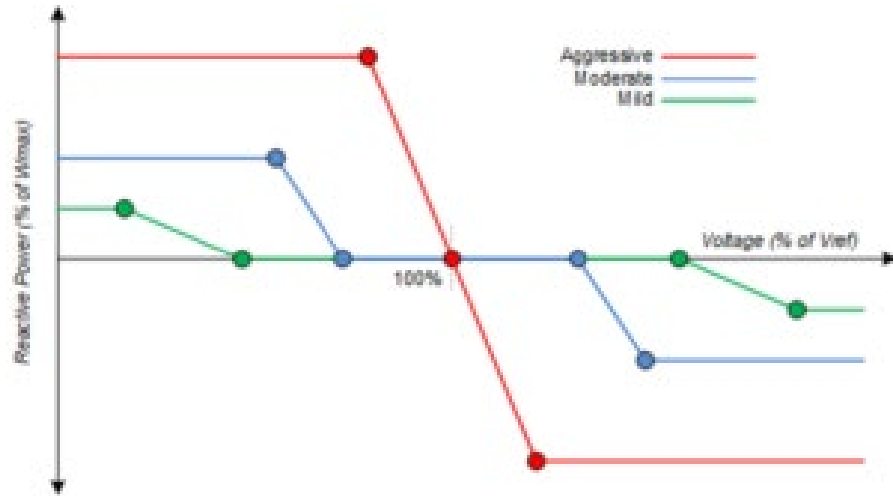
Restricted Circuits Map
Some areas of BGE's service territory are supplied by restricted circuits.

Hosting Capacity Map
The Hosting Capacity map gives an indication of how much generation may be added to an area.

Tools for Engineers, Developers and Contractors

| PROJECTS OVER 500 kW AC | | | VERSION: October 1, 2024 | | | | | |
|-------------------------|---------|----------------|--------------------------|----------|--------------------------|--------------|--------------------------|---------------|
| PROJECT SIZE (kW AC) | CIRCUIT | SUBSTATION | COUNTY | ZIP CODE | APPLICATION RECEIVE DATE | QUEUE NUMBER | REVIEW STATUS | APPROVAL DATE |
| 2000 | 7132 | Hereford | Baltimore | 21082 | 6/20/2024 | BGE-1805129 | Authorization to Install | 9/26/2024 |
| 800 | 7180 | Sudbrook Park | Baltimore | 21208 | 6/21/2024 | BGE-6874842 | Authorization to Install | 9/27/2024 |
| 5000 | 33920 | Westminster | Carroll | 21158 | 7/9/2024 | BGE-6875217 | Authorization to Install | 9/27/2024 |
| 520 | 8196 | Westminster | Carroll | 21158 | 7/23/2024 | BGE-6875190 | Technical Review | |
| 720 | 7337 | Ferndale | Anne Arundel | 21061 | 8/26/2024 | BGE-1804345 | Technical Review | |
| 1668 | 34093 | Fitzell | Baltimore | 21219 | 8/28/2024 | BGE-6876000 | Technical Review | |
| 1668 | 34093 | Fitzell | Baltimore | 21219 | 8/29/2024 | BGE-6876006 | Technical Review | |
| 2000 | TBD | TBD | Anne Arundel | 21226 | 8/30/2024 | BGE-1804640 | Technical Review | |
| 1380 | TBD | TBD | Anne Arundel | 21226 | 8/30/2024 | BGE-1804642 | Technical Review | |
| 1630 | TBD | TBD | Anne Arundel | 21226 | 8/30/2024 | BGE-1804643 | Technical Review | |
| 2000 | 7074 | Magnolia | Harford | 21085 | 9/9/2024 | BGE-1804835 | Technical Review | |
| 1500 | TBD | TBD | Carroll | 21074 | 9/10/2024 | BGE-6875066 | Technical Review | |
| 554 | 13843 | Gould St | Baltimore City | 21230 | 9/12/2024 | BGE-6876180 | Technical Review | |
| 725 | 6043 | Gould St | Baltimore City | 21230 | 9/12/2024 | BGE-6876176 | Technical Review | |
| 4500 | 33722 | TBD | Anne Arundel | 20711 | 9/16/2024 | BGE-6876325 | Technical Review | |
| 750 | 8249 | Sykesville Mod | Carroll | 21784 | 9/18/2024 | BGE-6875984 | Technical Review | |
| 5000 | TBD | TBD | Montgomery | 20833 | 9/23/2024 | BGE-6874296 | Technical Review | |
| 5000 | 33921 | Westminster | Carroll | 21157 | 9/24/2024 | BGE-6876491 | Technical Review | |
| 2000 | 7692 | Cooksville | Carroll | 21797 | 9/25/2024 | BGE-6876432 | Technical Review | |
| 2000 | 8422 | Waysons Corner | Prince George's | 20774 | 9/26/2024 | BGE-1805406 | Technical Review | |
| 2000 | 7696 | Cooksville | Carroll | 21797 | 9/27/2024 | BGE-6876494 | Technical Review | |





Smart Inverters

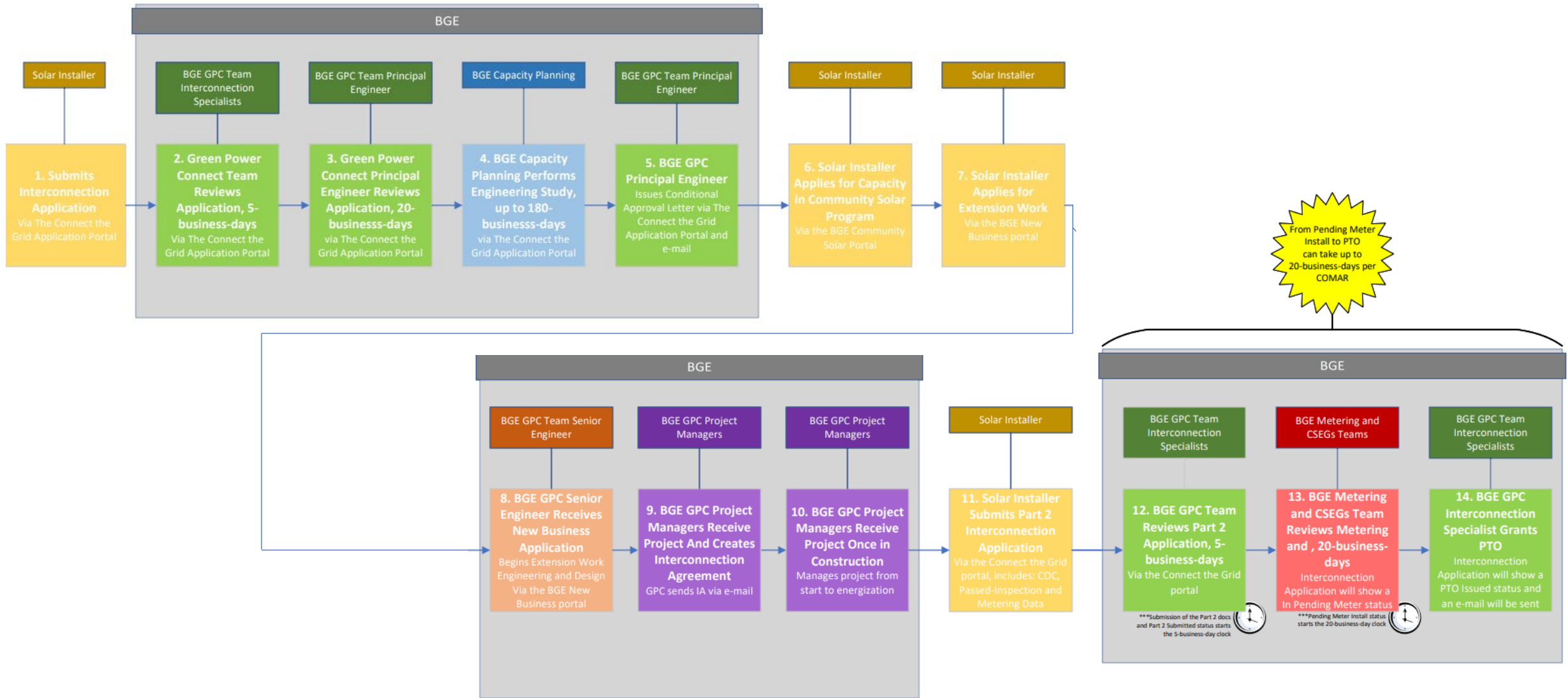
Inverter Requirements

The below requirements are in effect starting January 1st, 2024.

All acceptable inverters must comply with the latest interconnection grid code and testing certification standards accepted by BGE. Acceptable inverters interconnecting to the BGE distribution system are IEEE-1547-2018 certified and compliant and have obtained UL-1741-SB certification. Proof of certification must be provided from the manufacturers inverter datasheet or proof of certification from the testing company. Acceptable inverters must meet the following operation performance requirements as outlined in IEEE-1547-2018 and IEEE-1547a-2020 amendment,

1. Category B Normal Operating Response
2. Category III Abnormal Operating Response

The customer shall provide proof to BGE from the manufacturer that their inverters comply with these operating performance requirements above.



An illustration of a diverse group of people of various ages, ethnicities, and genders standing on a winding white path that curves across a light blue background. The path starts from the bottom left and winds towards the top right. The people are dressed in casual to business-casual attire. In the bottom right corner, there is a yellow triangular graphic element.

Thank you

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