



# DISTRIBUTED GENERATION DEVELOPERS GUIDE



From Interconnection Application to Commission and Energization



REV 4 – March 2024



# **ABOUT THIS GUIDE**

#### Welcome

As Maine embarks on a transformative journey in renewable energy generation, Central Maine Power Company (CMP) stands at the forefront. CMP is committed to supporting the State of Maine in achieving its ambitious renewable energy objectives. Our dedicated team, comprising project managers (PMs), engineers, construction professionals, and more, is actively engaged in Distributed Generation (DG) projects. Our primary focus is on seamlessly interconnecting your project to our energy delivery system, with a keen emphasis on expediency, cost-effectiveness, and safety, adhering rigorously to the established processes mandated by the Maine Public Utilities Commission (MPUC).

In line with our commitment to transparency and support, we are pleased to introduce the Distributed Generation Developers Guide: From Interconnection Application to Commission and Energization. This comprehensive resource has been meticulously crafted by our expert team to address your most common challenges regarding the CMP interconnection process. As we navigate the dynamic landscape of renewable energy, this document will be regularly updated to ensure relevance, and we strongly encourage developers to peruse the "Important Program Messages" section for vital insights.

Within the guide, you will find valuable information, including contact details, links to CMP's interconnection and net billing websites, MPUC regulations, ISO-New England sites, and more. Our aim is to streamline the interconnection process and provide developers with the necessary tools to navigate this transformative era in Maine's energy landscape.

Should you have any inquiries or require further assistance, please do not hesitate to reach out to your assigned Project Manager (PM). At CMP, we are dedicated to fostering collaboration and ensuring the success of your renewable energy endeavors.

Welcome to a future powered by sustainable energy.

#### Use

This document is intended for general business purposes for existing and prospective small generators, along with CMP and its contractors.

#### Disclaimer

CMP's "Distributed Generation Developers Guide: From Interconnection Application to **Commission and Energization**" is not intended to be an exhaustive discussion of the laws of the State of Maine or the MPUC Maine Public Utilities Commission regulations since legal requirements may change from time to time and the application of specific laws to individual cases may vary.

#### Authorship

The *Distributed Generation Developers Guide: From Interconnection Application to Commission and Energization* was written by members of CMP's DG project management team.



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#### **QUICK GUIDE: CONTACT LIST**

# Interconnections Team – Pre-Application through Executed Interconnection Service Agreement (ISA)

Name	Email	Contact
Nathan (Nate) Pelletier	Nathan.Pelletier@cmpco.com	207.629.2356
Ryley Leavitt	Ryley2.leavitt2@cmpco.com	207.716.7920
John Jackson	John.Jackson@cmpco.com	
CMP Interconnection Website:	Interconnection - CMP (cmpco.com)	
Email	cmp-interconnection.services@cmpco.com	

# Project Management Team / Single Point of Contact (SPOC) Executed ISA through Energization

PM Name	Email	Contact
Don Bernier	Donald.Bernier@cmpco.com	207.616.1318
Michele Sucy	Michele.Sucy@cmpco.com	207.649.1125
Brian Brostowicz	Brian.Brostowicz@cmpco.com	207.800.5024
Melissa Walls	Melissa.walls@cmpco.com	802.487.4312
Shawn Sullivan	Shawn.Sullivan@cmpco.com	207.467.0279
Debora Viana	Debora.Viana@cmpco.com	207.317.2199
Alpay Balkir	Alpay.Balkir@cmpco.com	207.239.8372

# **Net Energy Billing**

Name	Contact
Diana Morgan	207-629-2183
Sandra Milliken	207-629-2185
Renee Hachey	207-629-2108
Anna Karlsson	207-629-2189
Ronald Eastman	207-629-2181
Justin Ouellette	585-484-2828
Email	PPAAdmin@cmpco.com

#### ISO-NE I.3.9 Review (CMP)

Name	Email	Contact
Megan Sullivan	Megan.Sullivan@avangrid.com	207.530-7313

#### **Payments Contact**

E-mail
Dginvoicing@cmpco.com

#### **Testing & Commissioning Contact**

Name	Email	Contact	
Adam Belcher	adam.belcher@cmpco.com	207-944-6503	
_LD_DGTesting&Commissioning@cmpco.com			



#### LINKS

This Developers Guide was originally written in July 2021. Revision dates are listed at the end of this document. If there are any inactive hyperlinks, please inform your PM.

- Central Maine Power Interconnection

   Interconnection CMP (cmpco.com)
- MPUC Laws & Rules, 65-407 Part 3, Electric Utilities, Chapter 324:
   Laws & Rules | MPUC (maine.gov)
- CMP Sch B Transmission & Distribution Interconnection Requirements for Generation, May 15, 2023. This is CMP's "Blue Book":
  - INTERCONNECTION REQUIREMENTS (cmpco.com)

#### WEBINARS

- Monthly CMP Interconnections (IX) Question and Answer webinar See IX Website for more information: <u>Interconnection - CMP (cmpco.com)</u>
- Monthly **CMP** Transmission Studies (needed for I.3.9 approval) updates, including "cluster studies," webinar held second Thursday of each month at 1 p.m.
- Email: <u>Nathan.pelletier@cmpco.com</u> or <u>ryley2.leavitt2@cmpco.com</u> for meeting invitation
- Monthly Maine Public Utilities Commission Interconnection Stakeholder Working Group Email Leslie Arber for meeting invitation: <u>Leslie.Raber@maine.gov</u>
- Monthly ISO-NE I.3.9 Webinars Interconnection Process ISO Webinar Registration: <u>ISO New England's Training and Events Network (ISO-TEN)</u> Webinars: Interconnection Process
  - From the link, create an account and/or log into ISO TEN
  - o Select pull down "Training & Events"
  - o Go to "Training & Events Calendar"
  - Select webinar
    - i. Webinar: "FCM New Capacity Qualification for Demand Capacity Resources" Second Wednesday of every month at 10 a.m. Eastern Second Wednesday of every month 10 a.m. Eastern
    - Webinar: "FCM New Capacity Qualification for Generation and Imports" Second Wednesday of every month at 1:30 p.m. Eastern
       Second Wednesday of every month at 1:30 p.m. Eastern

# IMPORTANT PROGRAM MESSAGES

#### Ground Fault Over-Voltage

In case of a Single Line-to-Ground (SLG) short-circuit on the grid supply of a transmission or subtransmission system, there is a potential for the voltage to escalate to destructive levels, referred to as Ground Fault Over-Voltage (GFOV). This phenomenon may arise when a four-wire distribution circuit is energized by an ungrounded voltage source during a single-phase-to-ground fault, posing a significant risk of damage to CMP utility equipment.

At Central Maine Power Company (CMP), we recognize the gravity of the GFOV issue and have appointed it as a top priority. In our commitment to safety and reliability, we have established the following measures:



- Prioritization of DG Project Energization: While Distributed Generation (DG) projects are generally expected to finance necessary upgrades to mitigate GFOV risks, CMP ensures that all DG projects can proceed with their planned energization. This includes scenarios where CMP's substation upgrade work is underway to address overvoltage issues.
  - Information Resource: For the most current and comprehensive details on GFOV Impacted Substations and the interconnection process, we encourage you to visit the following link: GFOV Impacted Substations Interconnection - CMP. Interconnection - CMP (cmpco.com)
- 2. Ongoing Communication: The CMP Interconnections Team, detailed in the provided Points of Contact information, is committed to keeping developers informed with the latest updates regarding GFOV. As developments occur, our team will ensure timely and transparent communication to support the success of your projects.

At CMP, we prioritize safety, collaboration, and informed decision-making. We appreciate your attention to this matter and encourage you to reach out to the CMP Interconnections Team with any inquiries or for further clarification.

#### IP Addresses – Warning!

In adherence to stringent security protocols and regulatory requirements, we emphasize the critical importance of handling IP addresses with the utmost care. It is imperative that all IP addresses be transmitted through a secure encryption process. Sending IP addresses without encryption is strictly prohibited.

This directive is not only a fundamental practice for safeguarding sensitive information but also aligns with the regulatory standards set forth by the North American Electric Reliability Corporation <u>NERC</u> and Critical Infrastructure Protection (CIP). Non-compliance with these standards can have severe consequences, including substantial fines imposed on the Developer.

It is crucial to recognize that NERC fines for violations related to the improper handling of IP addresses can amount to up to **\$1,291,894.00 per day**, contingent upon the severity of the violation. As such, we emphasize the gravity of this matter and urge all stakeholders to exercise due diligence in ensuring the secure transmission of IP addresses.

If you have any questions or require additional assistance, please reach out to your Project Manager

#### TEAMS

Central Maine Power Company (CMP) provides a dedicated team comprising skilled engineers, experienced project managers, proficient construction workers, and other specialized professionals, all singularly devoted to advancing distribution generation projects and facilitating seamless interconnections. Recognizing the extraordinary surge in distributed generation, we have proactively addressed this demand by augmenting our workforce through the engagement of multiple contracted resources.

This strategic expansion of personnel underscores our commitment to meeting the evolving needs of our stakeholders and ensuring the swift and efficient execution of interconnection processes. These contracted resources have been carefully selected to align with our commitment to excellence, and they will collaborate closely with you throughout every stage of the interconnection process.



At CMP, we view this investment in additional staffing as a proactive measure to not only keep pace with the expanding landscape of distributed generation but also to enhance the overall quality and expediency of our services. We are confident that this reinforced team, combining the expertise of our in-house professionals with the specialized skills brought in through contracted resources, will significantly contribute to the success of your projects.

As we collectively navigate the dynamic field of distributed generation, CMP remains committed in its dedication to providing exceptional service and fostering successful interconnections. We look forward to the collaborative journey ahead and the positive impact it will have on the growth and sustainability of distributed generation initiatives.



# SINGLE POINT OF CONTACT (SPOC) - PROJECT MANAGER (PM)

In our commitment to providing you with a streamlined and personalized experience, we have implemented a Single Point of Contact (SPOC) system, assigning a dedicated Project Manager (PM) specifically to your company. This individual will serve as your primary liaison, intimately familiar with all aspects of your projects. The SPOC PM will maintain a comprehensive understanding of your ongoing initiatives, ensuring a cohesive and proactive approach to project management.

Your assigned PM is not just a point of contact; they are a trusted partner who will consistently keep your best interests at the forefront of their responsibilities. With a deep understanding of your unique requirements and objectives, the PM will be well-equipped to address any questions, comments, or concerns you may have throughout the project lifecycle.

We encourage open communication, and your PM is here to facilitate a seamless exchange of information. Whether you seek clarification on project details, wish to share feedback, or have any concerns that require attention, your assigned PM is your go-to resource.



We believe in the power of a dedicated and accessible SPOC PM to enhance collaboration and ensure the success of your endeavors. Please do not hesitate to reach out to your assigned PM for any assistance or information you may require.

# Team Communications

**Developer Bi-Weekly Update:** Every two weeks, you will receive a comprehensive email update containing essential information pertaining to all your Central Maine Power (CMP) projects for which an Interconnection Services Agreement (ISA) has been executed. This update will include details on payment status, revised estimated construction schedules, and any outstanding items that may require attention. Our aim is to provide you with a clear overview of the progress and status of your projects.

**As Needed Phone Calls:** We understand the importance of open and accessible communication. You are encouraged to reach out to your assigned Project Manager (PM) at any time via email to address questions, share comments, or express concerns. Should any matter necessitate a more in-depth discussion, we are more than willing to schedule a phone call to ensure a thorough and productive conversation.

At CMP, we value the collaborative nature of our partnerships and aim to foster an environment where your needs and inquiries are promptly addressed. These communication channels are designed to enhance our responsiveness and support your projects effectively.



# DEVELOPER CHECKLIST

DEVELOPER CHECKLIST
Application - (to CMP interconnections group)
Submit W-9
Proof of insurance
Signed Interconnection Agreement (IA)
Initial payment (to begin design)
Approved site plan - all critical elements identified and approved
Developer onsite date (min 4-5 months before ISD)
Change modifications - (if applicable, POI changes, design changes, etc.)
Responsible for Tree trim (CMP or developer)
Environmental permits (when applicable)
Railroad permits (when applicable)
Transmission line permits (when applicable)
Submit copy of 1190 (certificate of compliance land zoning)
EIS form(s) - information for all easements required for the project
Easement(s) - all easements required for the project
Final Payment (100% before construction)
Submit safety plan
Developer agreement on (3) stake locations
Provide EPC PM contact info
Build access road to the POI
T&C package filled out, returned
T&C package filled out, returned Submit IFC (min 90 days before ISD)
T&C package filled out, returned Submit IFC (min 90 days before ISD) Meter enclosure - approved to standards (4 weeks before Witness Testing)
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#### **NET ENERGY BILLING QUESTIONS**

#### **NEB Contacts**

Name	Contact
Diana Morgan	207-629-2184
Sandra Milliken	207-629-2185
Renée Hachey	207-629-2108
Anna Karlsson	207-629-2189
Ronald Eastman	207-629-2181
Justin Ouellette	585-484-2828
Email	PPAAdmin@cmpco.com

Governed by Maine P.L. 2019 c. 478 and the PUC's Chapter 313 NEB rules:

Rule Chapters for the Maine Public Utilities Commission

For more information: Net Energy Billing - CMP (cmpco.com)

Developers interested in the Renewable Energy Credit (REC) program will also be working with the NEB team and can find more information at the following sites:

- <u>Net Energy Billing CMP (cmpco.com)</u>
- Information for NEB/DG Developers, Project Sponsors and Marketers | MPUC (maine.gov)
- <u>Maine Renewable Portfolio Standard (RPS) | MPUC</u>

In-depth Net Energy Billing (NEB) Information/Application (IA):

To apply for Customer Net Energy Billing, you will need to fill out the required Chapter 313 NEB Application, **IN ADDITION** to the Interconnection Application.

#### **INTERCONNECTION APPLICATION**

#### Process

At Central Maine Power (CMP), our commitment to facilitating the interconnection of small generators aligns with the guidelines set forth by the Maine Public Utilities Commission (MPUC). Our established interconnection process prioritizes timeliness, cost efficiency, and safety, reflecting our dedication to promoting the seamless integration of small renewable energy facilities into the energy grid.

Key components of our interconnection process include:

- CMP's Schedule B Transmission & Distribution Interconnection Requirements: Also recognized as "The Blue Book," this document outlines CMP's specific requirements for generation interconnection. It serves as a comprehensive guide detailing the procedural steps, technical specifications, and essential considerations for a successful interconnection. For detailed insights, please refer to CMP's Schedule B, available on our official website. Interconnection - CMP (cmpco.com),
- MPUC 65-407 Chapter 324: Small Generator Interconnection Procedures: As mandated by the Maine Public Utilities Commission, Chapter 324 establishes the legal framework for small generator interconnection procedures. For a comprehensive understanding of the regulatory landscape, we encourage you to review the relevant laws and rules outlined by MPUC, accessible here. Laws & Rules | MPUC (maine.gov)

Central Maine Power Company / Projects / 83 Edison Drive, Augusta, ME 04330



3. CMP Interconnections Website: Our dedicated Interconnections website serves as a central hub for information, providing access to essential resources such as forms, agreements, diagrams, and relevant web links. Explore further details at Interconnection - CMP. Interconnection - CMP (cmpco.com),

It is crucial to note that while this Developer's Guide provides valuable insights, it does not supersede the official rules and regulations outlined in PUC 65-407 Chapter 324 Laws & Rules. We encourage developers to familiarize themselves with the complete set of rules to ensure compliance and a smooth interconnection process. Laws & Rules | MPUC (maine.gov)

For any inquiries or clarification regarding the interconnection process, feel free to reach out to our dedicated support team.

#### DEVELOPER PROJECT MODIFICATION REQUESTS

We appreciate your ongoing collaboration on your project, we want to inform you of the necessary steps for Developer Project Modification Requests.

**Fee Requirement:** Before submitting a modification request form, a fee of \$500 is mandatory. Please ensure the confirmation of payment, such as a bank wire receipt, accompanies the completed modification request form. This fee covers the administrative and review costs associated with processing your modification request. (See page 12 & 13 for instructions)

**Submission Process:** Per MPUC Chapter 324 Sections 2.Y. & 12.X., particularly for Point of Interconnection (POI) changes and "In-Kind modifications," the Interconnections Group will review and approve these requests, assessing the need for adjustments to the executed Interconnection Agreement (IA). It's essential to note that not all changes can be automatically approved, and some may incur costs or require a re-study or re-application.

#### When Developer Changes Requests Can Be Made:

- 1. Prior to Feasibility Study: Decrease in MWAC is allowed.
- 2. Prior to Impact Study: Commonly owned dependent projects may aggregate.
- **3.** Within 15 Business Days of Results Meeting: One-time modification of interconnection configuration.
- 4. At Any Time: An in-kind modification to technical parameters of the project.

**Modification Request Form:** To initiate any change requests, including those mentioned above, please complete the "Modification or Update Request Form" (an example is provided on the next page). Email the completed form directly to <u>CMP-Interconnection.Services@cmpco.com</u> and ensure to copy your assigned Project Manager. Your Project Manager's contact information is available in the contacts section above.

Your cooperation in adhering to these procedures will contribute to a more efficient and transparent modification process. If you have any questions or require further assistance, please don't hesitate to reach out to your Project Manager or the designated contact in the Interconnections Group.



# **MODIFICATION REQUEST FORM**

CMP Level 4 Interconnection Application – Modification Request

Provide \$500 change fee payment confirmation, a completed form, and all revised documents to enable processing without additional delay

PRJ Number: Developer: Name: Request Date:

Type of Modification Note: All proposed changes that result in increasing the kW and kVA export capacity and or any change to the AC export capability, voltage profile, or utility equipment thermal ratings) will require a restudy as applicable. All modifications request requiring a full restudy must fall within the timelines outlined in the Chapter 324.

- 1. Name change: from: to: CMP acct#:: CMP acct#:
- from: 2. Capacity Reduction: to:
- 3. the customer side DC equipment, from:
- 4. the inverters: from: to:
- relays/reclosers that do not alter trip settings: from: to:
- 6. transformer changes that do not alter the MVA rating, primary voltage, or primary winding: from: to:

to:

- equivalent change to AC fuses: from: to:
- 8. equivalent change to the grounding configuration: from: to:
- 9. POI adjustment (please describe):
- 10. Other (please describe):

#### Please fill table completey, detailing all applicable changes/alterations to current interconnectoin application

Comparison Table	Current Interconnection Application	Proposed Modification
Inverter size and qty.		
Inverter Manufacturer		
PV size and qty.		
PV Manufacturer		
Inverter HECO compliance		
GSU transformer size and qty.		
GSU configuration		
GSU Impedance and X/R		
Grounding transformer/reactor size/qty.		
POI change		
POI Recloser		
GSU to POI conductor size, length and impedance.		
Distance from GSU transformer to new POI and from POI to Substation).		

#### **Revised documents:**

# CMP Representative:

Technical Reviewer:

Interconnection Services: Notes:

APPROVED YES NO Restudy: Modified Date:

Central Maine Power Company / Projects / 83 Edison Drive, Augusta, ME 04330



#### MOD REQUEST WIRING INSTRUCTIONS



#### Bank America's Most Convenient Bank®

June 7, 2023

To Whom It May Concern:

Please accept this letter as verification, as of the date of this letter, that the following bank account information is valid for Central Maine Power Company.

Prior to remitting your payment, please send remittance detail to the Sales Administration team at <u>SalesAdminUSA@avangrid.com</u>. This will ensure the funds are applied correctly and timely. Please include the following:

Company Name Customer Number Invoice Number Payment Amount Expected Payment Date

Additionally, please be sure to include the following in the addenda field of your payment:

Company Name Customer Number Invoice number

Bank Name: TD Bank, NA Bank Address: One Portland Square, Portland, ME 04101 Routing / ABA: 211274450 Account number: 29210870 Account Title: Central Maine Power Company Account Address: One City Center 5th Floor, Portland, Maine 04101 Account Type: Checking

Sincerely, David J. Jamison

Vice President, Corporate Banking Director Treasury Management Services One Portland Square Portland, ME 04101 207.408.8854 Confidential



# OWNERSHIP CHANGES AFTER INTERCONNECTION APPLICATION

We recognize that ownership of projects currently progressing through the CMP Interconnections process may transfer to other developers at some point during the project's life cycle. To facilitate a seamless transition and uphold the integrity of the application, we provide the following guidance:

- 1. Early Notification: In the event of an anticipated ownership change, please notify the CMP Interconnections team as early as possible. Early notification allows us to provide you with the necessary information and guidance for a smooth transition.
- 2. Consent to Assignment Process: For the new developer taking over the project, initiate the Consent to Assignment process.
  - a. Send an email to <u>Ryley2.leavitt2@cmpco.com</u> or john.jackson@cmpco.com
  - b. CC: <u>Nathan.Pelletier@cmpco.com</u>
  - c. CC: <u>cmp-interconnection.services@cmpco.com</u> to complete the **Consent to Assignment** process formalizing the change in ownership. Be sure to include all relevant details and documentation.
- **3.** Consumption Account Update: Contact CMP Customer Service at **1-800-750-4000** to update the name on the consumption account associated with the project. Provide essential details such as the previous developer/owner's name, consumption account number (starting with a 3), and the applicant number (Point of Interconnection [POI] notification number).
- 4. Notify Project Manager: After successfully updating the consumption account, promptly inform your assigned Project Manager of the change. This notification should include:
  - The new applicant numbers
  - An updated W-9 form
  - A Certificate of Insurance
  - The completed Consent to Assignment
- 5. Updated Information and/or Assignment Sheet: To streamline the process and ensure accurate record-keeping, we have provided an example of the "Updated Information and/or Assignment Sheet". This sheet serves as a centralized platform for documenting any modifications or assignments related to the project. Whether it's updated contact information, changes in ownership, or assignment of responsibilities, this sheet captures essential details for effective project management. By maintaining up-to-date information and clear assignment records, we can enhance communication, minimize errors, and facilitate smoother project execution. Please fill out the sheet and return to the interconnection group and CC your PM. Below is an example of the Updated Information and/or Assignment Sheet for you reference.

Your proactive collaboration in adhering to these steps is vital for ensuring a smooth transition in ownership and avoiding any disruptions in the CMP Interconnections process. If you have any questions or require additional assistance, please reach out to your Project Manager.



**EXAMPLE OF THE UPDATED INFORMATION AND/OR ASSIGNMENT SHEET** 

# Updated Information and/or Assignment Sheet

	Seller	Buyer	Installer	Updated
	Information	Information	Information	Information
Portal ID #				
Level (2, 3, or 4)				
PRJ # (for Level 4				
only)				
Project Name				
Service Address				
Mailing Address (if				
different from above)				
CMP Account #				
POI Pole #				
Application Contact				
Name				
Application Contact				
Email				
Application Contact				
Phone #				
Operations Contact				
Name				
Operations Contact				
Email				
Operations Contact				
Phone #				
Billing Contact Name				
Billing Contact Email				
Billing Contact Phone				
#				
Updated W-9 (needs				
to be provided)				
Effective Date				

#### IMPORTANT NOTES

- A Level 2, 3, or 4 project cannot be assigned until the project has a Fully Executed Interconnection Agreement (IA).
- Important to note the IA may be assigned by either Party upon fifteen (15) Business Days prior written notice, and with the opportunity to object by the other Party.
- If you would like to change or adjust the name of the PRJ please call the call center (1-800-750-4000).
- An updated W-9 Form must be attached if the name is being or has been adjusted



#### **ISO-NE / I.3.9**

ISO New England (ISO-NE), as the designated Regional Transmission Operator for the New England region, holds the pivotal responsibility for overseeing the interconnection requirements associated with the regional bulk electric system. Acting as the governing body, ISO-NE ensures that the interconnection of generators does not compromise the reliable operation of the power grid. All projects with a capacity of 1 MW or greater necessitate ISO-NE approval, in accordance with Section i.3.9 of the ISO-NE Tariff, to guarantee compliance with this imperative.

Key information regarding ISO-NE and the interconnection process includes:

- 1. **Project Size Requirement:** All projects exceeding 1 MW capacity mandate ISO-NE approval under Section i.3.9 of the ISO-NE Tariff. It is essential to adhere to this requirement for the successful progression of interconnection endeavors.
- 2. Transmission Analysis Levels: The level of transmission analysis required to secure i.3.9 approval varies based on the location and queue position of your project. This ranges from a Level 0 non-comprehensive review to a Level 3 cluster study, depending on project specifics.

For further information and resources:

- CMP Chapter 324, Transmission FAQ: Interconnection CMP (cmpco.com)
- ISO New England Reliability Committee: <u>Reliability Committee (iso-ne.com)</u>
- Monthly CMP Transmission Studies Updates (required for I.3.9 approval):
  - Webinar held on the second Tuesday of each month at 1 p.m.
  - Email Keith Radonis at <u>Keith.Radonis@cmpco.com</u> for meeting invitations.

#### Monthly ISO-NE I.3.9 Webinars – Interconnection Process:

- ISO Webinar Registration: ISO New England's Training and Events Network (ISO-TEN)
- Select "Training & Events" > "Training & Events Calendar"
- Choose the desired webinar under "Interconnection Process"
  - Webinar: "FCM New Capacity Qualification for Demand Capacity Resources" Second Wednesday of every month at 10 a.m. Eastern
  - Webinar: "FCM New Capacity Qualification for Generation and Imports" Second Wednesday of every month at 1:30 p.m. Eastern

Staying informed and participating in relevant webinars is crucial to navigating the ISO-NE interconnection process successfully.

#### CMP Contact Regarding IS0-NE I.3.9 Review

Megan Sullivan
 <u>Megan.Sullivan@avangrid.com</u> | 207.530.7313



#### **PAYMENTS**

#### **Payment Structure**

To ensure clarity and predictability in financial transactions associated with interconnection projects, Central Maine Power Company (CMP) has established the following payment structures based on the project cost:

- Projects Costing Under \$500k with Executed Interconnection Agreement (IA/ISA) and System Impact Study (SIS): For projects falling below the \$500k threshold, the payment structure is as follows:
  - Initial Payment: 25% of the Distribution Upgrade Costs, due within ninety (90) business days of the executed IA.
  - Final Payment: An updated Estimate at Completion (EAC) will be generated at the Pre-Construction stage. A final payment request, covering the balance of the EAC and the initial payment, will be communicated. The final payment is due within ninety (90) business days from the communication of the new EAC. Full payment is a prerequisite for project progression to the Construction phase.
- Projects Costing Over \$500k with Executed Interconnection Agreement (IA) and System Impact Study (SIS): Projects exceeding the \$500k threshold have the option to elect a payment plan schedule as outlined in the project's IA. The payment schedule aligns with the IA up to the final payment request, which is prepared based on the EAC, mirroring the structure detailed above.

#### Additional Payment Considerations:

- T-GFOV Upgrade Costs (if applicable):
  - A separate payment request for 100% of T-GFOV costs will be issued concurrently with the initial Distribution payment request. Payment is due within ninety (90) business days of the executed IA.
- Transmission Upgrade Costs (if applicable):
  - A separate payment request for 100% of Transmission costs will be sent alongside the initial Distribution payment request. Payment is due within thirty (30) business days of the executed IA.

CMP is committed to transparency and efficiency in financial dealings. For specific payment details pertaining to your project, please refer to the IA and associated documents. Our team is available to address any inquiries or provide further clarification.

#### Adjustments and Refunds

- Any adjustments and refunds will be overseen during Cost Reconciliation.
  - See 'Reconciliation' section for more information.

#### Payment Triggers

- Initial payment is required for CMP to begin Field Design.
- Final payment is required for CMP to begin Construction.

#### Approved MPUC i.3.9 Waiver

- For projects with an executed IA **before 09/30/20**, the project <u>can</u> choose to either make a payment or delay payment until ISO-NE I.3.9 approval.
- For projects with an executed IA **after 09/30/20**, the project <u>cannot</u> make any payments until ISO-NE i.3.9 approval. After approval, CMP will invoice per the terms outlined in the IA.



• If a developer has any projects that we previously considered fully paid, and has received a revised IA, an invoice will be sent reflecting the balance of the revised cost.

#### RECONCILIATION

#### Reconciliation: Compliance with MPUC 324 13.J.

In adherence to the provisions outlined in MPUC 324 13.J., the following Cost Reconciliation procedures have been established to ensure transparency and accuracy in financial transactions:

#### 1. Final Reconciliation Statement:

- A comprehensive final reconciliation statement will be furnished to the Developer within sixty (60) business days following the issuance of the later of:
  - T&D Utility's Certificate of Completion (COC).
  - Submittal of final as-built drawings to T&D Utility.
- 2. Invoice for Project Balance or Overpayment (Projects without T-GFOV Component):
  - For projects without a T-GFOV component, an invoice detailing the remaining project balance or overpayment to be reimbursed by the T&D Utility will be provided to the Developer within twenty (20) business days after the delivery of the final reconciliation statement.

#### 3. T-GFOV Component Reconciliation:

- Projects with a T-GFOV component will follow the above outline guidelines for the distribution portion of the project, and the reconciliation statement for this segment will be initiated once the project is energized.
- A separate reconciliation statement will be prepared for the T-GFOV component.
- The final invoice will be dispatched once both components of the project, distribution, and T-GFOV, are deemed complete.

These reconciliation measures are designed to align with regulatory requirements, ensuring accuracy, fairness, and clarity in financial transactions related to interconnection projects. CMP remains committed to facilitating a transparent and collaborative relationship throughout the project lifecycle.

For any questions or additional clarification regarding the reconciliation process, please do not hesitate to reach out to our dedicated support team. Email: <u>dginvoicing@cmpco.com</u>

#### DESIGN

Ensuring a seamless and efficient design process is integral to the success of interconnection projects. Central Maine Power Company (CMP) employs a utility design approach to strategically determine the placement of utility poles (POI/Meter/GOAB), emphasizing accessibility and safety. The following design considerations and guidelines are crucial for the initiation and progress of the design phase:

- 1. Utility Pole Placement:
  - CMP's utility design dictates the strategic placement of utility poles, including POI, Meter, and GOAB, with a paramount emphasis on ensuring continuous accessibility for CMP.
- 2. Initiation of Design Process:
  - Design activities commence upon receipt of the initial payment and the provision of an updated Interconnection Site Plan.



 Interconnection Site Plans play a pivotal role, ensuring that CMP possesses the project's latest Site Plan, clearly identifying the developer's desired POI location. These plans should be promptly submitted to your Project Manager upon the initial payment or, ideally, earlier in the project timeline.

#### 3. Design Considerations:

#### Access Road:

- Minimum width of 15 feet.
- Pole set will be a minimum of 10 feet to a maximum distance of 15 feet for utility vehicle access.
- POI Pole Line:
  - Minimum span length between CMP poles is 25', with a preferred span of 30'.
  - Maximum span length is contingent on conductor size between CMP poles.
  - The POI, Meter, disconnect (GOAB), and first developer poles must follow a straight-line Pole Order: POI Takeoff pole > CMP Meter Pole > CMP Disconnect Pole > Customer Poles.
- CMP POI Tree Trimming:
  - For (3) phase conductors, overhead trim is required as high as a 65/70-foot bucket can reach, fully extended, and prune below conductors to the ground.
  - $\circ~$  For 12kV service, trim is required 13' from the center of the pole.
  - For 34kV service, trim is required 15' from the center of the pole.

These design guidelines are fundamental to maintaining the integrity and efficiency of the interconnection process. CMP encourages proactive communication and adherence to these standards to facilitate a smooth and successful project execution.

For any inquiries or clarification regarding the design process, please contact your assigned Project Manager.

# Interconnection Site Plans Requirements:

In preparation for the initiation of the interconnection process, developers are required to provide a comprehensive Interconnection Site Plan before making the initial payment. To ensure a smooth submission process, kindly adhere to the following guidelines:

#### 1. Submission Process:

- Email your Interconnection Site Plan to James Bleau (james.bleau@cmpco.com) and cc Becky Rugan (Becky.Rugan@cmpco.com) and your assigned Project Manager.
- Refer to the example "CMP DG Solar Interconnection Example Site Plan" on the following page for guidance.

#### 2. Site Plan Components:

- The Interconnection Site Plan should be based on a satellite map and clearly identify the following:
  - CMP takeoff pole number and location (as studied in your SIS).
  - Desired CMP meter and switch pole locations (with a minimum 25' span between poles).
  - Parcel boundary (specifying poles to be placed on private land).
  - Site entrance road (min15') with apron and culvert
  - Any other pertinent information such as wetlands, culverts, outbuildings, etc.
  - $\circ~$  CMP poles need to be in a straight line, with a minimum 25' spacing and a preferred 30'.



#### 3. Site Plan Deficiency and Updates:

• If a deficiency is identified in the submitted Site Plan, your Project Manager will reach out to you directly with the requested updates.

#### 4. Site Reviews and Visits:

- Typically, CMP utilizes the Interconnection Site Plan to complete the design instead of conducting a site review/visit.
- Under specific circumstances, a Virtual Site Review (via MS Teams web video conference) or an In-Person Site Visit may be necessary.
- Virtual Site Reviews and In-Person Site Visits will only be scheduled if explicitly requested by CMP or the developer, with strict adherence to safety and COVID protocols.

We appreciate your attention to these submission requirements, and your cooperation in providing accurate and detailed Interconnection Site Plans is crucial for the efficient progression of your project. For any inquiries or clarifications regarding the site planning process, please feel free to contact your assigned Project Manager.



Site Plan Minimum Requirements *Street Name (labelled or embedded but legible) *DI Pole with CMP Pole Stencil # and GPS Coordinates. (Contact CMP for help identifying unmarked poles.) Utility Meter Pole located on private property adjacent to POI pole. (To be installed by CMP.) Utility Disconnect (GOAB) Pole located on private property adjacent to Meter Pole. (To be installed by CMP.) Utility POI, Meter, and Disconnect poles must be accessible to CMP at all times.	Sumary	Legend	Notes	Title Block
Street name must be present     Point of Interconnection (POI) (Existing)     >=25(h Span       Display must be present     Utility Police must be present       Utility Meter Police       Utility Disconnect (OCAB) Police       Utility Meter Police       Utility Disconnect (OCAB) Police       Utility Disconnect (OCAB) Police       Utility Disconnect (OCAB) Police       Utility Disconnect (OCAB) Police       Developer Meter Police	Developer Raciosar Pole Developer Rasar Pole Develo	Free Line		CMP DG Solar Interconnection Example Site Plan (Rev. 2020/12/16)



# **EASEMENTS & PERMITTING**

#### Easements

In adherence to the rules and procedures established by the Maine Public Utilities Commission (MPUC) under Chapter 324 for small generator interconnections, developers are required to engage in a meticulous field planning and easement acquisition process. This is a critical phase aimed at enhancing the efficiency of the interconnection process and fostering the increased use of renewable energy and distributed generation.

#### Easement Requirements

- Developers are responsible for securing all necessary easements before initiating any pole-setting activities.
- Regardless of contractual obligations with the landowner (lease or purchase option), CMP requires a separate easement agreement with the landowner.
- Delays in securing easements or absence of easements when required may necessitate schedule adjustments, potentially impacting facility In-Service Dates (ISDs). Developers are encouraged to discuss any easement concerns with their Project Manager (PM).

#### Easement Types and Considerations

- An easement is essential for any activity encroaching upon private property, such as installing new poles, tree trimming, installing guy wires, or braces.
- Types of Easements: Standard, Corporate, Estate, and Trustee.
- Types of Work: Overhead, Underground, Aerial, Guying, and Tree Trim.

For detailed information, refer to CMP's Information Worksheet: CMP Information Worksheet

#### Easement Process:

#### 1. Easement Information Sheet (EIS)

- Developers must complete the EIS provided by the Project Manager within seven (7) business days.
- Failure to promptly return the EIS severely impacts project schedules and construction commencement.
- The PM will provide weekly updates on obtaining easements.

#### 2. Easement Document

- CMP will draft the legal easement document using the information provided in the EIS.
- The legal easement document will be mailed via US postal service to the specified landowner by CMP.
- Notification of sending the legal easement document will be communicated by the PM to the Developer.
- Please note it is the responsibility for the developer to obtain all required easements for your project to proceed. Failure to do so can delay the energization of your project.

#### **Developer** Responsibilities

- Developers must identify private landowners, communicate directly with them to obtain necessary easements, and provide the required information to the PM.
- CMP cannot acquire easement rights by eminent domain.
- Timely submission of easements is crucial for project timelines, and delays may impact the In-Service Dates (ISDs).



#### Mailing Address for Signed & Notarized Paper Easements

Please mail all easements to:

Central Maine Power ATTN: Doris Labranche 83 Edison Drive, 1<sup>st</sup> Floor Augusta, ME 04330

Also, please include the project number and name of your Project Manager.

#### CENTRAL MAINE POWER COMPANY - INFORMATION WORKSHEET

The information requested below will be used to prepare an Easement to CMP for new electric/communication service. All the information can be found on your deed.

\*\*\*\*\*\*\*\*\*\*PLEASE PRINT CLEARLY\*\*\*\*\*\*\*\*\*\*

RES	IDENTIAL PROPERTY OWNER	<u>IS – NOTIFI</u>	CATION #				
Сот	plete Numbers 1, 2, 3, 9, 10 and	11:	(11 digits required t	to process your docum	snt)		
1. Ye	our Name(s) as it appears on you	Deed					
A	\lex.		Joutor	v			
F	irst	Middle	Last				
F	irst	Middle	Last				
2. N	Mailing Address: 20 Elm Avenue		Augu	sta, ME 04330			
3. Т <u>сом</u>	state Zip Code						
Сот	plete Numbers 4 thru 11:						
4.							
F	<sup>7</sup> ull Name of Company, Corporat	ion, LLC, LP, E	state or Trust – as a	ppears on deed	_		
5. S	state in which Company. Corpora	tion, LLC, LP.	etc. was formed				
		,,,			_		
6. P	erson having signature authority:	Name	1	itle	-		
7. N	failing Address:				_		
			City/S	State/Zip Code			
8. 1	elephone Number				-		
<ul> <li>YOUR DEED INFORMATION:</li> <li>9. Full name of person(s) you bought property from - as appears on your deed: James B Smith &amp; Joan A Smith</li> </ul>							
10. E	Date your deed was recorded: Ap	ril 26, 1776					
11. 0	County your deed was recorded in	Kennebec	Book # 14430	Page # 239			
•••••		FOR CA	IP USE ONLY				
NOT W/O	TFICATION # 10300827672 # 801000563390	ron es	<u>II USE UNET</u>	<u>TYPE OF EASEME</u> Standard	NT:		
Road	CUSHMAN ROAD			Corporate			
Road	l Alias	_		Estate			
Town	n WINSLOW			Trustee			
Commencing Pole/Pad #(s) 84				Creater difference	-		
To include Pole/Pad #(5) ANCHOK ONL Y				Underground	H		
Description				Aerial	H		
Desc				Guving	M		
MAI	IL E-MAIL OR FAX TO:			Trim	Ħ		

Mailing Address: Avangrid/CMP ATTN: Doris Labranche 83 Edison Drive, 1st Floor Augusta, ME 04330



#### Permitting

**Permitting:** To ensure compliance with municipal and state regulations, a permit is required for any poles and/or underground equipment installed along a public way. It is imperative to notify your Project Manager (PM) promptly if you anticipate the need for a pole permit for your project. Central Maine Power Company (CMP) will submit the necessary documentation to obtain the required permits. CMP will attempt to facilitate the receipt of permits; however, the ultimate responsibility belongs to the Developer.

CMP will also engage in coordination with the local telephone company when incorporating fiber lines into the project. Developers are advised to reach out to the Department of Transportation (DOT) for driveway permits, which are crucial for obtaining pole permits. Please note that an existing driveway may require permitting for a change of use, particularly when indicating the installation of a solar array. In certain cases, widening of the driveway may also be necessary.

#### Dig Safe

**Dig Safe:** In compliance with the Maine Dig Safe Law, developers undertaking projects involving underground electric cable, solar, hydro, or wind generators are obligated to notify Dig Safe Systems, Inc., a vital step to ensure safety and prevent damage during excavation. As owners/operators of underground cables and conduits, developers must become members of Dig Safe.

Key considerations for Dig Safe membership include:

- A quarterly charge of \$75.
- A \$1.00 fee per ticket issued.
- Access to locating contractor services for cable marking within the state.

Developers should include the necessary contacts for locating contractor services in their application to ensure timely notifications. To become a Dig Safe member, visit <u>Dig Safe</u> <u>Membership</u> or contact Dig Safe Systems, Inc. at 811 or 888-DIG-SAFE (344-7233). For any inquiries or concerns about membership, feel free to speak with Bob Finelli or Amy Worden at Dig Safe Systems, Inc.

These measures are essential to ensure the safety, efficiency, and compliance of your project. CMP appreciates your diligence in adhering to these guidelines and encourages open communication with your PM for any additional assistance.



# **PRE-CONSTRUCTION REVIEW**

#### **Pre-Construction Review Guidelines**

In preparation for the commencement of construction activities, Central Maine Power Company (CMP) is committed to ensuring a thorough and collaborative pre-construction review. This process is essential for a comprehensive understanding of the Design Package and the Estimate at Completion (EAC) construction cost associated with your project.

**Review Components:** Before your project transitions into the construction phase, CMP will schedule a review meeting to discuss the following aspects:

- POI Sketch and Line Upgrade Sketch (if applicable).
- Bill of Materials (BOM).
- Major Equipment List.
- Current cost to date and an Estimate at Completion (EAC).

**Payment Requirement:** It is crucial to note that the balance between the fully paid Interconnection Agreement (IA) amount and the EAC construction estimate must be settled in full before construction activities commence. To streamline the payment process, an invoice detailing the remaining balance will be dispatched within 5-10 business days following the pre-construction review. We highly recommend prompt settlement of the EAC construction estimate upon receipt of the invoice. Timely payment is strongly encouraged to prevent any delays in the commencement of construction activities.

**Collaboration with Your Project Manager:** For any inquiries, questions, or concerns regarding the pre-construction review, payment requirements, or any other aspect of your project, please reach out directly to your assigned Project Manager. CMP is committed to providing support and addressing any concerns to ensure the smooth progression of your project.

Your cooperation in adhering to these pre-construction review guidelines is greatly appreciated. CMP looks forward to a successful collaboration, and we are here to support you throughout the construction phase.

- Before your project can move into construction, CMP will reach out to schedule a review meeting and discuss the Design Package and the Estimate at Completion (EAC) construction cost for your project. We will review and discuss.
- POI Sketch and Line Upgrade Sketch (If Appliable)
- Bill of Materials (BOM)
- Major Equipment List
- Current cost to date and an estimate at completion (EAC)

Your cooperation in adhering to the payment schedule ensures a smooth and uninterrupted transition into the construction phase. By settling the EAC construction estimate without delay, you contribute to the efficiency and timely execution of the project. Failure to settle the EAC construction estimate schedule could impede the commencement of your project and, subsequently, lead to potential delays in achieving the energization date.



# CONSTRUCTION

#### **Construction Guidelines**

As your project progresses into the construction phase, Central Maine Power Company (CMP) is committed to providing dedicated resources and support to ensure the successful implementation of your renewable energy generation endeavor. Please review the following guidelines to facilitate a smooth construction process:

**Construction Resource Assignment:** CMP will initiate the assignment of construction resources promptly upon the receipt of the final payment for your project.

**Utilization of Access Road:** CMP will utilize the designated access road within your project for construction purposes, ensuring efficient and safe progress.

**Construction Scope:** CMP's construction activities include the following:

- Pole sets
- Tree Trim (if applicable)
- Conductoring
- Metering (metering enclosure provided by the developer)

**Confirmation Steps with Project Manager:** Upon reaching specific construction milestones, please confirm with your Project Manager (SPOC) once you have completed the following:

- Hung the metering enclosure.
- Installed 120v conduit & 1PH breaker (Tariff Rate Metering Participants Only).
- Installed the POTS line (Tariff Rate Metering Participants Only) and fiber.
- Coiled conductor on your pole, ready to be connected to the CMP switch.
- Ensure that all conductor and tap wire are sufficiently sized for your project.

CMP Actions Upon Confirmation: Upon receiving your confirmation, CMP will:

- Drop 120v into conduit/breaker (Tariff Rate Metering Participants Only).
- Install and program the revenue meter.
- Pull your conductor over to connect to the CMP switch.

#### Tree Trim

**Tree Trim Considerations:** Typically, CMP will conduct tree trim around the Point of Interconnection (POI) location to stake and/or set utility poles. However, if the Developer plans to clear the entire project area, eliminating the need for CMP to complete tree trim, please communicate this to your Project Manager. <u>See Design Section for Tree Trim requirements.</u>

Project Managers may reach out to confirm your plans for tree trim, ensuring alignment with construction activities.

Your cooperation in adhering to these construction guidelines is greatly appreciated. For any inquiries, clarifications, or updates regarding your project's construction phase, please contact your assigned Project Manager.



#### ACCESS ROAD AND DEVELOPER MAINTENANCE RESPONSIBILITIES

#### Access Road and Developer Maintenance Responsibilities

As your project advances, we wish to highlight your critical role in maintaining the Access Road, ensuring it stays accessible round the clock. This obligation is especially vital during emergencies, storms, and maintenance with emphasis during the winter months involving Central Maine Power (CMP)

**Developer's Commitment:** The continuous accessibility of the Access Road is fundamental to the operational efficiency and safety of CMP equipment. Therefore, we trust in your commitment to fulfill this responsibility diligently.

Access to Premises: In alignment with our operational needs, CMP requires access to your premises for meter reading, inspection, repair, or property removal. The customer must facilitate safe access, maintaining a minimum 15 feet at equipment locations, year-round, and able to support a 34,000 lb. vehicle. If gated, customers must provide a lock-compatible device for our access.

**Access Road Specifications:** For the Access Road, ensure a minimum 15-foot width, keeping a 5-foot distance from the pole line for snow plowing, and a maximum 15-foot distance for bucket truck access.

#### METERING AND METER ENCLOSURE

#### **Metering and Meter Enclosure Guidelines**

As your project approaches the crucial phase of metering and energization, Central Maine Power Company (CMP) provides the following guidelines to ensure a smooth and efficient process:

**Meter Enclosure Readiness:** Ensure that the meter enclosure is prepared well in advance including the installation of an active phone line, (If needed) 4- weeks prior to Witnes Testing. Please refer to the Revenue Meter Mounting Requirement for specific details.

**Developer's Responsibility:** The developer is responsible for ordering and installing the metering cabinet in accordance with the specified milestones outlined in the 1-SCH B Transmission Distribution Interconnection Requirements, also known as the "Blue Book."

**Protection Systems - Generator Facility Acceptance:** Adherence to the Protection Systems, specifically Generator Facility Acceptance, is crucial. The following timelines must be observed:

- At least 90 days prior to the initial function test (commissioning).
- At least 14 days prior to Energization.

This includes specifications on hanging equipment and conduit, as outlined in the Commissioning Kick-Off Package.

**Meter Enclosure Components:** Ensure the installation of the following components within the meter enclosure:

- 1. Meter Enclosure (kWh and Tariff) Installation is encouraged early.
- 2. Plywood Backboard (kWh and Tariff).
- 3. CT/VT Cluster Cable Conduit (kWh and Tariff).
- 4. Telephone (POTS) Enclosure and Conduit (Tariff only).
- 5. Telco (POTS) Demark (Tariff only).



- 6. RJ11 Cable (Tariff only) Install between telephone (POTS) enclosure and meter enclosure.
- 7. Revenue Meter MV-90 Meter (Tariff Only) or AMI Meter (kWh Only).
- 8. Test Switches (kWh and Tariff).

#### Additional Expected Equipment:

- 1. Telco CES (Carrier Ethernet Service) equipment.
- 2. Encryption Device for CMP Ethernet SCADA connection.
- 3. RTU (Remote Terminal Unit) for CMP SCADA.
- 4. Test Switches for Developer Recloser Cabinet.

#### Meter Safety Guidelines: Ensuring a Secure Work Environment

As part of our commitment to safety and operational excellence, we would like to emphasize the importance of maintaining a secure work environment around meter enclosures. Specifically, we want to address the ground underneath the meter enclosure to ensure the safety of our Meter Technicians.

**Safety Requirement:** The ground beneath the meter enclosure must be flat and covered with crushed stone. This precautionary measure is implemented to create a stable and secure surface, enhancing the safety conditions for our Meter Technicians during routine maintenance, inspections, or any other necessary operations.

#### Rationale:

- 1. **Stability:** A flat surface provides stability, reducing the risk of slips, trips, or uneven footing during meter-related activities.
- 2. Safety of Technicians: Crushed stone covering acts as a protective layer, minimizing potential hazards, and ensuring a safer working environment for our Meter Technicians.



Your understanding and cooperation in implementing these safety measures are greatly appreciated. If you have any questions or require further clarification, feel free to contact our safety department or your assigned project representative.

For comprehensive details and specifications, please refer to pages 51-53 of the INTERCONNECTION REQUIREMENTS (cmpco.com) available on cmpco.com.

Your commitment to meeting these guidelines is essential for the successful metering and energization of your project. If you have any questions or require further clarification, please contact your Project Manager.



# 980-32.1.1 / POLE-MOUNTED OUTDOOR OVERALL METER ENCLOSURE MOUNTING





# PRIMARY METERED SOLAR PROJECTS – DEVELOPER CHECKLIST

☐ Minimum of 36" of safe, level working ground constructed of crush stone located at the CMP metering enclosure. A clearance of at least 72-inches +/- 2 inches shall be provided in front of all meters. <u>REMINDER: THESE SITES NEED TO REMAIN ACCESSIBLE 365 DAYS A YEAR</u> <u>AND SHALL BE BUILT WITH CONSIDERATION OF THE 4 SEASONS.</u>

□ All pole mounted meter enclosures shall be grounded to a ground rod at the base of the pole. if a ground rod is already in place for grounding other equipment on the pole, a connection shall be made to it. otherwise, a "**supplementary**" ground rod (5/8" x 8' min.) shall be installed for the metering equipment.

**#**4 AWG stranded copper ground wire attached to the outside bottom of the metering enclosure routed down the pole to a ground rod.

Approved metering cabinet shall be mounted on standoffs. The cabinet height shall be 72inches +/- 2 inches from top of cabinet to <u>finished grade</u>. <u>REFER TO THE HANDBOOK OF</u> <u>REQUIREMENTS, SUPPLEMENT FOR AN APPROVED EQUIPEMENT LIST.</u>

□ Install minimum <u>1 ¼" SCHEDULE 40 PVC CONDUIT RISER</u> from the metering enclosure to primary metering cluster. Install conduit clips as necessary according to the NEC (*NATIONAL ELECTRICAL CODE*). Top of 1 ¼" conduit shall have appropriate conduit couplings.

Control cable shall be routed down through conduit and left neatly inside the metering enclosure for the meter tech. (NO COIL/DRIP LOOP NEEDED AT THE TOP OF CONDUIT)

At minimum a  $4^{n}x4^{n}$  weather tight enclosure shall be mounted in close proximity to the metering cabinet. conduit connecting the weather tight box and the metering enclosure with *(FMC, RIGID, IMC)* 

 $\Box$  Phone line must be routed from the interface then terminated to an <u>**RJ11**</u> inside the 4"x 4" weather tight enclosure.

#### □ <u>PHONE LINE MUST BE ACTIVE</u>

Upon completion, please contact your Project Manager to schedule an inspection of the enclosure and all associated equipment before CMP proceeds with the meter installation.



Installation Visual Aid













Typical CMP Pole Mounted Meter Enclosure Installation





This photo shows the breaker box mounted on the pole behind the meter enclosure. Note that this GFCI breaker is not correct for CMP requirements. This breaker needs to be non-GFCI. The GFCI protection needs to be provided at the receptacle inside of the meter enclosure.

# INF Liquid Tight Connectors instead of Weather Heads

All DG solar projects require liquid tight connectors on the metering cluster conduit the developers are to supply, and not on the weather-head.





Not allowed

Central Maine Power Company / Projects / 83 Edison Drive, Augusta, ME 04330



#### PROJECT COMMUNICATIONS SCHEME/SCADA

#### **Project Communications Scheme / Scada GUIDELINES**

In the dynamic landscape of project communications and SCADA implementation, Central Maine Power Company (CMP) aims to provide clear guidance for efficient coordination. Please take note of the following key points:

#### When is SCADA Needed?

- Any Distributed Generation (DG) project with a capacity of 1 MW AC or greater is required to implement SCADA.
- Refer to <u>INTERCONNECTION REQUIREMENTS (cmpco.com</u>) (pages 62-64) for detailed information.

#### SCADA Communications Services:

• Please contact your local TELCO provider and your third-party integrator for your SCADA communication support needs.

#### Temporary Power for SCADA:

- CMP will provide an on-site commissioning package once the Developer is on-site.
- Developers are required to provide EPC project manager contact information.
- Ensure constant power availability for SCADA testing, either through CMP or Developerprovided solutions.
- For Temporary Service Structure, sizing for 100 amps or more is recommended, with configurations by a master electrician and necessary State Permits.

#### One Month Prior to ISD (In-Service Date):

- SCADA should be programmed and ready before witness testing, utilizing Developer permanent power. If needed, CMP can leave the site grid-tied and not exporting energy during commissioning.
- CMP Net Energy Billing (NEB)
  - Net Energy Billing CMP (cmpco.com)
- Maine PUC Net Energy Billing (NEB)
  - <u>Net Energy Billing | MPUC (maine.gov)</u>

For further assistance or inquiries, please contact your assigned Project Manager at CMP.

#### **TESTING & COMMISSIONING KICKOFF PACKAGE**

#### **Testing & Commissioning Kickoff Package Guidelines**

As your project advances towards the testing and commissioning phase, please adhere to the following guidelines to ensure a successful Testing & Commissioning Kickoff:

**Upon Developer's On-Site Presence:** When the developer is on-site, kindly initiate the following actions:

- Provide the commissioning package to your Project Manager.
- Request CMP site superintendent information for efficient coordination.

**IFC Drawing Set Submission:** In accordance with section III.L. of the <u>Interconnection - CMP</u> (<u>cmpco.com</u>) commonly referred to as "The Blue Book," the developer must submit the IFC (Issued for Construction) drawing set at least ninety (90) business days before CMP witness testing.



**SCADA Point Listing & RTU Configuration Data:** CMP is committed to providing the necessary support for your project's testing phase. To facilitate this, the developer must provide the IFC drawing set, at least forty-five (45) business days before witness testing, CMP must furnish the Developer with the SCADA (Supervisory Control and Data Acquisition) point listing and RTU (Remote Terminal Unit) configuration data, along with the associated schedule requirements.

**Letter of Completion (LoC) Submission Guidelines** The developer is required to submit its Letter of Completion, accompanied by all relevant documentation, including the as-built electrical drawing set, at least fourteen (14) business days before CMP witness testing.

**Certificate of Completion (CoC) Submission Guidelines:** Timely submissions for the Certificate of Completion (CoC) will help insure your project progresses as expected.

#### **TESTING & COMMISSIONING REQUIREMENTS**

#### **Testing & Commissioning Requirements: Essential Documentation**

As your project progresses towards mechanical completion, Central Maine Power Company (CMP) emphasizes the importance of timely submission of specific documents, particularly the Letter of Completion (LoC), to facilitate the Testing and Commissioning (T&C) phase effectively. The required documents include:

- ALL Commissioning Documents:
  - Comprehensive documentation related to the commissioning process.
- Signed Letter of Completion (LoC):
  - A formal acknowledgment of the successful completion of the project's commissioning phase.
- Maine State Inspector Signed Certificate of Completion (CoC):
  - The Certificate of Completion signed by the Maine State Inspector, affirming the successful completion of the project.

**Scheduling Logic:** The DG utility Project Management team at CMP utilizes an advanced scheduling tool to streamline the Testing and Commissioning (T&C) phase. This tool enables us to level load our resources efficiently, ensuring the secure allocation of dates for your project.

**Submission Timeline:** It is critical to ensure the timely submission of the aforementioned documents post-mechanical completion. This proactive approach not only expedites the T&C process but also aids in securing your scheduled dates.

Your commitment to complying with these requirements and timelines is integral to the overall success of the Testing and Commissioning phase. If you have any questions or require further clarification, please do not hesitate to contact your Project Manager.

**Documentation Timeline for Energization:** As we approach the critical phase of energizing your project, it is imperative to emphasize the importance of adhering to the documentation timeline. The In-Service Date (ISD) is contingent on the timely receipt of all Letter of Completion (LoC) documents. The ISD is calculated based on the Site Mechanical Completion (MC) date plus four (4) weeks. Below is the breakdown of the timeline to achieve ISD:

- 1. Site Completion (MC): All documentation is due at this stage.
- 2. Site Walkthrough: MC plus two (2) weeks.
- 3. Witness Testing (WT): MC plus three (3) weeks.
- 4. Energization: MC plus four (4) weeks



**Impact of Document Submission:** Failure to provide the required documents on the specified due dates will have repercussions on the ISD. The new ISD will be determined upon receipt of all documentation and the first available date. It's important to note that this is not a day-to-day shift; rather, it is contingent on when all necessary documents are received.

**Exceptional Cases:** In situations where an exception is granted, developers are advised to communicate promptly with their assigned Project Manager to discuss any potential impacts on project timelines.

These steps are crucial to maintaining the timeline and efficiency of the testing and commissioning phase. Your cooperation and adherence to the stipulated timelines are greatly appreciated. If you have any questions or require further clarification, please do not hesitate to contact your Project Manager.

Your cooperation in adhering to these submission guidelines is crucial for maintaining project timelines and ensuring a smooth and successful project conclusion. If you have any questions or require further clarification, please reach out to your Project Manager.

#### WITNESS TESTING

#### Witness Testing Guidelines for Distributed Generation Projects

Central Maine Power Company (CMP) is committed to a meticulous and systematic approach to Witness Testing for the successful commissioning of your Distributed Generation (DG) project. Please adhere to the following guidelines:

#### **Testing Schedule:**

• As per MPUC 324 12.U., a Witness Test will be scheduled within fifteen (15) business days from the submittal of the Letter of Completion to CMP.

#### **Pre-Energization Witness Test:**

- Prior to energization and after commissioning, a certified representative will conduct a Witness Test, typically a Testing & Commissioning Engineer.
- Developers are required to furnish all equipment specifications to ensure each component and the system performs as designed.

#### Prioritizing Safety:

• Our primary concern is the safety of all involved parties during witness tests. Should severe weather conditions pose a risk, we prioritize safety above all else and will not proceed if it could potentially put anyone in harm's way.

#### **Rescheduling Procedure:**

 Depending on the severity of the weather conditions, the witness test will be rescheduled to the next available slot. We are committed to doing everything within our means to complete the scheduled witness test promptly.

#### **Communication Protocol:**



• If inclement weather is anticipated, we will proactively communicate any potential delays or rescheduling to ensure you are well-informed. Our goal is to maintain transparency and collaboration throughout this process.

We appreciate your flexibility and understanding in situations beyond our control. By working together, we can navigate unexpected challenges while prioritizing the safety and well-being of all parties involved.

#### DEVELOPER OWNED GANG OPERATED AIR BRAKE (GOAB) LOCKOUT PROCESS:

#### Developer Gang Operated Air Brake (GOAB) Lockout Process:

To ensure the safe and controlled execution of Witness Testing (WT) and Energization (ISD), please be aware of our lock-out process for the developer's Gang Operated Air Brake (GOAB). This process is implemented under specific scenarios outlined below:

- 1. Witness Test (Fail Scenario): In case of a Witness Test only, if the WT fails, the post-test lock-out procedure for the developer's GOAB is as follows:
  - a. The developer's GOAB will be locked out in the open position with CMP locks, preventing it from closing until the next scheduled event Witness Test.
- 2. Witness Test (Pass Scenario): If the Witness Test passes successfully, the developer's GOAB position and subsequent steps are as follows:
  - a. The GOAB will remain closed.
  - b. CMP's testing and commissioning team will implement an Export Power Trip, allowing the developer to generate up to 20KW for fine-tuning inverters and programs.
  - c. Once fine-tuning is completed, the developer is permitted to open the private GOAB switch until the day of ISD.
- 3. Objective of the Lock-out Process: The primary objective of this lock-out process is to ensure the safety and integrity of the testing and energization procedures. It provides a controlled environment for addressing any identified issues during the witness test before proceeding to energization.

**Communication Protocol:** Our team will communicate clearly and promptly regarding the lockout status and any actions required on your part. Your cooperation and adherence to this process are essential for the successful and safe execution of witness tests and energization.

Should you have any questions or concerns about the lock-out process, please do not hesitate to contact your assigned Project Manager.

#### SCADA Communications Establishment:

• Establish SCADA communications with CMP before the site is energized.

#### Commissioning Process:



• Perform a comprehensive commissioning of the electrical system before proceeding with site energization.

#### Verification of CMP SCADA Values:

• Verify CMP SCADA values while the site is energized.

#### **Emergency Contact Information:**

 Developers must provide a dedicated 24/7 emergency contact person responsible for each site before energization. Please promptly share this contact information with your assigned Project Manager.

By diligently following these guidelines, we aim to streamline the commissioning process and ensure the optimal performance of your DG project. Your cooperation in providing accurate and timely information is crucial for the success of the Witness Testing phase.

For any further clarification or to address specific concerns, please reach out to your Project Manager at CMP.

#### **Testing & Commissioning Contact:**

- Email: <u>adam.belcher@cmpco.com</u> or call 207-944-6503
- Or email: <u>LD DGTesting&Commissioning@cmpco.com</u>

#### ENERGIZATION

**Witness Test Completion:** Upon successful completion of the Witness Test, which includes the verification of fully functioning protective and communication equipment, the project will proceed to the next phase.

**Certificate of Completion (COC) Signing:** The Certificate of Completion (COC) is a crucial document that signifies the completion of the DG project and its readiness for energization. You can find a copy of the COC in the Commissioning Kick-off Package provided earlier.

**Signing and Execution:** Once all parties involved have signed the COC, with CMP being the last to sign, the document is considered fully executed.

**Project Energization:** With the COC fully signed and executed, the DG project is officially approved for energization.

**Freedom to Operate:** Following energization, the project is granted the freedom to operate without restrictions.

Please ensure that all signatures on the COC are secured promptly to avoid any delays in the energization process.

If you have any questions or require further clarification, feel free to reach out to your assigned Project Manager at CMP.



# **NET ENERGY BILLING (NEB)**

**New projects nearing completion:** The initial application of Bill Credits under your Net Energy Billing Agreement may require two Billing Periods to implement. In order to facilitate billing under your Agreement, please send your subscriber list to the CMP Power Contracts Administration team at least 2 months prior to commercial Operations. PPAAdmin@cmpco.com

After achieving the fully executed Certificate of Completion (COC) for your Distributed Generation (DG) project, the Net Energy Billing (NEB) enrollment process will commence:

**Certificate of Completion (COC) Submission:** After obtaining all necessary signatures on the COC, please promptly submit the fully executed COC to your assigned Project Manager at CMP.

**COC Review and Processing:** Upon receiving the COC, your Project Manager will initiate the process by forwarding the document to the CMP Power Purchase Agreement (PPA) Administration team for review and processing.

**NEB Subscriber Metering Accounts Assignment:** The PPA Administration team will assign Net Energy Billing (NEB) subscriber metering accounts to your project's meter account. This is a crucial step to facilitate accurate tracking and crediting of the energy produced by your DG project.

**Notification of NEB Enrollment:** Upon successful assignment of NEB subscriber metering accounts, you will be notified by the PPA Administration team. This notification will include relevant details about your NEB enrollment.

**Commencement of Net Energy Billing:** With NEB enrollment completed, your DG project will commence Net Energy Billing, allowing you to benefit from the credits associated with the energy your project contributes to the grid.

If you have any inquiries or require further assistance during this process, please do not hesitate to reach out to your Project Manager or the CMP <u>PPAAdmin@cmpco.com</u> team.



# **NOTES:**



# **REVISION HISTORY**

Rev#	Date	Short Description	Initial
0	June 2021	Original Version	
1	August 2021	REV 1.0	EW/ES
2	March 2022	REV 2.0	MW
3	August 2022	REV 3.0	MW
4	March 2024	REV 4.0	DB

Rev#	Date	Description	Page
3	August 2022	Changed amount of CIP fine	Pg.7
3	August 2022	Removed "submit copy of 1360" from checklist	Pg.8
3	August 2022	Removed project transfer sheet (discontinued)	Pg.12
3	August 2022	Final Payment change (EAC due before construction)	Pg.14,20
3	August 2022	Access Road distance from pole changed	Pg.16
3	August 2022	Dig safe instructions added	Pg.19
4	March 2024	General Updates and reconfiguration	All Pages