

**Attachment A**  
**Distributed Energy Resource Planning Proposal And Request for Comments**

I. DEFINITIONS

The definitions set forth below in Section I apply only to Attachment A, Distributed Energy Resource Planning Proposal (“Straw Proposal”) and are intended to assist the reader in understanding the Straw Proposal.

- Administrative Fee refers to any fee the Interconnecting Customer is responsible for according to the DG Interconnection Tariff and Department Orders, such as interconnection application fees and those fees associated with the pre-application process, which are separate and apart from assessed costs and related fees associated with System Modifications required to interconnect a Facility.
- Capital Investment Project refers to a project proposed for cost recovery by a Distribution Company under the proposed distribution system planning process for the assessment of the interconnection and integration of DG, as described further below in Section II.
- Capital Investment Project Fee refers to a fee that would be assessed by a Distribution Company to an Interconnecting Customer associated with its Facility’s pro-rata share of the costs of a Capital Investment Project, which has been approved by the Department and of which the Interconnecting Customer’s Facility is a direct beneficiary, as described further in Section II.B.
- Common System Modification refers to changes made to a Distribution Company’s EPS that benefit more than one interconnecting Facility or distribution customers at large, as described further below in Section III.

D.P.U. 20-75, Att. A

- Common System Modification Fee refers to a fee that would be paid by all Interconnecting Customers, but which may be structured differently for different types of Facilities (e.g., Facilities subject to the simplified process versus those subject to the expedited or standard process), to offset the costs of System Modifications benefitting more than one interconnecting Facility or distribution customers at large, as described further below in Section III. A Common System Modification Fee would not be applied in situations involving System Modifications that benefit just one interconnecting Facility.
- DG shall mean distributed generation, and specifically refers to any type of Facility that must submit an application under a Distribution Company's DG Interconnection Tariff, regardless of whether it actually generates electricity (e.g., energy storage systems).
- DG Interconnection Tariff refers to the Standards for Interconnection of Distributed Generation tariff in effect for each Distribution Company.
- Facility shall mean a source of electricity owned and/or operated by the Interconnecting Customer that is located on the Customer's side of the Point of Common Coupling, and all facilities ancillary and appurtenant thereto, including interconnecting equipment, which the Interconnecting Customer requests to interconnect to a Distribution Company's electric power system.
- Interconnecting Customer refers to the person or entity that owns and/or operates the Facility interconnected to a Distribution Company's electric power system with legal

D.P.U. 20-75, Att. A

authority to enter into agreements regarding the construction or operation of the Facility.

- Reconciling Charge refers to the non-bypassable volumetric dollar-per-kilowatt-hour (“kWh”) charge assessed to all ratepayers to cover the costs of a Distribution Company’s Capital Investment Projects that are pre-approved by the Department, and which is offset by the collection of Capital Investment Project Fees from Interconnecting Customers, as described further below in Section II.B.
- System Modification refers to modifications or additions to the Distribution Company’s electric power system in order to interconnect an Interconnecting Customer’s Facility.
- The following terms are used interchangeably in this Straw Proposal:
  - (a) customer and ratepayer;
  - (b) distribution system and electric power system; and
  - (c) modification and upgrade.

## II. DISTRIBUTED ENERGY RESOURCE PLANNING REQUIREMENTS<sup>1</sup>

### A. Introduction

The electric utility sector plays a vital role in the management of greenhouse gas emissions in support of the Commonwealth’s climate policy objectives. In addition,

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<sup>1</sup> For purposes of this Straw Proposal our working definition of a distributed energy resource is a resource that: (1) is directly connected to the distribution system, or indirectly connected to the distribution system behind a customer’s meter; and (2) generates energy, stores energy, or controls load. Under this definition, distributed energy resources include distributed generation (e.g., solar panels), energy storage systems, electric vehicles, and controllable loads (e.g., heating, ventilation, and air conditioning systems and electric water heaters).

D.P.U. 20-75, Att. A

especially in consideration of climate conditions, the Distribution Companies must guarantee the resilience and sustainability of their electric power systems to ensure their operation of safe and reliable facilities in the delivery of electric service to customers.

Distributed energy resources have the ability to change the dynamics and expected behavior of both customer and the Distribution Company's electric power system by changing power flows and modifying net demand and loading of network equipment. Also, in particular, the Distribution Companies play a critical role in the interconnection of Facilities in the advancement of the Commonwealth's energy policy in support of renewable energy. These factors advance the need for the Distribution Companies to conduct a system planning analysis to achieve the Commonwealth's clean energy and climate policy objectives (Atts. B-1, Att. at 4; B-2 at 2; B-3 at 5, 11; B-4 at 3; B-5 at 9; B-6 at 1). The analysis would be intended to identify distribution system infrastructure investments needed to meet the Commonwealth's policy objectives and, in particular, the interconnection of Facilities (Atts. B-3 at 14; B-4, App. A at 3).

Therefore, the Department proposes that Distribution Companies perform distribution system planning for the assessment of the interconnection and integration of Facilities as follows. On an annual basis, each Distribution Company will conduct a rolling ten-year assessment of its distribution system (Att. B-3 at 14). As a baseline, the assessment will identify system upgrades to accommodate forecast load growth and Facility interconnection (Atts. B-3 at 13; B-4 at 6). The assessment will identify parallel upgrades that may be installed or expanded as part of a cost-effective solution that enables the interconnection of additional capacity beyond currently proposed Facilities (Atts. B-3 at 14; B-4 at 6). The

D.P.U. 20-75, Att. A

Department will establish planning criteria, informed by stakeholders, for the distribution system assessment.

For purposes of the Straw Proposal, the distributed energy resource planning requirements apply only to Facilities subject to the DG Interconnection Tariff (including energy storage systems) and not to other distributed energy resources. However, the Department expects that the process could be expanded in the future to include consideration of other distributed energy resources.

B. Capital Investment Project Selection

The distribution system planning and assessment process will identify system infrastructure projects<sup>2</sup> that might qualify for special ratemaking treatment with cost recovery through a Reconciling Charge.<sup>3</sup> Capital Investment Projects proposed by a Distribution Company would be eligible for consideration of cost recovery through a Reconciling Charge and Capital Investment Project Fees (Atts. B-3, App. 1 at 15; B-4 at 11). Projects maybe identified either through the distribution system planning process described above, or through Facility interconnection studies. All projects would need to obtain Department pre-approval for cost recovery before commencing.

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<sup>2</sup> Capital Investment Projects may include but are not necessarily limited to: (1) substation transformer replacements; (2) reconductoring of distribution feeders; (3) distribution protection measures; and (4) transmission related upgrades triggered by resources interconnecting to the distribution system.

<sup>3</sup> The review and approval of Capital Investment Projects would be a separate filing from the annual reconciliation filing and review and approval would be determined on some other timeline. See IV.1.d(i).

D.P.U. 20-75, Att. A

C. Cost Assignment and Recovery

As part of the pre-approval process for the Reconciling Charge, a Distribution Company would identify the cost of and kilowatt (“kW”) capacity enabled by proposed Capital Investment Projects. Based on this information, the Department would then establish a dollar-per-kW Capital Investment Project Fee<sup>4</sup> for the Distribution Company to allocate to each Facility that subsequently benefits from the Capital Investment Project (Att. B-5 at 19). The enabled capacity costs would be initially funded by the Distribution Company with subsequent cost recovery from all customers through a Reconciling Charge, described below (Att. B-3, App. 1 at 15). For a period of ten years from pre-approval, the Capital Investment Project Fees assessed to Facilities enabled by Department approved Capital Investment Projects will be credited to the Reconciling Charge to reduce (or possibly offset entirely) the costs borne by ratepayers at large (Atts. B-3 at 20; B-4 at 4).<sup>5</sup> The costs eligible for special rate treatment include those associated with the Capital Investment Projects, and do not include Facility-specific interconnection costs or Administrative Fees.

Structure of Proposed Reconciling Charge

1. Non-bypassable volumetric Reconciling Charge, allocated to rate classes by revenue allocator

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<sup>4</sup> The Capital Investment Project Fee shall not be applied to Facilities that interconnect through the Simplified Process.

<sup>5</sup> The Capital Investment Project Fee would be designed such that if the full amount of capacity enabled by the Capital Investment Project were used by DG Facilities interconnecting within the ten-year period, ratepayers would see a net zero cost over the ten-year period. However, there remains a risk that the capacity would not be fully subscribed over the ten-year period, which would result in some portion of the Capital Investment Project being socialized.

D.P.U. 20-75, Att. A

2. Included as part of distribution charge<sup>6</sup>
3. Revenue Requirement – depreciation, property tax, allowance for funds used during construction, and return associated with the system upgrade capital investment
4. A carrying charge will be assessed on any over- or under-collection in the annual reconciliation calculated on the average monthly balance using the prime rate as reported in the Wall Street Journal
5. The Distribution Company may only recover costs once it has demonstrated the pre-approved investment have been made.
6. Annual Rate Cap
  - i. The annual change in the cumulative Revenue Requirement may not exceed (i) 1.5 percent of the Distribution Company’s total revenue recorded during the calendar year or (ii) a greater amount determined by the Department.
  - ii. Revenue for externally supplied customers will be adjusted by imputing the Distribution Company’s basic service charges.
  - iii. Total revenue shall include amounts that the Distribution Company has billed customers through applicable charges for distribution service, transmission service, transition charges, energy efficiency, basic service, and any and all related adjustment factors.
  - iv. To the extent that the annual change in the cumulative Revenue Requirement exceeds 1.5 percent of total revenue or a greater amount determined by the Department, the difference shall be deferred with interest calculated at the prime rate as reported in the Wall Street

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<sup>6</sup> The charge for the transportation of power from the transmission substation across distribution lines to the retail customer's meter. *See TIR 98-16: Sales and Use Tax Implications of Electric Utility Restructuring*, <https://www.mass.gov/technical-information-release/tir-98-16-sales-and-use-tax-implications-of-electric-utility> (last visited Sept. 28, 2020).

D.P.U. 20-75, Att. A

Journal and included in the Reconciling Charge for recovery in subsequent years subject to the Annual Rate Cap in that year.

### III. COMMON SYSTEM MODIFICATION FEES

#### A. Introduction

While the Department believes the Capital Investment Project Fee coupled with the existing cost allocation structures, including cost causation and Group Study, is sufficient to address assignment and recovery of costs for the interconnection of DG, the Department is willing to consider whether an additional fee may be beneficial to address any common system modifications that are not covered by Capital Investment Projects (Atts. B-2 at 2; B-3, App. 1 at 7, 10; B-4 at 11). Similar to the system planning process described above, any modification to this process through the imposition of additional fees must strike a balance between establishing clear price signals to drive efficient investment while providing reasonable certainty around interconnection costs to allow for effective project development and financing. The Department is not putting forth a specific proposal at this time, in order to receive the benefit of a certain amount of experience with recent changes to the interconnection fee structure.<sup>7</sup> Nevertheless, we find it timely to explore certain modifications to the interconnection cost assignment and recovery methodology with the

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<sup>7</sup> Recent changes include the adoption of a Group Study provision within the DG Interconnection Tariff that allows for cost sharing among groups of interconnecting facilities, the adoption of pre-application report fees, changes to payment timelines, and the clarification of cost treatment for affected system operator studies and related transmission system modification costs. Order on the Management of High-Volume Queues, D.P.U. 19-55-D, at 16-18 (September 16, 2020); Order on Affected System Operator Studies, D.P.U. 19-55-C, at 34 (August 5, 2020); Revisions to Section 3.4.1 of the Standards For Interconnection of Distributed Generation Tariff, D.P.U. 17-164, at 1 (April 8, 2020).

D.P.U. 20-75, Att. A

expectation that further changes, including the establishment of Common System Modification Fees, may be warranted.

There is general agreement in the various cost allocation proposals submitted to the Department that there are certain costs incurred by Interconnecting Customers that solely benefit the interconnecting Facility (Atts. B-2 at 7; B-3 at 16; B-4 at 8; B-5 at 14).

Stakeholders agreed that the Interconnecting Customer is responsible for all such costs, and they do not propose changes to this cost assignment and recovery (DG Interconnection Tariff, §§ 5.1 – 5.6; DG Interconnection Tariff, § 3.10 -- Tables 1-6) (Atts. B-2 at 7; B-3 at 16; B-4 at 8; B-5 at 14). However, stakeholders identified various types of upgrades that may have multiple beneficiaries (Atts. B-4 at 8; B -5 at 14-15, 20). The Department is specifically interested in exploring whether there are different fee structures that may better facilitate the timely construction of these types of upgrades compared to the current structure. For the purposes of this discussion, distribution system upgrades that benefit more than one interconnecting Facility or customers at large shall include: (1) substation transformer replacements; (2) reconductoring of distribution feeders; (3) distribution protection measures; and (4) transmission related upgrades triggered by resources interconnecting to the distribution system.<sup>8</sup> As discussed in detail below, the Department seeks comment on

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<sup>8</sup> Other interconnection related costs would be borne by the Interconnecting Customer(s) separately. These include: (1) Administrative Fees; (2) costs associated with the installation and construction of the Facility; and (3) specific equipment the customer(s) requires to interconnect to the Distribution Company's system. Examples of specific upgrades and equipment the customer may require to interconnect to the Distribution Company's system include: (1) on-site distribution work (e.g., poles conductor, metering, reclosers, switches, etc.); (2) wires that exclusively serve the interconnecting Facility; (3) direct transfer trips; and (4) any other required upgrades

D.P.U. 20-75, Att. A

possible structures for Common System Modification Fees and whether and how they would interact with the Capital Investment Project Fee described above.

B. Simplified Process Facilities

Several stakeholder proposals contemplate System Modification fees for Facilities subject to the simplified process under the DG Interconnection Tariff (Atts. B-2 at 2; B-3, App. 1 at 7, 10; B-4 at 11-15). Historically such Facilities have not been required to pay for System Modification costs beyond rare instances where significant upgrades are triggered (e.g., transformer upgrade, 3V0 upgrades, etc.); however, the Department is aware of an increasing number of these instances that have added significant costs and/or interconnection timing delays for these types of Facilities. Establishing a Common System Modification Fee could be a method to offset the costs of System Modifications that these Facilities may trigger, such as transformer upgrades, 3V0 upgrades at substations, or potentially even more significant upgrades that these facilities collectively contribute to the need for, but are more commonly triggered when Facilities interconnect via the expedited or standard process. An upfront fee also would provide greater predictability to interconnection costs and timing for such Facilities, which may no longer be subject to unanticipated upgrade costs. Lastly, establishing such a fee would send a clear price signal that even small Facilities impose operational costs on the distribution system, particularly given the high level of penetration of DG in the Commonwealth. While the Department does not propose a specific fee amount at this time, we note that the fee could be set in such a way to provide cost certainty to

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not specifically covered by the Capital Investment Project Fee (Atts. B-4 at 8; B-5 at 14).

D.P.U. 20-75, Att. A

Interconnecting Customers (e.g., as a fixed \$/kW charge or a flat fee) and seek comments below on this topic.

C. Expedited and Standard Process Facilities

Stakeholder proposals largely focused on alternative cost assignment and recovery methods for Facilities subject to the expedited and standard processes under the DG Interconnection Tariff (Atts. B-1, Att. at 9; B-3 at 21; B-4 at 3; B-5 at 5). These Facilities are currently required to bear the full costs of upgrades necessary to interconnect to the electric power system, without limitation.<sup>9</sup> As the penetration of DG Facilities on the Distribution Companies' electric power systems has increased, the scale and scope of the upgrades required to interconnect have increased. In these instances, the cost to interconnect may become prohibitive for an individual Facility, or a group of Facilities, thereby stalling the deployment of DG across the Commonwealth.

Possible fee structures for Common System Modification Fees that may be assessed to expedited and standard Facilities vary.<sup>10</sup> On the one hand, a minimum interconnection fee could be considered. A minimum fee, that would be paid regardless of whether a Facility triggered a common upgrade, could be used to help fund significant upgrades in the future and may be appropriate given the aggregate impact DG may have on the electric power

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<sup>9</sup> Facilities participating in Group Study have the costs of common system modifications allocated across Facilities on a pro rata basis. D.P.U. 17-164 at 6.

<sup>10</sup> Examples of the types of upgrades that a Common System Modification Fee for Facilities using the Expedited or Standard Process may help cover the costs of include (1) substation transformer replacements; (2) reconductoring of distribution feeders; (3) distribution protection measures; and (4) transmission related upgrades triggered by resources interconnecting to the distribution system (Att. B-5 at 20).

D.P.U. 20-75, Att. A

system. However, such a fee may unnecessarily increase costs for Facilities that are already fully responsible for any costs to interconnect. On the other hand, a fixed interconnection fee could be established. Interconnecting Customers would pay a fixed dollar-per-kW fee, regardless of the cost of upgrades required to interconnect, while the balance of costs would be socialized across all ratepayers. A fixed fee would provide cost certainty to Interconnecting Customers but would likely not provide an effective cost signal regarding the location and need for the investment. Furthermore, depending on how the fee is set, establishing such a fee could impose significant costs on ratepayers as a fixed fee assessed to Interconnecting Customers may not cover all of the costs associated with required Common System Modifications, necessitating their recovery through some other means, such as the Reconciling Charge.

Another variation could be use of a cost ceiling that could maintain some cost signal while also improving cost certainty. Similar to a fixed fee, a cost ceiling could impose significant costs on ratepayers if the ceiling were set too low. Finally, even among these different approaches a variety of modifications could be considered, such as weighting fees based on export capacity (Att. B-2 at 5).

#### IV. SOLICITATION OF COMMENTS

The Department seeks written comments on the above proposal guided by the questions below no later than **5:00 p.m. on December 17, 2020**. The Department seeks written reply comments no later than **5:00 p.m. on January 14, 2021**. When providing comments, please clearly identify which question(s) is/are being answered. Comments may be provided on any or all of the questions below.

D.P.U. 20-75, Att. A

**(1) Refer to Section II, Distributed Energy Resource Planning Requirements. Please discuss the effectiveness of this proposal, specifically:**

- a. The Department has identified the following list as solutions that address potential system needs. If you disagree with any solution included on this list, please explain why. Please identify and explain any additional solutions.
  - i. Technologies for Voltage Control on the Distribution System
  - ii. Distribution Bulk Transformer Addition or Replacement
  - iii. New Bulk Station
- b. Should transmission studies and costs be included in proactive system planning as it relates to interconnection? Explain your reasoning.
- c. Should the distribution system assessment identify projects that provide broader benefits beyond enabling incremental DG capacity? If so, explain:
  - i. what benefits should be considered,
  - ii. how these benefits should be quantified, and
  - iii. the appropriate method for cost assignment and recovery.
- d. Should there be a cap on the dollar-per-kW billed to each Facility that benefits from the Capital Investment Project? If so, please explain how the cap should be determined.
- e. Requests to the Distribution Companies
  - i. Please propose an optimal format for the 10-year distribution assessment. Including all substantive information points that should be contained in the assessment. Please include a proposal on the frequency with which such assessments should be conducted.
  - ii. Please indicate the length of time required to update hosting capacity maps to reflect additional capacity built into the system after planned projects have been approved by the Department.
  - iii. For illustrative purposes, please provide an estimated annual cap on the Reconciling Fee for the last five calendar years based on the description above.

D.P.U. 20-75, Att. A

**(2) Refer to Section III, Common System Modification Fees. Please discuss the effectiveness of this proposal, specifically:**

- a. Simplified Facilities
  - i. Is a Common System Modification Fee appropriate for Facilities using the simplified interconnection process? If so, provide a proposed method for establishing such a fee.
  - ii. What types of upgrades should be funded by a Common System Modification fee for Facilities using the simplified interconnection process?
  - iii. How would such a fee interact with the system planning process described in Section II? Should fees collected from Facilities using the simplified interconnection process be used to offset the costs of Capital Investment Projects approved through the proposed distribution system planning process?
- b. Expedited and Standard Facilities
  - i. Is a **minimum** Common System Modification Fee appropriate? If so,
    1. Provide a proposed method for determining such a fee.
    2. Explain why the proposed fee levels are appropriate considering the level of investment required to support the types of investments the fee is intended to cover.
    3. Explain how proposed fee establishes clear price signals, provides cost certainty, and limits ratepayer costs.
    4. Explain how such a fee would interact with the distribution system planning process described in Section II.
  - ii. Is a **fixed** Common System Modification Fee appropriate? If so,
    1. Provide a proposed method for establishing such a fee.
    2. Explain how the proposed fee levels are appropriate considering the level of investment required to support the types of investments the fee is intended to cover.
    3. Explain how proposed fee establishes clear cost signals, provides cost certainty, and limits ratepayer costs.
  - iii. Explain how such a fee would interact with the distribution system planning process described in Section II.

D.P.U. 20-75, Att. A

1. As part of your explanation indicate whether a maximum price for Common System Modification Fees is appropriate.
  2. If a maximum price is appropriate, explain how such a cap would be determined.
- iv. Should Common System Modification Fees be based on nameplate capacity and/or export capacity?
1. If you propose that the fees be based on a combination of the two, please clarify how they should be weighted.
- v. Since it is unlikely a Common System Modification Fee would cover all necessary upgrades:
1. Provide a proposed method for how to determine which upgrades would be covered by the funds collected.
  2. Explain if such upgrades covered by the Common System Modification Fees would be subject to Department approval.
- a. Requests to Distribution Companies
- i. For each of the last ten years, provide estimates of the following:
    1. The minimum, maximum, median, and average system modification cost for Facilities using the simplified interconnection process. Please also provide the total number and capacity of Facilities using the simplified interconnection process that have applied by year and the cumulative total system modification costs charged to Facilities in each year.
    2. The minimum, maximum, median, and average system modification cost for Facilities using the expedited and standard interconnection processes. Please also provide the total number and capacity of Facilities using the expedited and standard interconnection process that have applied by year and the cumulative total system modification costs charged to Facilities in each year.
  - ii. To date, how much money have the Distribution Companies collected through the imposition of interconnection application fees, study costs, and interconnection related construction costs? Please organize this information by year going back to 2011 as well as by Facility type (i.e., Simplified, Expedited, Standard).

D.P.U. 20-75, Att. A

**(3) Refer to Vote and Order, Section III, Proposals For Implementation in the Short Term. Please discuss the effectiveness of these proposals, specifically:**

- a. Attorney General's Power Control Limiting Program (Att. B-1, Att.)
  - i. Would eligibility for the Program be for (a) new Interconnecting Customers or (b) new and existing Interconnecting Customers?
  - ii. Identify equipment and software necessary for implementation of the Program and which equipment and software would be installed (a) at the Interconnecting Customer and (b) at the Distribution Company.
  - iii. Identify any amendments or attachments to the ISA that would be necessary to implement the Program.
  - iv. Request to the Distribution Companies
    - a. Does the Company currently have the ability to implement the Program? If no, please explain what would be required to successfully implement this Program.
- b. Attorney General's Dynamic Curtailment Program (Att. B-1, Att.)
  - i. Based on your understanding of the Program, identify equipment and software necessary for implementation of the Program and which equipment and software would be installed (a) at the Interconnecting Customer and (b) at the Distribution Company.
  - ii. Identify any amendments or attachments to the ISA that would be necessary to implement this Program.
  - iii. Requests to the Distribution Companies
    - a. Does the Company currently have the ability to implement the Program? If no, please explain what would be required to successfully implement this Program.
    - b. Provide details on the flexible capacity pilot in NY (applicable to National Grid only).
- c. Request to the Distribution Companies
  - i. Based on the current DG interconnection queue, identify any potential Capital Investment Projects that could be constructed/installed in the near-term.