

**PUBLIC SERVICE COMMISSION OF THE DISTRICT OF COLUMBIA  
1325 G STREET N.W., SUITE 800  
WASHINGTON, D.C. 20005**

**ORDER**

**February 14, 2018**

**FORMAL CASE NO. 1130, IN THE MATTER OF THE INVESTIGATION INTO  
MODERNIZING THE ENERGY DELIVERY SYSTEM FOR INCREASED  
SUSTAINABILITY, Order No. 19275**

**I. INTRODUCTION**

1. By this Order, the Public Service Commission of the District of Columbia (“Commission”) adopts the modernizing the distribution energy delivery system for increased sustainability (“MEDSIS”) Vision Statement at Attachment A of this Order and announces that it will proceed with soliciting and retaining a MEDSIS consultant to be paid from a portion of the *Formal Case No. 1130* MEDSIS Pilot Project Fund.

**II. BACKGROUND**

2. The investigation into modernizing the energy delivery system in the District of Columbia was initiated in response to intervenors’ requests in both *Formal Case No. 1103*<sup>1</sup> and *Formal Case No. 1123*.<sup>2</sup> In consideration of intervenor requests, technological advancements in the energy industry, and changing consumer preferences, on June 12, 2015, the Commission issued Order No. 17912 which opened this proceeding to identify technologies and policies that can be implemented in the District to modernize the distribution energy delivery system for increased sustainability; and, in the near-term, to make the distribution energy delivery system more reliable, efficient, cost effective, and interactive.<sup>3</sup> The Order also established a series of workshops to be held in the proceeding; the first in October 2015, the second in November 2015, and the third on March 17, 2016.

3. At the conclusion of the third workshop, the Commission announced that staff would prepare a modernizing the distribution energy delivery system for increased sustainability (“MEDSIS”) Report that would address the comments and make recommendations on the next

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<sup>1</sup> See *Formal Case No. 1103, In the Matter of the Application of the Potomac Electric Power Company for Authority to Increase Existing Retail Rates and Charges for Electric Distribution Service*, Order No. 17539, ¶ 120, rel. July 10, 2014.

<sup>2</sup> *Formal Case No. 1123, In the Matter of the Potomac Electric Company’s Notice to Construct a 230kV/138 kV/13 kV Substation and Four 230 kV/138 kV Underground Transmission Circuits on Buzzard Point* (“*Formal Case No. 1123*”), Order No. 17851, ¶ 19, rel. April 9, 2015.

<sup>3</sup> *Formal Case No. 1130, In the Matter of the Investigation into Modernizing the Energy Delivery System for Increased Sustainability* (“*Formal Case No. 1130*”), Order No. 17912, rel. June 12, 2015.

steps. Staff prepared the report, and, on January 25, 2017, the Commission invited the public to comment on it.

4. On October 19, 2017, the Commission issued Order No. 19143 in which it invited public comment on: (1) Staff's Proposed Vision Statement for MEDSIS or "MEDSIS Vision Statement;" (2) whether any guiding principles should be included in the Commission's vision statement; (3) whether a full assessment of the current capabilities and characteristics of the District's current energy delivery system is warranted at this time; and (4) whether, and to what extent, a consultant would be useful to help move MEDSIS forward more expeditiously. The Commission also transferred the entire docket of *Formal Case No. 1143* to this proceeding.<sup>4</sup> The Commission received several comments and replies on Staff's proposed MEDSIS Vision Statement.<sup>5</sup>

### III. DISCUSSION

5. The Commission greatly appreciates the many comments that were filed on the MEDSIS Vision Statement and whether a consultant would be useful to help move the MEDSIS Initiative forward more expeditiously. The amount of interest expressed in the comments highlights the importance of the Commission moving forward expeditiously, with stakeholder engagement being a key component of this proceeding.

6. While a vision statement does not encompass the goals and objectives of the various components of MEDSIS, we recognize the importance of it as a description of the aspiration for the District of Columbia's modern energy delivery system. After reviewing the comments, the Commission makes some modifications to Staff's proposed Vision Statement. While many commenters recommend that we adopt guiding principles, the Commission notes that the MEDSIS Vision Statement already incorporates most of the guiding principles suggested and declines to adopt additional guiding principles at this time. However, the Commission will modify the Vision Statement to include a heading indicating that the terms explaining each component of the Vision Statement are the "Guiding Principles" for the MEDSIS Initiative. Therefore, the Commission hereby adopts the "MEDSIS Vision Statement" at Attachment A to this Order.

7. While some commenters were silent on whether, and to what extent, a consultant would be useful, many others supported retaining a consultant to move MEDSIS forward. The Commission agrees that retaining a consultant is the best course of action at this juncture and that it would be prudent to use a portion of the *Formal Case No. 1130* MEDSIS Pilot Project Fund Subaccount for that purpose. Because the Commission believes that stakeholder participation is important, we encourage the use of working groups throughout this effort to ensure that all stakeholders have a meaningful chance to be heard.

8. We also invited comment on whether a system analysis should be performed. Many were unclear as to the purpose of such an analysis. The purpose is to examine the current electric

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<sup>4</sup> *Formal Case No. 1130*, Order No. 19143, rel. October 19, 2017.

<sup>5</sup> WGL Energy Services, Inc. and WGL Energy Systems, Inc., as well as Pareto Energy LTD filed motions to file reply comments out of time. The Commission grants both motions.

and natural gas energy delivery system to identify areas that can be improved and determine what, if any, new technologies can be utilized to modernize the system. This is particularly important at this time because the Potomac Electric Power Company (“Pepco”) is undergrounding electric powerlines<sup>6</sup> and is constructing substations and transmission circuits.<sup>7</sup> Pepco is also proposing to construct underground transmission circuits to rebuild substations,<sup>8</sup> has submitted a proposal for limited demand management for plug-in vehicle charging,<sup>9</sup> and is likely to undertake other measures to ensure greater reliability and resiliency of the District’s energy delivery system. Washington Gas Light Company is engaged in an extensive pipe replacement effort<sup>10</sup> and a mechanical coupling replacement program.<sup>11</sup> Additionally, the District has ambitious energy conservation and renewable energy goals designed to reduce demand that need to be factored into overall system capabilities.

9. The Commission will proceed with issuing a request for proposals (“RFP”) to retain a consultant to perform a scope of work determined by the Commission. We will include among the consultant’s scope of work the facilitation of working groups, a determination of the appropriateness of a system analysis as part of MEDSIS, and the administration of MEDSIS pilot projects. The RFP, upon issuance, will be posted on the Commission website and in the *Formal Case No. 1130* docket.<sup>12</sup> We anticipate that the scope of work set forth in the RFP may be expanded in the agreement with the consultant selected, as determined by the Commission.

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<sup>7</sup> See, *Formal Case No. 1123, In the Matter of the Potomac Electric Company’s Notice to Construct a 230kV/138 kV/13 kV Substation and Four 230 kV/138 kV Underground Transmission Circuits on Buzzard Point.*

<sup>8</sup> See, *Formal Case No. 1144, In the Matter of the Potomac Electric Power Company’s Notice to Construct Two 230 kV Underground Circuits from the Takoma Substation to the Rebuilt Harvard Substation and from the Rebuilt Harvard Substation to the Rebuilt Champlain Substation.*

<sup>9</sup> See, *Formal Case No. 1143, In the Matter of the Commission’s Consideration of a Demand Management Program for Electric Vehicle Charging in the District of Columbia.*

<sup>10</sup> See, *Formal Case No. 1115, Application of Washington Gas Light Company for Approval of a Revised Accelerated Pipe Replacement Program.*

<sup>11</sup> See, *Formal Case No. 1027, In the Matter of the Emergency Petition of the Office of the People’s Counsel for an Expedited Investigation of the Distribution System of Washington Gas Light Company; GT97-3, In the Matter of the Application of Washington Gas Light Company for Authority to Amend its Rate Schedule No. 6; and GT06-1, In the Matter of the Application of Washington Gas Light Company for Authority to Amend General Service Provision No. 23.*

<sup>12</sup> Interested persons may subscribe to the Formal Case No. 1130 docket to obtain real time or daily notification of documents filed at <https://edocket.dcpsc.org/public/subscription>.

**THEREFORE, IT IS ORDERED THAT:**

10. The modernizing the distribution energy delivery system for increased sustainability Vision Statement in Attachment A to this Order shall be adopted; and

11. The Commission will proceed with soliciting and retaining a consultant for this proceeding to be paid from a portion of the *Formal Case No. 1130* MEDSIS Pilot Project Fund.

**A TRUE COPY:**

**BY DIRECTION OF THE COMMISSION:**



**CHIEF CLERK:**

**BRINDA WESTBROOK-SEDGWICK  
COMMISSION SECRETARY**

# THE PUBLIC SERVICE COMMISSION OF THE DISTRICT OF COLUMBIA

Formal Case No. 1130, Modernizing the Energy  
Delivery System for Increased Sustainability

## MEDSIS Vision Statement

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**ISSUED:** February 14, 2018

## The MEDSIS Vision Statement

*The District of Columbia's modern energy delivery system must be sustainable, well-planned, encourage distributed energy resources, and preserve the financial health of the energy distribution utilities in a manner that results in an energy delivery system that is safe and reliable, secure, affordable, interactive, and non-discriminatory.*

### GUIDING PRINCIPLES

**SUSTAINABLE:** A sustainable energy delivery system will meet the energy needs of the present without compromising the ability of future generations to meet their own energy needs by focusing on the *triple bottom line*: environmental protection, economic growth, and social equality.

- **Environmental Protection:** Recognize the negative impact that energy usage and demand have on the environment and the human component of climate change. Protect the District's natural resources and assist the District Government in reaching its *Clean Energy DC<sup>1</sup>* goals by fostering the use of more efficient energy and renewable energy sources, DER technologies, and controllable demand alternatives to reduce greenhouse gas (GHG) emissions and overall energy consumption.
- **Economic Growth:** Foster economic growth in the District's energy markets by supporting innovation and making the District a desirable place for industry to invest by: (1) removing regulatory barriers that prevent the deployment of DER technologies in the District; (2) engaging industry and community stakeholders in the regulatory reform process; (3) promoting the deployment of pilot programs that will yield lasting economic benefits to District ratepayers; and (4) encouraging innovative business models and the use of scalable financial solutions to reach grid modernization goals.
- **Social Equality:** Recognize the positive impact that energy usage has on the daily lives of District residents. Ensure that, to the extent economically and technically feasible, all District ratepayers have equal access to energy efficiency programs, other DER programs, and modernization technologies approved and implemented by the Commission, as well as access to the Commission's regulatory process. Strengthen community involvement in reaching environmental protection and economic growth goals related to modernizing the District's energy delivery systems by: (1) encouraging and approving programs that fully consider, engage, and benefit all District ratepayers, especially the most vulnerable populations; (2) encouraging continued utility and stakeholder investment in educational

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<sup>1</sup> The District Government, through the Department of Energy and Environment (DOEE), has established a "new climate and energy plan, with 55 actions in three major areas: Buildings, Energy Supply System, and Transportation." The Commission's work through MEDSIS aims to help the District meet its goal to reduce District-wide energy use by 50% (relative to 2012 levels) by 2032. To meet these energy usage reduction targets, the District is focused on reducing GHG emissions by cutting energy use, increasing renewable energy penetration, and reducing the District's reliance on fossil fuels. <https://doee.dc.gov/cleanenergydc>



programs and community outreach initiatives that explain how ratepayers can reduce their energy consumption and use energy more efficiently, including the role of various energy sources, distributed generation (DG), and DERs; and (3) working with utilities and industry stakeholders to develop ways to reduce the soft costs related to the deployment of photovoltaic (PV) systems and DERs in the District.

**WELL-PLANNED:** With no large-scale generation in the District, the Commission must ensure that the distribution and transmission systems are strong and robust enough to withstand low probability, high impact events like storms, floods, and physical and cyber threats. To meet these needs, the District's modern energy delivery system must be developed in a strategic manner that is data-driven, incorporates advanced technologies, and is collaborative and open – allowing for consumer and stakeholder input. Therefore, utilities must:

- Develop detailed, data-driven Distribution and Integrated Resource Plans that, among other things: make infrastructure planning cost-effective; enable the optimal combination of distributed energy resources (DERs) with traditional capital investment by exploring non-wires alternatives; comply with legislatively mandated deployment of DER in the District; permit rational participation of consumers and distribution service providers; and plan for, track, and monitor DER penetration rates on the grid.

**SAFE & RELIABLE:** The Commission will ensure that utilities meet and improve safety and reliability performance and that the increasing volume of DERs interconnecting to the District's grid does not negatively impact the safety or reliability of the energy delivery system by:

- Requiring the continued investment in prudent infrastructure improvements to the energy system, like Pepco's reliability investments and Washington Gas' advance pipeline replacement program, so that the energy delivery system can meet the power needs of the District's current and future consumers.
- Reviewing and, where appropriate, updating the Commission's Electricity Quality of Service Standards (EQSS) and Natural Gas Quality of Service Standards (NGQSS) to ensure that the utilities are continually meeting and improving their safety and reliability performance.
- Updating and continually reviewing interconnection rules to facilitate the interconnection of DERs as well as all generation and storage options in a manner that does not compromise overall system safety and reliability.
- Where technically and economically feasible, encouraging the deployment of technologies that will not compromise system safety, will increase system reliability, and can accommodate two-way power flow like smart inverters, distributed automation, and sensors to better handle power fluctuations and outages.
- Enhancing data collection and real-time data sharing between utilities, third party suppliers, and stakeholders, like PJM, to increase system visibility, communication, and DER



dispatchability, in a manner that increases the safety, reliability, and resiliency of the energy delivery system, and facilitates new product and service options for customers.

- Classifying DER and microgrid providers generating energy and serving more than one customer as subject to the Commission’s authority thus enabling the Commission to protect District ratepayers, enforce the Consumer Bill of Rights (CBOR), and ensure the continued safe and reliable provision of energy service.

**SECURE:** The modern energy delivery system must be secure from both physical attacks to critical infrastructure components as well as from cybersecurity attacks that target energy information systems and private consumer information. Therefore, utilities and energy service providers must:

- Develop, utilize, and maintain robust physical and cybersecurity protections and risk management strategies that incorporate industry best practices like those established by the National Institute of Standards and Technology’s (NIST) Framework for Improving Critical Infrastructure Cybersecurity.
- Ensure that the energy delivery system is resilient, uses modern grid security protocols, and is designed to resist, discourage, and rapidly recover from physical and cybersecurity attacks and system disruptions.
- Safeguard private and or confidential business data and consumer information from intentional or unintentional release or disclosure to untrusted environments.

**AFFORDABLE:** The Commission has a duty to ensure that rates for distribution service are just and reasonable. The Commission balances the desire of customers to keep rates down with the need to ensure that utilities remain financially healthy, able to attract investors, and pay for needed infrastructure maintenance and development. Balancing these interests, in the context of system modernization, becomes especially challenging when considering costly upgrades to the distribution system as well as potential ratepayer subsidization of costly renewable and DER technologies.

- The Commission recognizes that rapid technological change in the electric distribution industry increases the danger of “stranded assets” – capital investments that turn out to be unneeded. For this reason, before making investments in large capital projects, the utility must thoroughly examine the feasibility of non-wires alternatives as solutions to meet the stated investment objective at the lowest overall life-cycle cost. The utility must also undertake holistic planning approaches that fully examine technological options that can be deployed at a pace and scale that can meet policy objectives and customer expectations.
- In the long-term, the Commission expects that, under fair interconnection procedures, DER’s will be able to stand on their own in the competitive marketplace without subsidies from distribution ratepayers. Therefore, benefits and costs of any proposals to use distribution rates to compensate new DERs must be weighed carefully and considered in





connection with the benefits and efficiencies such DER may bring to the distribution system.

- The Commission is committed to ensuring that ratepayers obtain maximum benefit from their over \$90 million investment in Advanced Metering Infrastructure (AMI) by requiring the utility, to the extent economically and technically feasible, to maximize the use of AMI data in Distribution and Integrated Resource Planning, load forecasting, distribution system operations, and rate design as well as require activation of the Home Area Network<sup>2</sup> capabilities of the smart meters.

**INTERACTIVE:** As an increasing number of smaller scale and more localized resources come online the relationship between the energy distribution company, the consumer, and service providers will become increasingly complex and dynamic. New services will become available, energy and data will increasingly flow in multiple directions, and different types and scales of resources will enter the distribution system. A modern energy delivery system must become more interactive and flexible to accommodate these types of resources while maintaining system reliability and security. This interactivity is critical both in terms of managing the distribution system and in providing locational transparency and technical feasibility which will allow ratepayers, customer-generators, and DER providers to make informed energy choices. Therefore, the Commission:

- Recognizes the importance of the customer's ability to access and share energy data. Access to data empowers customers and third parties to utilize and develop new products and services. This includes activating the Home Area Network capability on customers' smart meters to realize additional benefits of existing AMI infrastructure and streamlining AMI data sharing through tools such as *Green Button Connect My Data* which can securely transfer AMI data to authorized third parties.
- Emphasizes the importance of improving and expanding consumer and stakeholder access to publicly available data related to distribution system constraints and technical capacity. Providing public access to Geographic Information Systems (GIS) such as hosting capacity maps, restricted circuits, and installed and pending solar projects provides critical distribution system information to customer-generators, community renewable energy facility owners, and DER providers.
- Encourages the interaction and communication between DERs, the distribution system, and the macro grid and that technologies that provide value to the distribution system, such as smart inverters, should be prioritized over technologies that merely benefit individual customers.

**NON-DISCRIMINATORY:** Nondiscrimination in the operation of the District's energy infrastructure is integral to the Commission's mandate to supervise energy utilities in the District of Columbia. Furthermore, since the restructuring of the energy markets, the need for the

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<sup>2</sup> A Home Area Network uses a low-power radio transmitter than can communicate with digital devices within the home to make use of energy consumption data from the smart meter.

Commission to ensure that energy utilities operate in a nondiscriminatory manner has proliferated. Nondiscrimination covers both the technical operation of and the rates and fees charged for utilizing and accessing the energy utility infrastructure. The Commission will ensure that the District's modern energy system is non-discriminatory, open to competition, and provides for customer choice in accordance with District law by:

- Affording DER providers with a low-cost and streamlined interconnection process to facilitate customer generation. Encouraging continuous improvement and development of initiatives, like Pepco's *Green Power Connection*, that facilitate DER interconnection and build off past experience to reduce or eliminate barriers so that DERs can compete on a level playing field with wholesale energy.
- Unlocking customer and system data held by the incumbent utility in a controlled manner so that customers, DER providers, and third-party suppliers can provide targeted offerings to meet system needs and better serve the needs of customers.
- Pursuing policies that are technology neutral in both system operations and rate structure so that rates remain just and reasonable.
- Achieving the maximum benefits of competition and encouraging stakeholders to bring forward proposals for the competitive provision of services now included in the regulated monopoly distribution services.

