DUKE ENERGY OHIO EXHIBIT____

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Duke Energy Ohio, Inc., for an Adjustment to Rider MGP Rates.	)))	Case No. 17-596-GA-RDR
In the Matter of the Application of Duke Energy Ohio, Inc., for Tariff Approval.	))	Case No. 17-597-GA-ATA

DIRECT TESTIMONY OF

TODD L. BACHAND

ON BEHALF OF

DUKE ENERGY OHIO, INC.

March 31, 2017

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I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Todd L. Bachand, and my business address is 139 East Fourth Street, Cincinnati, Ohio 45202.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Duke Energy Business Services LLC (DEBS) as a Lead Environmental Specialist for the Remediation Group, which is part of Environmental Services at Duke Energy Corporation (Duke Energy). DEBS provides various administrative and other services to Duke Energy Ohio, Inc., (Duke Energy Ohio or Company) and other affiliated companies of Duke Energy.

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. I received my Bachelor of Science degree in Environmental Sciences from Springfield College, located in Springfield, Massachusetts, in 1985. From 1985 to 1992, as an Environmental Scientist with Baystate Environmental Consultants, Inc. (East Longmeadow, MA), I was responsible for conducting site assessments, performing feasibility studies, and managing construction, dredging and remediation projects. From 1992 to 1996, as the manager of Technical Services for Nuclear Energy Services, Inc. (Danbury, CT), I was responsible for overseeing and managing a wide variety of site assessments and remediation projects. I was responsible for managing a team of environmental scientists and geologists primarily working on sites throughout the east coast focusing on petroleum-impacted properties. From 1996 to 1998, as the Mid-West Operations Manager for Nuclear

Energy Services, Inc., Integrated Environmental Services Division (Blue Ash, OH), I was responsible for managing a team of environmental scientists, geologists, and engineers. I was responsible for managing projects that dealt with environmental assessments, real estate due diligence (Phase I Site Assessments), risk assessments, underground storage tank remedial actions, and remedial actions relating to chlorinated solvents, mercury, and polychlorinated biphenyl (PCB).

From 1998 to 2009, as the Vice President of NEES, LLC (West Chester, OH), I managed a team of environmental professionals and I was responsible for projects focusing on site assessments, property transactions, remediation projects, Army Corps of Engineers permitting and compliance, and cultural resources assessments. Projects that I personally managed focused on site assessments (Phase I, Phase II, Phase III), remediation, risk analysis, environmental permitting, environmental auditing, and environmental compliance.

From 2009 to 2013, as the Director of Environment, FirstGroup America (Cincinnati, OH), I had all environmental responsibility for the company, which included the operating companies of Greyhound Bus, Greyhound Canada, Americanos, First Student, First Canada, First Transit, and First Vehicle Services. The occupational footprint included Mexico, Puerto Rico, the United States and Canada. My responsibilities focused on ensuring compliance with all regulatory programs from city, county, state, and federal agencies in the United States and city, provincial, and the Ministry of Environment in Canada. Compliance included over 3,000 storage tanks and issuance of annual permits for each location (1,500+ locations). Additional responsibilities focused on real estate

holdings throughout North America and the due diligence aspect of acquisitions and dispositions for both leased and owned properties. I was also responsible for managing multiple Comprehensive Environmental Response, Compensation, and Liability Act sites where the company had liabilities, as well as managing multiple environmental remediation projects, focusing on petroleum, chlorinated solvents and (PCB) impacts to both soils and groundwater. In addition, I was responsible for ensuring that all operating permits were up to date and all federal, state and local Emergency Planning and Community Right to Know Tier II reports were filed as required.

From June 2014 to the present, I have been a Lead Environmental Specialist with Duke Energy in the Remediation Group. I am responsible for managing all remediation projects within the states of Ohio, Kentucky, and Indiana. I have extensive experience in site assessments and remediation that I employ while managing the various projects in these states. Currently, I am managing both former manufactured gas plant (MGP) sites in Cincinnati, Ohio (the East End and West End sites) for Duke Energy Ohio. I also represent Duke Energy on the Indiana Energy Association – MGP Remediation Work Group and I am a member of the MGP Consortium, which is a group comprised of 28 utilities where lessons learned and best practices are shared among utility project managers on the investigation and cleanup of former MGP sites.

Q. PLEASE SUMMARIZE YOUR RESPONSIBILITIES AS A LEAD ENVIRONMENTAL SPECIALIST WITHIN THE REMEDIATION GROUP.

A. As the Lead Environmental Specialist in the Remediation Group, I provide project management and technical oversight for Duke Energy's environmental liabilities at power plants and other properties that any Duke Energy entity or predecessor company either owned, operated, and/or sent material to and that is now subject to remediation obligations.

My job responsibilities and those of other project managers in the Remediation Group include interaction and coordination with many different groups within and outside of Duke Energy, including: senior leadership; legal; finance; business units such as gas operations and transmission, power delivery, and generation; ratepayers and community groups; local, state, and federal governmental or regulatory officials; and consultants, contractors, and site/construction workers. We prepare bid documents that detail Duke Energy's requirements and expectations for remedial work and we provide the technical evaluation of the proposals received. During the execution of site work, we actively review, comment on, and approve all plans, scope or design changes, and final documents prepared by environmental consultants. We regularly visit sites during active investigation and remediation activities in order to oversee work and ensure that Duke Energy's expectations are being met.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO?

A. I have not provided oral testimony before the Public Utilities Commission of Ohio (Commission). However, I have submitted written testimony in Case No. 14-0375-GA-RDR, *et al.* Case No. 15-0452-GA-RDR, *et al.* and Case No. 16-0542-GA-RDR.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THESE PROCEEDINGS?

A. I am the project manager for the MGP investigation and remediation projects at the East End and West End sites in Duke Energy Ohio's service territory. The purpose of my testimony is to describe the environmental remediation activities that occurred at the East End and West End site locations in Cincinnati, Ohio, in calendar year 2016. In so doing, my testimony will support the recovery of such expenditures that are included in Duke Energy Ohio's request update to Rider MGP, as authorized by the Commission.

Q. DID DUKE ENERGY OHIO CONDUCT REMEDIATION ACTIVITIES IN 2016 AT THE TWO FORMER MGP SITES IDENTIFIED IN ITS NATURAL GAS RATE CASE, CASE NO. 12-1685, *ET AL.* (NATURAL GAS RATE CASE)?

A. Yes, the Company conducted remediation activities in 2016 at the two former MGP sites that were identified in the Natural Gas Rate Case and related testimony. Remediation activities are ongoing at these sites, as described later in my testimony.

Q. PLEASE DESCRIBE THE CORPORATE STRUCTURE AND MANAGEMENT OVERSIGHT OF THESE TWO SITES.

A. The remediation projects at these two sites are managed by Duke Energy Environmental Services as part of the Environmental Health and Safety Department in Regulated Utilities. Environmental Services is headed by a Vice President who oversees Directors who are appointed to manage various disciplines/media programs. Within the Remediation Group, I review project scopes and activities with each consultant's individual project manager on a minimum bi-weekly basis, which I then review with my management on a bi-weekly basis. Information on the status and activities on the East End and West End sites is periodically reviewed with higher levels of management and the financial department. Known and anticipated activities, including cost estimates, are reviewed with levels of senior management at least semi-annually and whenever significant decisions are required on strategy or anticipated costs. Each level of management has limited authority to approve activities and authorize the expenditure of funds. For new purchase orders, approval also must be obtained from Duke Energy's sourcing department. Over the course of the year, I meet with a number of members of Duke Energy management to discuss the status of the projects, seek input on certain decisions, and obtain approval of spending requests, as necessary.

II. BACKGROUND AND HISTORY OF MGP SITES

Q. THE RECORD IN THE NATURAL GAS RATE CASE DETAILS THE HISTORY OF MANUFACTURED GAS, AS WELL AS THE TYPICAL INVESTIGATION AND REMEDIATION OF FORMER MGP SITES. IS THERE ADDITIONAL INFORMATION TO SUPPLEMENT THAT PRIOR DETAIL?

A. No. Information on the background of manufactured gas and its history in southwest Ohio is described at length in the Commission's Opinion and Order in the Natural Gas Rate Case (Commission's Order). Likewise, the Commission's Order provides details of typical investigation and remediation activities and a description of the impact of Ohio law and the Ohio Environmental Protection Agency (Ohio EPA) clean-up programs on the management of the environmental conditions at Duke Energy Ohio's MGP sites, especially Ohio EPA's Voluntary Action Program (VAP). This previous testimony remains accurate today and, as such, I will instead focus my testimony on activities occurring during the period relevant to these proceedings calendar year 2016.

Q. PLEASE DESCRIBE THE ONGOING WORK AT EAST END AND WEST END.

All of the environmental work at the East End and West End sites continues to be performed by environmental consulting firms experienced in MGP site remediation and under the oversight of Ohio EPA VAP Certified Professionals (CPs), whose role is to ensure activities are compliant with Ohio EPA's VAP regulations. The Ohio EPA VAP CPs and environmental consultants hired to

perform activities at the two sites continue to work with me to ensure that the work complies with the VAP and meets all applicable local, state, and federal standards, as well as to ensure that the environmental conditions at the sites are protective of human health and the environment, both short term and long term.

III. REMEDIATION AT EAST END AND WEST END MGP SITES

Q. PLEASE DESCRIBE THE COMPANY'S GENERAL USE OF THE EAST END AND WEST END MGP SITES IN 2016.

A. Both the East End and West End facilities continued to be used as plant in service for utility service by Duke Energy Ohio. At East End, the facility continues to be used as a synthetic natural gas peaking station and headquarters for field operations.

At West End, in 2016, Duke Energy's Transmission and Distribution Group continued to work on the installation of the new substation required due to the anticipated new Brent Spence Bridge. In addition, Duke Energy's Transmission and Distribution Group continued to work on the construction of new electrical equipment that will replace equipment impacted by the proposed new BSB corridor project. Such work was ongoing throughout 2016. The Company continues to own and operate two 12-inch diameter gas transmission pipelines that enter Ohio at the West End site. At the valve pit on the riverbank, the two lines combine into one 20-inch pipeline. There is also a gas measurement station at this location. This building also houses the Remote Terminal Units (RTU) equipment, which is part of the Supervisory Control and Data Acquisition (SCADA) system that monitors and controls the natural gas distribution system.

This line supplies approximately 20,000 customers in a peak hour.

Q. PLEASE IDENTIFY THE ACTIVITIES CONDUCTED IN 2016 THAT RELATE TO THE REMEDIATION OF ENVIRONMENTAL CONDITIONS RESULTING FROM THE FORMER EAST END MGP.

A. All work at the East End site performed in 2016 was conducted under the oversight of an Ohio EPA VAP CP, employed by the firm of Haley & Aldrich, Inc. (Haley & Aldrich). As noted in the Commission's Order, the East End site was initially divided into three smaller identified areas for environmental investigation and remediation purposes only that are referred to, for purposes of the VAP, as the "East Parcel," "Middle Parcel," and "West Parcel." During 2016, additional work occurred in an area at East End referred to as the "area West of the West Parcel," which also has been impacted with MGP residuals.

In 2016, Haley & Aldrich's work included finalizing the remedial design package for the Middle Parcel and the area West of the West Parcels; obtaining all necessary permits for the remediation; and conducting a bid event for subcontractors who would be performing the remedial activities of the planned five phases encompassing the Middle Parcel and the area West of the West Parcels.

In October of 2016, remedial activities within the Phase 1 Area (Pittsburgh Street) were commenced and remedial activities in the Phase 2 Area (Area West of the West Parcel) were initiated in December of 2016. The work included excavation of impacted soils in the Phase 1 Area and the Phase 2 Area. In addition, in-situ solidification activities commenced in the Phase 2 Area in 2016.

During the remedial activities, precautions were taken to ensure that the critical infrastructure at the site was not damaged; Duke Energy contracted with Terracon to conduct vibration monitoring of the critical infrastructure during the remediation activities.

Ambient air monitoring activities were implemented at the start of the remedial activities and performed during all periods of site work. A total of four perimeter stations were installed by AECOM which monitor the perimeter ambient air quality during remedial activities.

In addition, Duke Energy Ohio continued to perform semiannual groundwater sampling on all four parcels that contained groundwater wells.

Q. PLEASE IDENTIFY THE ACTIVITIES CONDUCTED IN 2016 THAT RELATE TO THE REMEDIATION OF ENVIRONMENTAL CONDITIONS RESULTING FROM THE FORMER WEST END MGP SITE.

A. The work performed in 2016 included ongoing groundwater sampling at the West End MGP site. The work consisted of one quarterly groundwater sampling event of all wells and the development of a technical memorandum documenting the results of the samples. The groundwater sampling was reduced in anticipation of the next iteration of site assessment work in the Phase 3 Area (former East Substation Yard) and the Former Tower Area (Front & Rose Parcel).

The work conducted at the West End site was performed under the oversight of Ohio EPA VAP CPs employed by Burns & McDonnell and AECOM.

In addition, Duke Energy developed a Request for Proposals for the Ohio VAP Phase II Property Assessment of the Phase 3 Area and the Tower Area and solicited bids from five firms in June of 2016. Upon evaluation of the bids based upon technical merit, experience, and costs, Duke Energy awarded the Ohio VAP Phase II Property Assessment to CH2M.

Q. PLEASE DETAIL THE 2016 COSTS INCURRED AT BOTH THE EAST END AND WEST END SITES FOR WHICH DUKE ENERGY IS SEEKING RECOVERY THROUGH RIDER MGP.

A. In 2016, Duke Energy Ohio incurred $1,296,160 in MGP costs at the East End and West End sites. The recovery mechanism for the costs incurred in 2016 is discussed in the Direct Testimony of Duke Energy Ohio witness Sarah E. Lawler. The categories of costs that are described at length in the Commission's Order are applicable to the remediation activities that occurred in 2016. External costs included: environmental consultants used for the investigation of the soil and groundwater impacts; environmental consultants used to perform oversight during remedial actions; and analytical laboratories that analyzed soil and groundwater samples.

Internal costs included: expenses for Duke Energy employees working on the project; oversight by the Duke Analytical Laboratory located in Huntersville, North Carolina that performed audits of the analytical laboratories and performed quality control and review of analytical data; oversight and coordination by Duke Energy Power Delivery and Gas Operations personnel while working in close

proximity to sensitive electrical and/or gas utilities; survey support; and project management oversight.

Q. PLEASE DESCRIBE THE GENERAL PROCESS USED TO ENSURE THE REASONABLENESS OF COSTS INCURRED TO REMEDIATE THE EAST END AND WEST END SITES.

A. As detailed in the Commission's Order, Duke Energy Ohio employs a number of procedures to ensure that the scope of investigation and cleanup work is appropriate and that the cost to perform that work is reasonable and prudent. Duke Energy project managers work closely with Ohio EPA VAP CPs and experienced environmental consultants to evaluate different options based on various criteria, including compliance with environmental regulations, protection of human health and the environment, best practices, feasibility, constructability, safety, prior experience, and cost. These considerations are built into the solicitation of bids and estimates through Duke Energy's "Request for Proposal" process. Bids are screened first on their technical merit, and then evaluated for cost. Scope modifications in the field due to new or changing field conditions must be approved by Duke Energy project managers and may also require approval from Duke Energy management and/or Duke Energy's finance department depending on the extent of the modification and other circumstances.

Q. BASED ON YOUR EXPERIENCE, DID DUKE ENERGY OHIO REASONABLY AND PRUDENTLY INCUR $1,296,160 IN COSTS IN 2016?

A. Yes. The activities that occurred at the East End and West End MGP properties related to the remediation of MGP impacts were conducted following the procedures described in 2012 written testimony and 2013 oral testimony in the Duke Energy Ohio Natural Gas Distribution Rate Case by Duke Energy Ohio witness Jessica Bednarcik, activities that were deemed to be reasonable and prudent by the Commission in its Order. Based on my experience with remediating contaminated sites, including MGP sites like East End and West End, the $1,296,160 represents reasonable and prudent costs for the work that was performed in 2016.

Q. PLEASE DISCUSS THE TIMING AND PLANNING RELATED TO THE WORK THAT WAS PERFORMED IN 2016 PLANNED TO BE PERFORMED AT THE EAST END AND WEST END SITES.

A. These types of environmental projects are iterative in nature and Duke Energy Ohio has phased the remediation in order to avoid needless expense and in a manner that protects the safety of Duke Energy Ohio's employees and the community and avoids potential disruptions to natural gas and electric services. As is typical for these types of cleanups, as areas where the former MGP processes were located have been evaluated and remediated, potential off-site impacts will be evaluated to determine whether off-site investigation and/or additional remediation will be required.

Based upon my experience with MGP site remediation projects and the conditions at the sites, it is often the case that some amount of off-site investigations will be required to address the sites, such as the initial sediment work that has been performed at the West End site. I agree with the testimony provided in 2012 and 2013 by Duke Energy Ohio witness Bednarcik in regards to the fact that the uplands areas of environmentally impacted sites are typically addressed first as the remediation of the "source" material, or the impacts in the soil, and that such actions are expected to result in the improvement of groundwater quality and of any down-gradient plumes. Consistent with this approach, Duke Energy Ohio will shift its focus to groundwater and off-site impacts as remediation of the impacted soils is being completed.

The East End Gas Works is a high-risk gas facility with sensitive underground infrastructure. As such, extra security and safety precautions must be taken when remediating this site to ensure the safety of Duke Energy Ohio's employees as well as the surrounding community. Due to these safety and security restrictions, Duke Energy Ohio can only perform certain remedial activities during specific times of the year. Planned future work includes remediation of the Middle and West of the West Parcels and implementation of semi-annual groundwater monitoring program.

At the West End site, actions completed in 2016 focused on the continued assessment of the overall groundwater conditions at the site and development of the Ohio VAP Phase II Property Assessment for the Phase 3 Area and the former Tower Area. Future work will involve the assessment of the conditions beneath

the former eastern substation (Phase 3 Area), which is immediately to the west of the existing Brent Spence Bridge right-of-way and the Tower Area. Planned future work includes preparation of the Ohio VAP Phase II Property Assessment Report and implementation of the groundwater monitoring program. In addition, the Company will continue to monitor the site groundwater on a semiannual basis.

Q. PLEASE EXPLAIN WHAT DUKE ENERGY OHIO IS DOING TO PURSUE OTHER MEANS OF FUNDING THE REMEDIATION AT EAST END AND WEST END.

A. Duke Energy Ohio witness Keith Bone will explain activities related to the Company's efforts to seek insurance coverage for the costs incurred in remediating the two MGP sites, consistent with the Commission's Order.

Additionally, Duke Energy Ohio continues to investigate and pursue other potentially responsible parties that may be liable to contribute to the costs of investigating and remediating the East End and West End sites. Duke Energy Ohio continued its evaluation of the nature and extent of potential liability of NiSource, Inc. (NiSource) an alleged successor to Columbia Gas & Electric, related to the historic MGP operations at the two sites. Duke Energy Ohio and NiSource, Inc. have exchanged information relating to Duke Energy Ohio's claim that Columbia Gas/NiSource has legal responsibility for some of the costs associated with the investigation and cleanup at the East End and West End sites. Duke Energy Ohio and NiSource, and more recently, TransCanada Corporation (which purchased Columbia Pipeline Group in 2016) continued to engage in discussions in 2016.

CONCLUSION

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

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