DUKE ENERGY OHIO EXHIBIT _____

BEFORE

THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Duke Energy Ohio, Inc., for a Certificate of Environmental Compatibility and Public Need for the C314V Central Corridor Pipeline Extension Project.	)))))	Case No. 16-253-GA-BTX

DIRECT TESTIMONY OF

JULIANNE SCHUCKER

ON BEHALF OF

DUKE ENERGY OHIO, INC.

March 26, 2019

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I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Julianne Schucker and my business address is 1880 Waycross Road, Cincinnati, Ohio 45240.

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

A. I am employed by Jacobs Engineering Group as Senior Project Manager, Global Environmental Solutions. Jacobs Engineering Group acquired CH2M HILL effective January 1, 2018.

Q. PLEASE BRIEFLY SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. I have received a Bachelor of Science Degree in Geology from Cleveland State University in 1987 and Master of Science Degree in Geological Sciences from The Ohio State University in 1990. I also have several professional licenses and certifications including: Ohio EPA Voluntary Action Program Certified Professional No. 258; Professional Geologist: Kentucky No. 2221, Pennsylvania No. PG001947G, and New York No. 000432-1; Certified Professional Geologist: Indiana No. 1572.

I started my career working with Ohio Department of Natural Resources in the Division of Water Resources from April 1990 to July 1991. I then started in consulting working as geologist and a project manager with Roy F. Weston, Inc. from July 1991 to March 2000 and CH2M HILL from March 2000 to January 2018. I am currently a senior project manager with Jacobs Engineering, Global Environmental Services from January 2018 to present.

Q. PLEASE SUMMARIZE YOUR RESPONSIBILITIES AS SENIOR PROJECT MANAGER, GLOBAL ENVIRONMENTAL SOLUTIONS.

A. I manage multiple medium to large size projects for a diverse array of clients that involve a wide range of industrial processes, involving site characterization, remediation, redevelopment, regulatory application and negotiation, public interaction, and closure strategy development.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE OHIO POWER SITING BOARD?

A. No.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying on behalf of Duke Energy Ohio, Inc (Duke Energy Ohio or Company).

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. My testimony will explain the research I performed with regard to the Pristine, Inc., Superfund site in Reading, Ohio (Pristine Site), and will set forth my conclusions regarding the potential siting of the Central Corridor Pipeline (CCP) just east of the Pristine site.

II. BACKGROUND OF THE PRISTINE SITE

Q. WHERE IS THE PRISTINE SITE LOCATED?

A. The Pristine Site is located at address 410 Cavett Avenue, Reading, OH 45215 with physical location between and adjacent to the east side of the Former Cincinnati Drum Service facility and on western side of railroad tracks.

Q. WHAT BUSINESS WAS OPERATED BY PRISTINE, INC., AT THE PRISTINE SITE?

A. The Pristine Site is comprised of approximately three acres of land that is part of the Cincinnati Drum Service operation who cleaned and recycled steel drums. Prior to 1974, the site had been used for the manufacturing of sulfuric acid and fertilizer.

Q. WHAT WERE THE IMPACTS OF THAT BUSINESS ON THE PRISTINE SITE?

A. The business operations were shut down in 1981 because of complaints about spills, large inventory of waste onsite, and permit violations. Following the shutdown, several activities occurred: hazardous drummed and tank wastes were removed under a consent order; contaminated soil was removed from the site under an Administrative Order on Consent in 1984 to address immediate hazardous site conditions; and subsurface investigations occurred to identify impacts to the site. These investigations showed on-site impacts to subsurface soils and groundwater from facility operations and such impacts were found to pose a human health risk.

III. GOVERNMENT-MANDATED REMEDIATION

Q. PLEASE EXPLAIN THE BASIS FOR THE FEDERAL GOVERNMENT'S INVOLVEMENT IN THE REMEDIATION OF THE PRISTINE SITE.

A. The United States Environmental Protection Agency (USEPA) is the lead agency at the site for Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) activities. The Ohio Environmental Protection agency (Ohio EPA) is the support agency. In 1983, the site was added to the National Priorities List and in 1984, USEPA initiated a remedial action and feasibility study (RI/FS) to define the nature and extent of impacts on- and off-site. A record of

decision (ROD) and an amendment were prepared March 1990 documenting the selected remedy for the site; and in 1989, EPA and 111 responsible parties (many are part of the Pristine Trust) signed a remedial action/remedial design consent decree. The Pristine Trust implemented the selected remediation of the site.

Q. WHAT RECORDS ARE AVAILABLE TO DOCUMENT THE REMEDIATION AT THE PRISTINE SITE?

A. The USEPA public information repository for the Pristine site technical documents are available at the Reading Public Library located at 8740 Reading Road. In addition, Ohio EPA has publicly available files on their Ohio EPA *eDocument Search* website. Technical documents include consent decrees, investigation reports, analytical data, and five-year review reports.

Q. WERE ANY OTHER METHODS USED TO COLLECT DATA OR RECORDS?

A. Yes. I contacted Scott Glumm at Ohio EPA Southwest District Office who directed me to the Ohio EPA *eDocument Search* website. I also reviewed the USEPA website for Pristine Inc. Superfund site for other information.

Q. WHAT REMEDIATION RECORDS DID YOU REVIEW?

A. As part the research I performed for the Pristine Site I reviewed all publicly available information located at the Reading Public Library, as well as other relevant files from the Ohio EPA eDocument Search web site. The information I reviewed included consent orders, remedial investigation reports, ROD, post-ROD sampling reports, and Five-Year Review reports.

Q. BASED ON YOUR REVIEW OF AVAILABLE RECORDS, WHAT WAS THE STATE OF THE PRISTINE SITE AT THE START OF REMEDIATION?

A. According to the records I reviewed, at the start of ROD implementation, surface soils/sediment, subsurface soils, and groundwater were contaminated posing a risk to human health. The risk pathways included direct contact and incidental ingestion of site soils, and leaching of contaminants from site soil to groundwater through ingestion of groundwater. The ROD and its amendment identified cleanup standards to mitigate these risks

Q. BASED ON YOUR REVIEW OF AVAILABLE RECORDS, WHAT STEPS WERE TAKEN TO REMEDIATE THE PRISTINE SITE, AND OVER WHAT TIME PERIOD?

A. Based on the investigations performed, a site conceptual understanding indicates risks to human health and environment exist on-site and off-site to the south/southwest in the direction of groundwater flow. A summary of the site conceptual understanding includes: on-site surface and subsurface soils consist of primarily of fill material (up to approximately 10-feet below ground surface) which was contaminated from onsite activities; contaminated upper aquifer consisting of discontinuous lateral and horizontal coarse-grained lenses within finer-grained deposits with the shallowest depth to groundwater is approximately 5 to 12-feet deep; and a regional lower aquifer present at depths which are at or greater than 75-feet below ground surface. Soil and groundwater samples collected had

concentrations in exceedance of USEPA standards which resulted in need to eliminate risk by identifying remedial options.

According to the records I reviewed, there were five phases of remedy implementation: 1) demolition of onsite structures completed in January 1992; 2) soil thermal treatment using thermal desorption technology performed in 1993 and 1994 (treated 13,000 tons of soil which met clean up criteria and placed back on site); 3) constructed and start-up of in-situ soil vapor extraction (ISVE) and cap located across the site of site from 1994 to 1998 to address shallow groundwater conditions and soil vapor extraction of site soils under the cap and along western side of site; 4) constructed and start-up in 1997 a 150 gallon per minute (gpm) pump and treat system with air stripper to treat extracted groundwater from on-site shallow aquifer extraction well EW1, treat groundwater from the ISVE shallow groundwater system (5 gpm) and treat groundwater from off-site lower aquifer extraction wells EW2 (35 gpm) and EW3 (80 gpm). A second air stripper was added in 1998 to support removal of volatile organic compounds (VOCs); and 5) the pump and treatment system was expanded offsite with a 300 gpm system started in October 1998 to treat groundwater downgradient in lower aquifer south, off-site further. In March 2002, the overall pumping rate for off-site extraction wells was reduced from 450 to 375 gpm because the system was drawing in other groundwater plumes in the downgradient area. In March 2006, the pumping rate was reduced to 150 gpm because the system was continuing to draw other groundwater plumes in the area. In November 2010, USEPA approved Pristine Trust's monitored natural attenuation (MNA) pilot program to deactivate all off-site lower aquifer extraction

wells and treating only the onsite groundwater pumped at an unchanged rate of 50 gpm. In 2017, a letter documents continued discussion between Pristine Trust, USEPA, and Ohio EPA in making MNA part of the final remedy for off-site groundwater remediation in the lower aquifer.

IV. CURRENT STATE OF THE PRISTINE SITE

Q. BASED ON YOUR REVIEW OF AVAILABLE RECORDS, WHAT IS THE CURRENT STATE OF THE PRISTINE SITE?

A. Based on most recent Five-Year Review Report (USEPA, August 2016), only remedial systems in operation are: 1) MNA pilot program initiated for off-site lower aquifer south of the site; 2) on-site ISVE continues operating in shallow aquifer with pumping rate of 50 gpm; and 3) USEPA approved the human health risk assessment for on-site soil which, when taken into account the institutional controls, found the risk to soil exposure poses no threat and concluded ISVE treatment achieved soil cleanup standards.

Q. YOU PREVIOUSLY MENTIONED AN EXTRACTION WELL SYSTEM THAT WAS USED IN THE REMEDIATION PROCESS. DOES THAT SYSTEM STILL EXIST AND IS IT CURRENTLY OPERATIONAL?

A. Recent records indicate ISVE system on site is still operating but off-site pump and treat system extraction wells are not in operation in order to allow the MNA pilot program to operate.

Q. WHERE ARE THE EXTRACTION WELLS AND ASSOCIATED PIPING IN RELATION TO THE PRISTINE SITE AND THE PROPOSED ALTERNATE ROUTE FOR CCP?

A. Based on my understanding of the current proposed route for the pipeline, the location of the ISVE extraction well is located on the south side of the Pristine property approximately 110 feet west of the eastern site property line.

Q. DO YOU HAVE AN OPINION ABOUT WHETHER THE CONSTRUCTION OR OPERATION OF THE PIPELINE IN THE GENERAL VICINITY OF THE EXTRACTION WELLS AND ASSOCIATED PIPING WILL HAVE ANY IMPACT ON THE REMEDIATION?

A. Yes.

Q. WHAT IS THAT OPINION?

A. The construction or operation of the pipeline is located outside Pristine site boundaries to the east. Based on my records review, characterization of this area indicated that there were no impacts to soils or groundwater from the Pristine site and off-site groundwater impacts would be constrained by the direction of groundwater flow which is to the south/southwest of the site, away from the proposed pipeline route.

Q. DID DUKE ENERGY OHIO PERFORM, OR CAUSE TO BE PERFORMED, ANY SOIL TESTING NEAR THE PRISTINE SITE, AS PART OF ITS INVESTIGATION CONCERNING THE CCP?

A. It is my understanding that Burns & McDonnell performed tests near the Pristine Site, on behalf of Duke Energy Ohio. That testing will be discussed in detail by Duke Energy Ohio witness Daniel Earhart.

Q. HAVE YOU REVIEWED THE RESULTS OF THE TESTING BY BURNS & McDONNELL?

A. Yes.

Q. BASED ON YOUR REVIEW OF AVAILABLE RECORDS AND OF THE TEST RESULTS OBTAINED BY BURNS & McDONNELL, DO YOU HAVE AN OPINION ABOUT THE DIRECTIONAL NATURE AND DEPTH OF ANY IMPACTS FROM THE PRISTINE SITE?

A. Yes.

Q. WHAT IS THAT OPINION?

A. Soil impacts did not extend east of the site boundary towards the railroad tracks and beyond based on historical data and test results from Burns & McDonnell sampling event. Groundwater impacts do not extend east across the site boundary because on-site contamination had migrated away from the proposed pipeline route horizontally and vertically from the shallow to lower aquifer in the direction of groundwater gradient to the south/southwest.

Q. BASED ON YOUR REVIEW OF AVAILABLE RECORDS AND OF THE TEST RESULTS OBTAINED BY BURNS & McDONNELL, DO YOU HAVE AN OPINION ABOUT WHETHER THE CONSTRUCTION OF CCP IN THE LOCATION PROPOSED FOR THE ALTERNATE ROUTE, APPROXIMATELY 100 FEET EAST OF THE PRISTINE SITE, WOULD HAVE ANY IMPACT ON THE REMEDIATION AT THE PRISTINE SITE?

A. Yes.

Q. WHAT IS THAT OPINION?

A. In my professional opinion, the construction of the CCP in the proposed location for the alternate route would not have an impact to the remediation at the Pristine site because construction is located outside the Pristine site boundary, is outside of the institutional controls (ICs) and environmental covenants (ECs) in place and that impacted groundwater is flowing away from the proposed pipeline route.

Q. BASED ON YOUR REVIEW OF AVAILABLE RECORDS AND OF THE TEST RESULTS OBTAINED BY BURNS & McDONNELL, DO YOU HAVE AN OPINION ABOUT WHETHER THE CONSTRUCTION OF CCP IN THE LOCATION PROPOSED FOR THE ALTERNATE ROUTE, APPROXIMATELY 100 FEET EAST OF THE PRISTINE SITE, WOULD RESULT IN ANY INCREASED RISK OF EXPOSURE FOR THE GENERAL PUBLIC?

A. Yes.

Q. WHAT IS THAT OPINION?

A. In my professional opinion, there is no risk of exposure to the general public in the area of the proposed location of the CCP, because the records indicate no soil or shallow groundwater contamination migrated east across Pristine Site boundary to the area of the proposed location of the CCP and the depth of contamination south of Pristine is present in the lower aquifer at depths of 25 feet below ground surface or greater which is at depths greater than proposed depth of the pipeline.

Q. BASED ON YOUR REVIEW OF AVAILABLE RECORDS AND OF THE TEST RESULTS OBTAINED BY BURNS & McDONNELL, DO YOU HAVE AN OPINION ABOUT WHETHER THE CONSTRUCTION OF CCP IN THE LOCATION PROPOSED FOR THE ALTERNATE ROUTE, APPROXIMATELY 100 FEET EAST OF THE PRISTINE SITE, WOULD RESULT IN ANY INCREASED RISK OF DAMAGE TO THE PIPELINE?

A. Yes.

Q. WHAT IS THAT OPINION?

A. In my professional opinion is that there is no risk of damage to the pipeline that would result from Pristine Site remediation activities because records indicate no contamination migrated east across Pristine Site boundary in the area of the proposed location of the CCP and the depth of contamination south of Pristine is present in the lower aquifer at depths of 25 feet below ground surface or greater which is at depths greater than proposed depth of the pipeline.

Q. BASED ON YOUR REVIEW OF AVAILABLE RECORDS AND OF THE TEST RESULTS OBTAINED BY BURNS & McDONNELL, DO YOU HAVE AN OPINION ABOUT WHETHER THE CONSTRUCTION OF CCP IN THE LOCATION PROPOSED FOR THE ALTERNATE ROUTE, APPROXIMATELY 100 FEET EAST OF THE PRISTINE SITE, WOULD RESULT IN ANY INCREASED RISK TO THE WORKERS CONSTRUCTING THE PIPELINE?

A. Yes.

Q. WHAT IS THAT OPINION?

A. Based on the results I performed of the Burns & McDonnell test results and the records review, in my professional opinion, there is no risk of exposure to construction workers constructing the CCP. The information I reviewed indicated that no contamination migrated east across from the Pristine Site boundary in the area of the proposed location of the CCP and the test results from the Burns & McDonnell investigation support that conclusion. In addition, the depth of contamination south of Pristine is present in the lower aquifer at depths of 25 feet below ground surface or greater which is at depths greater than proposed depth of the pipeline.

V. CONCLUSION

Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

A. Yes.

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

3/26/2019 4:33:55 PM

in

Case No(s). 16-0253-GA-BTX

Summary: Testimony Direct Testimony of Julianne Schucker on Behalf of Duke Energy Ohio, Inc. electronically filed by Carys Cochern on behalf of Duke Energy