

**BEFORE**

**THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of Duke Energy Ohio, Inc., for an Increase in Gas Rates.	) ) )	Case No. 12-1685-GA-AIR
In the Matter of the Application of Duke Energy Ohio, Inc., for Tariff Approval.	) ) )	Case No. 12-1686-GA-ATA
In the Matter of the Application of Duke Energy Ohio, Inc., for Approval of an Alternative Rate Plan for Gas Distribution Service.	) ) ) )	Case No. 12-1687-GA-ALT
In the Matter of the Application of Duke Energy Ohio, Inc., for Approval to Change Accounting Methods.	) ) )	Case No. 12-1688-GA-AAM

**SUPPLEMENTAL DIRECT TESTIMONY OF**

**JESSICA L. BEDNARCIK**

**ON BEHALF OF**

**DUKE ENERGY OHIO, INC.**

_____	Management policies, practices, and organization
_____	Operating income
_____	Rate Base
_____	Allocations
_____	Rate of return
_____	Rates and tariffs
<u>  X  </u>	Other: Manufactured Gas Plant Site Remediation

February 25, 2013

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JLB-SUPP-1 Figure of West End North of Mehring Way

JLB-SUPP-2 Figure of West End South of Mehring Way

JLB-SUPP-3 Figure of East End

**I. INTRODUCTION AND PURPOSE**

1   **Q.   PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2   A.   My name is Jessica Lyn Bednarcik, and my business address is 526 South Church  
3       Street, Charlotte, North Carolina 28202.

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

5   A.   I am employed by Duke Energy Business Services LLC (DEBS) as Manager of  
6       the Remediation and Decommissioning Group, which is part of Corporate  
7       Environmental Services. DEBS provides various administrative and other services  
8       to Duke Energy Ohio, Inc., (Duke Energy Ohio or Company) and other affiliated  
9       companies of Duke Energy Corporation (Duke Energy).

10  **Q.   ARE YOU THE SAME JESSICA LYN BEDNARCIK WHO FILED**  
11  **DIRECT TESTIMONY IN THESE PROCEEDINGS?**

12  A.   Yes.

13  **Q.   WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL DIRECT**  
14  **TESTIMONY?**

15  A.   The purpose of this Supplemental Direct Testimony is to provide support for the  
16       Company's objections to certain findings and recommendations contained in the  
17       Report by the Staff of the Public Utilities Commission of Ohio (Staff) issued in these  
18       proceedings on January 4, 2013 (Staff Report). Specifically, I am providing  
19       additional information regarding the background of Duke Energy Ohio's former  
20       Manufactured Gas Plant (MGP) sites, as well as the reason for and nature of cleanup  
21       activities at those sites. In so doing, I will support the historic useful nature of the  
22       properties in question for the provision of gas utility services and their current use in

1 the provision of utility services.

2 **Q. PLEASE SUMMARIZE YOUR SUPPLEMENTAL TESTIMONY.**

3 A. In summary, the West End and East End Sites have been used by Duke Energy  
4 Ohio and its predecessor companies for gas transmission, production and other  
5 utility service since the mid-1800s. Although the two sites have undergone  
6 changes in operations and equipment over the years, they currently house a  
7 number of critical infrastructures that are necessary for the provision of utility  
8 services, both gas and electric. Such uses are anticipated to continue into the  
9 foreseeable future. There are also infrastructures on both of the sites that are  
10 critical for transportation and other utility services. The Staff's recommendations  
11 to parse these properties and to recommend recovery of costs related to randomly  
12 selected portions of land is unreasonable and fails to consider the history of these  
13 utility properties and their current uses. It is undeniable that the contamination on  
14 these two sites was due to the existence and operation of MGPs, used in the  
15 provision of gas utility service to customers in the Company's southwestern Ohio  
16 service territory.

17 In the mid-to-late 2000s, due to changes in the anticipated use of the  
18 properties surrounding the two MGP sites, Duke Energy Ohio reprioritized the  
19 sites and moved diligently to investigate, and thereafter commenced remediation,  
20 in a manner that is consistent with MGP remediation throughout the country.  
21 Investigations and subsequent remediation were carried out following United  
22 States Environmental Protection Agency (US EPA) and Ohio Environmental  
23 Protection Agency (Ohio EPA) Voluntary Action Program (VAP) guidelines,

1 utilizing Ohio EPA Certified Professionals. Factors including, but not limited to,  
2 cost, risk to human health and the environment, long term and short term risk, and  
3 the ability to implement remediation strategies were all considered in determining  
4 the appropriate course of action at each site. The actions taken were prudent and  
5 reasonable, and designed to resolve environmental liability and mitigate future  
6 risk to the Company, rate payers, shareholders, and others.

## **II. OBJECTIONS SPONSORED BY WITNESS**

7 **Q. PLEASE DESCRIBE THE COMPANY'S OBJECTION NO. 6.**

8 A. The Company objects to the Staff's recommendations with respect to the  
9 Company's request for recovery of costs for the environmental investigation and  
10 remediation of its two former MGP sites, East End and West End, and particularly  
11 with the Staff's arbitrary and unreasonable determination and application of the  
12 used and useful standard.

13 **Q. PLEASE EXPLAIN WHY THE COMPANY DISAGREES WITH STAFF'S**  
14 **RECOMMENDATION TO ONLY PERMIT RECOVERY OF MGP**  
15 **REMEDATION EXPENSES INCURRED FOR 25 FEET ON EACH SIDE**  
16 **OF THE CENTERLINE OF GAS PIPELINES LOCATED ON THE**  
17 **EASTERN PARCEL OF EAST END.**

18 A. The entire East End property, known as the "East End Gas Works," was the  
19 location of historic gas-related utility operations that, as explained in the Direct  
20 Testimony of Company Witness Kevin D. Margolis, has resulted in  
21 environmental liabilities related to the operation of the plants. Such properties  
22 continue to be an integral part of the Duke Energy Ohio utility system, and not

1 just the 25 feet identified by the Staff. Duke Energy Ohio's predecessor  
2 companies owned and operated the MGPs located at East End, and the  
3 manufactured gas produced at the sites was distributed and used by gas ratepayers  
4 during plant operations. Although I am not an attorney, based upon my  
5 experience, training and responsibilities as Manager of the Remediation and  
6 Decommissioning Group, which is part of Corporate Environmental Services, and  
7 upon advice of counsel, I understand that Duke Energy Ohio has liability for  
8 remediating contamination at the entire site from such operations under federal  
9 law, specifically the Comprehensive Environmental Response, Compensation,  
10 and Liability Act of 1980 (CERCLA).

11 Furthermore, Duke Energy Ohio, under CERCLA, is responsible for  
12 impacts not only within the boundaries of the historic site and directly under the  
13 location of historic equipment, but also for any cleanup required off-site that can  
14 be linked to the operations conducted at the MGP site while under Duke Energy  
15 Ohio ownership and/or operation. This area includes land beyond the location of  
16 the current gas pipelines and in excess of the 25 feet arbitrarily selected by the  
17 Staff. The entire site is the East End Gas Works, used for gas processing, storage,  
18 and distribution throughout southwest Ohio. Again, the entire site was used and is  
19 currently used in providing gas utility service to Duke Energy Ohio's customers  
20 (as well as those of its predecessor companies) and the liability imposed under  
21 CERCLA extends beyond the limited area identified by the Staff.

1   **Q.   PLEASE EXPLAIN WHY THE COMPANY OBJECTS TO STAFF'S**  
2       **RECOMMENDATION THAT DEFERRED EXPENSES RELATED TO**  
3       **THE LAND REFERRED TO IN THE STAFF REPORT AS PURCHASED**  
4       **PROPERTY SHOULD NOT BE RECOVERED.**

5   A.   Although the bulk of the MGP operations were historically located on the East  
6       Parcel, West Parcel, and Middle Parcel, they once extended into portions of the  
7       property purchased in 2011. Furthermore, as discussed above, and in the Direct  
8       Testimonies of Mr. Margolis, Duke Energy Ohio is responsible for impacts not  
9       only within the boundaries of the historic site and directly under the location of  
10      historic equipment, but also for cleanup of any impacts off-site that can be linked  
11      to the operations conducted at the site while under Duke Energy Ohio ownership  
12      and/or operation. Such is the case with the purchased property at issue. The  
13      cleanup at the East End site was caused by contamination stemming from MGP  
14      operations by Duke Energy Ohio. Customers benefitted from the services  
15      provided by the plants at this location. Staff's elimination of this parcel is  
16      unreasonable, denies the Company its ability to recover its prudently incurred  
17      expenses and, as I understand, ignores the liability placed upon the Company  
18      under the law.

19   **Q.   PLEASE DISCUSS THE COMPANY'S OBJECTION TO THE STAFF'S**  
20       **RECOMMENDATION THAT THE COMPANY SHOULD NOT**  
21       **RECOVER EXPENSES ASSOCIATED WITH REMEDIATION AT THE**  
22       **WEST END SITE, NORTH OF MEHRING WAY.**

23   A.   West End was the location of historic gas related operations that resulted in

1 environmental remediation obligations related to the operation of the plants. Such  
2 properties continue to be an integral part of the Duke Energy utility system. Duke  
3 Energy Ohio's predecessor companies owned and operated the MGPs located at  
4 West End, and the manufactured gas produced at the sites was distributed and  
5 used by gas ratepayers during plant operations. As I previously mentioned, Duke  
6 Energy Ohio has the liability for remediating contamination from such operations  
7 under CERCLA.

8 Furthermore, Duke Energy Ohio is responsible for impacts not only within  
9 the boundaries of the historic site and directly under the location of historic  
10 equipment, but also for any cleanup required off-site that can be linked to the  
11 operations conducted at the MGP site while under Duke Energy Ohio ownership  
12 and/or operation. The cleanup at the West End site was caused by contamination  
13 stemming from MGP operations by Duke Energy Ohio or its predecessor  
14 companies. Customers benefitted from the services provided by the plants at this  
15 location. Staff's elimination of this parcel is unreasonable, denies the Company  
16 its ability to recover its prudently incurred expenses and as I understand, ignores  
17 the liability placed upon the Company under the law.

18 **Q. PLEASE EXPLAIN THE COMPANY'S OBJECTION TO STAFF'S**  
19 **RECOMMENDATION REGARDING RECOVERY OF EXPENSES**  
20 **ASSOCIATED WITH REMEDIATION AT THE WEST END SITE**  
21 **SOUTH OF MEHRING WAY.**

22 **A.** West End was the location of historic gas related operations that resulted in  
23 environmental remediation obligations related to the operation of the plants and



1 such properties continue to be an integral part of the Duke Energy Ohio utility  
2 system. Duke Energy Ohio's predecessor companies owned and operated the  
3 MGPs located at West End, and the manufactured gas produced at the sites was  
4 distributed and used by gas ratepayers during plant operations. As I previously  
5 mentioned Duke Energy Ohio has the obligation for remediating contamination  
6 from such operations under CERCLA.

7 Furthermore, Duke Energy Ohio is responsible for impacts not only within  
8 the boundaries of the historic site and directly under the location of historic  
9 equipment, but also for any cleanup required off-site that can be linked to the  
10 operations conducted at the MGP site while under Duke Energy Ohio ownership  
11 and/or operation. The cleanup at this site was caused by contamination stemming  
12 from MGP operations by Duke Energy Ohio's predecessor companies.  
13 Customers benefitted from the services provided by the plants at this location.  
14 Staff's elimination of this parcel is unreasonable, denies the Company its ability  
15 to recover its prudently incurred expenses and as I understand, ignores the  
16 liability placed upon the Company under the law.

17 **Q. PLEASE EXPLAIN HOW WEST END HAS BEEN UTILIZED BY THE**  
18 **COMPANY FOR THE PROVISION OF GAS DISTRIBUTION SERVICE**  
19 **DURING THE TIME PERIOD OF THE MGP FORMER OPERATIONS**  
20 **AS WELL AS TODAY.**

21 **A.** Duke Energy Ohio and its predecessor entities have generally owned the parcels  
22 comprising the West End location since the 1800s, although several parcels have  
23 been acquired over time. The Cincinnati Gas, Light & Coke Company acquired

1 the parcels to the north of Mehring Way (f/k/a Front Street) between 1851 and  
2 1876. The Cincinnati Gas, Light & Coke Company and the Cincinnati Gas &  
3 Electric Company acquired the parcels south of Mehring Way between 1878 and  
4 1962. Therefore, the property that currently comprises the West End location has  
5 been used by Duke Energy Ohio predecessor entities, including entities that  
6 owned and operated the historic MGP, since the construction of the first MGP on  
7 the site.

8 Sanborn Fire Insurance Maps and historical aerial photographs are  
9 typically utilized when trying to determine the types of operations that occurred  
10 on the property over the operational lifetime. For the Duke Energy Ohio MGPs,  
11 historical information was also determined from photographs of the sites and a  
12 book in the Company archives titled "History of the Cincinnati Gas & Electric  
13 Company from 1837 to 1956," by Walter R. Keagy and Allen C. Strunk, hereafter  
14 referred to as "History of CG&E." Information from "History of CG&E"  
15 indicates that the original MGP plant was located south of Mehring Way. The  
16 plant was expanded in 1857, again south of Mehring Way. Although no drawings  
17 or photographs exist of the first two MGPs located at the West End site, supposed  
18 remnants of the plants were discovered during remedial activities.

19 According to "History of CG&E," the entire West End MGP was  
20 reorganized between 1871 and 1873. The reorganization included moving the  
21 coal distillation works to the river side of Front Street and moving all condensing,  
22 measuring, purifying and exhausting apparatus to the north site of Front Street.  
23 Two new retort houses, an additional coal elevator, and a new coal house were

1 constructed on the south side and, on the north side, a new condenser, engine and  
2 meter, new scrubbers, valve houses, three new gas holders, and “ample” tar tanks  
3 were also constructed.

4 The first Sanborn Fire Insurance Map (Sanborn) obtained for the site is  
5 from 1887. This Sanborn shows operational equipment both north and south of  
6 Mehring Way. North of Mehring Way, the equipment includes four gas holders,  
7 purifying houses, a lime room with tar wells listed as being in the basement,  
8 scrubbers, a meter room, a condenser room, an area designated as pipe storage, a  
9 coal shed, and a wagon shed. South of Mehring Way, the equipment included one  
10 gas holder; coal houses; retorts; carpenter, blacksmith and machine shops; and  
11 coal piles. An 1891 Sanborn shows the same equipment present as the 1887  
12 Sanborn.

13 The construction of the electric station south of Mehring Way began in  
14 1916, according to “History of CG&E,” with partial operation beginning in 1918.  
15 Also in 1918, a producer gas plant began operation on the north side of Front  
16 Street to provide supplemental gas, in addition to natural gas, for peak demands in  
17 the heating season.

18 The 1922 Sanborn Map shows five gas holders, a pipe shop, a supply  
19 house, two booster houses and a water gas producer house north of Mehring Way.  
20 South of Mehring Way there was one gas holder, a boiler house, a generator  
21 room, garage, meter house, offices and measuring station. The 1922 Sanborn is  
22 the first Sanborn that shows the building outline of the electric station.

23 The 1934 Sanborn provides capacities for a number of the gasholders

1 north of Mehring Way: 457,000 cubic feet (CF); 392,000 CF; 458,000 CF; and  
2 1,597,000 CF. A supplies warehouse, two booster houses, three purifier tanks, tar  
3 wells, water gas producer, wash room and a miscellaneous storage house were  
4 also shown as being present north of Mehring Way. South of Mehring Way, the  
5 Sanborn indicates that the one gas holder's capacity was 1,592,700 CF. Also  
6 present are a coal pit, boiler house, generator room, garage and meter shop,  
7 measuring station, oil house, filter house and office, and the electric generating  
8 station.

9 The only change between the 1934 and the 1950 Sanborn is north of  
10 Mehring Way, where only the eastern-most gas holder is shown; also shown are a  
11 wash room, two booster houses, pipe shop, transformers and a dismantling house.

12 An aerial photograph from 1956 shows one gas holder and six buildings north of  
13 Mehring Way and one gas holder and the electric generating station south of  
14 Mehring Way. The gas holders are not present north of Mehring Way in a 1968  
15 aerial photograph, but the gas holder pad south of Mehring Way is still visible, as  
16 well as the electric generating station. A transmission tower and a substation  
17 appear on the property for the first time in the 1968 aerial photograph. A second  
18 substation appears south of Mehring Way in the 1988 aerial photograph.

19 It appears that Duke Energy Ohio employees started parking on the West  
20 End property, north of Mehring Way, in the 1980s. Prior to the closure of the  
21 parking lot, the employees who utilized the lot worked in various Duke Energy  
22 Ohio business units, including but not limited to, Gas Operations, Gas  
23 Distribution, Power Delivery, Real Estate, Legal, Finance, and Communications.

1 This particular area was used for employee parking until remediation work began  
2 in 2011.

3 The remedial activities, including the soil and groundwater investigations  
4 and excavations related to the remediation, have verified the presence of a number  
5 of the historic MGP structures that were shown on the Sanborn Maps on both  
6 sides of Mehring Way, including all of the gas holders shown on the Sanborns, as  
7 well as the larger tar holders north of Mehring Way. During the remediation, the  
8 presence of structures south of Mehring Way that are assumed to be part of the  
9 earliest MGPs were also unearthed. MGP-related impacts have been discovered  
10 throughout the site, both north and south of Mehring Way.

11 Maps that show the general location of current and historic equipment, as  
12 indicated by Sanborn Fire Insurance Maps and other Duke Energy drawings are  
13 submitted as attachments JLB-SUPP-1 and JLB-SUPP-2.

14 The West End site remains an important part of the Duke Energy utility  
15 system. Duke Energy Ohio currently owns and operates two 12-inch diameter gas  
16 transmission pipelines that enter Ohio at the West End site. At the valve pit  
17 located at the riverbank, the two lines combine into one 20-inch diameter pipe.  
18 The pipeline supplies natural gas to the Ohio gas distribution system. The pipeline  
19 has a normal operating pressure of 90 to 95 psig and a maximum operating  
20 pressure of 136 psig. The termination point of the transmission pipeline is the  
21 meter and regulator station located at the corner of Rose Street and Mehring Way,  
22 on the south side of Mehring Way. This is the "gas generating/pump house"  
23 referred to in my initial testimony. This building also houses the Remote

1 Terminal Units (RTU) equipment, which is part of the Supervisory Control and  
2 Data Acquisition (SCADA) system that monitors and controls the natural gas  
3 distribution system. Duke Energy Ohio is also planning to install a new gas  
4 transmission line at this property.

5 Duke Energy Ohio will retain ownership of the property south of Mehring  
6 Way for both the gas and electric operations. Based upon current designs, a  
7 portion of the property will become a right of way for the new Brent Spence  
8 Bridge.

9 North of Mehring Way will be retained by Duke Energy Ohio for electric  
10 transmission and distribution use. In addition to the electric equipment, it is also  
11 anticipated that parking for Duke Energy Ohio employees will be reinstated upon  
12 completion of remediation work. A portion of the easternmost part of the  
13 property will become a right of way for the new Brent Spence Bridge.

14 **Q. PLEASE EXPLAIN HOW EAST END HAS BEEN UTILIZED BY THE**  
15 **COMPANY FOR THE PROVISION OF GAS TRANSMISSION AND**  
16 **PRODUCTION, AND OTHER UTILITY SERVICE DURING THE TIME**  
17 **PERIOD OF THE MGP FORMER OPERATIONS AS WELL AS TODAY.**

18 **A.** Duke Energy Ohio and its predecessor entities have generally owned the parcels  
19 comprising the East End location, and operated the site as a gas utility, since the  
20 1800s. The site is commonly referred, even today, as the East End Gas Works or  
21 East Works. The parcels of land that comprise the Middle Parcel and the West  
22 Parcel of the site were purchased by the Cincinnati Gas, Light & Coke Company  
23 and the Cincinnati Gas & Electric Company in 1875, 1883, 1962 and 1975. The

1 parcels of land that comprise the East Parcel were acquired between 1888 and  
2 1945. Therefore, the property that currently comprises the East End Gas Works  
3 has been used by Duke Energy Ohio and its predecessor entities, including the  
4 entities that owned and operated the historic MGP, since the construction of the  
5 MGP.

6 The entire property is used as the East End Gas Works, but designations  
7 “East Parcel,” “Middle Parcel,” and “West Parcel” were created solely to aid in  
8 the planning and execution of the remedial actions at the East End site. Generally  
9 the East Parcel is the area between the eastern property border and vacated  
10 Pittsburgh Street (f/k/a Marmet Street), the Middle Parcel is the area between  
11 vacated Pittsburgh Street and vacated St. Andrews Street, and the West Parcel is  
12 between the vacated St. Andrews Street and the Duke western property border as  
13 of 2006. Some land that was part of the original MGP site, to the west of the  
14 West Parcel, was sold by the Company in 2006 and reacquired by Duke Energy  
15 Ohio in 2011. As part of the 2011 real estate transaction, Duke Energy Ohio also  
16 acquired numerous contiguous properties located between the West Parcel and  
17 Gotham Street to the west, some of which were suspected of being impacted by  
18 the former MGP operations.

19 According to “History of CG&E,” operations at the East End Site began in  
20 1884. The earliest Sanborn Fire Insurance Map obtained by Duke Energy Ohio  
21 for the site is from 1891. The Sanborn map shows the plant located on the Middle  
22 Parcel and consisting of two gasholders with capacities of 700,000 ft each, a tar  
23 well, scrubbers, purifiers, retorts and a coal shed. Elevated tramways extend into

1 the East Parcel. The buildings that housed the purifiers and scrubbers are present  
2 on the site today and are utilized by Gas Operations and Gas Construction and  
3 Maintenance Crews. Investigations have confirmed the presence of the gas  
4 holders and tar well on the Middle Parcel.

5 The 1904 Sanborn map shows the addition of a tar well to the Middle  
6 Parcel, as well as a tar tank and an iron tar well located on the West Parcel. The  
7 tar tank was located and removed during remedial activities that occurred on the  
8 West Parcel. The iron tar tank was located as well and partially removed; a  
9 portion of this tank extended past Duke Energy Ohio's western property border at  
10 the time of the remediation and will be addressed in future remedial actions.

11 The 1917 Sanborn map shows the same features as the previous Sanborn  
12 maps, except the iron tar tank on the West Parcel has been removed, as well as the  
13 two tar holders on the Middle Parcel. The two gas holders on the Middle Parcel  
14 are shown as 650,000 CF and are listed as "not used." A third gas holder is shown  
15 on the East Parcel, with a 3,694,000 CF capacity.

16 The 1950 Sanborn map shows, on the East Parcel, the gas holder from the  
17 1917 Sanborn map, four purifiers, precipitators, and a 1,000,000 gallon oil tank.  
18 The retort on the Middle Parcel has been replaced by a Generator House. On the  
19 West Parcel, propane gas tanks are present. Remnants of a number of these  
20 structures were discovered during remedial actions.

21 A facility plan from 1963 shows, in addition to the structures listed above,  
22 two additional oil storage tanks on the East Parcel surrounded by secondary  
23 containment; two tar separators and a tar settling tank on the Middle Parcel; and a



1 tar pit on the West Parcel. All of these structures have been confirmed through  
2 investigations conducted at the site.

3 At the time when soil and groundwater investigations began at the site in  
4 2006, the concrete structures that were the secondary containment for the oil tanks  
5 shown on the 1963 site plan were still located on the East Parcel, but they were  
6 located below an area of permitted Clean Hard Fill, obtained from the installation  
7 and repair of gas lines throughout Duke Energy Ohio's service area. The Clean  
8 Hard Fill area encompassed the majority of the East Parcel. The Middle Parcel  
9 was used, and continues to be used as a Gas Operations Plant and as a staging  
10 area for Gas Construction and Management crews. The West Parcel was used as  
11 a safe set back between the gas plant and properties owned by third parties; gas  
12 crews also used the West Parcel for training exercises prior to the confirmation of  
13 impacted material on the parcel.

14 There are a number of gas transmission lines that are located on the East  
15 Parcel, a sensitive underground structure related to Gas Operations is located  
16 substantially on the Middle Parcel but extending into the West Parcel, and new  
17 equipment related to the Gas Plant are located on the West Parcel.

18 The remedial activities, including the soil and groundwater investigation  
19 and excavations related to the remediation, have verified the presence of a number  
20 of the historic MGP structures that were shown on the Sanborn Maps and facility  
21 map on the East End site. Also, based upon the route of many of the gas  
22 transmission lines located on the East Parcel and Middle Parcel, it appears that the  
23 lines were installed to go around historic MGP related equipment.

1 A map that shows the general location of current and historic equipment,  
2 as indicated by Sanborn Fire Insurance Maps and the facility map is submitted as  
3 attachment JLB-SUPP-3. Information on the current gas equipment location on  
4 the property was described in my initial testimony.

5 Duke Energy Ohio will retain and continue to utilize the East End Gas  
6 Works property. Duke Energy Ohio will continue to maintain current gas lines,  
7 plans on constructing new gas transmission lines, and will continue to operate the  
8 gas plant.

9 Future use of the property purchased in 2011 will be determined based on  
10 the needs of the Company after completion of all investigation and remediation, if  
11 required.

### **III. ENVIRONMENTAL REMEDIATION ACTIVITIES**

12 **Q. PLEASE EXPLAIN WHY DUKE ENERGY OHIO INITIATED**  
13 **ENVIRONMENTAL WORK IN 2006 RELATED TO ITS MGP SITES IN**  
14 **OHIO.**

15 A. Since 1988, Duke Energy has been systematically reviewing all of its MGP sites.  
16 The MGP sites across the Company's entire service territory were originally  
17 prioritized based on a number of criteria, including but not limited to current site  
18 use and use of groundwater in the surrounding community. For example, a site  
19 located next to a school was prioritized higher than a site located within an  
20 industrial area with limited access due to the presence of fencing. As site  
21 conditions change, for example due to neighborhood development, sites are  
22 reprioritized.

1           It should also be noted that, although some sites may have been initially  
2 prioritized lower within the portfolio, outside forces such as the presence of  
3 additional responsible parties with a different remedy timeline or a state  
4 regulatory agency with a mandate from its state governing body to look at MGP  
5 sites may have accelerated schedules.

6           The two Duke Energy Ohio MGP sites were initially considered lower  
7 priority sites because a) they were owned by Duke Energy Ohio or predecessor  
8 companies and therefore the Company was able to limit access to the sites; b)  
9 groundwater was not used as a source of drinking water at the sites or by the  
10 surrounding properties; and c) the sites were essentially "capped" by asphalt,  
11 concrete, or soil layers (for example, the permitted Clean Hard Fill located on the  
12 east parcel of East End), which limited contact. The East End and West End sites  
13 were reprioritized in 2006 and 2009, respectively, due to changes in site  
14 conditions and outside forces.

15 **Q. PLEASE EXPLAIN THE CIRCUMSTANCES THAT RESULTED IN THE**  
16 **REPRIORITIZATION OF THE EAST END SITE IN 2006.**

17       Between 2005 and 2006 at East End, planned residential development of  
18 adjoining properties to the east and west of the site, and an ingress-egress and  
19 utility easement and landscape easement across a portion of the West Parcel led to  
20 a re-evaluation of the site's priority. The neighboring developers began site  
21 preparation and started marketing the properties for residential development. The  
22 presence of residential development next to the East End site and the possibility  
23 of contactors, construction workers, and residents having access to portions of the

1 property via the ingress-egress and utility easement and landscape easement  
2 altered the “limited accessibility” engineering control. The landscape easement  
3 also allowed for the removal of the clean “cap” on portions of the West Parcel for  
4 planting. The presence of residents in close proximity to the site changed the  
5 priority ranking due to the increased risk of potential contact with the conditions  
6 at the East End site and the risk of greatly increased costs if remediation were to  
7 have occurred at a later date. Therefore Duke Energy Ohio believed it was  
8 prudent to commence investigation in a diligent manner at that time.

9 Discussions were also held with one of the developers to determine if  
10 MGP related chemicals had migrated or had been placed on his property during  
11 MGP plant operations or decommissioning, to address any potential worker  
12 exposure concerns.

13 Remediation activities have also been sequenced at East End to facilitate  
14 planned improvements to the site: on the East Parcel, a “clean gas corridor” was  
15 installed along the southern fence line so that when gas transmission lines are  
16 replaced in the future, gas workers will not come in contact with either impacted  
17 soil or solidified impacted soil during installation activities. On the West Parcel,  
18 the MGP project manager worked with Gas Operations and Gas Engineering to  
19 identify a suitable location for new vaporizers, which were installed by Gas  
20 Operations in 2012. An alternative entrance and road way were also constructed  
21 across the West Parcel, at the completion of the remediation, to be utilized by gas  
22 employees whenever the gas plant is operating.

23 The active use of the East End Gas Works by the Gas Department further

1 necessitated the separation of the site into the three parcels: the East Parcel, the  
2 West Parcel and the Middle Parcel. Remedial actions were staged so that gas  
3 activities could continue without interruption while remedial actions were  
4 conducted.

5 **Q. PLEASE EXPLAIN THE CIRCUMSTANCES THAT RESULTED IN THE**  
6 **REPRIORITIZATION OF THE WEST END SITE IN 2009.**

7 A. The prioritization of the West End site changed once the Ohio Department of  
8 Transportation (ODOT) and the Kentucky Department of Highways (KY DOH)  
9 finalized the preferred location of the new Brent Spence Bridge Corridor Project  
10 as directly crossing the West End site. Construction activities related to the  
11 bridge project would alter the potential exposure pathways, especially as it related  
12 to construction workers. In addition, Duke Energy Ohio must relocate a number  
13 of electric utilities that are in conflict with the planned route of the new bridge  
14 and associated approaches, also increasing the exposure potential to Duke Energy  
15 Ohio workers and contractors.

16 The remediation schedule was also accelerated because the new structures,  
17 if constructed prior to remediation, would hinder and greatly increase the cost of  
18 future work due to accessibility restrictions.

19 After the reprioritization of West End, Duke Energy Ohio environmental  
20 personnel worked diligently to start activities, in order to support the schedule for  
21 the new Brent Spence Bridge that had been communicated by ODOT.

22 Duke Energy Ohio also plans to replace the gas transmission line that  
23 enters Ohio at West End. The Gas Department's replacement activities will be

1 coordinated with the investigation and potential remediation of those areas that  
2 will be disturbed by installation of the new gas line.

3 **Q. PLEASE EXPLAIN WHEN DUKE ENERGY OHIO FIRST BECAME**  
4 **AWARE OF THE NEED FOR SITE REMEDIATION AT EAST END AND**  
5 **WEST END.**

6 A. MGP related obligations have been anticipated at Duke Energy MGP sites since  
7 1988, when the Company began its MGP-related program. Since the MGP  
8 operations in Ohio date back to the mid-1800s, the numbers of records available  
9 for review are at times few to none. Accordingly, Duke Energy Ohio has had to  
10 rely upon limited historic photographs, Sanborn Maps, and drawings to  
11 understand the history, usage and configuration of the properties. There is no way  
12 to determine without performing a subsurface investigation if structures had been  
13 removed in the past, or if by-products remained on the site after plant demolition.  
14 At any MGP or environmentally impacted site, the extent of the liability is  
15 unknown prior to the performance of environmental investigation activities. Duke  
16 Energy Ohio knew that site remediation would be required once the existence of  
17 impacted material was confirmed, during the initial subsurface investigation at  
18 East End in 2006 and at West End in 2009. Once the presence of impacted  
19 material was confirmed, Duke Energy Ohio moved prudently to address the  
20 impacts, based upon the current use of the sites, discussions with the Ohio EPA  
21 Certified Professionals on the Ohio EPA's regulations related to the removal of  
22 impacted materials, as well as the known and anticipated future use of the sites.

23 **Q. PLEASE LIST THE REPORTS PRODUCED THAT DOCUMENT THE**

1           **NEED FOR REMEDIATION AT EAST END.**

2       A.     As indicated in my initial testimony, the environmental work at East End has been  
3           conducted following the guidelines of the Ohio EPA VAP program, under the  
4           direction of a VAP Certified Professional. A VAP Phase I Property Assessment  
5           contains information concerning the Certified Professional's investigation of the  
6           historical and current uses of the property. The purpose of a Phase I Property  
7           Assessment under the VAP is to determine whether there is any reason to believe  
8           that any releases of hazardous substances or petroleum have or may have occurred  
9           on, underlying, or are emanating from a property, including any release from  
10          management, handling, treatment, storage, or disposal activities from on or off-  
11          property activities. The scope of a property assessment is to characterize a  
12          property for the purposes of participation in the VAP and to determine the  
13          necessity for and initial scope of a property assessment. See Ohio Administrative  
14          Code (OAC) 3745-300-06. A VAP Phase II Property Assessment documents the  
15          investigation activities carried out at the site based on the findings in the Phase I.  
16          A Phase II Property Assessment must be conducted if the Phase I reveals any  
17          information that establishes any reason to believe that a release of hazardous  
18          substances or petroleum has or may have occurred on the property, or these  
19          substances are underlying or emanating from the property. The purpose of a  
20          Phase II property assessment is to conduct an investigation sufficient to determine  
21          whether all applicable standards are met or to determine that remedial activities  
22          conducted in accordance with the VAP at the property meet or will achieve  
23          applicable standards. See OAC 3745-300-07.

1           An Ohio EPA VAP Phase I Environmental Site Assessment was prepared  
2           for the East and West Parcels at the East End site in 2008 and for the Middle  
3           Parcel in 2011. Reports on these Phase I Property Assessments were produced by  
4           Duke Energy Ohio pursuant to requests for production of documents in these  
5           proceedings. The Phase I Property Assessments were performed in accordance  
6           with OAC 3745-300-06 and identified the historic use of the property as an MGP.  
7           The Phase I determined there was reason to believe that releases of hazardous  
8           substances or petroleum have or may have occurred on, underlying, or are  
9           emanating from the property and concluded that a Phase II Property Assessment  
10          was necessary. Based on the Phase I Property Assessments, an Ohio EPA Phase  
11          II Property Assessment was performed in accordance with OAC 3745-300-07 and  
12          reports were prepared on such work in 2009 for the East Parcel and the West  
13          Parcel. Reports on these Phase II Property Assessments were produced by Duke  
14          Energy Ohio pursuant to requests for production of documents in these  
15          proceedings. The Phase II Property Assessment involved soil and groundwater  
16          sampling and determined that hazardous substances and petroleum were present at  
17          the East End site at concentrations which did not meet applicable VAP standards  
18          for such contaminants. Therefore, remediation would be required under the VAP  
19          to meet applicable VAP standards for the East End site. A Remedial Action Plan  
20          for the East and West Parcels was prepared in 2009, a copy of which was  
21          produced by Duke Energy Ohio pursuant to requests for production of documents  
22          in these proceedings. Duke Energy Ohio thereafter implemented the Remedial  
23          Action Plan. The Phase II Report for the Middle Parcel is currently being



1 developed.

2 **Q. LIST THE REPORTS PRODUCED THAT DOCUMENT THE NEED FOR**  
3 **REMEDiation AT WEST END.**

4 A. As indicated in my initial testimony, the environmental work at West End has  
5 been conducted following the guidelines of the Ohio EPA VAP program, under  
6 the direction of a VAP Certified Professional. An Ohio EPA VAP Phase I  
7 Environmental Site Assessment was performed in accordance with OAC 3745-  
8 300-06 for the West End site in 2010. A report documenting the Phase I Property  
9 Assessment was produced by Duke Energy Ohio pursuant to requests for  
10 production of documents in these proceedings. The Phase I Property Assessment  
11 identified the historic use of the property as an MGP. The Phase I determined  
12 there was reason to believe that releases of hazardous substances or petroleum  
13 have or may have occurred on, underlying, or are emanating from the property  
14 and concluded that a Phase II Property Assessment was necessary. Based on the  
15 Phase I Property Assessment, an Ohio EPA Phase II Property Assessment was  
16 performed in accordance with OAC 3745-300-07 and a report was prepared on  
17 such work in 2010 for the West End site. The report on this Phase II Property  
18 Assessment was produced by Duke Energy Ohio pursuant to requests for  
19 production of documents in these proceedings. The Phase II Property Assessment  
20 involved soil and groundwater sampling and determined that hazardous  
21 substances and petroleum were present at the West End site at concentrations  
22 which did not meet applicable VAP standards for such contaminants. Therefore,  
23 remediation would be required under the VAP to meet applicable VAP standards

1 for the West End site. The Phase II Property Assessment report contains an  
2 appendix which contains a “Basis of Design Memorandum,” a document that is  
3 similar to the Remedial Action Plan created for the East End site. Duke Energy  
4 Ohio thereafter began implementing the selected remedial activities at the West  
5 End site.

6 **Q. LIST THE TECHNOLOGIES THAT ARE TYPICALLY CONSIDERED IN**  
7 **DEVELOPING THE REMEDIAL ACTION PLAN FOR SOIL AND**  
8 **GROUNDWATER REMEDIATION AT AN MGP SITE.**

9 A. Technologies typically considered include, but are not limited to, monitored  
10 natural attenuation, excavation, solidification, *in-situ* chemical oxidation, thermal  
11 heating, containment, engineering controls, and institutional controls.  
12 Combinations of technologies are also considered. Technology decisions are  
13 based upon the past experience of the Duke Energy project managers,  
14 environmental consultants, and through lessons learned from other utilities and  
15 industry groups such as the Electric Power Research Institute (EPRI).

16 **Q. PLEASE EXPLAIN GENERALLY HOW DUKE ENERGY DECIDES ON**  
17 **THE REMEDIAL ACTIONS EXECUTED AT A REMEDIATION SITE.**

18 A. Duke Energy project managers, in connection with the environmental consultants  
19 who have been hired for the individual clean-up sites, work together to determine  
20 the best method or methods for remedial action. Factors that are taken into  
21 account include, but are not limited to, those factors that are typically analyzed in  
22 an US EPA Feasibility Study. The factors that are looked at in the Feasibility  
23 Study include, but are not limited to whether the remedial action is protective of

1 human health and the environment; its effectiveness, both short term and long  
2 term; the ability to implement a particular action; and its cost. In analyzing these  
3 factors, Duke Energy project managers also take into account the current and  
4 anticipated future use of the site, and short term and long term liability of the site  
5 based upon the chosen remedial action. Risk assessments are also performed, to  
6 look at the current risk to a number of potential groups of people that may be  
7 present on or otherwise be exposed to the site. The groups of people that may be  
8 evaluated in the risk assessment include, but are not limited to child and/or adult  
9 trespasser, child and/or adult resident, construction worker, and  
10 industrial/commercial worker. Another factor that is analyzed is each state's  
11 regulatory cleanup program as it relates to the presence of "source material" on  
12 the site. For example, based upon discussions with the Ohio EPA VAP Certified  
13 Professional, Duke Energy Ohio proceeded with removal and/or *in-situ* treatment  
14 of source material, such as tar-like material (TLM) and oil-like material (OLM) in  
15 the subsurface, as the Ohio EPA VAP requires removal or treatment of such  
16 material, to the extent that it is technically feasible to remove or treat it.

17 **Q. PLEASE EXPLAIN HOW DUKE ENERGY OHIO DECIDED UPON THE**  
18 **REMEDIAL ACTIONS EXECUTED AT THE EAST END SITE.**

19 A. For the East Parcel, the factors that were looked at when evaluating the available  
20 remedial actions included the fact that the parcel would be retained by Duke  
21 Energy Ohio for extensive utility service operations, that there were high pressure  
22 gas mains traversing the site that would need maintenance and eventual  
23 replacement by Duke Energy Ohio Gas Operations crews, and that TLM and

1 OLM was present in the fill material underlying portions of the site. The majority  
2 of the impacted soil, including the TLM and OLM, was located in the top 20 feet  
3 of the site, although the impacts did extend deeper in some areas. The available  
4 options included excavation with off-site disposal, *in-situ* solidification, and  
5 capping. Capping was the least cost option looking at short term liability, and the  
6 easiest to implement, however, it did not reduce the long term liability on the site,  
7 as TLM and OLM would still be present. Also, as gas crews performed  
8 maintenance on the current lines or installed new lines, certified crews would  
9 have to be called out to handle the impacted soil before work could commence,  
10 resulting in added cost and exposure from such work. Finally, as discussed  
11 above, Ohio EPA's VAP required removal and/or treatment of source material in  
12 the subsurface, if it could be removed or treated in a feasible manner.

13 Both excavation and *in-situ* solidification could be implemented, reducing  
14 the long term liability on the site by either removing or binding up the  
15 contaminants, eliminating potential contact by future site workers or construction  
16 workers and minimizing future leaching of material into the groundwater.  
17 Solidification was chosen as the preferred option due to its cost-effectiveness,  
18 especially since it would minimize off-site disposal costs as well as reduce the  
19 number of vehicles going to the landfill.

20 Since the contaminants would still be present in the solidified material and  
21 therefore cannot be handled except by certified crews, the remediation group  
22 worked with Gas Engineering to determine the optimum location for future gas  
23 transmission lines. The location was determined and designed as a "clean gas

1 corridor,” containing no solidified material but only clean backfill. Clean backfill  
2 was also placed around the existing gas transmission lines, so that gas crews  
3 would be able to easily work on them in the future. Two feet of clean backfill  
4 was also installed throughout the parcel, over the solidified material.

5 For the West Parcel, the factors that were taken into account when  
6 evaluating the remedial options included the fact that the parcel would be retained  
7 by Duke Energy Ohio; the extent of OLM and TLM that was present, especially  
8 in the location of the former tar lagoon; and that impacted groundwater was likely  
9 migrating outside the property boundaries. Also, during the investigation, the  
10 sampling rig that was initially mobilized to the site to take samples encountered  
11 numerous subsurface obstructions. A special rig which could more easily cut  
12 through subsurface obstructions such as rock, foundations, or other debris was  
13 mobilized to the site to take samples. The presence of the multiple obstructions  
14 encountered during the investigation phase of the remediation was a factor in  
15 determining the remedial alternatives.

16 As with the East Parcel, capping was considered but not selected as a  
17 viable option for long term risk management and it did not meet Ohio EPA VAP  
18 requirements. Solidification was considered, but as subsurface obstructions have  
19 to be removed before the solidification auger can be advanced into the ground, the  
20 West Parcel would have essentially had to be excavated first to perform  
21 solidification. Another consideration with solidification was the potential  
22 vibrations that would occur in the subsurface if the solidification auger  
23 encountered an unknown subsurface obstruction. Vibrations were a concern at

1 the site, especially on the West Parcel, due to sensitive underground utilities. The  
2 potential risk to these sensitive utilities, and the difficulty with implementation  
3 due to subsurface obstruction, left excavation as the preferred remedial option.  
4 The excavation depth was chosen in order to reduce the long term liability of the  
5 site and to achieve a greater level of protection to the environment, specifically  
6 the groundwater.

7 Containment was also evaluated for the West Parcel, but the difficulty in  
8 connecting a containment wall to the bedrock, especially with the presence of the  
9 sensitive subsurface utilities, eliminated this option from consideration.

10 For both parcels, it was assumed that future institutional controls in the  
11 form of land use restrictions and/or groundwater restrictions would be  
12 implemented. Also, areas of the site that did not contain OLM and TLM but only  
13 impacted soil were remediated to a level that would be acceptable to both  
14 construction workers and commercial/industrial workers; it was assumed that the  
15 site would never be used for residential use.

16 **Q. PLEASE EXPLAIN HOW DUKE DECIDED UPON THE REMEDIAL**  
17 **ACTIONS EXECUTED AT THE WEST END SITE.**

18 A. For the West End Site, the factors used when evaluating the remedial options  
19 included the fact that the parcel would be retained by Duke Energy Ohio for  
20 extensive utility service operations and that OLM and TLM were present in the  
21 subsurface. Treating the impacted material only in those area that would have  
22 been affected by the construction activities was evaluated, and only to the depths  
23 where construction workers would be exposed, but since the new electric

1 equipment would limit the future accessibility of those areas, and would  
2 substantially increase the cost of any future environmental work in those areas, to  
3 reduce the long term risk and limit potential costs for future actions it was  
4 determined to address the impacts, especially the TLM and OLM, while the areas  
5 were more readily accessible.

6 Excavation, solidification and containment were all evaluated. During the  
7 bidding process, containment was eliminated due to elevated costs and the  
8 difficulty of keying the containment wall into the bedrock, which is present at a  
9 depth of greater than 100 feet. The hydraulic effect of the Ohio River on the  
10 containment wall was also a concern with this option. Excavation and  
11 solidification were carried forward as viable remedial options as they could be  
12 more easily implemented and would limit the future liabilities associated with  
13 subsurface contaminants. It was determined that clean backfill would be placed  
14 in the top 15 feet of the site, as this is the expected area where future construction  
15 activities, especially those associated with the new electrical equipment, would  
16 occur. Solidification was chosen to bind up the contaminants below 20 feet as it  
17 was a cheaper option than deep excavation, the number of subsurface obstructions  
18 were minor or were known and either removed or incorporated into the  
19 solidification plan below 20 ft, and it was also easier to implement than  
20 excavation to the deeper depths as an earth retention system would not be  
21 required below the excavation depth. Also by excavating initially to 20 feet, the  
22 excess material that was generated during solidification, due to the addition of  
23 binding agents and sometimes referred to as “fluff,” was able to be managed and

1 left on-site, reducing the amount of truck traffic and material that needed to be  
2 disposed off-site.

3 Additional investigations were executed throughout the site after the initial  
4 20 foot excavation was completed, to more clearly delineate the location of TLM  
5 and OLM in the subsurface. These additional investigations helped to refine and  
6 in some places reduce the area requiring solidification, especially in the area north  
7 of Mehring Way.

8 Areas of the site that did not contain OLM and TLM but only impacted  
9 soil were remediated to a level that would be acceptable to both construction  
10 workers and commercial/industrial workers; it was assumed that the site would  
11 never be used for residential use.

12 The remediation work was sequenced to minimize potential exposure  
13 during construction activities related to the bridge project.

#### 14 **IV. ENVIRONMENTAL REMEDIATION COSTS**

14 **Q. PLEASE EXPLAIN WHAT VARIABLES AFFECT THE COSTS**  
15 **ASSOCIATED WITH THE CLEAN UP OF MGP SITES.**

16 A. Variables include, but are not limited to, the regulating agency's standards related  
17 to source-like material, the number of years that the plant operated, the amount of  
18 gas produced at the site over its operational lifetime, the type of processes used to  
19 manufacture the gas, disposal options, current and future site use, whether the  
20 utility owns the property or it is owned by a third party, physical barriers or  
21 obstructions at the site or in close proximity of the site, the depth to the subsurface  
22 confining layer, groundwater flow rate and depth, the time when the remediation



1 occurred, the site area, and many others. As the East End site and the West End  
2 site have a long history of operation, were large gas producers while they  
3 operated, have unique on-site barriers that need to be considered in the remedial  
4 options (sensitive underground utilities and gas operations at East End, electric  
5 equipment and bridge at West End), and have impacts present at depths greater  
6 than 20 feet at the site, it would be expected that the cost to remediate these sites  
7 would be higher than a site that only operated a few years, with contamination  
8 only a few feet deep.

9 Duke Energy's Project Managers also track costs and project tasks to help  
10 determine any potential cost savings, working with environmental consultants to  
11 implement cost effective best practices. Examples include the additional site  
12 investigation at West End that allowed for the reduction of the *in-situ*  
13 solidification footprint, the removal of a barrier wall between the West Parcel and  
14 Middle Parcel at East End due to observations made during excavation, the  
15 strategic use of multiple mix designs based upon the nature of the contaminants,  
16 and the solicitation of multiple competitive bids for larger scope items.

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

20 A. Duke Energy Ohio has given notice to insurance carriers who held policies with  
21 Duke Energy Ohio or predecessor companies during the period of time when the  
22 MGPs operated or during the time period when damages due to the MGPs  
23 occurred to the extent such policies and carriers have been identified.

1 Duke Energy Ohio is also conducting ongoing research to determine if  
2 there are other potentially responsible parties for the conditions at the sites. Based  
3 upon our research conducted to-date, Columbia Gas of Ohio is a potentially  
4 responsible party that has been identified. Duke Energy Ohio is continuing to  
5 investigate whether other potentially responsible parties may exist.

6 **Q. PLEASE EXPLAIN IF THERE ARE ANY FUNDS AVAILABLE**  
7 **THROUGH FEDERAL OR STATE PROGRAMS THAT COULD BE**  
8 **USED FOR THE REMEDIATION OF THE EAST END AND WEST END**  
9 **SITES.**

10 A. Duke Energy Ohio also evaluated whether additional sources of funding were  
11 available for financing some or all of the remediation of the East End and West  
12 End sites. Programs that could be considered as potential sources of funds,  
13 namely the EPA Brownfields Program under American Recovery and  
14 Reinvestment Act (ARRA) and the Clean Ohio Fund Program (Assistance and  
15 Revitalization Funds) were unfortunately not available to Duke Energy Ohio  
16 based upon certain restrictions. The ARRA funds available for remediation efforts  
17 were administered and awarded through the EPA Brownfields Program. Duke  
18 Energy Ohio was not eligible for assessment or cleanup grants under the EPA  
19 Brownfields Program because it is not among the types of entities eligible for  
20 such grants. Entities that are eligible for awards under the EPA Brownfields  
21 Program are limited to the following: state, local and tribal governments; general  
22 purpose units of local government; land clearance authorities or other quasi-  
23 governmental entities; regional council or redevelopment agencies; states or

1 legislatures; and nonprofit organizations. Similarly, Duke Energy Ohio was not  
2 eligible for grants under the Clean Ohio Assistance or Revitalization Funds as  
3 such funding was available only to certain entities: townships, municipal  
4 corporations, counties, port authorities and conservancy districts. Moreover,  
5 while for-profit organizations were permitted to enter an agreement with an  
6 eligible applicant to seek such funding under the Clean Ohio Fund, entities that  
7 caused or contributed to the contamination at the property were not permitted to  
8 enter into such an agreement. Thus, it is Duke Energy Ohio's understanding that  
9 it was not eligible for any such federal or state funding.

10 **Q. PLEASE EXPLAIN WHY DUKE ENERGY OHIO BELIEVES THAT THE**  
11 **DEFERRED REMEDIATION COSTS INCURRED AT THE EAST END**  
12 **AND WEST END SITES SHOULD BE INCLUDED IN THE GAS**  
13 **DISTRIBUTION CASE.**

14 A. The East End and West End properties were the location of historic gas related  
15 operations that resulted in liabilities related to the operation of the plants, and  
16 such properties continue to be an integral part of the Duke Energy Ohio utility  
17 system. Duke Energy Ohio and its predecessor companies owned and operated  
18 the MGPs located at the East End and West End sites, and the manufactured gas  
19 produced at the sites was distributed and used by gas ratepayers during plant  
20 operations. Based upon my experience and training and upon advice of counsel,  
21 Duke Energy Ohio has the remediation obligation for contamination from such  
22 operations under the CERCLA law. Furthermore, Duke Energy Ohio is  
23 responsible for impacts not only within the boundaries of the historic site and

1 directly under the location of historic equipment, but also for any cleanup  
2 required off-site that can be linked to the operations conducted at the MGP site  
3 while under Duke Energy Ohio ownership and/or operation. The remediation at  
4 this site was caused by contamination stemming from MGP operations. And the  
5 Company's customers benefitted from the services provided by the plants at these  
6 locations.

7 **Q. PLEASE EXPLAIN WHY DUKE ENERGY OHIO BELIEVES THE 2010**  
8 **PROPERTY PURCHASE AT EAST END SHOULD BE INCLUDED IN**  
9 **THE GAS DISTRIBUTION CASE.**

10 A. Although the bulk of the MGP operations were historically located on the East  
11 Parcel, West Parcel, and Middle Parcel, they once extended into portions of the  
12 property purchased in 2011. Furthermore, as discussed above, Duke Energy Ohio  
13 is responsible for impacts not only within the boundaries of the historic site and  
14 directly under the location of historic equipment, but also for cleanup of any  
15 impacts off-site that can be linked to the operations conducted at the site while  
16 under Duke Energy Ohio ownership and/or operation.

17 **Q. PLEASE EXPLAIN HOW DUKE ENERGY OHIO, SHAREHOLDERS**  
18 **AND CUSTOMERS BENEFIT FROM THE CLEANUP OF THE EAST**  
19 **END AND WEST END MGP SITES.**

20 A. The Company makes decisions on how to best manage its liability in the best  
21 interests of the Company, its shareholders, the public and its customers, taking  
22 into consideration the nature of the liability and the current and future use of the  
23 site in question. Once a liability is identified, it is typically more prudent to

1 investigate and remediate that liability rather than to wait for legal action by  
2 regulating agencies or by third parties. Customers benefit by the Company  
3 resolving the liability and minimizing potential future risk through the  
4 investigation and cleanup following governmental standards. Duke Energy  
5 Ohio's decision to be proactive to address and correct the conditions at these two  
6 sites is the responsible and prudent thing to do. Being reactive and waiting until  
7 there is a release or an action by a regulatory agency is not in the best interests of  
8 anyone, especially the Company's customers.

9 If there was an enforcement action mandating cleanup, the Company may  
10 be forced to cease or curtail operations or may be forced to conduct remediation  
11 in a manner that may adversely affect operations at the site, thereby impacting the  
12 Company's customers. The actions conducted at East End and West End were  
13 sequenced to minimize disruptions to operations.

14 **Q. PLEASE PROVIDE A DETAILED EXPLANATION FOR THE EXPENSE**  
15 **TYPES SHOWN ON SCHEDULE C-3.2.**

16 A. The entries included in the "investigation" row include charges from the  
17 environmental consultant hired to perform investigations on different media on  
18 the MGP sites. The media include, but are not limited to, soil, groundwater, and  
19 ambient air. Tasks include, but are not limited to, the preparation of reports, the  
20 validation of analytical results, the development of drawings and tables, meetings,  
21 hiring and managing of subcontractors (*i.e.*, drillers and analytical laboratories),  
22 and development of strategies with the Duke Energy Project Manager. Personnel  
23 utilized by the environmental consultants include, but are not limited to,

1 engineers, geologists, project managers, industrial hygienists, health and safety  
2 professionals, field technicians, and administrative support.

3 The entries included in the “air monitoring” row include the charges from  
4 the environmental consultant hired to perform perimeter air monitoring during  
5 soil remediation to ensure the protection of people working and living in the  
6 surrounding community. Tasks include, but are not limited to, the development  
7 of a perimeter air monitoring plan, validation of analytical results, tracking of real  
8 time and cumulative data, modeling air sampling results, preparing reports, and  
9 participating in conference calls with the project team and/or the Duke Energy  
10 Project Manager. Personnel utilized by the environmental consultants include,  
11 but are not limited to, field technicians, engineers, industrial\ hygienists, and  
12 administrative support.

13 The entries included in the “security” row include the contract with a  
14 security firm who patrolled the MGP sites at night and during the weekend to  
15 deter vandalism or theft of construction equipment.

16 The entries included in the “analytical laboratory” row include services  
17 performed by contract analytical laboratories to analyze different environmental  
18 media, including, but not limited to, air, soil, and groundwater samples. Prior to  
19 2009, all analytical laboratory services were contracted through the environmental  
20 consultant. In 2009, Duke Energy Ohio decided to set up contracts directly with  
21 the contract analytical laboratories.

22 The entries included in the “contractor support” row include a third party  
23 environmental consultant hired by the Duke Energy Project Manager to assist in

1 reviewing documentation provided by the environmental consultants.

2 The entries included in the “construction management/detailed design”  
3 row include the charges from the environmental consultants hired to develop the  
4 detailed design for the remediation at the site. These consultants also provided  
5 construction management services during the remediation and hired all of the  
6 subcontractors not listed in other line items. The companies hired as  
7 subcontractors were in charges of tasks such as earth moving, trucking, design  
8 and installation of earth retention systems, vibration monitoring, *in-situ*  
9 solidification, and media sampling, although this list is not exhaustive. The  
10 environmental consultant also obtained the majority of the permits required for  
11 remediation, prepared reports, and participated in meeting with the project team  
12 and/or Duke Energy Project Manager.

13 The entries included in the “vibration monitoring” row include the  
14 installation and monitoring of equipment installed to ensure that the remediation  
15 activities would not cause structural damage to critical infrastructure at the MGP  
16 sites. The vibration monitoring consultant prepared reports and participated in  
17 meetings with the project team and/or the Duke Energy Project Manager. At East  
18 End, Duke Energy Ohio maintained a separate contract with vibration monitoring  
19 consultant during the remediation. At West End, Duke Energy Ohio directly  
20 hired the vibration monitoring consultant for preliminary testing during the  
21 investigation and planning stage of work, but the vibration monitoring contract  
22 was held by the "Construction Management/Detailed Design" environmental  
23 consultant during soil excavation.

1           For the entries in the “fuel” row, starting in 2011, Duke Energy Ohio  
2           decided to contract directly with a fueling service to provide fuel for the  
3           construction equipment being utilized during remediation. Prior to 2011, fuel for  
4           the construction equipment was included in the subcontractor costs accounted for  
5           in the "Construction Management/Detailed Design" rows. Construction  
6           equipment fueled included, but is not limited to, excavators, dozers, and *in-situ*  
7           solidification rigs. Fuel for the trucks that hauled impacted soil to the permitted  
8           waste disposal location is not included in this line item; fuel for these trucks is  
9           included in the "Construction Management/Detailed Design" line items, as part of  
10          subcontractor costs.

11          The entries in the “miscellaneous” row include items that did not fit within  
12          the larger classifications. Charges include, but are not limited to, electricity,  
13          communications support and the manning of a community hotline to address  
14          concerns raised by neighbors or other interested parties, permits not obtained by  
15          the environmental consultants, utility clearing services, street flaggers, the  
16          purchase of personal protective equipment (*i.e.*, hard hats, safety glasses, safety  
17          vests) for Duke Energy Ohio personnel, the rental of personal air monitoring  
18          equipment, and surveying (starting in 2012).

19          Entries in the “soil disposal/landfill” row include all changes related to the  
20          disposal of the impacted materials at a licensed, permitted landfill.

21          Entries in the “Duke Energy internal expense” row include but are not  
22          limited to air travel, rental cars, lodging, and meals for the Duke Energy Project  
23          Manager and Construction Manager, who are based in North Carolina, when they



1 traveled to the site or to other locations for MGP-related activities.

2 As previously stated, in 2009 Duke Energy Ohio decided to contract  
3 directly with contract analytical laboratories. Duke Energy Ohio has an internal  
4 group of employees who manage analytical contracts and perform quality  
5 assurance/quality control reviews of the data and the laboratories. The entries in  
6 the “Duke Energy Laboratory Labor” row include the time that those employees,  
7 who are based in North Carolina, spent on the Ohio MGP sites.

8 An Environmental, Health and Safety audit was conducted during  
9 remedial activities at each site. The charges included on the “Duke Energy EHS  
10 Audit Team” row includes the time these Duke Energy Ohio employees spent  
11 auditing the site. Employees who participated in the audits were based out of Ohio  
12 and North Carolina.

13 The East End Gas Works facility is a Gas Operations Center. Numerous  
14 high pressure gas transmission lines are located at the site and remedial work  
15 occurred near and around the lines. Duke Energy Ohio Gas employees, including  
16 a gas inspector, provided oversight while work was being conducted around the  
17 transmission lines to ensure integrity was maintained; these charges are include in  
18 the row entitles “Duke Gas Oversight.”

19 Prior to 2012, surveying needs were provided by the internal Duke Energy  
20 Ohio surveying group, which is shown in the row titled “Duke Internal  
21 Surveying”. In 2012, a contract for surveying was issued to a local Ohio  
22 surveying crew that had been audited by the internal Duke Energy Ohio surveying  
23 group in the past and is under contract for other surveying needs within Duke

1 Energy Ohio.

2 The entries in the “Duke MGP PM/Construction Oversight” row include  
3 the salary and benefits of the Duke Energy MGP project manager and  
4 construction manager, based on the number of hours associated with site work.  
5 The project manager oversees all technical aspects of the projects, and also  
6 participated in other site related activities. The construction manager is a Duke  
7 Energy representative present at the MGP sites during remediation to make sure  
8 that the work conducted by the environmental consultants, contractors and  
9 subcontractors adheres to Duke Energy Ohio's expectations; he also handles day-  
10 to-day issues that arise during remedial work.

11 Per regulations, only qualified personnel may enter a substation  
12 unaccompanied; therefore, during the investigation activities at West End in 2010,  
13 and also during preliminary remedial activities in 2011, personnel from the Power  
14 Delivery department had to be present whenever work was being conducted in the  
15 area south of Mehring Way. In 2011, a fence was erected to isolate the area  
16 needing remediation from the substation, thereby minimizing the need for Power  
17 Delivery Oversight. These charges are included in the row titles “Duke Power  
18 Delivery Oversight.” Time that Power Delivery personnel spend on the West End  
19 project, ensuring the integrity of the electric equipment as remediation activities  
20 occur, is also included in this line.

21 In 2011, Duke Energy Ohio purchased approximately 9 acres of property  
22 adjacent to the East End site. Impacts were present at the western property  
23 border; therefore it was likely that impacts were also present on the adjacent

1 property. A fair market value for the property was obtained by a real estate  
2 appraiser and the difference between the property purchase price and the fair  
3 market value was charged to the deferred account. The property purchase costs  
4 were split into two years because an error was discovered in the amount  
5 transferred into the deferred account; this error was corrected in 2012. These  
6 costs are on the row entitled "property purchase."

7 **Q. PLEASE EXPLAIN THE VENDOR SELECTION PROCESS THAT DUKE**  
8 **ENERGY OHIO EMPLOYED FOR EAST END AND WEST END.**

9 A. Duke Energy Ohio employs a competitive bid process, soliciting bids from  
10 environmental/engineering consulting firms who have experience within the  
11 environmental remediation industry on historic MGP site remediation projects.  
12 Bids are solicited from a minimum of three bidders but typically, for the Ohio  
13 MGP sites, Duke Energy Ohio has solicited bids from at least five  
14 environmental/engineering consulting firms. During the selection process, the  
15 bids are initially evaluated on their technical merits: whether the bidders  
16 understand the scope of work, whether the project team has the experience needed  
17 for the project, and whether staffing levels and efforts of work bid are within the  
18 expectations of the Duke Energy Ohio project manager. Safety records are also  
19 evaluated during this phase of the selection process. Interviews may be held with  
20 the bidders during this review in order to allow the Duke Energy project manager  
21 to ask questions and receive further clarifications on the details in the bid  
22 package.

23 Bids are then ranked based on their technical merits and the firms' safety

1 record; if firms do not meet the technical review or if their safety record does not  
2 meet Duke Energy Ohio standards, then they do not proceed into the next phase  
3 of the selection process.

4 Next, the bids are reviewed based on their price, both for items that are  
5 lump sum and items that are on a time and materials basis. With the scope of  
6 work, the Duke Energy project manager provides a rate sheet of items that are  
7 required in order to facilitate this review. For example, the rate sheet may include  
8 monthly construction trailer rental, per diem rates for on-site personnel, lump sum  
9 for permits, etc. The firms also provide a rate sheet for their personnel, i.e., senior  
10 engineer, geologist, administrative support, field technician, etc., as well as the  
11 expected number of hours that will be billed for each category. Since the majority  
12 of the construction contracts are held by the construction management/detailed  
13 design firm, the mark-up rate on subcontracts are also evaluated in this stage.

14 Bids are then ranked based on their price and mark-up rates. The technical  
15 ranking and the cost ranking are combined in order to determine which firm is  
16 awarded the bid. Duke Energy Ohio requires that the selected firm goes through  
17 this same process when hiring major subcontractors, in that they are required to  
18 solicit multiple bids and review the bids based on their technical merits and their  
19 price. Duke Energy Ohio is also involved in the selection process for major  
20 subcontractors and has to approve their final selection.

**V. CONCLUSION**

1   **Q.   WERE   ATTACHMENTS   JLB-SUPP-1   THROUGH   JLB-SUPP-3**  
2       **PREPARED   BY   YOU   OR   UNDER   YOUR   DIRECTION   AND**  
3       **SUPERVISION?**

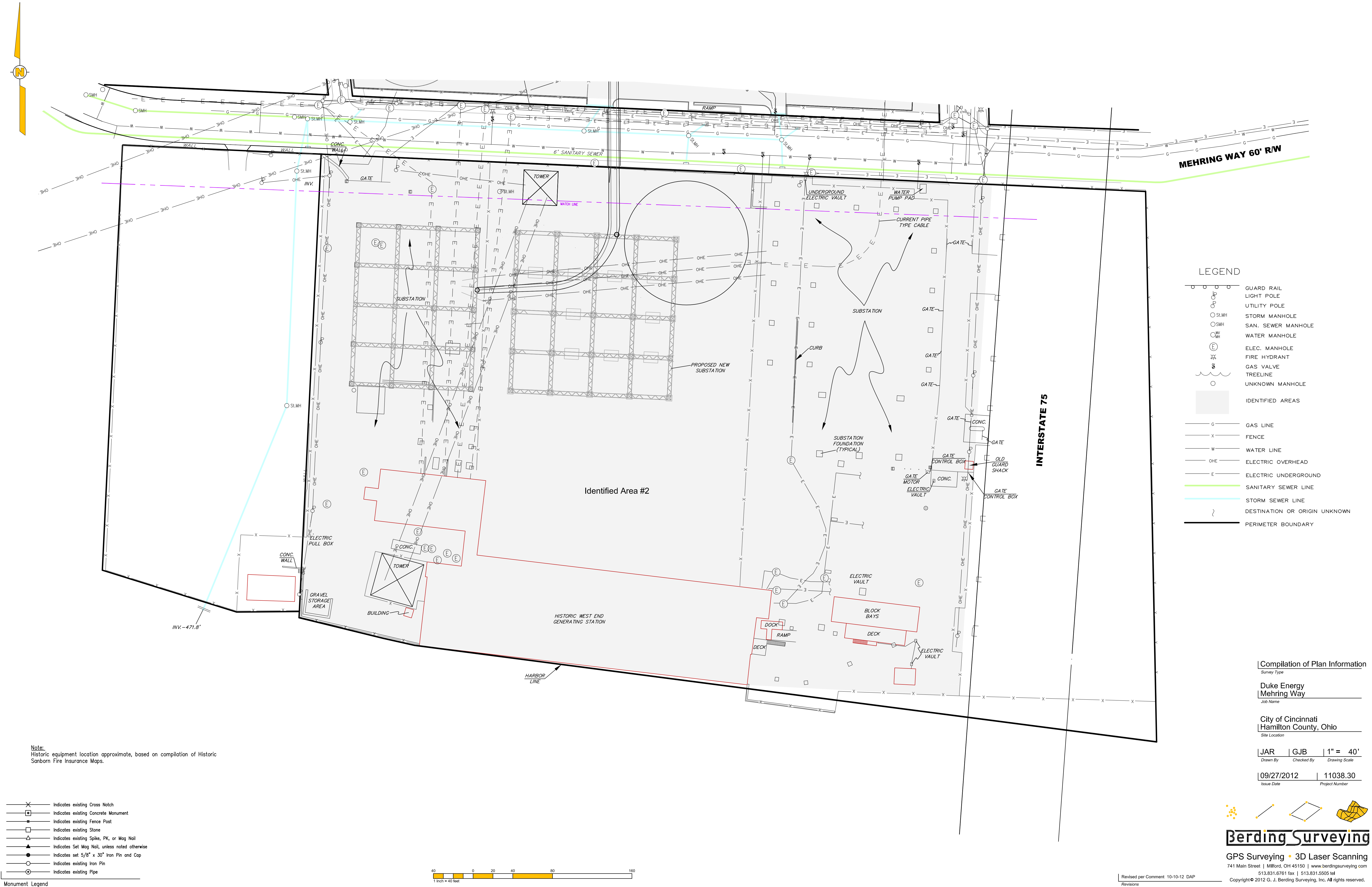
4   **A.   Yes.**

5   **Q.   IS   THE   INFORMATION   CONTAINED   IN   THESE   ATTACHMENTS**  
6       **ACCURATE   TO   THE   BEST   OF   YOUR   KNOWLEDGE   AND   BELIEF?**

7   **A.   Yes.**

8   **Q.   DOES   THIS   CONCLUDE   YOUR   PRE-FILED   SUPPLEMENTAL   DIRECT**  
9       **TESTIMONY?**

10   **A.   Yes.**



**LEGEND**

	GUARD RAIL
	LIGHT POLE
	UTILITY POLE
	STORM MANHOLE
	SAN. SEWER MANHOLE
	WATER MANHOLE
	ELEC. MANHOLE
	FIRE HYDRANT
	GAS VALVE
	TREELINE
	UNKNOWN MANHOLE
	IDENTIFIED AREAS
	GAS LINE
	FENCE
	WATER LINE
	ELECTRIC OVERHEAD
	ELECTRIC UNDERGROUND
	SANITARY SEWER LINE
	STORM SEWER LINE
	DESTINATION OR ORIGIN UNKNOWN
	PERIMETER BOUNDARY

**Note:**  
Historic equipment location approximate, based on compilation of Historic Sanborn Fire Insurance Maps.

- Monument Legend**
- Indicates existing Cross Notch
  - Indicates existing Concrete Monument
  - Indicates existing Fence Post
  - Indicates existing Stone
  - Indicates existing Spike, PK, or Mag Nail
  - Indicates Set Mag Nail, unless noted otherwise
  - Indicates set 5/8" x 30" Iron Pin and Cap
  - Indicates existing Iron Pin
  - Indicates existing Pipe

**Compilation of Plan Information**  
Survey Type

**Duke Energy**  
**Mehring Way**  
Job Name

**City of Cincinnati**  
**Hamilton County, Ohio**  
Site Location

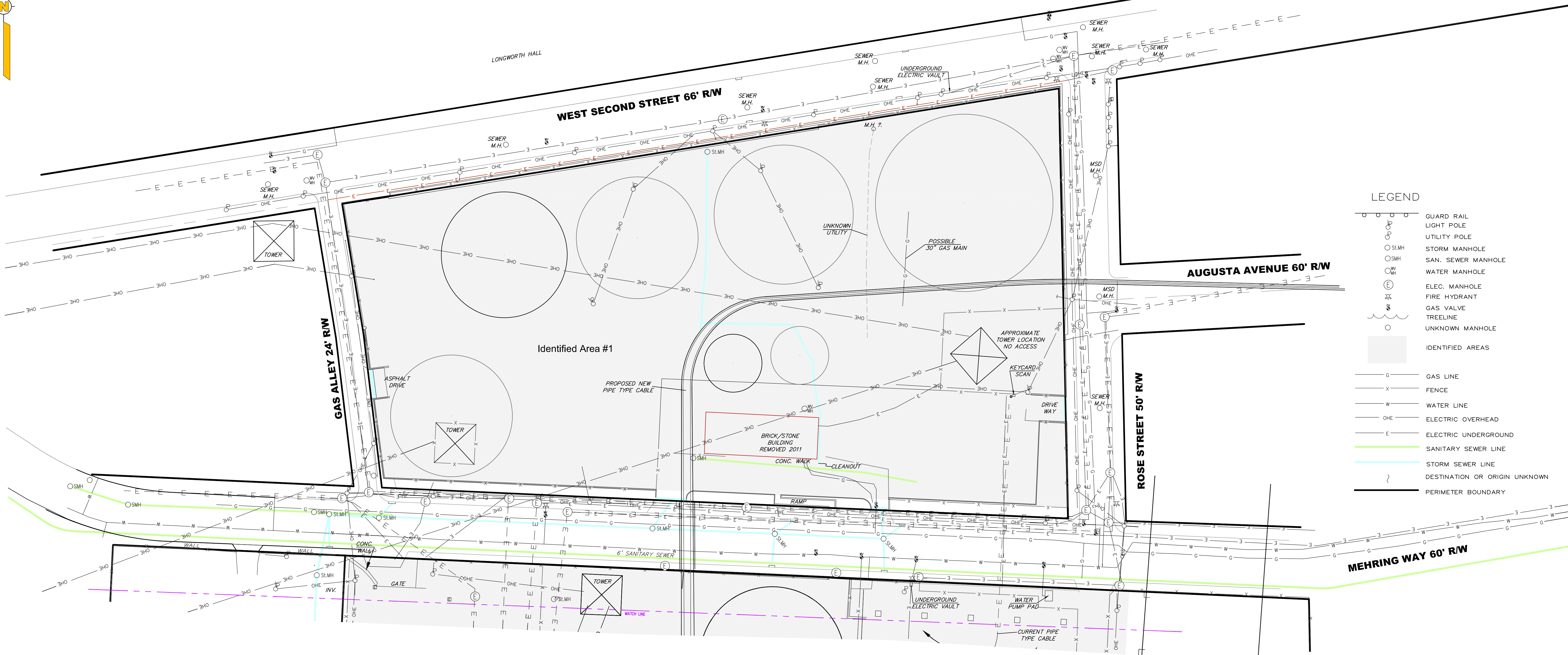
**JAR** | **GJB** | **1" = 40'**  
Drawn By | Checked By | Drawing Scale

**09/27/2012** | **11038.30**  
Issue Date | Project Number

**Berding Surveying**  
GPS Surveying • 3D Laser Scanning  
741 Main Street | Milford, OH 45150 | www.berdingsurveying.com  
513.831.6761 fax | 513.831.5505 tel  
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Revised per Comment 10-10-12 DAP  
Revisions





- LEGEND
- ○ ○ GUARD RAIL
  - ○ ○ LIGHT POLE
  - ○ ○ UTILITY POLE
  - ○ ○ SLMH STORM MANHOLE
  - ○ ○ SMH SAN. SEWER MANHOLE
  - ○ ○ WMH WATER MANHOLE
  - ○ ○ ELEC. MANHOLE
  - ○ ○ FIRE HYDRANT
  - ○ ○ GAS VALVE
  - ○ ○ TREELINE
  - ○ ○ UNKNOWN MANHOLE
  - Identified Areas
  - G GAS LINE
  - X FENCE
  - W WATER LINE
  - OHE ELECTRIC OVERHEAD
  - E ELECTRIC UNDERGROUND
  - Sanitary Sewer Line
  - Storm Sewer Line
  - Destination or Origin Unknown
  - Perimeter Boundary

Note:  
Historic equipment location approximate, based on compilation of Historic Sanborn Fire Insurance Maps.

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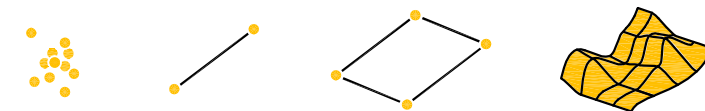
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Hamilton County, Ohio  
Site Location

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09/27/2012 11038.30  
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Revised per Comment 10-10-12 DAP  
Revisions





- LEGEND**
- |  |                               |
|--|-------------------------------|
|  | GUARD RAIL                    |
|  | LIGHT POLE                    |
|  | UTILITY POLE                  |
|  | STORM MANHOLE                 |
|  | SAN. SEWER MANHOLE            |
|  | WATER MANHOLE                 |
|  | CATCH BASIN                   |
|  | ELEC. MANHOLE                 |
|  | FIRE HYDRANT                  |
|  | GAS VALVE                     |
|  | UNKNOWN MANHOLE               |
|  | IDENTIFIED AREAS              |
|  | GAS LINE                      |
|  | FENCE                         |
|  | WATER LINE                    |
|  | ELECTRIC OVERHEAD             |
|  | ELECTRIC UNDERGROUND          |
|  | SANITARY SEWER LINE           |
|  | STORM SEWER LINE              |
|  | APPROXIMATE EDGE OF WATER     |
|  | COMBINED SEWER OVERFLOW       |
|  | CAST IRON                     |
|  | DESTINATION OR ORIGIN UNKNOWN |

Note:  
Known Utilities Shown.

- Monument Legend
- |  |  |
|--|--|
|  | Indicates existing Cross Notch                 |
|  | Indicates existing Concrete Monument           |
|  | Indicates existing Fence Post                  |
|  | Indicates existing Stone                       |
|  | Indicates existing Spike, PK, or Mag Nail      |
|  | Indicates Set Mag Nail, unless noted otherwise |
|  |  |



Revised per Comment 10-10-12 DAP  
Revisions

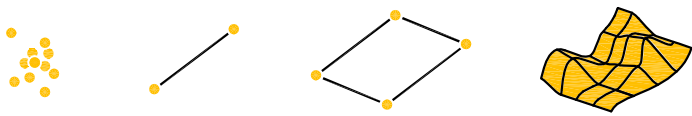
Compilation of Plan Information  
Survey Type

Duke Energy  
Eastern Avenue  
Job Name

City of Cincinnati  
Hamilton County, Ohio  
Site Location

JAR GJB 1" = 60'  
Drawn By Checked By Drawing Scale

09/27/2012 12027.10  
Issue Date Project Number



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**Case No(s). 12-1685-GA-AIR, 12-1686-GA-ATA, 12-1687-GA-ALT, 12-1688-GA-AAM**

Summary: Testimony Supplemental Direct Testimony of Jessica Bednarcik on Behalf of Duke Energy Ohio, Inc. electronically filed by Carys Cochern on behalf of Duke Energy