

## Champaign, Illinois, Manufactured Gas Plant Site Fact Sheet – 2017

Ameren Illinois will complete the planned excavation of impacted soil from the former manufactured gas plant (MGP) in Champaign, Illinois. The remediation is being done in cooperation with the Illinois Environmental Protection Agency (Illinois EPA).

### Site History:

The site is located at 308 North 5<sup>th</sup> Street. A former manufactured gas plant (MGP) operated at the property between 1869 and the early 1930s. Between 2009 and 2011, Ameren performed significant environmental remediation activities on the property to remove MGP-impacted subsurface materials. Ameren used conventional remediation techniques (excavation and disposal) at that time. Because of site conditions, conventional methods could not be applied and residual MGP-related impact remained around the perimeter of the site. In 2013 Ameren addressed most of the remaining impact around the perimeter of the property through in-situ remediation methods. The in-situ remediation methods included the injection of oxidants into the subsurface for the chemical oxidation of constituents of concern. The in-situ remediation activities were effective at addressing most of the residual MGP-related impact. However, MGP-related impact remains in an area approximately 200 feet long and 25 feet wide.

### Residual Remediation Activities:

To address this remaining residual MGP-related impact, Ameren will perform additional remedial activities at the project site during the months of January and February 2017. The residual remediation activities will include the excavation and proper disposal of impact within 12 feet of ground surface. After excavation and collection, analysis, and evaluation of confirmation soil samples, the excavation will be backfilled with clean, clay-soil backfill from an off-site borrow location. The residual remediation activities, to include site setup, ambient air monitoring, excavation and backfilling activities, and demobilization are anticipated to last approximately 5 to 6 weeks.

### Q: How was manufactured gas produced?

A: The manufactured gas era lasted about a century. MGPs produced gas from coal or oil for lighting and later for cooking and heating. Gas manufacturing was commonplace in Illinois from about 1860 until 1940. When interstate pipelines brought natural gas to the state in the 1930s, gas manufacturing waned and then ended.

The gas produced from heating coal or oil was stored on site in large, cylindrical tanks, known as gasholders, before distribution to the community. As with many industrial processes, gas manufacturing produced byproduct residues. Tars, coke, and ash were the primary residues of the gas manufacturing process.

Coke was the remaining portion of the coal after gas manufacturing was completed. Tars were produced as the gas cooled. Byproduct coke and the tars were used as a fuel for heating at the manufactured gas plant, and the byproduct coke was also sold to others for heating. Gas plant tars were valuable as a chemical feedstock and often were sold to the chemical industry for the manufacture of dyes, medicines and perfumes, and for use in creosote and road tar. However, manufacturing residues sometimes leaked from plant piping and storage tanks or spilled, leaving impacts to the site soil and groundwater. That is why

today's environmental regulations require environmental investigations and in some cases actions to address these problems.

**Q: What residues were created during the gas manufacturing process?**

**A:** As with many industrial processes, gas manufacturing produced residues. Coal tars, coke, and ash were the primary residues of the gas manufacturing process. The coal tars and coke were valuable byproducts. Coke was the remaining portion of the coal after the process used to manufacture gas was complete. Byproduct coke was used as a heating fuel at the manufactured gas plant and was sold to others. Coal tars also served as a fuel for heating the plant and had market value. The tars were sold to the chemical industry for the manufacture of dyes, explosives, medicines, and perfumes and for use in creosote (wood preservation) and roofing and road tar.

**Q: What are coal tars?**

**A:** Coal tars are thick black, brown, or red-brown opaque liquids or solid materials produced during the gas production process. Coal tars contain a number of chemically distinct compounds. Polycyclic aromatic hydrocarbon compounds, or PAHs, are one class of chemicals in coal tars. PAHs are produced in many combustion processes such as burning coal, oil, wood, and charcoal (as in backyard grilling), so PAHs are widespread in the environment. PAHs are found today in many roofing materials, asphalt pavement, and pavement sealers. Another class of chemicals found in coal tars is volatile organic compounds (VOCs). They evaporate easily into the open air, but may exist for a long time when underground. Some of these volatile chemicals are also found in gasoline, paint thinners, and many petroleum-based consumer products.

**Q: Is there anything in the residue to make them harmful?**

**A:** There are many different compounds in gas plant residues. Some compounds in coal tar, coke, and ash have health effects ranging from minor to more serious. For example, some PAHs can irritate the skin, nose, and throat and VOCs can cause nausea and headaches. Scientists have determined that frequent or daily exposure to some PAHs and VOCs, such as in a work setting, can pose an increased risk of cancer.

**Q: Have residues been found at the Champaign MGP site?**

**A:** Residues were identified during the original investigation activities. Most of the MGP-related residues were excavated and removed between 2009 and 2011. Some residual impact remains. Residual impact along the northwest property boundary will be addressed during this residual remediation activity.

**Q: Does the residual impact present at the northwestern portion of the Champaign MGP site pose a risk to local residents?**

**A:** The site and the residual impact in the northwestern portion of the property pose little or no risk to the public. While the residues do contain some chemical compounds that could pose a health risk in certain circumstances, the degree of risk depends upon the potential for individuals to be exposed to them at levels that could be harmful.

Possible routes of exposure include skin contact, inhaling or swallowing (ingesting) the substances. The residual impact is present underground and in soil and groundwater. There is little potential for extended contact with buried materials or surface soil covered with grass and rock.

Residues below the ground do not pose a risk to the City's water supply. Residents obtain their water from Illinois American Water. The water supply is regularly tested by the City and the Illinois Environmental Protection Agency (IEPA). The testing is performed by a laboratory accredited by the Illinois EPA and the results are provided to the Illinois EPA. No private wells are located within the vicinity of the MGP site or the residual impact.

**Q: How will Ameren address the remaining MGP-related impact?**

**A:** Ameren's goal for this site is to restore it to a condition that is considered acceptable by the state's environmental standards for commercial/industrial properties. The approach for addressing the residual impact will be through soil removal and proper disposal. The soil in the residual impact will be excavated to a depth of approximately 12 feet below existing grade. The soil will be removed to meet the Illinois EPA commercial/industrial property standards. Impact greater than 10 feet below ground surface may remain with an engineered barrier. The engineered barrier will consist of clean clay-soil from an offsite borrow area. This will minimize exposure to any individual. The use of the engineered barrier may require restrictions and institutional controls on the property.

**Q: Do I need to be concerned when the excavation work occurs?**

**A:** Ameren will be working with their environmental remediation contractor and the City of Champaign to make sure the residents of the neighborhood are inconvenienced as little as possible.

**Q: Are appropriate precautions taken by Ameren?**

**A:** Great care is taken by Ameren to ensure that the public health is protected during these projects. The Illinois EPA has reviewed Ameren's reports and will continue to monitor the remediation site. The site will be fenced and persons not involved with the remediation project will be kept away. The ambient air will be monitored during work activities to ensure there are no harmful releases of vapors or dust to the surrounding community.

**Q: When will the project be completed?**

**A:** The residual remediation activities, to include ambient air monitoring are anticipated to extend in to early February 2017. Final restoration which includes reseeded will have to be performed in the Spring of 2017. Post-remediation groundwater monitoring will also be performed in 2017 with the submittal of the necessary reports (Remedial Action Completion Report) to the Illinois EPA at the end of 2017.

If the Illinois EPA determines that the site meets the appropriate cleanup objectives, they will issue an NFR (No Further Remediation) letter for the affected property. The NFR letter means no additional actions are necessary to remediate a specific problem and it releases responsible parties from any need to do more remediation, as long as the terms of the NFR letter are met. The NFR letter will be recorded with the county recorder of deeds so that future purchasers will be aware of the property's history.



**Q: Does Ameren have any experience in dealing with manufactured gas plant sites?**

**A:** Yes. Ameren has completed successful studies and cleanups of manufactured gas plant sites in DuQuoin, Beardstown, Carlinville, Canton, Centralia, Granite City, Greenville, Peoria, Pekin, Paris, Decatur, East St. Louis (Brooklyn Avenue), Danville, LaSalle, and Springfield.

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Ameren Illinois has placed documents associated with the site work in a **Site Information Repository** located at the Reference Desk of the Douglass Branch of the Champaign Public Library, 504 East Grove Street, Champaign, Illinois (217-403-2090) And at the Champaign City Building 102 North Neil Street, Champaign, Illinois (217-403-7070).