# Manufactured Gas Plants

## Frequently Asked Questions

### What were Manufactured Gas Plants (MGPs) and holder stations?

Manufactured gas plants existed from the early 1800s to the mid 1900s, before the development of natural gas systems, to convert coal, oil, and water into gas for lighting city streets and heating homes. These plants produced byproducts such as coal tar, ash, cinders, and oils that may be present beneath these former gas plant sites. Holder stations were facilities at which manufactured gas (and later natural gas) was stored in tanks before it was distributed. Depending on their design, some of the tanks at these facilities were equipped with coal tar seals. Environmental experts have determined that former MGP and holder sites should be investigated, tested for possible contamination, and remediated, where appropriate.

### How many of these plants existed?

It is estimated that there were more than 5,000 historic MGPs in the United States and more than 250 throughout New York State. Con Edison has identified and is responsible for 50 of the former manufac-

tured gas plants and holder stations in its service area.

## What should I do if my property is identified as a former MGP or holder station site?

Because the decommissioning and dismantling of most MGPs and holder stations occurred more than 50 years ago, long before current environmental standards were in place, little information is available on the extent, if any, to which byproducts and residual substances of the gas-making process may still remain underground at these sites. Con Edison has entered into a Voluntary Cleanup Agreement (VCA) with the New York State Department of Environmental Conservation (NYSDEC) to develop and implement a reliable evaluation procedure so that information about these sites can be obtained swiftly and accurately.

Con Edison, with the aid of independent consultants, will conduct the investigations for these sites as well as pay for any remediation or interim remediation measures that the NYSDEC or the New York State Department of Health (NYSDOH) deem necessary and appropriate for any MGP or holder station-related byproducts and residuals that may be present. In addition to taking responsibility for coordinating and funding this program, Con Edison is committed to making its best effort to keep the public informed during every phase of the program and to minimize inconveniences to communities.

## What are the hazardous materials likely to be found in a former MGP site and the health impact of each material?

There are numerous materials potentially associated with former MGP sites. These materials could include coal, slag, ash, cinders, coal tar, oils, and gas purification wastes; these materials may contain benzene, toluene, ethylbenzene, xylene, polycyclic aromatic hydrocarbons (PAHs), and cresols, among others. The NYSDEC and other experts have indicated that the substances most frequently found are coal tar and gas purification wastes and their associated constituents: coke, naphthalene, ben-

zene, and PAHs. These materials may also be present at holder station sites.

### If contaminants are found, how will Con Edison address them?

An important feature of the Voluntary Cleanup Agreement (VCA) Con Edison entered into with the NYSDEC is that it provides for formal State-approved protocols for screening, investigation, and remediation. If MGP or holder-related materials are detected at a site, the remedial program selected by NYSDEC (with input from the NYSDOH) will use the most appropriate technology available to protect public health and the environment. Remedial actions can range from continued monitoring to installing a basement ventilation system to a full removal of contaminated soil.

### Are people currently working and/or living at a former MGP or holder site exposed to any danger? How do you know for sure?

"A primary goal of these investigations is to evaluate actual and potential risks to the public through exposure to contaminants from these facilities. Exposure to contaminants can potentially occur through direct contact with the waste or through gas contaminants getting into indoor air. Exposure to contaminated groundwater through ingestion is not expected because the areas around these sites are served by municipal water systems. Because these sites have been closed for many years, and, in most cases redeveloped, we do not anticipate exposures to be significant. Much of the waste or contaminated soil will not be at the surface where direct contact exposure may occur. Con Edison and agency staff have prepared a soil gas/indoor air survey work plan that will be used at sites where testing is warranted or requested by the property owner." - NYSDOH

### Have any studies been done of people exposed to MGP sites, in New York or elsewhere?

While a number of studies have analyzed the composition of substances often associated with MGP sites, no studies have yet provided information about the effects of long-term

exposure to the low doses likely to be encountered at a former plant location where MGP byproducts are detected. The Electric Power Research Institute has commissioned a number of independent studies on behalf of the industry. The studies indicated that coal tars at high doses and with prolonged exposure are capable of causing cancers in laboratory animals. Exposure to coal tar in the studies was primarily through eating contaminated substances; however, breathing coal tar or absorbing it through one's skin, though unlikely at most sites, is also considered a method of exposure.

### Will locations identified as former MGP or holder sites have to be evacuated?

Given the unique and historic nature of MGPs and holder stations, each site will have to be evaluated and handled on a case-by-case basis, with public health and safety being the first priority. However, in most cases where contaminants are detected and remediation is necessary, it is typically conducted safely while occupants remain on site.

### I've received notification that my property is located on a former MGP site or holder station; what are the steps involved to test my home/business for contamination?

NYSDEC, NYSDOH, and independent environmental experts have identified the following steps as the most effective process to determine whether MGP or holder station-related materials are present at a site and pose health or environmental risks that need to be addressed.

1) **On-Site Inspection:** The first step in the process is a site visit by a small group of environmental scientists and/or engineers. Its purpose is to obtain information concerning the present layout of a site's buildings and outdoor areas to identify possible locations for conducting sampling during future studies.
2 **Soil-Gas/Indoor Air Screening:** This step provides the quickest assessment of

whether there are indications of potential exposure to MGP-related sources inside the buildings. This test requires one or two days of on-site work. It typically includes collecting soil vapor samples by creating a few small holes in the basement floor of any existing structures to determine whether the soil contains vapors from MGP or holder-related byproducts and residual substances. Air monitoring may also be performed within a building to determine whether any vapors are infiltrating a building's foundation.

3) **Subsurface Investigation:** This is a more involved assessment than the "soil-gas/indoor air screenings." It is a subsurface investigation designed to identify the presence and extent of soil and groundwater contamination from MGP-related substances. The field investigation could take several weeks to complete and typically involves collecting subsurface soil samples and digging a number of small "test pits," around the area formerly occupied by MGP-related structures and equipment. One or more groundwater monitoring wells may also be installed. More than one round of subsurface investigations may be necessary to fully delineate the extent of environmental conditions.
4) **Remedial action:** In the event that subsurface MGP or holder station–related materials are found during the subsurface investigation, site activities will take place following approval of a remedial action work plan. The objective of a remedial action work plan is to describe the best steps to take based on the findings of the investigation and other site-specific factors. The NYSDEC and NYSDOH will review all proposed actions and will ultimately help design and approve the implemented measures.

## How long has Con Edison known about these sites and the potential hazards associated with them?

The MGP or holder station sites that Con Edison and NYSDEC have identified for investigation were properties owned by Con Edison or one of its predecessor companies at some point starting in the 1820s. However, not until relatively recently have

government agencies, utilities, and environmental organizations suggested investigating these historic locations. As concerns in the environmental community have evolved, so have Con Edison's efforts and attention toward MGPs and holder sites.

### I want to hire my own experts to test my property. Will Con Edison pay for this?

Both the NYSDEC and NYSDOH have helped develop and approve the testing work plans and protocols already being implemented by Con Edison to address former MGP and holder station site concerns. Consequently, the state agencies prefer that owners work in cooperation with Con Edison and the approved work-plan methodology.

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