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April 18, 2007

Via Messenger
Mr. Peter M. Felitti
United States Environmental Protection Agency
Region 5
77 W. Jackson Blvd. (C-14J)
Chicago, IL 60604

Re: Peoples Gas Sites
Risk Document and Health and Safety Plan

Dear Mr. Felitti:

Enclosed are the Risk Document and Health and Safety Plan.

Please contact Stephen Armstrong or me if you have questions or comments.

Sincerely,

Jon P. Sanders (NE)

Jon P. Sanders

Encls.

cc: Stephen Armstrong

895432-1

Evaluation of the Potential Risks to Human Health Posed by Current Conditions at the Peoples Gas Former MGP Sites

This memorandum evaluates the potential risks to human health at eleven MGP sites formerly operated by The Peoples Gas Light and Coke Company ("Peoples Gas"). The former MGP sites addressed in this discussion, which are listed in Attachment A, are to be addressed under pending Administrative Orders on Consent to be entered into by U.S. EPA and Peoples Gas (the "Orders"). The memorandum has been developed to support decisions regarding the sequence in which the eleven sites will be addressed under the pending Orders.

In general, the current risks associated with the eleven sites are largely determined by: (1) site conditions, such as the nature and extent of contamination and the presence of buildings and pavements; and (2) the nature and relevant characteristics (including frequency, intensity, and duration) of various on-site activities. A review and analysis of these factors is provided and discussed in the following paragraphs. This review of available evidence indicates that the information available for characterizing actual risks to human health at the various sites is not sufficient to support a specific sequence for addressing these sites under the pending Orders.

Current Conditions at the Peoples Gas Sites

Environmental investigations of the Peoples Gas sites provide evidence of environmental impacts resulting from MGP activities. At most of the sites, the impacted media include soils, groundwater, and sediments in the adjacent portion of the Chicago River system. Current conditions at most of the sites have been investigated under the Illinois Site Remediation Program ("SRP") regulations.[1] Remedial activities have been conducted under the SRP regulations at some sites, and these activities are still under way at other sites. Thus, there is some variation from one site to another in terms of the extent of investigation and remediation conducted to date.

The available evidence indicates that the extent of MGP-impacted materials exposed at the surface at the Peoples Gas sites is low. Investigation and remedial activities conducted to date establish that areas where impacted materials are exposed are not

[1] At some sites, investigations have not yet been completed because access to parcels no longer owned by Peoples Gas has been limited by the current owners of these properties. In January 1999, Peoples Gas notified owners of the former MGP sites regarding the past use of the properties and the precautions to be taken in the event that MGP residues are encountered.

present at most of the sites. Although impacted materials have been found at most sites, these impacts have most commonly been observed at depths of at least two feet below the surface. At most sites, the impacted materials that were exposed at the surface have been remediated by excavation and development since the period of operation.

The chemicals of potential concern ("COPCs") most commonly associated with MGP sites are polycyclic aromatic hydrocarbons ("PAHs"), which are a primary component of tars and other materials generated by MGP operations. Other organic compounds commonly found at the Peoples Gas sites include benzene, toluene, ethylbenzene, and xylenes (collectively referred to as "BTEX"). Elevated levels of specific metals and cyanide have been reported at some sites but not at others.

Although the nature and extent of contamination has not been fully determined at all of the sites, recent investigations of conditions in the Chicago River provide evidence of impacted sediments at locations proximate to each of the eleven Peoples Gas sites. These recent investigations focused on determining the presence of MGP-related tar through visual observations and/or the use of a tar-specific green optical screening tool ("TarGOST") instrument. Chemical data from analysis of sediment samples will eventually be available for all of the Peoples Gas sites, but these analyses have not yet been completed for some sites. The detection of tar in the sediments by visual observations or TarGOST logs, however, is sufficient to establish the presence of PAHs in those sediments.

Potential Exposures Under Current Conditions

Current conditions at the Peoples Gas sites may pose risks to various sub-groups of the general population. The receptor populations to be considered include:

- On-site workers (indoors or outdoors)
- On-site visitors and trespassers
- Boaters and fisherman

Members of these receptor populations could be exposed to COPCs in impacted media at the Peoples Gas sites through dermal, ingestion, or inhalation pathways. Dermal exposures could result from direct contact with impacted media (soils, groundwater, or sediments). Ingestion exposures could occur through direct contact with impacted media or by consumption of fish that have taken up COPCs from their environment. Inhalation

exposures could involve dusts generated by suspension of impacted particulates or vapors generated by volatilization of COPCs from the impacted media.

Potential Direct Contact Exposures to Impacted Soils

Workers, visitors, and trespassers at the Peoples Gas sites could be exposed to COPCs in impacted soils either directly (by contact with these soils) or indirectly (by inhalation of vapors or dusts generated from these soils). Direct exposures to impacted soils are addressed in this section; inhalation exposures are discussed in a separate section below.

As noted above, the investigation and remediation activities conducted to date establish that MGP-impacted materials are not exposed at the surface at most of the sites. At the sites where investigations are incomplete, the extent of impacted materials exposed at the surface is thought to be very low due to surface modifications (including filling, grading, paving, and building construction) conducted by the owners. In the few areas where impacted materials have been observed at the surface, access is limited. Therefore, the only activities that would necessarily result in direct contact with impacted soils at the Peoples Gas sites would involve digging.

Excavation of impacted materials is in progress at some of the Peoples Gas sites, and on-site workers involved in this activity may have direct contact with impacted soils. This direct contact may result in exposure to COPCs in the impacted soils by the dermal and ingestion pathways. As discussed below, these workers may also be exposed to COPCs in impacted soils by inhalation of dust (particulates) and vapors. Because the remedial activities are being conducted by properly-trained individuals under relevant OSHA guidelines and appropriate health and safety plans, however, the risks to these workers are considered to be minimal.

Direct contact with impacted soils by on-site personnel who are not involved in excavation is expected to be insignificant. This expectation applies to indoor workers, visitors, and trespassers at all sites and to outdoor workers at sites that are not currently being remediated. Although some trespasser scenarios include digging (especially by children), the site investigation and remediation activities conducted to date suggest that the impacted materials are generally at least two feet below the surface. Thus, the only pathway by which on-site personnel who are not involved in excavation would be exposed to COPCs from impacted soils is by inhalation of vapors (as discussed below).

The general absence of impacted materials exposed at the surface of the Peoples Gas sites indicates that transportation of COPCs as wind-blown dust generated from impacted soils is unlikely. Thus, direct contact exposure to impacted dust at off-site locations by nearby residents, boaters and fishermen is not expected to be significant.

Potential Direct Contact Exposures to Impacted Groundwater

Workers, visitors, and trespassers at the Peoples Gas sites could be exposed to COPCs in impacted groundwater by direct contact, or by inhalation of vapors generated from the impacted groundwater. Direct exposures to impacted groundwater are addressed in this section. Inhalation exposures related to groundwater are discussed in a separate section below along with inhalation exposures related to soils.

Groundwater is not used at or near the MGP sites, so routine or prolonged contact with groundwater impacted by releases at the MGP sites is not expected to occur.[2] The only activity that is likely to result in temporary human contact with impacted groundwater is excavation dewatering, which may be necessary for site remediation or installation of underground utilities. Excavation dewatering for these purposes is generally conducted by properly-trained individuals under appropriate OSHA guidelines and health and safety plans, so the risks associated with direct contact with impacted groundwater are considered to be under control.

Potential Exposures to COPCs in Air

Inhalation exposures to COPCs may involve dusts generated by suspension of impacted particulates or vapors generated by volatilization of COPCs from the impacted media. Although vapors are expected to dissipate rapidly, nearby residents could be exposed to COPCs if impacted particles were carried to off-site locations. The general absence of impacted materials exposed at the surface of the Peoples Gas sites indicates that transportation of COPCs as wind-blown dust generated from impacted soils is unlikely. In addition, dust control and air monitoring plans are in effect at sites currently being remediated. Thus, inhalation exposures to COPCs by this mechanism are not expected to be significant.

Vapors generated by volatilization of COPCs from MGP-impacted materials into soil gas tend to migrate upward through the soil if no barriers are present. Vapors that migrate to

[2] By ordinance, the City of Chicago prohibits the installation of groundwater wells for potable purposes.

the surface in outdoor areas are rapidly dispersed in the atmosphere and are not likely to result in significant risks. When buildings are located near impacted materials, however, vapors can migrate to indoor air where the rate of dispersal may be much lower. Exposure to vapors in indoor air may occur at sites where occupied buildings are located over or near impacted materials in the subsurface. Quantification of the current exposures at each site would require detailed information concerning many factors, including the nature and depth of the impacts; subsurface soil conditions; building dimensions, construction, ventilation, and condition; and worker activities and schedules. Some of this information is not available for properties that are not currently owned by Peoples Gas, so these exposures cannot be quantified at this time. Although exposures resulting from vapor intrusion may occur at some of the sites, in January 1999 Peoples Gas notified owners of the former MGP sites regarding the MGP operations previously conducted on their properties. These landowners may have taken measures to mitigate the potential risks associated with past use.

Potential Exposures to COPCs in Sediments

The Chicago River system is used by recreational boaters and fishermen. For these receptor populations, the most likely route of exposure to COPCs from MGP-impacted materials is consumption of fish. PAHs and other COPCs found in sediments tend to accumulate in resident fish populations through the food chain. Although fish advisories have been issued for the various reaches of the Chicago River, these advisories indicate that consumption of fish in limited quantities is acceptable. Thus, it is reasonable to expect that humans are exposed to MGP-related COPCs by the fish consumption pathway. The recent river investigations provide evidence of impacted sediments at locations proximate to each of the Peoples Gas sites, but do not provide sufficient information to quantify the risks associated with individual sites.

Implications of Risk-Related Information

In conclusion, although there are differences from one site to another in the types and levels of potential risks to human health, and also in the certainty with which these risks can be quantified, the information currently available does not establish that the actual risks at some sites are significantly greater than the actual risks at other sites. Accordingly, the information available for characterizing actual risks to human health at the various Peoples Gas MGP sites is not sufficient to support a specific sequence for addressing these sites under the direction of USEPA.

ATTACHMENT A

Sites Anticipated to Enter Into Administrative Orders on Consent

- 22nd Street Station
- Crawford Station
- Division Street Station
- Hawthorne Station
- Hough Place Station
- North Station
- North Shore Ave. Station
- Pitney Court
- South Station
- Throop Street Station
- Willow Street Station