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TECHNICAL FINAL LETTER REPORT

TECHNICAL ASSISTANCE TO REGION X MANUFACTURED-GAS PLANT SITES

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INTRODUCTION

Town gas plants, utilized throughout the United States in the late 1800s and early 1900s to manufacture gas for illumination, cooking, and heating purposes, are a growing concern to the utility industry and regulatory communities. These manufactured gas plants (MGP), as well as gas storage holders, gas cleanup areas and waste and by-product disposal areas, are undergoing close examination because of the array of wastes that were generated and/or disposed of at many of these sites. It is estimated that there are between 1000 and 1500 MGP sites across the country. The wastes commonly found at these sites can contain heavy metals, cyanides, phenolics, polynuclear aromatics and volatile compounds. Some of these chemical constituents can be characterized as mobile, while others are persistent in the environment.

Town gas plants had their roots in the 1700s with the discovery that coal carbonization was a major means of producing coal gas, coal tar, light oils, coke and ammonia liquor. These by-products were utilized as source materials for the production of various materials used in diverse industries. Manufactured gas was initially a major source of fuel for illumination in many cities in England, Germany, and the United States. The uses of manufactured gas expanded to include those which utilize natural gas today.

In addition to manufactured gas, the use of coal tars and light oils grew to major importance in the chemical manufacturing industry. The tars and oils were used as base materials for the formulation of a variety of products while the refined chemicals from coal tar and light oil were the starting materials for synthetic organic chemicals of the day. Coke and tars were used as heating materials in both the domestic (coke only) and industrial sectors.

BACKGROUND AND OBJECTIVES

The EPA has requested technical assistance in identifying manufactured-gas (town) plant sites on the National Priorities List (NPL) and in determining what is being done to remediate these sites. This information will be provided to Regions V and X for their use.

The objectives of this task are:

- To contact EPA Headquarters and Regional Superfund program personnel for an updated listing of the town gas sites on the NPL and to determine the status of these sites to ascertain what measures are being considered/planned for remediation.

- To examine state and industry programs for identifying, assessing, and remediating manufactured-gas plant sites through contact with state agencies and trade associations (GRI, EEI, EPRI).

- To provide a letter report by July 30, 1988.

SUMMARY

The results of the telephone contacts with Regional EPA offices, state agencies, and industry, indicate that the majority of manufactured gas plant (MGP) sites in the country that have had remedial action were remediated by: excavation and removal of contaminated material, containment of any contaminated material left, and capping. Where different means of mitigation were planned by industry, bioremediation seemed to be the first choice. The main reason given by those people using or planning bioremediation is cost. Because many utility companies across the country own town gas sites much of the study and investigation being done to remediate these sites is being conducted by them.

Different mitigation technologies other than removal, contaminment, and capping were planned or employed at other MGP sites but they were not as commonly used. Bioremediation is planned for the Newport City Coal Gas site in New Jersey (bench tests have been completed) and the Mason City Gas site, Iowa (biological bench test experiments have not started yet). At the Plattsburgh site in New York contamination is contained using slurry walls and a polyvinyl (PVC) cap; the organic contamination in the ground water is being bioremediated while the major contaminant in the ground water is being treated by a chemical oxidation method. Besides the more conventional method of removing contaminated soil offsite, the San Raphael MPG site in California is employing carbon adsorption to treat the ground water. At the Faribault town gas site in Minnesota the coal tars and coal tar contaminated soil was mixed with coal fines and incinerated.

In some states town gas sites are not a high priority while in others they are. In Florida, where the ground water is shallow in many places, the state hopes to have a preliminary assessment performed on all 23 of its MGP sites by 1989. Also, all 23 sites will be placed on the Federal Cerclis list by 1989 and it will be likely that several of the sites will be eventually placed on the NPL.

The Gas Research Institute (GRI) has conducted extensive research for the best remedial alternatives for gas manufacturing sites. Their research is looking closely at: 1. biological treatment using fungus and bacteria 2. thermal desorption; 3. tar processing; 4. groundwater treatment using a biological reactor; 5. ultraviolet chemical oxidation; 6. soil washing using surfactants; and 7. behavior of cyanide and tar in the environment. The GRI is planning bench-scale demonstrations next year and by 1990 they hope to perform large-scale field demonstrations. They have put emphasis on biological treatment because they think it has great potential as a cost effective method.

The Electric Power Research Institute (EPRI) is also conducting research into town gas sites. They are examining the mobilization of contaminants of MGP sites as they move offsite. They are also constructing a portable field

instrument for measuring semivolatiles; this instrument may be completed this year. The only mitigation technology that EPRI is researching is agglomeration. In this technology a coal slurry in water is mixed with the contaminated soil at a temperature slightly higher than the boiling point of water; EPRI has found this method to be effective on most hydrocarbons. Pilot plant testing using this technology is scheduled this year.

COLLECTED INFORMATION - MANUFACTURED GAS PLANT SITES

Existing information on manufactured-gas (town) sites was initially collected and reviewed. The names of the nine NPL coal tar contaminated sites were obtained from Mr. Scott Parish of the U.S. EPA, Washington. The Remedial Project Manager (RPM) for each site was then contacted in order to discuss alternatives for site remediation. We were unable to reach the RPM for the Koppers Coke site. Of these eight sites, five were determined to be former town gas manufacturing sites. Table 1 summarizes information on the types of waste present, the status of the site feasibility study, and remedial alternatives proposed or implemented at these sites. Table 2 shows those three sites identified by Mr. Parrish as having coal-tar contamination but which were not town gas manufacturing sites. Table 2 summarizes information on the former operations at these sites. Table 3 is a summary of the number of former town gas sites (by state) that manufactured town gas from fossil fuels and which existed in the U.S. from 1889 to 1950.

The 10 EPA Regions have been contacted and the information obtained is listed below by Region. Following contact with the Federal EPA Regional office, state agencies and industries in those states that would most likely to contain MGP sites were contacted.

TABLE 1. SUMMARY OF GAS MANUFACTURING SITES ON THE NATIONAL PRIORITIES LIST

Site	Location	EPA Region	Remedial Project Manager	Office	Phone No.	Type of site and process used	Types of waste	Feasibility Study	Remedial Alternat Proposed	Implem
Pine Street Canal	Burlington, VT	I	Paula Fitzsimonds	Boston, MA	(617) 573-5784	Gas manufacturing site. The plant has been dismantled. Wood chips were used extensively at this site.	- Coal-tar (main contaminant) - Wood chips saturated with coal gasification byproduct - Ferrocyanide	Not yet started	None	No
Dover Gas and Light	Dover, DE	III	Len Nash	Philadelphia, PA	(215) 597-0978	Coal-fired gas manufacturing site that operated from 1859-1948. All the buildings and structures have been demolished and buried underground.	- Organic waste - Benzene - Toluene - Coal-tar	Not yet started; trying to identify PRP	None	No
Reilly Tar and Chemical Corp.	Indianapolis, IN	V	Dion Novak	Chicago, IL	(312) 886-4737	Site is divided into two parts - (i) coal-tar producing site closed in 1972; (ii) pyridine manufacturing site is still active.	- No coal-tar was found - Pyridine and its derivatives were found in groundwater samples in offsite wells in 1980.	Recently completed Phase I in which samples from offsite wells (commercial and residential) were collected; Phase II, in which ground and surface water samples will be collected, will begin this summer.	None	No
Cabot/Koppers	Gainesville, FL	IV	Nancy Marsh	Atlanta, GA	(404) 347-2234	Cabot and Koppers are actually two sites. Cabot was a gas manufacturing plant that closed in 1960. Koppers is still active and is running a chromium-copper-arsenate (CCA) process for preserving wood.	- Copper, pentachlorophenol, some metals and volatile organics have been found to date	Will begin in the next couple of months	None	No
Brod Head Creek	Stroudsburg, PA	III	Patricia Tan Joe Kozlosly (State Project Manager)	Philadelphia, PA	(215) 597-3164 (717) 783-7816	Coal-fired electric power generating plant. Building has been demolished.	- Coal-tar	In process, will take about a year	None	A slur was bu 1983 a porary gency

TABLE 2. SUMMARY OF NONGAS MANUFACTURING SITES ON THE NATIONAL PRIORITIES LIST

Site	Location	EPA Region	Remedial Project Manager	Office	Phone No.	Type of site and process used
Baird and McGuire	Holbrook, MA	I	Mary Sanderson	Boston, MA	(617) 573-5738	Pesticide manufacturing site.
St. Louis River site	St. Louis County, MN	V	Grace Pinzon	Chicago, IL	(312) 886-7088	Coal-fired facility for manufacturing coke for a steel plant.
Reilly Tar and Chemical Corp.	St. Louis Park, MN	V	Erin Moran	Chicago, IL	(312) 886-7238	Coal-tar distillation/wood treating site.

TABLE 3. TOWN GAS SITES BY STATE (1880-1950)

EPA region	State/territory	Number of sites
1	Connecticut	25
1	Maine	16
1	Massachusetts	89
1	New Hampshire	17
1	Rhode Island	7
1	Vermont	12
2	New Jersey	74
2	New York	156
2	Puerto Rico	2
2	Virgin Islands	NR
3	Delaware	7
3	Dist. of Col.	2
3	Maryland	16
3	Pennsylvania	138
3	Virginia	18
3	West Virginia	9
4	Alabama	15
4	Florida	23
4	Georgia	19
4	Kentucky	21
4	Mississippi	10
4	North Carolina	28
4	South Carolina	11
4	Tennessee	15
5	Illinois	91
5	Indiana	60
5	Michigan	69
5	Minnesota	30
5	Ohio	90
5	Wisconsin	42
6	Arkansas	9
6	Louisiana	7
6	New Mexico	4
6	Oklahoma	5
6	Texas	32

(continued)

TABLE 3 (continued)

EPA region	State/territory	Number of sites
7	Iowa	62
7	Kansas	23
7	Misssouri	35
7	Nebraska	22
8	Colorado	15
8	Montana	6
8	North Dakota	7
8	South Dakota	11
8	Utah	3
8	Wyoming	3
9	American Samoa	NR
9	Arizona	12
9	California	91
9	Guam	NR
9	Hawaii	2
9	Nevada	6
10	Alaska	NR
10	Idaho	3
10	Oregon	14
10	Washington	18
Totals:		1502

Footnotes: 1. "NR" signifies that data were not reported.

Source: Survey of Town Gas and By-Product Production and Locations in the U.S. (1880-1050), Radian Corporation technical report to the Environmental Protection Agency, EPA Contract No. 68-02-3137, 1975.

REGION I

Contact	Subject/Action
Federal Region I office (Massachusetts)	Tried to contact Rich Cavanero who handles Superfund sites. Tried several times but he did not return any of our calls.
Federal Region I office (Maine, Vermont)	Contacted David Webster. Only one MGP site in Maine and Vermont that is on the NPL list - the Pine Street Canal site in Vermont. The site currently has only a site investigation being conducted. No remedial action planned yet.
Federal Region I office (New Hampshire)	Contacted Daniel Coughlin who does the NPL listing in New Hampshire. He did not know if any MGP sites in New Hampshire. He suggested we call Don Smith of Region I; we did and Don Smith said that only two MGP sites he knew of in the state were not on the NPL list, but were undergoing only preliminary assessment. He mentioned that Region I has only one site on the NPL list and preliminary work has been completed on six sites, but no remedial action has been proposed or implemented.
Federal Region I office (Connecticut)	Ms. Margaret Leshin, who covers Connecticut for Region I, did not know of any MGP sites in Connecticut. The only site in the region she knew of that was on the NPL list was the Pine Street Canal site that was also mentioned by David Webster of Region I.
Federal Region I office (Rhode Island)	Tried several times to contact Richard Boynton who handles the state of Rhode Island but he did not return any of our calls.
Federal Region I office (Massachusetts)	Contacted Fred Civian. He said be is not sure if there are any MGP sites on the NPL in Massachusetts. He referred me to Karen Stromberg; she said the only MGP site in the state that has undergone remedial action is the Mendon Road site in Attleboro, Massachusetts. This site is not on the NPL list but on the state hazardous waste site list. For more information she referred me to Susan Bershard. Ms. Bershard said that the Mendon Road site was more of a emergency response clean up than a remedial action. Some contaminated soil was removed from the site by the state but some contaminated sludge still remains. The Potentially Responsible Party (PRP) is currently doing an assessment of the sludge and surrounding area. A report on the site was requested.

Contacted Ted Live. He will send me a list of the 15 known MGP sites in Massachusetts and the six that have gone through Site Investigation/Feasibility Study; these six sites have a proposed remedial action. To collect information on these six sites I contacted Erin Battistelli. She will send me what information she can find in the state files.

The Radian report on town gas sites (mentioned in Table 3) estimates there are 89 sites in the state of Massachusetts.

REGION II

Contact	Subject/Action
Federal Region II office (New York)	Contacted Mel Hauptman. He said no MGP sites on the NPL at the present time. He does not know of any undergoing feasibility studies either.
Federal Region II office (New Jersey)	John Frisco, who handles the Superfund matters for New Jersey, said he did not know of any MGP sites on the NPL.
State of New York	Walter Demick, who handles site investigations, knew of only one site on the NPL - the Niagara-Mohawk Saratoga site. This site is currently undergoing a remedial investigation; no remedial design has been proposed. Mr. Demick indicated that the Plattsburgh site has undergone some remedial action. The Plattsburgh site is owned by New York State Electric and Gas. Contacted Peter Ouderkirk. He said all MGP sites in New York state are in the remedial investigation stage now. He also said the 25 MGP sites on the New York Cerclis list have had no remedial action except the Saratoga site. Contacted Dan Steenberge. He does not know of any MGP sites in New York that have had any remedial action except the Plattsburgh site. He said the Saratoga site is currently undergoing remedial investigation. He gave me contacts at Niagara - Mohawk and New York State Electric and Gas.
Niagara-Mohawk Utilities Co.	Contacted Frank Shortino. No MGP sites owned by Niagara - Mohawk have undergone remedial action. He said the Saratoga site is undergoing Phase II - soil and ground water sampling. He also said his firm is conducting bioremediation research.
New York State Electric and Gas	Dennis O'Day, civil engineer for the Plattsburgh site, said he did not know of any MGP sites in New York state that have undergone any remedial action other than the Plattsburgh site. He said the contamination on the Plattsburgh site is more contained than cleaned up. The contaminants were contained using slurry walls and a polyvinyl (PVC) cap. This was followed with bioremediation of the ground water for the organic contaminants and chemical methods to remove iron from the ground water. A report on the site remedial action was requested.

State of New Jersey	Bob Raisch, who handles preliminary assessments, said there are no MGP sites on the NPL list. He said some sites are being remediated by utilities before they make it to the NPL list. For further information he referred me to Nick Eisenhauer in Case Management. Nick reaffirmed what Bob Raisch said and mentioned that there are four sites undergoing remedial action in New Jersey. He gave me the name of each site and the contractor in charge of the remedial action.
Diversified Environmental Resources (Bellaire Estates or Ridgewood Gas Works site, N.J.)	Contacted Ted Sailer of D.E.R. about the Ridgewood site. He said remedial action will start this month. Their plan is to excavate the contaminated soil and remove it offsite. They are currently in Phase II - soil sampling.
URS (Atlantic Coal Gas site, N.J.)	Contacted Don Sennett of URS. He said the remedial action being taken at the Atlantic Coal Gas site is to remove the contaminated soil and take it to a New Jersey ID 27 landfill. He also said ground water remediation has not been addressed yet. Approximately 6,000 cubic yards of contaminated soil has been removed already.
Melvin Simon & Associates (Newport City Coal Gas site, N.J.)	Fred Forstell of Melvin Simon & Associates, one of the developers of the property on which the Newport City Coal Gas lies, told me that they will be using in-situ bioremediation as the remedial action for the Newport City Coal Gas site. A hydraulic barrier (a type of French drain) will contain the ground water on site and an anaerobic biotreatment will be used to leach the coal tars from the soils. He hopes that this will clean up the ground water also. The hydraulic barrier is in place but no pumping of the ground water has started yet. Bench tests using this biotreatment system have been completed.
BCM (Tom's River site, N.J.)	Jeff Bradshaw of BCM told me that the remedial action plans have been drawn up by BCM for the Tom's River site but they have not been implemented yet. He said he wants to keep all information confidential until he contacts his client, a utility company who is cleaning up the site. He hopes to have some information by July 22.

REGION III

Contact	Subject/Action
Federal Region III office (All states except Pennsylvania)	Bill Hagel, who covers those states in Region III other than Pennsylvania, did not know of any MGP sites in his area, but he did know of one in Pennsylvania - the Brod Head Creek site. Connie Carr, who prepares the Region III Cerclis lists, said there is only one site on the NPL list that he is aware of-- the Dover Gas Light Company site in Dover, Delaware, but he said only a RI/FS is underway; no remedial action is planned yet. He also said he know of no MGP sites in Maryland undergoing remedial action.
Federal Region III office (Pennsylvania)	Walter Graham did not know of any MGP sites in Pennsylvania on the NPL list other than the Brod Head Creek site.
State of Pennsylvania	Joe Kozlowki of the Emergency Response Team said he only knew of one MGP site in Pennsylvania that was undergoing investigation - the Brod Head Creek site. He said in the early 1980's there was some emergency action done there: 1) removal of some contaminated material to a landfill; 2) construction of a slurry wall; and 3) recovery of 8,000 gallons of coal tar that was then burned. Contacted Frank Fair who said he know of only one MGP site that had remedial action and that was a Pennsylvania, Power & Light (P,P,& L) site call the Columbia Gas site. He said the remedial action involved removal of contaminated material and then encapsulation with concrete. He suggested I call Joyce Miller (file clerk) to get a report on the site. I hope to have the report by July 22.
Pennsylvania Power & Light	Contacted J.F. Villaume who confirmed what Joe Kozlowski said about the Brod Head Creek site owned by P,P,& L. Mr. Villaume said P,P,& L is currently conducting a remedial investigation/feasibility study there. He said two other sites owned by P,P,& L were cleaned up in Pennsylvania but this information is not available because it is confidential. The only information he could divulge about the two sites is that the remedial action was removal and containment.
State of Maryland	Contacted Dave Healy; he did not know of any MGP sites on the NPL. He said all the town gas sites in Maryland are

	in the preliminary assessment stage. He also remarked that one MGP site (Salisbury Town Gas site) which was never on the NPL list had a small amount of tar removed from the site for disposal; he said the site is currently undergoing a preliminary assessment.
State of Delaware	Joe Hardman of the Delaware Department of Natural Resources and Environmental Control knew of no sites in Delaware undergoing Superfund Remediation. He said most of the sites are in the preliminary assessment/site investigation stage.
Chesapeake Utilities, Dover, Delaware	Contacted Steve Thompson who said his firm is currently doing an investigative action for the Salisbury Town Gas Site (Salisbury Maryland). He also said there has been no remedial action and that some soil was removed to a hazardous waste landfill. He know of no MGP sites in Maryland or Delaware that have had remedial action.
Geraghty & Miller Annapolis, Maryland	John Mildenberger of G&M told me that he only knew of one MGP site that had any remedial action; the site was in Maryland and a tar pond was excavated and the tar was sent to a hazardous waste landfill. He considered this action superficial. The site is now undergoing remedial investigation; he said the site still has contamination and it was never on the NPL list. He could not pass any more information along to me because the utility (his client) was reluctant to let information out. Also, the state did not know about the clean up. Mr. Mildenberger also said his firm is working on six or seven MGP sites and they are all in the preliminary assessment stage.
State of Virginia	Jim Adams of the state of Superfund Branch said Virginia has 11 sites on CERCLIS. After performing preliminary assessments on all sites, only Portsmouth and Suffolk town gas sites were investigated because of shallow ground water. Following the investigation, it was determined than no further action was required. The state has not performed any remediation at any MGP sites to date.

REGION IV

Contact	Subject/Action
Region IV	Contacted Richard Stonebraker who said he has never run across any MGP sites in Region IV. He does not know of any on the NPL lit in his Region. Also contacted Nancy March of Region IV who said the Cabot/Koppers site is an NPL site in Gainesville, Florida. A RI/FS had been completed for the site. According to Nancy March, Dike Erikson (IT project manager for RI/FS), and John Ruddell (FL DER) the Cabot site was not a former MGP site. Until 1960, Cabot made charcoal from pine bark.
State of Alabama	Joe Downey of the Alabama Department of Environmental Management said the Southern Natural Gas Company, Birmingham, Alabama, has the only town gas site in the state that has been investigated. A preliminary assessment indicates that no further action is required at the site.
State of North Carolina	Lee Crosby of the state Superfund Division said the state of North Carolina has not performed any assessments, investigations, or remediation at any of the MGP sites within the state.
State of Florida	Contacted Rick Wilcons who said Florida has a total of 23 sites which are in various stages of work and all will be placed on CERCLIS by 1989. A site inpection has been performed at most of these sites and eight preliminary assessment have been performed to date. All sites will have a preliminary assessment performed by 1989. The state tries to persuade the responsible party to investigate their own sites. Because of the states shallow ground water is is likely that several of Florida's sites will be eventually placed on the NPL. Pooles Roofing site in Gainesville, Florida will be performing a subsurface investigation. Miami Beach and Miami will be performing a Contamination Assessment Plan. Miami Beach is the only site in the state that has performed any rememdiation, which was a simple excavation and disposal of contaminated material. St. Petersburg, Florida has the most active site. The city has completed a site investigation and is in the process of preparing a feasibility study.

City of St. Petersburg	Robert Holm said the city was in the process of building a stadium when a former MGP site was discovered. After a site investigation, a contamination assessment plan was performed, the site was determined to be non-hazardous by regulatory definition. The state is in the process of performing a feasibility study to determine the best way to remediate the site because if may be considered hazardous at a later date by the Federal EPA. Encapsulation, removal, and thermal treatment are alternatives considered. Ground water contamination also exists and will be treated and removed later.
State of Kentucky	Carl Millanti said the state of Kentucky has investigated two sites in Owensboro, Kentucky. The investigation determined that no further action was required. No other sites have been assessed, investigated, or remediated.
State of Georgia	Contacted Bill Mundy of the Department of Natural Resources. He said EPA Region IV performed an emergency cleanup at a former MGP site in Rome, Georgia. The project involved digging up contaminated soil and transporting the soil to a hazardous waste landfill. In addition, the state of Georgia performed a preliminary assessment at eleven sites in the state. Five of these sites have been selected for a site investigation. Other than the project in Rome, Georgia, no other sites have been remediated.
State of Tennessee	Bill Forrester of the Department of Health and Environment stated that the state of Tennessee has not assessed, investigated, or remediated any MGP sites to date.
State of South Carolina	Bob Creswell of the state told me South Carolina has not assessed, investigated, or remediated any MGP sites to date.

REGION V

Contact	Subject/Action
Federal Region V office	Contacted Richard Dikins and Greg Kulma. They both said there are no town gas sites on the NPL list in Ohio, Minnesota, Indiana, or Illinois. Another contact, Bill Messenger, said one MGP site that recently made the NPL list is the Central Illinois Public Service site in Taylorville, Illinois. The site has undergone only a preliminary assessment and site inspection. He also said he did not know of any MGP sites on the NPL list in Region V.
State of Michigan	Contacted Dave Rymph of the state agency. He stated that there are no sites on the NPL list now, but there have been town sites that have had remedial action - Riverside Park site in Detroit, Michigan, and a site in Jackson, Michigan owned by Consumers Power utility. Dave Rymph thinks there might be a third site currently being cleaned up in Kalamazoo, Michigan. He also said that the state would prefer removal and disposal versus incineration.
Michigan Consolidated Gas Company	Steve Kurmas could only give me a small amount of information on the Riverside Park site in Detroit because his firm and the Michigan Department of Natural Resources have legal negotiations going on at the present time. He did say that the remedial action involved excavating the contaminated soil (approximately 6,000 cubic yards) removing it offsite to a RCRA facility. This was followed by encapsulation with a PVC liner and topsoil was placed on top of the liner. Mr. Kurmas said that other MGP sites owned by his firm (the state estimates that there are 14) had not reached the remedial design or action stage.
Consumers Power Company	Bruce Rasher stated that Consumers Power has not performed any remedial action on any of the MGP sites they own. He said two sites were investigated and no clean up was deemed necessary while two other sites were investigated and the wastes were found to be not hazardous by their consultant. He was very reluctant to disclose any information on MGP sites.

Upjohn Company

Susan Knox said that the Upjohn Company is in the process of performing remedial action on a MGP site on their property in Kalamazoo, Michigan. The old MGP site was purchased from Consumers Power by Upjohn and Upjohn and the utility are currently in legal negotiations over the site. Ms. Knox stated that the wastes are non-hazardous (based on EP toxicity and characteristic testing) and will be removed and sent to a Class II state-approved landfill. She said the site is not on the Cerclis list; she also said that the state determines whether the site is listed or not.

State of Minnesota

According to Bob Dollinger of the Minnesota Pollution Control Agency only one MGP site has received any remedial action and Minnesota. That was the Faribault site owned by Northern States Power. He sent us the Record of Decision for the Faribault site and it indicated that the coal tars and coal tar contaminated soil were mixed with coal fines and after the inert debris was removed by screening, the material was incinerated. The only other remedial action at the site was the capping of the oxide box wastes and oxide box waste contaminated soil with topsoil followed by revegetation. Mr. Dollinger said this site is on the state priority list but not the NPL list.

The Radian report on town gas sites (mentioned in Table 3) estimates that there are 30 sites in the state.

State of Wisconsin

Ray Tierney of the State Department of Natural Resources said the state has performed 19 preliminary assessments to date. Several sites have had some soil removed. Lincoln Wood Products, Racine site, and one other site have had major cleanups. The cleanup was performed by excavating and disposing of the material at a hazardous waste landfill.

The Radian report on town gas sites (mentioned in Table 3) estimates that there are 42 sites in the state.

State of Illinois

Contacted Brian Martin of the state EPA who said the state has identified seven utilities, each having several MGP sites. There are a total of 91 sites, and it is expected that the number will increase to 130 in the future. The state encourages the responsible party to investigate their own MGP sites. The 91 identified sites are at various levels of initial site assessments. Site investigations have been performed on ten of these sites. One site, called the Old CIPS Gas Plant in Taylorville, Illinois, has just recently been proposed on the NPL. A partial cleanup has been performed at the Taylorville site by excavating the material and hauling it to a hazardous waste landfill.

Central Illinois Public Service Company	Don Richardson of CIPS reaffirmed what the Illinois EPA said about the Taylorville, Illinois site which is owned by CIPS. He also stated that almost 12,000 cubic yards of contaminated soil has been removed to date and the final remedial design will take at least two to six months to be completed.
Illinois Power Illinois Power Company	Tom Sweet of the Illinois Power Company said his company has 24 gas sites which have been assessed. A subsurface investigation is being performed at one of these sites. It is suspected that some remediation will be performed within the next year.
State of Ohio	Ken Schultz of the Ohio EPA did not know of any MGP sites in the state.
Cincinnati Gas & Electric Company	John Funke of CG&E did not know of any MGP sites that were owned by his company or on his company's property.

REGION VI

Contact	Subject/Action
Federal Region VI office	Tried several times to contact Carl Edlund but he did not return any of the calls.
State of Texas	Bob Chapman of the Water Resources Division was contacted and he said the state has identified about 30 MGP sites but only one was cleaned up by the owner; at this site they dug up the contaminated soil and landfilled it. He also stated that these MGP sites are in downtown areas and have buildings on them and thus they cannot do very much; most of the sites have contamination in the upper 30 to 40 feet.

REGION VII

Contact	Subject/Action
Federal Region VII office	Contacted Pete Culver. He said that his job is to identify coal gas sites and then hand them over to RPM. He gave the name and number of the RPM for the Mason City coal gas site in Iowa.
Federal Region VII office	Contacted Steve Auchterlonie, RPM for the Mason City gas site. He gave some background information on the site. Feasibility studies will be completed in the next couple of months and one of the proposed technologies is biological treatment. He gave us the name of Mike Johnson of Hickok Associates, who is in charge of biological treatment.
Hickok Associates	Contacted Mike Johnson. He said they haven't yet started experiments and hence don't have any data. They are setting up a bench-scale experiment and are in the process of preparing work plan and methodology for biological treatment.

REGION VIII

Contact	Subject/Action
Region VIII	Bill Giese said he did not have any information on town gas manufacturing sites nor did he think there were any in Region VIII.

REGION IX

Contact	Subject/Action
Federal Region IX office	Contacted Phil Bobel who did not have any knowledge of town gas manufacturing sites.
State of California	Lach McClenahen of the Department of Health Services estimated that there are 30 to 50 town gas sites in California but he did not know of any sites on the NPL nor did he know of any in the remedial action stage. He did add that most of the sites are only in the preliminary assessment stage and these types of sites are low on their list of priorities.
Pacific Gas & Electric Company	Vic Furtado of P,G & E told me that of the MGP sites that his firm owns only one has gone through remedial action - the San Raphael site. The contaminated soil was simply removed and sent offsite to a RCRA facility. The area was then enclosed with a slurry wall and the ground water was pumped, treated by carbon absorption, and put into the city sewer system. Mr. Furtado also mentioned that his firm has seven other town gas sites in various stages of investigation.
State of California	Contacted Stan Lau and David Lew who said Dames and Moore has performed a site investigation on a site which was formally property of Southern California Edison. The site at one time was a MGP site. It was determined that the site did not contain any hazardous waste, and that the materials could be disposed at any approved landfill. However, the excavated material may have to be disposed of at a Class I landfill because of the odor that is caused by the polynuclear aromatics contained in the soil. The design for excavation calls for lining the walls of the excavated hole with concrete, lining the floor with a geotextile liner, and covering with a cement slurry. The property is extremely valuable and is expected to be developed. The reason for excavation is because the site will not support a structure.

REGION X

Contact	Subject/Action
Federal Region X office	John Barich said the Tacoma Tar Pits (part of the Commencement Bay near Shore Tide Flats Superfund site) site has a planned remedial action of soil stabilization and capping. The 35 acre site is contaminated with PNAs, PCBs, heavy metals, auto fluff, and coal tars. The ROD was signed in December of last year and the remedial design negotiations are currently being held. Lee Marshall of the Superfund Group did not know of any other town gas sites in Washington on the NPL.