



# PG&E Willows Former Manufactured Gas Plant Site Remedial Investigation Completed



California Environmental Protection Agency's Department of Toxic Substances Control

## Introduction

The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), is overseeing the remedial investigation (RI) and cleanup at Pacific Gas and Electric Company's (PG&E) Willows former manufactured gas plant (MGP) site. This fact sheet includes the results of the RIs at the Willows former MGP site, located at 310 East Wood Street (see Figure 1), the site history, the schedule for development of the draft remedial action plan (RAP) proposal, and a community questionnaire.

## Site Background

From the early 1800's through the mid-1900's, manufactured gas plants (MGPs) were operated by utility companies nationwide to produce gas from coal or oil for lighting, heating, and cooking. The gas manufacturing and purification processes yielded by-products or gas plant residues, including tars, sludges, lampblack, light oils, and other petroleum products. Residues not reused in other processes remained at some of these MGP sites.

The Willows MGP operated on Parcel A of the 1.84-acre site from 1911 to 1944 using an oil-gas process. Gas manufacturing activities ceased in 1944 and the majority of the plant was dismantled by 1953. The only structures remaining from the gas plant era today are the main buildings on Parcel A. No MGP operations took place on Parcel C, acquired by PG&E in 1931.

The Willows site is currently a PG&E service center, used for storing and distributing materials and equipment for the gas and electric operations work crews. The Willows site was first investigated in a preliminary assessment 1986. Additional investigations were conducted in 1991, 1995, 1997-98, and 1999.

## What are Gas Plant Residues?

The principal chemicals of concern contained in gas plant residues are polynuclear aromatic hydrocarbon compounds (PNAs). PNAs are organic chemicals formed when organic materials such as coal, oil, petroleum fuels, or even foods are not completely burned (that is, PNAs are products of incomplete combustion). PNAs are found in a wide variety of commonly encountered materials such as diesel exhaust fumes, roofing tars, asphalt, smoke from fireplaces, cigarette smoke, and in the black charring of charcoal-grilled meats. PNAs tend not to move in the environment because they adhere to soil and do not readily dissolve in water.

Other chemical compounds of concern which could remain at MGP sites include petroleum hydrocarbons and volatile organic compounds (VOCs). VOCs are also found in products such as industrial solvents, degreasers, paint thinners, nail polish, and gasoline. Most VOCs are soluble to some extent in water. VOCs readily move through soil and groundwater and, if exposed to air, will evaporate rapidly.

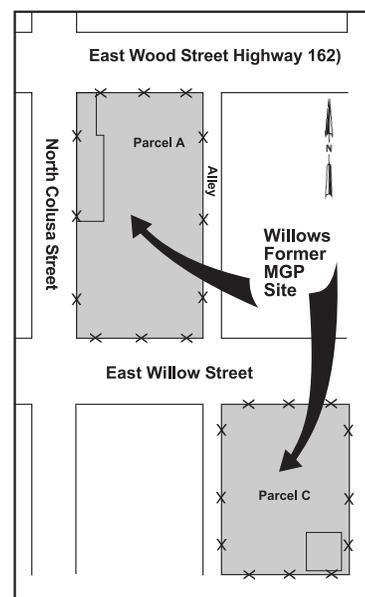


Figure 1 - Location of PG&E Willows Former Manufactured Gas Plant Site

## What are the Potential Health Effects of Gas Plant Residues?

Some PNA compounds are suspected human carcinogens (that is, they are suspected to cause cancer). Other PNAs may cause acute and/or chronic health effects if people are exposed to relatively high concentrations of the chemical. Exposure to PNAs can occur if soils containing these compounds come into direct contact with or accumulate on skin surfaces (dermal contact), by breathing dust containing PNAs (inhalation), or by holding food in dirty hands and then eating it (ingestion).

Some VOCs may cause acute and/or chronic health effects to humans that are exposed to these chemicals. The nature and severity of health effects is dependent upon the dose and duration of exposure.

## Investigations Completed

Soil and groundwater data collected during the remedial investigations show that soil is contaminated in the immediate vicinity of the former MGP and that groundwater is contaminated beneath the two southern corners of Parcel A. PNAs, petroleum hydrocarbons, and VOCs are found in soil between the surface and 30 feet below ground surface in various locations. The extent of the soil contamination has been delineated and the groundwater beneath and around the site has been monitored regularly during the last 6 years. Groundwater in the southern two parts of the site is contaminated with PNAs, petroleum hydrocarbons, and VOCs.

## Cleanup Alternative Being Evaluated

A feasibility study (FS) to develop soil and groundwater cleanup alternatives is underway and scheduled to be completed in early 2001. The FS evaluates the soil and groundwater cleanup alternatives for effectiveness, protection of human health and the environment, cost, and other criteria. The alternatives that best meet the criteria are recommended for the cleanup. A health risk assessment will be completed with the FS. Upon completion, both documents will be placed in the repositories listed below.

## What Happens Next?

A proposed draft remedial action plan (RAP) that summarizes the RI and FS will be prepared. The draft RAP is scheduled to be completed in the summer of 2001, and will be placed in the information repositories. This document will describe site conditions, the remedial action alternatives that were considered, and the recommended remedial action. Members of the public and regulatory agencies will have an opportunity to review and comment on the draft

RAP and associated California Environmental Quality Act (CEQA) documents. The public comment period will extend a minimum of 30 days, during which the DTSC will hold at least one public meeting. DTSC will review and respond in writing to all public comments. After responding to comments, DTSC will make any appropriate changes before issuing the final RAP.

## Public Interested in Participating

DTSC encourages you to participate in the decision-making process. Opportunities for participation include:

- Questionnaires
- Interviews
- Public Review and Comment on the draft RAP
- Public Meeting
- Public Repositories

DTSC will continue to inform and involve the public on the status of the site and future remediation activities.

### For More Information

#### **Duane White**

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Cal-EPA Department of Toxic Substances Control  
10151 Croydon Way, Suite 3  
Sacramento, California 95827  
(916) 255-3585

#### **Kim Rhodes**

Public Participation Specialist  
Cal-EPA Department of Toxic Substances Control  
10151 Croydon Way, Suite 3  
Sacramento, California 95827  
(916) 255-3651

#### **Lisa Kunz**

Media Contact  
(916) 327-6104

### Information Repositories

Related documents are available for review at the following locations:

#### **The Willows Public Library**

201 North Lassen Street  
Willows, CA  
95988

#### **Yuba Community College**

District 2088  
North Beale Road  
Marysville, CA  
95901

*The complete Administrative Record is available at DTSC*

#### **Department of Toxic Substances Control**

Regional File Room  
10151 Croydon Way, Suite 3  
Sacramento, CA 95827

## Glossary

**California Environmental Quality Act (CEQA)** - A law mandating environmental impact review of governmental action in California. The Act applies generally to all activities undertaken by state and local agencies, and to private activities financed, regulated, or approved by state and local agencies.

**Feasibility Study** - A study to evaluate alternatives to reduce or eliminate risks posed by the chemicals at a site.

**Groundwater** - Water below the ground surface that moves slowly through the spaces between soil and rock particles.

**Health Risk Assessment** - A study examining whether there is a potential for people and/or the environment to be exposed to chemicals at a site and what the potential effects of exposure might be.

**Monitoring Wells** - Wells drilled at specific locations on or around a site where groundwater can be sampled at selected depths and studied to determine the direction in which groundwater flows and the types and amounts of chemicals present.

**Natural Attenuation** - A naturally occurring chemical and biological process that breaks down some toxic chemicals into non-toxic chemicals in soil or groundwater.

**PNA** - An acronym for polynuclear aromatic hydrocarbon compounds.

**Remedial Action** - A corrective action taken to reduce, remove, or isolate chemicals in soil or groundwater.

**Remedial Action Plan (RAP)** - A document describing which remedial action (cleanup) alternative has been selected.

**Remedial Investigation (RI)** - A study to identify the types and extent of contamination at a site.

**Petroleum Hydrocarbons** - Any of numerous organic compounds such as gasoline and diesel fuels that contain carbon and hydrogen and are derived from petroleum products.

**Volatile Organic Compounds (VOC)** - Any of a number of organic compounds that volatilize (evaporate) readily when exposed to air.

## Notice to Hearing Impaired Individuals

TDD users can obtain additional information by using the California State Relay Service at 1-888-877-5378 to reach DTSC, Public Participation Specialist, Kim Rhodes at (916) 255-3651.

# COMMUNITY SURVEY QUESTIONNAIRE

Please take a moment to complete the following questions and the address information and return the questionnaire to **Kim Rhodes** at the address below.

**Willows Site**

1. How long have you lived in this area?  
 0-5 years       6-12 years  
 13-20 years     21 years or more
- 2a. Did you previously know that a manufactured gas plant (MGP) had been located on the site?  
 Yes               No
- 2b. Did you previously know that hazardous substances from the MGP operations are still present in soil and groundwater beneath the site?  
 Yes               No
- 2c. If yes to either 2a or 2b, where did you acquire your previous knowledge about the site?  
 Newspapers     Neighbors  
 Relatives  
 Other (please specify):
3. What is your current level of interest in this site, if any?  
 None               Low to moderate  
 Moderate to high
4. Do you have any specific concerns about this site? If so, please specify.
- 5a. Have you had any contact with local, state or other officials regarding this site?  
 Yes               No
- 5a. If yes, what was the nature of this contact?
6. What is the best way to provide you with information?  
 Fact Sheet       Community Meetings  
 Other (please specify):
7. What languages are spoken in your community?
8. Can you suggest anyone else we may want to talk to?
9. Would you be interested in an interview with a DTSC representative about this site?  
 Yes               No
10. Please make any additional comments that are of concern to you.
11. Please include your name, address, phone, and email.  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
  
City: \_\_\_\_\_  
State: \_\_\_\_\_ Zip: \_\_\_\_\_  
  
Phone: \_\_\_\_\_  
  
Email: \_\_\_\_\_

## Are You On Our Mailing List?

If you did not receive this fact sheet in the mail and wish to be on PG&E mailing list for the Willows site, please complete the coupon below and send it to:

**Kim Rhodes**  
Public Participation Specialist  
Department of Toxic Substances Control  
10151 Croydon Way, Suite 3  
Sacramento, California 95827

DTSC mailing lists are solely for the purpose of keeping persons informed of DTSC activities. Mailing list are not routinely released to outside parties. However, they are considered records and, if requested, may be subject to release.

PLEASE INCLUDE ME ON THE PG&E MAILING LIST.

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_  
Zip: \_\_\_\_\_ Phone: \_\_\_\_\_ Email: \_\_\_\_\_

**Community Questionnaire Enclosed**