



Interoffice Memo

To: P. Goodson
 D. King
 C. Langer
 M. Low
 L. Sasadeusz

From: M. Haarer *M. Haarer*

Date: December 21, 1993

Subject: Public Affairs / Playa del Rey Activities

At our December 13 meeting we discussed ways in which Public Affairs (PA) could support Transmission and Storage in their ever-growing public battle with the Angeles Chapter of the Sierra Club over the safety and environmental impact of our underground storage operations. At that meeting we were joined by Maguire Thomas Partners Vice President John McAllister -- a guest of Paul Goodson's -- who reaffirmed his desire to see this issue put to rest. Mr. McAllister offered some ideas for working with the local press and environmental groups.

Following the Maguire Thomas presentation, and upon McAllister's departure, we focused on those areas where PA could be most helpful. It was determined that PA would undertake the following responsibilities, within the time frame suggested herein:

- Develop a Question and Answer (Q&A) piece for use by Gas Company staff with external contacts. [timing and responsibility: draft Q&A attached for review and comment. Please answer any questions left blank and return by close of business Wednesday, January 5. Include Q&A's that you consider important but missing in the draft. PA Planning and Analysis (M. Haarer).]
- Draft a letter to local, state and federal officials explaining the results of recent tests taken of the "Ballona bubbles." Early indication is that the bubbles are not from migrating natural gas -- as alleged by the Sierra Club and referred to by the office of U.S. Senator Barbara Boxer and others -- ~~but swamp gas caused by decomposing organic matter.~~ *... storyful*

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[timing and responsibility: dependent upon return of actual tests, by PA Planning and Analysis (M. Haarer). Hoping to distribute letter by end of year, at discretion of staff with contact.]

- Meet with Friends of Ballona Wetlands (FBW), and ask for their support or endorsement of our Ballona bubbles study. This may help mitigate the snipings we can expect to receive from the Sierra Clubbers. Apparently we have a pretty good relationship with these folks. They have already granted approval of the Playa Vista project. [timing and responsibility: Division staff (M. Low) and Transmission & Storage staff, as soon as possible.]
- Meet with the Angeles Chapter of the Sierra Club to discuss results of bubbles study. [timing and responsibility: Division staff (M. Low) and Transmission & Storage, dependent upon return of results.]
- Update Reply to Media Inquiry to encompass results of the Ballona bubbles test. [timing and responsibility: Public and Employee Information (D. King), once bubbles test results are back.]
- Plan tours of the storage facility for VIPs, including members of the local media, elected officials and their staffs and surrounding business organizations like the Westchester Rotary Club. The media and elected officials tours should be handled on separate occasions. The purpose of the tours is to "de-mystify" the facility, and have an opportunity to tell our story without it being "filtered" by outside influences. [timing and responsibility: sometime near the end of February, early March, by Division staff (Marcella Low) with help from PA Planning and Analysis (M. Haarer).]
- Produce a Newslines video -- that can be shown to external audiences -- featuring Ed Begley, Jr. talking about our underground storage operations at Playa del Rey. [timing and responsibility: Public and Employee Information (D. King), as soon as possible.]

I will also be writing a background paper on underground storage, as federal officials are becoming more interested in the issue from an environmental regulatory perspective. I trust the paper will be useful at the local level as well.

Please call if you have any questions or clarifications concerning the above activities.

Attachment

cc: J. Brumfield (w/out attachment)

- S. Woodson Bryant (w/out attachment)
- J. Greene (w/out attachment)
- J. Guerra (w/out attachment)
- M. Middleton
- G. Minter
- R. Owens (w/out attachment)
- J. Thompson
- G. Ward (w/out attachment)
- B. Ware (w/out attachment)

Question 31: Can gas stored underground escape to the atmosphere?

The Ballona Wetlands is over one-mile underground and capped by over 1500 tons of impermeable shale. Furthermore, there are no known faults below the wetlands. The nearest major faults, the Inglewood and Palos Verdes, are both more than four miles away. In addition, both of these faults are associated with oil and gas fields and have withstood countless earthquakes for over twelve million years.

According to at least one of California's most respected geologists, Henry Wairond, there are no known occurrences of earthquakes causing a rupture fissure leading to the escape of stored or natural hydrocarbons from any appreciable depth. In fact, deep accumulations of oil and gas worldwide have withstood upheavals and major structural events throughout geologic time because very high geostatic rock pressures strongly mitigate against significant opening of any fractures or fissures that might be associated with even the largest of earthquakes.

Question 32: Consultants hired by opponents of the Playa Vista Project contend that there is a vertical gas migration problem at Playa del Rey and that there are large quantities of natural gas leaking from the gas storage field. Is this accurate?

Consultant Earth Engineers have drawn erroneous conclusions from a report written over 40 years ago.

What they are referring to is an article entitled Gas Storage in the Playa del Rey Oil Field, written by John Riegla, that describes unexpected migration of gas from north and west. The gas migration was unexpected because the reservoir boundaries were originally thought to encompass an initial areal extent described in the report. In fact, subsequent events in the period from 1942 to 1953 proved the areal extent of the reservoir to be larger than initially projected. Gas migrated laterally and pressured up the oil depleted outlying areas of the same continuous reservoir.

Realization of this lateral gas migration in the reservoir resulted in an operating strategy to recover the gas from the fringes of the reservoir. No gas was ever truly lost. No vertical migration to the surface has ever occurred.

Handwritten notes:
 Faults of Playa Vista
 Why? Faults?

Handwritten initials: da

Handwritten initials: J. H. C.

Handwritten text: redacted

DRAFT

**DRAFT QUESTIONS & ANSWERS
RE: PLAYA DEL REY STORAGE FIELD
A PUBLIC AFFAIRS DOCUMENT**

Question #1: What if there's an earthquake? Can gas stored underground escape into the atmosphere?

The Gas Company's storage zone in the Ballona Wetlands is over one-mile underground and capped by over 1500 tons of impermeable shale. Furthermore, there are no known faults below the wetlands. The nearest major faults, the Inglewood and Palos Verdes, are both more than four miles away. In addition, both of those faults are associated with oil and gas fields and have withstood countless earthquakes for over twelve million years.

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fault alleged
by Sevens rlv

1662

Source Club ?

natural

re-pressured

Question #3: What kind of precautions is the Gas Company now taking to ensure that there is not vertical migration of gas?

Safety and ensuring that the public health is not compromised are Gas Company policies. We have an extensive monitoring program to ensure the integrity of our wells and reservoir, and to ensure that gas does not migrate to the surface. Surveys are run in our wells. The volumes of gas injected and withdrawn are measured. Monitoring of surface barholes demonstrates that gas has not migrated to the surface over the years.

Question #4: Which governmental agencies oversee Gas Company monitoring activities?

The Gas Company's storage fields are governed and annually reviewed for safety and environmental impact by the State of California's Department of Oil and Gas. We have received high rankings from this regulatory agency for the safe and efficient operation of the Playa del Rey facility.

Question #5: Are there significant concentrations of carcinogens benzene or toluene in the gas storage fields, as critics have charged?

Storage gas, and all petroleum products, may contain benzene and toluene, but the amounts are very small. Some natural gas contains no benzene; the most benzene we normally find is 40 parts per million. Benzene and toluene occur naturally in natural gas and are not added in the storage operations.

According to a study conducted by the South Coast Air Quality Management District in 1989, downwind of the Playa del Rey Storage Field, only trace concentrations of benzene and toluene were present. This is three to four orders of magnitude lower than federal Permissible Exposure Limits.

Question #6: Is it safe to build structures (e.g., homes) over abandoned gas storage wells?

The concern about construction over abandoned wells is unfounded. Contrary to several comments, the Gas Company has no control over the ability of individuals to construct residences over abandoned wells. The Division of Oil and Gas, the Los Angeles City Fire Department, and the Los Angeles City Building Code regulate this construction.

Handwritten notes: "Have the O&G responded to any of the EPA, sum up the well"

Handwritten note: "0-30 ppm"

Handwritten note: "not gas however sub way from"

Handwritten note: "higher than normal ambient?"

Handwritten note: "methane"

Question #7: I've heard that the Gas Company has had problems with gas migration or gas surfacing at the Montebello field. How can I be assured that similar problems will not occur at Playa Del Rey?

The Montebello field, with several overlying zones, presents a much more complex geologic situation than Playa del Rey, and events there have no correlation to Playa del Rey.

In the past, small quantities of surface gas were discovered at Montebello which were the result of abandoned wells (by others than the Gas Company), with substandard pugs, combined with lateral migration through depleted hydrocarbon zones overlying the storage zone. Early detection through diligent monitoring by the Gas Company led to this discovery. Some abandoned wells required re-entering for re-abandonment. Monitoring wells were then established to produce fluids and observe pressures in intermediate zones. The Gas Company also started operation of a gas collection and monitoring well system. Additionally, all shallow zones at Montebello are equipped with "down-hole" pressure monitoring equipment.

The Playa del Rey Storage Field has no depleted overlying zones eliminating potential conduits, and is overlaid with a very thick caprock. Therefore, the situation at Montebello will not be experienced at Playa del Rey.

Question #8: Was the Gas Company purchase of homes in Montebello -- site of an underground storage field -- in any way related to gas migrating or escaping from the field?

NO ?

Question #9: A few years ago in the Fairfax area, seeping gas burned through cracks in sidewalks, and paving in and around foundations. This area is located directly over an oil and gas field. What's so different about Playa Del Rey?

None ?

The Fairfax fire was caused by methane, ~~a product of natural gas~~. The methane that ignited the Fairfax District was not owned, transported or controlled by the Southern California Gas Company.

A City of Los Angeles Task Force, formed to study the cause of the Fairfax fires, found that gas seepage has been a common occurrence in the Fairfax area for thousands of years. In fact, methane gas and oil currently exist at or near the surface in parts of the Fairfax area. The task force also found that the most probable source of the methane gas was not an abandoned oil well, but rather decomposing organic matter nearer the surface.

?

15 & 37
valves

Question #10: Is it possible that the bubbles found in Ballona Creek are caused by migrating gas from the Playa Del Rey storage field?

*other times, surface shows
not necessarily produced*

Question #11: Is there a relationship between gas injection in the Playa del Rey storage field and gas found in the Venice field?

locally not

There is absolutely no relationship between the Playa del Rey field and the Venice Oil Field, which is a separate hydrocarbon reservoir. Historical helium and pressure testing have confirmed this separation.

Oil fields in the outlying area -- like Venice -- have been tested for helium concentrations. Since the early 1970's helium concentrations have been within native ranges indicating that there is no lateral storage gas migration to the outlying area. This is primarily a result of re-pressurization via water influx.

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