



Oil Pipeline Spills: The Avila Beach and Guadalupe Experience

Cleanup operations are currently in progress at two major oil pipeline spill sites in the state. There are likely other spill sites yet to be discovered. Generally, these would be sites where the leaks originated prior to the adoption of pipeline safety regulations in the 1980s and 1990s. While oil pipelines are regulated by many federal, state, and local agencies today, we conclude that greater regulatory coordination is needed and that the existing permitting processes may inhibit the replacement or repair of pipeline infrastructure.

Two Major Oil Spill Settlements

This past summer, the state reached a settlement with the Unocal Corporation for environmental damage caused by leaking oil pipelines in two locations in San Luis Obispo County—Avila Beach and the Guadalupe Oil Field. As part of this settlement, Unocal is responsible for paying the costs of cleaning up these sites. Additionally, Unocal will pay \$62 million in penalties and other assessments to fund various natural resource restoration, water quality, and other projects.

The bulk of the cleanup at Avila Beach (population 400) is expected to take about 18 months, at a cost estimated to reach \$200 million. The cleanup will involve the excavation and removal of 100,000 cubic yards of contaminated soil (6,700 truckloads). In the process, at least 21 homes and businesses will be demolished. The cleanup at Guadalupe will take place over several decades, at an unknown total cost (potentially in the tens of millions of dollars), using a number of cleanup methods. This spill did not directly impact the nearby community of Guadalupe (population 6,500), apart from decreasing recreational opportunities at a beach area.

A number of state agencies will oversee the cleanup operations at these sites. Because the spills contaminated groundwater, the Central Coast Regional Water Quality Control Board (RWQCB) has a lead role in the cleanup operations. Also involved are the Department of Fish and Game's Oil Spill Prevention and Response Division, the Department of Toxic Substances Control, and the State Coastal Conservancy.

State oversight costs are recoverable from Unocal. These costs will likely be in the range of \$500,000 to \$1 million annually over the next several years.

History of the Avila and Guadalupe Spills

In the case of both the Avila and Guadalupe spills, the leaks originated many years ago, when there was comparatively little regulation of oil pipeline safety.

Avila Beach Spill. It is estimated that 400,000 gallons of petroleum products have leaked into the main plume (an underground pool) about seven feet below the town of Avila Beach and the adjacent beach. The leaks were from pipelines that transported gas, diesel, and crude oil from storage tanks located on the bluffs above Avila Beach to a loading facility on the ocean. The pipelines were in service from the early part of the century to 1996. Soil contaminated by the oil and gas was discovered by a developer conducting a soil sample on a private lot, leading to investigations and a RWQCB request for a cleanup plan from Unocal in 1991.

Guadalupe Oil Field Spill. It is estimated that from 8.5 million to over 12 million gallons of diluent (a thinner used to facilitate oil recovery from wells) have leaked into about 90 different plumes in and around the Guadalupe Oil Field, contaminating both surface water and groundwater. The leaks were from a pipeline system that delivered diluent throughout the oil field from the 1950s through the early 1990s when production at the field ceased. Department of Fish and Game officials became aware of the leaks in 1992.

More Avilas and Guadalupes Yet to Be Discovered?

It is highly likely that there are other sites contaminated by leaking pipelines that have yet to be discovered. This is because contamination from leaks originating prior to the adoption of pipeline safety regulations have been discovered mainly by chance, such as by visual monitoring of soil around a pipeline or when a soil sample is taken for developmental or some other purpose. Unlike today, pipelines operating in past years were not regularly tested to detect leaks.

To the extent contaminated sites exist, they would likely be concentrated in the state's major areas of oil production (Los Angeles, Central Coast, southern Central Valley) and oil refining (Los Angeles, Bay Area). While leaks may be discovered when operational pipelines are tested, repaired, or replaced, leaks from pipelines that have been abandoned are less likely to be discovered. This is because the location and extent of abandoned pipelines—which are mainly production pipelines—are largely unknown.

Pipeline Safety Regulation Today

Many Agencies Regulate Pipeline Safety. Today, a myriad of federal, state, and local agencies regulate oil pipelines. At the federal level, the United States Environmental Protection Agency, the Coast Guard, the Department of Transportation (Office of Pipeline Safety), and the Department of the Interior (Minerals Management Service) are involved. The main state agencies are the State Fire Marshal (SFM) in the California Department of Forestry and Fire Protection, the State Lands Commission (SLC),

and the Division of Oil, Gas and Geothermal Resources (DOGGR) in the Department of Conservation. Local agencies make land use permitting decisions relating to pipelines, and are responsible for some small, low pressure, onshore pipelines.

These agencies' jurisdictions are based on factors such as the location (for example, marine waters), purpose (for example, for production or transportation), and size of the pipeline. In essence, there is no lead agency overseeing oil pipeline operations.

Since 1982, SFM has been regulating about 8,000 miles of *transportation* pipelines that transport (1) crude oil from production fields to refining centers or (2) refined products (such as diesel and jet fuel) from refineries to storage terminals or across the state line. Since 1995, DOGGR has been regulating tens of thousands of miles of *production* pipelines (such as a pipeline from the wellhead to an onsite storage facility). Finally, SLC currently regulates hundreds of miles of *offshore* pipelines and pipelines crossing the state line into state waters. Some of SLC's regulatory authority dates back to the 1960s.

Safety Standards and Testing Requirements. Each of the above state and federal programs requires testing of pipelines to ensure that safety standards are met and to detect leaks. Prior to these programs, "industry standards," which were not statutorily mandated, governed pipeline safety and testing. While none of the current programs requires the *automatic* replacement of aging pipeline infrastructure (some of the pipelines in the state are more than 50 years old), specified state agencies have the authority to mandate infrastructure

improvements or order pipelines to be shut down in specified circumstances.

Issues for Legislative Consideration

Our preliminary review finds that the following issues relating to oil pipeline spill prevention merit legislative consideration.

- ❖ ***Identification of Contaminated Leak Sites.*** Current law requires the testing of the physical structure of *operational* pipelines to assess the potential for leaks. For example, transportation pipelines must be tested at least once every five years. However, there is not a formal program to methodically identify leaks originating from pipeline infrastructure no longer in place or operating. Rather, sampling of soil and water near pipeline sites—which can identify such leaks—is usually done only when a development is planned near a pipeline site, or when knowledge of a particular environmental problem at a pipeline site has surfaced. We think that efforts should be made to identify these leak sites on a more timely and comprehensive basis. Early detection of leaks would help limit the damage at these sites. These identification efforts could be made in conjunction with the development of a comprehensive database of pipeline information that is required by Chapter 814, Statutes of 1997 (AB 592, Kuehl).

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❖ **Need for Greater Regulatory Coordination.** Given the large number of agencies that regulate oil pipelines, there is the potential for overlap and duplication, or inconsistency, in regulation. To the extent that inefficiencies result due to duplication, costs to both pipeline operators and the regulatory agencies are higher than necessary. Any inconsistencies in regulation reduce the overall effectiveness of the programs in meeting the goal of oil spill prevention. As an example, overlap in fact exists in the regulation of offshore operations by SLC, DOGGR, and SFM. These agencies are aware of the potential problem and have in some cases tried to coordinate their regulations and programs by entering into memoranda of understanding and agreement. However, in order to ensure efficient, ongoing regulatory coordination, the Legislature should review the jurisdiction of the various state agencies that regulate oil pipelines and clarify in statute, where appropriate, the jurisdictional responsibilities of the various state agencies. In this regard, the Legislature will be assisted by statutorily required reports to be submitted by SFM commencing in 1999. These reports will identify leak incident rate trends, review current regulatory effectiveness with

respect to pipeline safety, and recommend necessary changes to the Legislature.

❖ **Permitting Process a Barrier to Pipeline Replacement and Improvement.** The SFM recently conducted a study of incentive options to encourage the replacement or improvement of pipelines, pursuant to Chapter 523, Statutes of 1994 (AB 3261, O'Connell). The study identified (1) conflict between state agencies and local land use agencies in the permitting process and (2) permitting delays, as barriers to pipeline replacement and improvement. The study's preliminary recommendations included (1) the appointment by the state of a single lead permitting agency and (2) the standardization of permitting requirements among agencies, with strict time lines for permit approval. We anticipate addressing these recommendations in our upcoming *Analysis of the 1999-00 Budget Bill*.

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