Using Dispute Resolution Techniques to Address Environmental Justice Concerns

Case Studies

FOUR CASES

Prepared by the Consensus Building Institute for the U.S. E.P.A. Office of Environmental Justice

USING DISPUTE RESOLUTION TECHNIQUES TO ADDRESS ENVIRONMENTAL JUSTICE CONCERNS

Case Studies

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INTRODUCTION

A leak at a petrochemical plant releases a plume of sulfuric acid across 15 square miles, sending 24,000 people to the hospital. A refinery releases more than 100 tons of a toxic substance over four communities for 16 days, causing neurological disorders, skin reactions, and eye problems. A neighborhood built over abandoned crude oil storage pits and exposed to hydrocarbons for 20 years experiences a wave of cancer and lupus cases. A railroad tanker car parked several yards from homes and a community center releases 3,300 gallons of hydrochloric acid into the air, causing the evacuation of 300 people.

For better or worse, these kinds of accidents and discoveries of contamination open a window of opportunity in which environmentally overburdened communities can engage with the industrial facilities in their midst. The crises offer rare glimpses into the routines and standard operating procedures that allow facilities to function in close proximity to residential neighborhoods, conform to permit and other regulatory requirements, promote a perception that the risks they present are within acceptable limits, and avoid state- or citizen-sponsored threats to the legitimacy of their operations. Advocates of environmental justice are learning how to take advantage of these moments, for they represent clear yet fleeting chances to improve environmental conditions, alter community-corporate relations, and consider more holistically the interests of those who reside in what are typically low-income communities of color.

But do such opportunities actually result in change for the better? Do these crises encourage improvements to plant safety, preparedness, emergency response capabilities, or citizen roles in mitigation, monitoring, and decision making? Traditionally, residents in overburdened communities have responded to these kinds of crises with litigation, with mixed results.

This report looks at other means of redress: it contains six case studies that point to the growing use of "alternative dispute resolution" approaches within environmental justice communities, and illustrates the varying results achieved through these means. Our goal is to make sense of early efforts by residents to negotiate with the owners and operators of these facilities, to consolidate lessons learned and to present advice regarding community-corporate negotiation for future generations of activists, community-based organizations, regulators, elected officials, and researchers.

The case studies were commissioned by the U.S. Environmental Protection Agency's Office of Environmental Justice. The Office is interested in developing a better understanding of the many potentials and pitfalls of using a variety of dispute resolution mechanisms to resolve environmental disputes in communities faced with either a growing threat of pollution or the aftermath of an industrial accident.

The cases represent the results of six months of field research, including site visits, interviews with almost 80 residents and key informants, archival research (primary sources and print media), and the analysis of environmental data from government agencies. Three regions representing clusters of dangerous industries were chosen for the six cases: Contra Costa County, California; Houston, Texas; and North Denver, Colorado. Within each region, two cases were chosen for which substantial documentation of environmental burdens, dispute histories, and the negotiations that took place was available. Each case

presents information regarding the geography and social forces at work within the community, antecedents to conflict with area industries, the development of a specific dispute, and steps taken to resolve the dispute. A final chapter offers a discussion of lessons learned by the communities in the many months they have spent organizing, pursuing litigation, experimenting with conflict resolution, and implementing the agreements that resulted.

The Limitations of Litigation

When a window of opportunity opens following an industrial accident or the discovery of contamination, residents face clear choices about how best to pursue their interests. The cases selected in this report involve communities that have pursued justice through a wide range of means. The search for court-ordered remedies in these situations is well-represented here, in the form of toxic tort, community right-to-know, and Clean Air Act litigation. But litigation has potentially disruptive effects, and residents often find it difficult to achieve legal redress through environmental justice claims.[1] While a few recent legal victories are encouraging,[2] the record of environmental justice litigation paints a less-than-optimistic picture. The coupling of civil rights concerns with claims of environmental harm has, with few exceptions, failed to produce legal remedies for alleged environmental injustices over the past 20 years.[3] It is thus important to consider the underlying costs of environmental justice litigation.

- The use of litigation as a primary strategy for combating environmental injustices ignores the significant resources (time, money, opportunity costs) required to advance a legal claim and the uneven playing field in which these claims tend to be addressed.

- Questions of legal standing and the need to have a "live controversy" result in few environmental justice cases being decided on the merits. In other words, the underlying causes of resident discontent are often superceded by the need to rule on strictly procedural matters.

- Litigation heightens the dependency experienced by victims of environmental injustice,[4] by requiring that they rely on experts and outside help as opposed to local knowledge.[5]

- Litigation can increase the sense of isolation experienced by victims of environmental injustice, because it focuses on a few select plaintiffs rather than the diverse interests of an entire community. The fact that environmental justice litigation can be analyzed through the use of a limited set of categories (e.g., the Equal Protection clause of the Constitution,

[1] G.P. Macey and L.E. Susskind, "The Secondary Effects of Environmental Justice Litigation," *Virginia Environmental Law Journal* 20, no. 3 (2001): 431-478.

[2] For example, the Fourth Circuit Court of Appeals recently ruled that the case of *Franks v. Ross*, regarding the siting of a landfill in a minority area in North Carolina, can proceed. Its claims regarding an ongoing pattern of intentional discrimination by Wake County in its siting of landfills are allowed under Title VI, according to the Supreme Court's interpretation of *Alexander v. Sandoval*, 532 U.S. 275 (2001).

[3] In one exception, North *Carolina DOT v. Crest Street Community Council*, 479 U.S. 6, 8, 9, 11 (1986), the parties agreed that the extension of the East-West Freeway would constitute a Title VI violation, and a negotiated settlement rerouted the freeway.

[4] *See G.P. Lopez, Rebellious Lawyering: One Chicano's Vision of Progressive Law Practice.* (San Francisco: Westview Press, 1992).

[5] *L.W. Cole, "Empowerment as the Key to* Environmental Protection: The Need for Environmental Poverty Law," *Ecology Law Quarterly* 19 (1992): 618-683.

[6] D.L. Anderton, et al., "Hazardous Waste Facilities: Environmental Equity Issues in Metropolitan Areas," *Evaluation Review* 18 (1994): 123-140.

Title VI of the Civil Rights Act of 1964, and Title VIII of the Civil Rights Act of 1968) suggests that the many and varied accounts of injustices told by local residents are standardized for the filing of a legal claim. Thus, the power and organizing potential of unique stories of environmental harm are neutralized.

- Legal victories do not automatically translate into successful agency or industry change or effective monitoring of such changes. Community organizing efforts may be hindered through reliance on legal representation, leaving no constituency with the power to demand enforcement of court orders. Legal tactics also eliminate scarce resources that could be used to further community organizing.

- Coupling civil rights claims with existing environmental laws runs the risk of ignoring some wronged parties. A study of demographic conditions in communities that hosted a toxic waste site reported that such areas consist of pockets of white industrial workers living next to the facilities, surrounded by larger communities of color.[6] Efforts to build coalitions between these groups have been limited, given the predominant use of Title VI and Equal Protection claims, which focus on race.

To be sure, some of these difficulties emerge regardless of the methods used by environmental justice communities to advance their claims. Indeed, the limits to community-corporate negotiation in such a setting can at times mirror some of the drawbacks of litigation. And it is without question that a steady tide of lawsuits has helped to draw national attention to the claims of environmental justice communities, influenced policy at all levels of government, and at times even made possible the use of other dispute resolution techniques (as in three of the cases presented here). Rather than viewing the two as mutually exclusive, litigation and alternative methods of dispute resolution should all be considered as options available to local residents and their representatives. The complexities faced by overburdened, low-income communities of color will rarely be addressed through a single approach.

A Range of Alternative Approaches

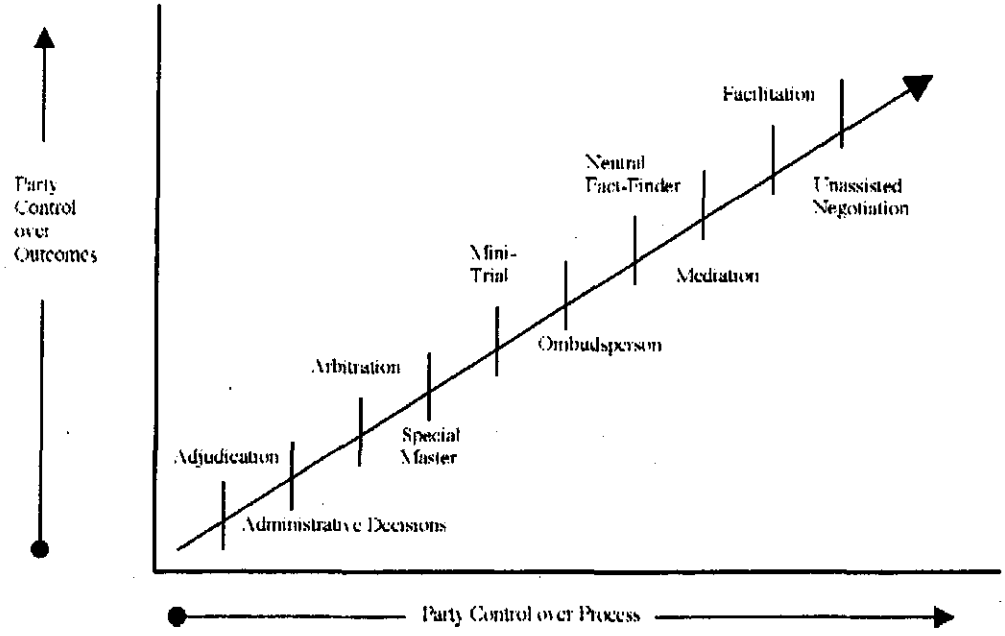
The six cases that follow are arranged along a continuum of dispute resolution options that differ in their process flexibility and the amount of control the parties retain over outcomes. Process flexibility reflects the extent to which parties can shape agendas, the scope of the dialogue, and the selection of representatives. Control over outcomes represents whether parties have the dis-

cretion they need to reject options or proposed settlements. Figure 1 shows this continuum; it is followed by descriptions of the dispute resolution options and their use in the six case studies.

Adjudication: Adjudication refers to the involuntary, binding (though subject to appeal), and highly formalized resolution of disputes through the use of the court system. Adjudication relies on a judge and/or a jury who are imposed on rather than selected by the disputants, and who hear proofs and arguments from both sides and make (at least in theory) a principled, reasoned decision. Parties make reference to legal precedent and use formalized and highly structured modes of interaction. In litigation, parties are not negotiating. They bring their case before an authority who will, on matters of law, precedent, and judgment, render a decision that is binding and enforceable by the courts.

Administrative Decisions: Administrative processes include actions taken by federal and state agencies and regulators. They are bound by formal protocols and rules for determining relevant issues, violations, penalties, and settlements. Sometimes an administrative process must allow for citizen participation, as when public hearings and comments are used in determining appropriate mitigations for a facility's operating permits. Other times, as when an agency files an administrative action against a facility, conflicts over the interpretation of environmental statutes and permits are resolved without public involvement.

Figure 1: Continuum of Dispute Resolution Processes



Arbitration: Arbitration is an alternative to litigation that started in the 13th century when English merchants sought to have their disputes resolved according to their own customs rather than by public law. In arbitration today, parties turn over the decision-making process to a private individual with stature, experience, and standing who can exercise authority (similar to a judge in a courtroom). The decision is final, the proceedings are private, and decisions are typically made at a faster pace than in the court system, with lower costs to

all involved. However, the arbitrator may be difficult to select or agree to, and may abuse his or her discretion. Courts sometimes call upon parties to use arbitration in order to relieve court congestion. Many contracts, including 95% of all labor contracts, contain arbitration provisions.

Court-Appointed Special Master: The use of a special master is typically suggested or mandated by a judge and can be useful in certain complex, multiparty disputes. The judge cites certain rules of civil procedure governing uncertain or unusual situations, where the court's resources or ability to adequately assist in the allocation of resources or settlement dollars is limited. The special master tends to hear the concerns and review the evidence of both sides and craft allocation procedures that will result in as fair an outcome as possible. Results are usually binding. Special masters are sometimes criticized for having too much discretion in resolving a dispute.

Mini-Trial: A mini-trial is an adjudication-like presentation of arguments and proofs combined with negotiation. Summary presentations are made by attorneys to a panel consisting of a neutral advisor and people from all sides with settlement authority. After presentations, those with settlement authority (usually executives, as this is used often in business disputes) try to negotiate a resolution. If they fail, the neutral advisor is asked to predict what the likely outcome will be if the issues are adjudicated. Mini-trials give parties a quick view of the merits of their case. Using this information, parties are often inclined to negotiate a sensible resolution to their claims.

Ombudsperson: An ombudsperson is an official appointed to hear parties' complaints and conduct independent fact-finding investigations with the goal of correcting past abuses of an organization. Often, the ombudsman is located within the chain of command of a corporation and reports to the head of the organization. Ombudspeople can also be found in universities and government agencies (such as the IRS).

Neutral Fact-Finder: In a process that can be voluntary or involuntary, depending on the dispute, parties ask a neutral with specialized subject matter expertise to investigate specific concerns. The outcome is a report or testimony that is nonbinding, but can be admissible at trial. The process itself is private but at times it can be disclosed to the court.

Mediation: Mediation refers to negotiations that are carried out with the help of a neutral, independent party. While mediators lack the power of judges and arbitrators, they can skillfully shape (for better or for worse) the dynamics of a negotiation. Mediators are particularly useful in multiparty disputes, where the simple management of face-to-face meetings is not enough to move the parties toward a viable agreement. Mediators work both at and away from "the table," sometimes in public, sometimes in private meetings with one or more parties. Good mediators will first assess a conflict before agreeing to involve themselves. This will give them the opportunity to determine how and when they can be of most help, or if their services are not likely to be helpful at a given time. Mediators may:

1. encourage information exchange and provide new information;
2. help parties to understand each other's interests;
3. help to reframe certain issues in ways that hold the potential for integrative solutions;
4. keep an appropriate balance of emotional expression, sharing of concerns, gathering and interpreting information, and problem solving;

5. work with parties to test their assumptions and help them realistically assess their alternatives should an agreement not be reached;

6. encourage parties to brainstorm and explore creative solutions before committing to any particular settlement; and

7. suggest solutions or potential agreements that meet the interests of all parties.

Mediators are bound by a professional code of ethics to exercise neutrality insofar as the issues at hand, but they remain advocates for a fair negotiation process.

Facilitation: Facilitation is the skillful management of conversations and meetings. Particularly in multiparty disputes, getting people to gather information, express their views and concerns, appreciate what others are saying, and even defend their views under certain conditions can be difficult. Facilitation can be used to improve the flow of communication and to avoid unnecessary impasses. Facilitators are selected and agreed to by the parties, who voluntarily enter into discussions managed by them. Facilitation does not involve intervention before or after discussions to help shape an agreement, and can therefore be limited in its usefulness when disputes are complicated.

Unassisted Negotiation: Unassisted negotiation involves conversations between two or more individuals or organizations who believe that they can meet their interests by dealing directly with each other. No neutral assistance (i.e., mediation, facilitation) is used. Parties leave it to the group or to one or more people at the table to structure the conversations.

Each of these dispute resolution methods provides different opportunities for parties to communicate with one another for the purpose of persuasion, which is the common definition of negotiation. The methods differ in terms of the degree of party control over how communication is structured, and to what end.

A recent informal survey of environmental justice disputes revealed that some of the above dispute resolution processes have yet to be applied, including arbitration, neutral fact-finding, and mini-trials. Cases in this report were chosen to represent the remaining processes, as summarized in Figure 2.

Three of the cases involved adjudication leading to assisted negotiation (mediation or special master). The other half involved administrative processes leading to unassisted negotiation.

Meeting Integrative Potential

Well-prepared environmental justice advocates who have engaged their client communities in developing clear objectives and maintaining cohesiveness can step in at moments of crisis and be helpful. The case studies in this report reveal a common set of activities that should be carried out in preparation for engaging a dispute resolution process: ensuring proper representation, structuring the dialogue so that it can transition from a discussion of the causes of the problem to broader, community-wide issues, preparing constituencies to be able to make tradeoffs, and organizing the community to implement and monitor agreements.

Preparation must also address administrative actions that are likely to be underway before the opportunity to pursue dispute resolution emerges. Indeed, multiple administrative, legislative, and/or adjudicative processes are often initiated or ongoing *prior* to any accident or resident involvement. These processes help to shape the degree to which residents can address organizational and regulatory practices that are implicated by an accidental release. Environmental justice advocates must be aware of existing parallel processes, their potential to shape norms of settlement, and their constraining power over what is discussed at the negotiating table. Preparation therefore includes working with agencies to establish a "division of labor" that seeks to maintain flexibility over the timing and agenda-setting of community-corporate deliberations. Such preparation activities, carried out prior to a given negotiation, are vital to protecting the interests of an overburdened community.

Once negotiations commence, a set of basic criteria must be met to continue to safeguard a community's influence over a dispute resolution process and its outcomes. Some criteria apply also to the preparation phase, while others are unique to the negotiation phase. For instance, it was found that community representatives who were able to encourage dialogue both within a negotiation and across a range of parallel dispute resolution processes were able to better achieve the interests of their constituencies. It is also important that resident-negotiators be able to judge tradeoffs between, on the one hand, proposals addressing industry practices (which a facility owner may reject) and, on the other hand,

Figure 2: Dispute Resolution Processes Illustrated in the Case Studies

Case	Location	Facilities Involved	ADJ	ADM	SPM	MED	FAC	UNA
1	Swansea-Elyria communities in North Denver, CO	Vulcan Materials rail terminal	X	X		X		
2	North Denver and Commerce City, CO (Swansea-Elyria residents were plaintiffs)	Conoco petroleum refinery	X	X		X		
3	Kennedy Heights Subdivision in Southeast Houston, TX	Former crude oil storage pits previously owned by Gulf Oil (now Chevron)	X	X	X			
4	Manchester, Smith Addition, and Harrisburg communities near the Houston Ship Channel in Houston, TX	Rhone Poulenc sulfuric acid regenerator/ incinerator		X				X
5	North Richmond communities in Contra Costa County, CA	Chevron Richmond petroleum refinery		X				X
6	Unincorporated communities of Crockett and Rodeo as well as Bayo Vista public housing development and the town of Tormey in Contra Costa County, CA	Unocal San Francisco petroleum refinery		X			X (post-agreement)	X

ADJ = adjudication; ADM = administrative decisions; SPM = special master; MED = mediation; FAC = facilitation; UNA = unassisted negotiation

financial and community development contributions to communities (which industry may favor). Negotiators also need to focus on surpassing the broader community's least favorable outcome, rather than what appears to be a minimally acceptable settlement within a negotiation.

As conflict resolution techniques gain greater acceptance by government agencies and the private sector, residents may be subjected to interpretations of "consensus-building," "mutual gains," "win-win," and other models of dispute resolution that are elegant in theory but potentially devastating in practice.

In theory, the potential for an "integrative" negotiation[7] increases as the number of parties and issues increases. In other words, parties should be able to search for ways of structuring a deal that will benefit each side more than the simple division of one or more assets. In environmental justice negotiations, parties most certainly have different interests (e.g., security, certainty, recognition, economic gain), as well as interests that they value differently.

As an example, residents may want security from accidental releases, while facility managers may desire security in the form of continuous production. Residents may want stability in the form of steadily reduced emissions, fewer episodes, and more predictable facility operations. Managers may value stable relations with agency monitors and rule enforcers and a stable internal culture. Managers may have different conceptions of time, influenced by the urgency of needed environmental improvements, deadlines, or levels of risk aversion. Residents may give greater weight to costs imposed on future generations than their private counterparts. Each side may assign different odds to the anticipated outcomes of a negotiation. For example, if facility managers believe that certain raw material costs will increase while a community group anticipates they will decrease, they might both agree to tie financial contributions to the plant's future profit margins. In addition, parties may have access to different kinds of information, skills, or capabilities that can be combined to form the basis of an agreement. It is clear, therefore, that the possibilities for reaching an integrative settlement among multiple parties are fairly unbounded in theory.

In practice, however, few negotiated agreements reflect the depth of integrative potential that the range of issues and interests would suggest. The theoretical notion of "integrative potential" emerges as particularly fragile during conflicts with industrial facilities, their owners, and regulators. This is because the models assume that all parties will have access to adequate resources, a desire to expand available resources, mediation or facilitation services that are truly impartial, sufficient time and access to information to engage in constructive problem-solving, and the ability to generate and enter into contracts that can protect gains

[7] Integrative negotiation occurs when parties structure an agreement that creates more joint value than if they merely allocated existing resources or worked independently on a set of problems underlying the dispute.

made by all sides. As we will see in the cases, these conditions are often not met.

The concluding chapter uses lessons learned from the six cases to craft a realistic set of steps that can be used to evaluate available methods for their true integrative potential. The central lesson suggested by these cases is that dispute resolution techniques are most helpful when used to supplement existing efforts, help a community leverage its comparative advantages, and ensure the flexibility required for dialogue to progress from immediate concerns to anticipated challenges to solutions that are truly integrative. These cases offer clear signs that community leaders are learning how to use the full range of alternative dispute resolution methods.

Windows of Opportunity for Mediation in Swansea-Elyria, Colorado

Gregg P. Macey

PART I.

"Like a Big Balloon in the Sky"

> One of the things we have managed to do in our little career here in the middle of this mess is to set precedent. For example, the jury award in the ASARCO/Globe plant suit was the largest jury award ever made to a community at that time. In this case, our attorney tells us that we're the first community group that ever got standing in the federal court to sue. And so it sends this message: Look, you can't take advantage of community people, they're not stupid, they're not resourceless. You can't just walk on folks because they're people of color, because they're poor. You can't do that. And that to us is the great joy – Lorraine Granado, President of the Cross Community Coalition

Background. To the north of I-70 near the border of Denver and Adams Counties in Colorado lies a series of neighborhoods increasingly brought together to discuss why the environment in which they live may be causing them harm. The communities of Globeville, Elyria, Swansea, Cole, and Clayton currently constitute the "Vasquez Boulevard/I-70 Site," 450 acres in northeast Denver proposed to the National Priorities List (NPL) on January 19, 1999.[1] Within this area, roughly 17,500 people reside in about 5,126 housing units according to the 2000 census. At least 69% of the people in the study area are of Hispanic origin, 21% are African-American, and 3% are American Indian, Alaskan Native, Asian, or Hawaiian.[2] Inside and immediately surrounding the proposed Superfund site are roughly 150 industrial land uses including four NPL sites, three lead smelters, two oil refineries, and numerous RCRA (hazardous waste) sites.[3] Much of the area is contaminated with soil concentrations of lead, arsenic, and zinc well

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[1] Environmental Protection Agency. Draft report for the Vasquez Boulevard and I-70 site, Denver, CO, residential risk-based sampling, stage I investigation. Denver: US Environmental Protection Agency, 1999 April. Under the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C.A. § 9601 et seq. (1980) and its major amendment and reauthorization, the Superfund Amendments and Reauthorization Act (SARA), Congress established the authority to clean up contamination from past waste disposal practices that now endanger public health. An administrative system was set up to identify sites in need of remediation, including the establishment of a National Priorities List, that functions to ensure that the most dangerous sites are cleaned up first. The NPL has a complex series of criteria that have to be met before a site is placed on the national listing, which empowers the EPA to undertake cleanups, seek reimbursement from responsible parties, issue administrative orders, and seek court orders directing responsible parties to act.

[2] Agency for Toxic Substances and Disease Registry. Public Health Assessment for Vasquez Boulevard and I-70, Denver, Denver County, Colorado, EPA Facility ID CO0002259588. Atlanta: ATSDR Division of Health Assessment and Consultation, 2002 April.

[3] A community organization, the Cross Community Coalition, received a grant in 1998 from the EPA's Regional Geographic Initiative to study local pollution problems. The CCC identified a variety of emission sources within their zip code (80216), including mobile sources, bakeries, manufacturing facilities, printers, metal shops, vehical repair shops, refineries, and a major electric power plant which burns low-sulfur coal. These businesses together emit more than 18,000 tons of sulfur dioxide, 16,000 tons of nitrogen dioxide, and 875 tons of volatile organic compounds per year and utilize nearly 5,000 diesel trucks.

above what is considered safe by the federal government.[4] Interstate 70, which split Swansea and Elyria in half when it was constructed in the mid-1960's, rises high above these communities on viaducts. The state Transportation Department has considered expanding the highway to as many as ten lanes.[5]

Insert Map of Area and Land Uses Here

At times literally within the shadow of I-70, the residents of Swansea-Elyria persevere. These traditionally working-class neighborhoods retain high rates of homeownership, are highly organized, and remain proud of the neighborhoods that they strive to maintain.[6] Yet, the stories of those who live here can easily become lost amid the troubling statistics found in boxes of agency assessments and court documents. This is the story of how one group of organizers, the Cross-Community Coalition, sought to turn what could have been portrayed and accepted as a routine accident by an area industry into an opportunity for that industry to recognize and appreciate the concerns of neighboring residents, and their participatory vision for improving their quality of life. The case of the Cross-Community Coalition's (CCC) struggle to hold Vulcan Materials Company accountable for an accidental air emission also presents an opportunity to examine the role of mediators in assisting environmental justice groups whose interests cannot entirely be met through traditional means.

The first thing to understand about Swansea-Elyria, sister communities at the heart of the most recently proposed Superfund site, is the complexity and origins of the environmental burdens faced by those who live there. Prior to development of the I-70, a variety of ethnic groups (Eastern Europeans, Irish, Italians, and Hispanics) came to work in nearby packinghouses and other businesses. The concentration of industry grew rapidly after the construction of I-70, which follows a common trend in highway planning to route large-scale infrastructure through low-income, inner city areas in order to serve new and anticipated residential and commercial developments (as well as transportation hubs such as the Denver airport).[7] In addition to zoning dynamics which clustered

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[4] *Supra* note 2, Appendix B. Phase III of ATSDR's testing (which encompassed 2,986 properties) revealed that arsenic was present at all properties, with 268 properties showing average arsenic levels greater than 128 parts per million. The highest average arsenic level was 759 ppm in soil based on averaging three composite samples from the property. Similarly, 276 properties have average soil-lead concentrations above 400 ppm, with the highest average lead level being 1,131 ppm. ATSDR levels greater than 270 ppm to be a concern for children who exhibit hand-to-mouth behavior.

[5] Morson, B. (1995). In the shadow of I-70. *Rocky Mountain News*, 19 Nov. 1995, p. 36A.

[6] Several community environmental organizations operate within the area. Neighbors for a Toxic Free Community, an association of residents of Swansea, Elyria, and Globeville, has worked since 1987 to educate themselves of remediation efforts surrounding contamination from the ASARCO smelter. This group now operates under the auspices of the Cross Community Coalition (CCC), a non-profit serving the three neighborhoods. The mission of the Coalition is to improve the quality of life of residents. CCC operates a Family Resource Center which offers adult education classes, youth employment, job placement, parenting classes, nonviolence and environmental education, and other social services. CEASE, which includes residents of Clayton, Elyria, Swansea, and Southwest Globeville, represent the broader health concerns throughout the VB/I-70 Superfund process, by demanding appropriate soil clean-up levels, hiring a national expert in arsenic and lead toxicity, organizing educational forums, and working with the ATSDR.

[7] Bullard, R. & Johnson, G. (Eds.) (1997). *Just Transportation: Dismantling Race and Class Barriers to Mobility*. Stony Creek, CT: New Society Publishers.

industry in northeast Denver[8] and the politically-charged process of routing highways, a third dynamic has contributed to the environmental stigma that continues to attach itself to the area. Decades prior, the Central Platt Valley, located closer to downtown Denver, had been the site of the region's shipping yards.[9] These shipping yards began to succumb to the interests of developers who replaced them with more lucrative land uses such as condominiums. Switching and holding operations were moved to outlying areas, including the corner of 52nd Avenue and Thompson Court, eight feet from a barbed wire fence that was used to separate tankers and square cargo holders from a nearby playground and the Swansea Community Center.[10] Often, the terminal would be used to store hazardous chemicals in tanker cars that were owned by one company, leased by another, and housed by yet a third.[11] Ownership and responsibilities for the terminals and tanker cars can be difficult to understand, even on paper. The 52nd Ave. terminal would become the focal point for one of many disputes to unfold as residents addressed the heavy environmental burdens that they were asked to bear.

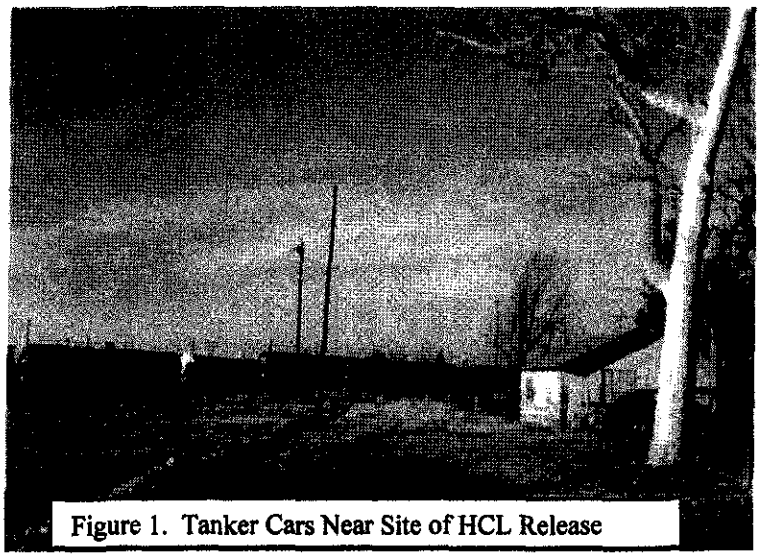

Figure 1. Tanker Cars Near Site of HCL Release

Starting in May, 1982, Vulcan Chemicals,[12] a division of Vulcan Materials Company, maintained a railcar service contract with General American Transportation Corporation (GATX). The contract permitted Vulcan to move 25 cars to points of its choosing and to use them to transport goods for a maximum of 18,000 miles during a given year.[13] According to

[8] Residents contend that the City of Denver decided to turn the communities of Swansea and Elyria into an "industrial park" in 1958. Interview of Resident of Swansea, March 8, 2002 in Swansea.

[9] Interview with Swansea resident, March 8, 2002 in Swansea.

[10] Site visit on March 6, 2002 by the author was used to generate this description.

[11] Vulcan Materials Company, owner of a terminal in Swansea, was the lessee and operator of a rail tank car that leaked hydrochloric acid in March, 1995, resulting in an evacuation of four square blocks. General American Transportation Corporation (GATX), based in Chicago, leases rolling stock, including car #14637, the cause of the incident. GATX Capital Corporation, based in Delaware, owns rolling stock, including the car in question. Neighbors for a Toxic Free Community et al. v. Vulcan Materials Company and General American Transportation Corporation, Memorandum Opinion and Order. Civil Action No. 95-D-2617 (D.Co. 1997).

[12] Vulcan Chemicals had sales of $642 million in 2001, and operated 29 chemical distribution terminals including 10 that stored HCL within the United States. Vulcan Chemicals produces and transports chlorine, caustic soda, hydrochloric acid, potassium chemicals, and chlorinated organic chemicals. www.vulcanmaterials.com/vc.asp (accessed July 25, 2002)

[13] General American Transportation Corporation, Car Service Contract Number 2856, 20 May 1982 and Revised Rider No. 44, November 24, 1993. The Revised Rider specifically mentions 25 cars, including car 14637, the car that resulted an accidental hydrochloric acid leak. The rubber lining of the tank car that would eventually break down is stated as the property of GATX, although the Customer, in this case

Vulcan's records, in 1994 the company maintained a level inventory of approximately 36,100 gallons of Hydrochloric Acid (HCL) at the terminal at 52nd Ave. in Denver.[14] The chemical, stored and distributed for use in stimulating the flow of oil in various industrial processes, is listed as a corrosive, hazardous material with potentially acute health effects if released.[15] At the same time, the facility maintained no release detection systems at its terminal, and emergency response equipment was limited to "absorbent tubes kept on site to contain small spills."[16] While site plans of the property and accompanying descriptions clearly indicate "residential housing" directly across the street from the terminal as well as "residential neighborhoods south of 52nd Avenue" and "east and south of the site,"[17] the company operated as if it were isolated from nearby residents.[18]

Vulcan, is held responsible for paying the cost of the interior lining and maintaining and renewing the lining whenever necessary.

[14] Vulcan Chemicals SARA Title III, Tier II Report, Colorado Emergency Planning Form, Reporting Period Jan. 1-Dec. 31, 1994.

[15] *Ibid.*

[16] *Ibid*, under "Additional Emergency Planning Information."

[17] *Ibid.*

[18] The Vulcan employees who would later become involved in negotiations with the CCC had extensive experience with Community Advisory Panels, or groups of plant managers, environmental professionals, and residents who share information about plant operations and discuss issues of concern to the community. Vulcan had created one of these panels, the Community Involvement Group, in 1988 in response to concerns over health impacts and protests over the production of chlorofluorocarbon precursors at its Witchita, Kansas facility. Cohen, N., Chess, C., & Lynn, F. (1995). Fostering environmental progress: A case study of Vulcan Chemical's Community Involvement Group. Center for Environmental Communication, Rutgers University and Department of Environmental Sciences and Engineering, University of North Carolina at Chapel Hill. A corporate official explains their lack of similar response in Swansea-Elyria:

> I think the main reason is that we are a lean organization that had really focused our resources up unto that time on our main operating location. So, we have three really significant chlor-alkali manufacturing plants in different parts of the country that had hundreds of millions of dollars of capital sunk into them and a lot of people, and that was the place where we had focused. So we weren't really focused on these small terminal-type operations around the country [Vulcan estimates that they had between 20 and 30 terminals at the time], and it would be really difficult for us to, even today, to develop an advisory panel for each of those and just to get it going; it's a very time-intensive process. Interview with Vulcan corporate official, May 21, 2002 via telephone.

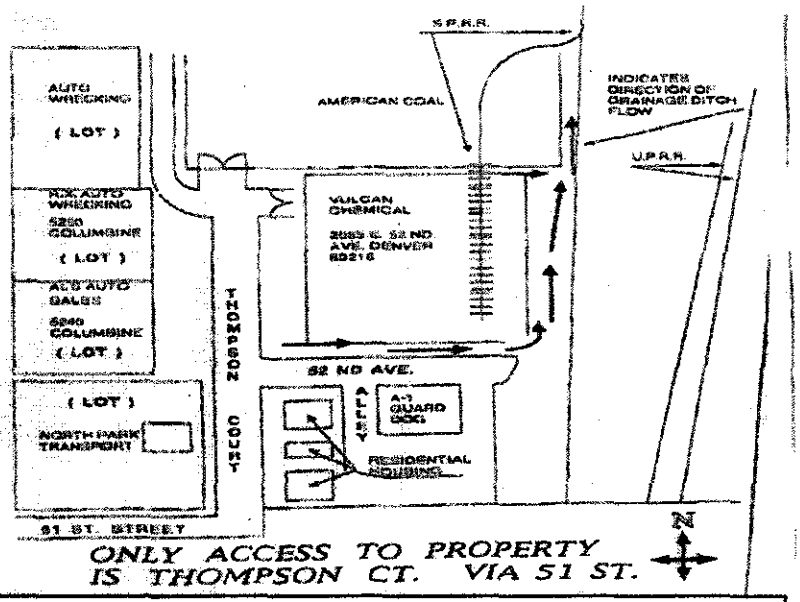

Figure 2. Plan of Vulcan Chemicals Facility Source: Vulcan Chemicals, 1994 SARA Title III Report

The Incident. On March 29, 1995, several of the 207,500 railroad tank cars operating in the United States were housed at the Vulcan Chemical Company terminal in Swansea.[19] At approximately 2:40 p.m., the sole employee stationed at the terminal discovered that muriatic acid (35% of which was hydrochloric acid) had eaten a hole in the bottom of one of the tank cars parked at the terminal.[20] As what would amount to 3,300 gallons of the material began to form a vapor cloud which wafted toward neighboring homes, the employee notified the local fire department.[21] The National Response Center was not notified until later that evening.[22] Meanwhile, residents were slowly becoming aware of the significance of the incident:

> So I'm sitting at home at my computer working on a grant and my son, my middle son who would have been about 23, he called me on the phone and said "Mom you can't believe what's going on here." He said "I'm over here at Padilla's house and right across the street they've got the HAZMAT unit, these people have all of their suits on, I don't know what's going on but it must be bad." And my response is "Paul, get out of there. Come home, get out of there." And he said "I don't know what it is," and I said "Well if you can ask somebody, but get out of there!" And so then he said "Turn the TV on, turn the TV on." And this is like 3:50 and they're on there so I turn it on and they start talking about there's been this spill but at this point they think it's hazardous material and they're not really sure if it is but there was a spill and a HAZMAT unit has been sent to this location. I'm watching this TV and then we hear that it's probably hazardous materials and

[19] Brief in Support of Motion for Summary Judgment by General American Transportation Corporation and GATX Capital. *Neighbors for a Toxic Free Community et al. v. Vulcan Materials Company et al.*, CA 95-D-2617 (N.Co. 1996).
[20] Vulcan Chemicals, CERCLA Section 104 Information Request, sent to Prevention Section, Emergency Response Branch, US EPA, May 1, 1995.
[21] *Ibid.*
[22] *Ibid.*

so then I race over to, my mom and dad live just behind me on the next block so I raced over there and there's my mom and my dad, my brother and his wife, and their four children and so my dumb brother and my dumb dad go over there and then they come back and say well, they said it's something called HCL and I said "Oh, dear God, HCL!" And I said "Get out of here, get the babies, get in the car, get out of here! David, take mom and dad and get out of here." And my dad's going "Well no, I don't want to." "Get out of here, just go, just go, just go!" And then my neighbor, Jeffrey, who I grew up with, came out and he said "What's going on?" And I told him, I said "Jeffrey, you have to get some of these old women out of here, man. I mean you've got people like Nelson and she don't drive, Ms. Radovich and she don't drive," you know you start naming the widows on the block, they don't drive, we've gotta start getting these people out of here. So we started kind of doing some evacuation and then about this time, my younger son who at that point would have been about 8, Mario came home and so I knew it was time for me to get out of there, too, I needed to get him out of there. Meantime, while I'm waiting, we kind of got the old ladies just on that block and started telling people to tell people, tell everyone you know, and then I went home and I started calling the Fire Department. Well, the freakin' fire department didn't even have a number where you could call them directly, and so I called downtown and they didn't know about it and they're telling me to call the local Fire Department...

Well these doggone policemen sat there in their cars on the [evacuation] boundary not letting people in. And we're going up to them telling them look, you guys: You gotta get on the bullhorns and drive up and down these streets and tell people to evacuate. They refused to move, you know, "we're not going in there." They refused to move and so you've got all these folks who don't even know that this is going on, and these policemen would not move from those stations, they wouldn't move. And it made us very angry; how are people gonna know? After that, it had to be already 5 o'clock by then, then Nadia and I went over to the neighborhood health clinic which is in Globeville, because my friend Gerry was a nurse administrator there, she's a nurse practitioner and she'd worked at ASARCO and we got to be really good friends. So we went over and said Gerry, do you know what's going on? She said "no." I said "Turn on the tube." And so she turned on the tube and she said "Why don't we know about this? Nobody said a word to us about this." So we called the recreation centers, they were closed. We called the schools, they were closed. And then we started calling our city councilperson, whatever. Eventually we found out that they had set up a site at the National Winston Stockshow for people who were evacuated because they needed to evacuate people but they didn't have any place to go. Went over there and there were just a few people. And we said well, where are the rest of the people? And we found out later that the doggone fire department never got there until 5:30, this is like two and a half hours after the spill, and they were going door to door to evacuate. None of the doggone firemen knew how to speak Spanish in a community where 47% speak Spanish. They were going to people's doors saying "Vamoos." Now what the hell does that mean? Vamoos. You know? One lady, my friend who lived three blocks away from the site did not get a knock on her door until 8:30 that evening, and I'll tell you that I believe that it's the grace of God that no one got killed and I'll say this everywhere. You could stand here, I came here and actually we went to my son's house and we came back, but you could stand here and you could see this cloud of acid, like a big balloon in the sky, just hanging up there just as still as it could be.[23]

Unbeknownst to members of the community, a series of steps were being taken to decide the extent of the risks posed by this cloud of HCL, the appropriate containment and decontamination approaches to initiate, and potentially the fate of local residents. As agencies worked toward a solution to the growing threat, residents tried to make sense of a rapidly unfolding chain of events, reconstructed here from company and agency documents:

[23] Interview of Swansea resident, March 5, 2002 in Swansea.

Table 1. Vulcan Materials HCL Release Incident Timeline.[24]

Date	Time	Description
March 29, 1995	2:40 p.m.	Release occurs from railcar GATX 14637 (capacity: 20,000 gallons); car was leaking from a bottom sump area at the rate of 10-15 gallons per minute
	2:40 p.m.	Release is discovered by the sole Vulcan employee on-site.
	3:00 p.m.	Denver Fire Department Notified
	3:02 p.m.	Alarm sounds at Denver Fire Department
	3:05-5:00	HM-1 (hazardous materials team) responds and immediately requests notification of EPA and wastewater and cleanup company; Set up upwind and interrogated Vulcan employee as to tools, materials, and connections needed to offload remaining contents into an empty HCL car next to leaking car
	5:00 p.m. – 5:45 p.m.	Transfer of HCL from leaking tank car into receiving tank car begins
	6:45 p.m.	Still transferring; soda ash arrives and is applied to spilled acid
	7:10 p.m.	National Response Center notified
	8:03 p.m.	Denver Office of Emergency Preparedness requests meters to monitor the vapor cloud.
March 30	12:30 a.m. – 12:45 a.m.	Remaining contents of GATX 14637 completely transferred to another car
	After offloading	Lewis Maintenance, an emergency response contractor, arrives with pumps to transfer spilled acid from the ground; lacks sufficient hose; 2.5 hours later additional hose is found
	8:45 a.m.	Air staffer at EPA says that they are getting calls from people complaining of burning eyes. Fire Department called for more information
	9:00 a.m.	Fire Department says that there is an air inversion that should lift between 10:00 and 11:00 a.m. Tells EPA that if there are further inquiries, people should be told to rinse their eyes and stay out of low-lying areas near the Platte River
	9:00 a.m.	Completion of transfer of spilled acid, which had been confined to a bermed area near the tank car, to a receiving car by Lewis Maintenance
	9:00 a.m.	Public allowed back in to evacuated area and advised to wash down homes, cars, and vegetation
	10:10 a.m.	Denver Fire Department confirms no remaining cloud
	5:30 p.m	Vulcan Chemical calls EPA emergency line to report spill
	6:00 p.m.	Public meeting held concerning the spill at the Swansea Recreation Center
	10:00 p.m.	Completion of neutralization of residual soil on the ground through use of lime and soda ash; verification through pH testing by Lewis Maintenance

The ordeal ended late the following evening. Thankfully, the vapor cloud, which could have proven fatal if inhaled in certain concentrations, had shifted to the east and avoided

[24] Timeline constructed from the following materials: Denver Fire Department Field Incident Report, Incident Number 14149, March 29, 1995; Denver Office of Emergency Preparedness, Hydrochloric Acid Leak, March 29, 1995; Department of Transportation, Hazardous Materials Incident Report 95050318, July 6, 1995; Colorado Department of Health, Emergency Management Unit, Incident Report, March 29, 1995; and Vulcan Chemicals CERCLA Section 104 Information Request Form submitted to Prevention Section, Emergency Response Branch, US EPA.

the populated areas of Swansea.[25] A few dozen residents were transported to the Denver Coliseum the previous evening, and 300 residents within a 20-30 block area were eventually evacuated.[26] As the threat began to subside, residents discussed the existence of tanker cars in their community, and recalled past events such as the rupturing of a rail tanker carrying 20,000 gallons of nitric acid in nearby rail yards on Easter Sunday in 1983.[27] As troublesome to residents as the existence of the railroad tracks that sliced through their neighborhoods was, other issues were surfacing: (a) the lack of institutionalized safeguards to both prevent and respond to accidental releases, (b) the failure of companies such as Vulcan to disclose and communicate the risks posed by their handling of hazardous materials to residents, and (c) city-community relations after an incident that left residents feeling mistreated. All would become the focus of meetings held at the nearby Swansea Recreation Center and the Cross Community Coalition to discuss the event.[28] Meeting notes for a public forum held on March 30th indicate the following common questions:

- Why were residents still in their homes well after the incident was recognized by the Fire and Police Departments? (Residents indicated that evacuation seemed to start at 5:30 and many residents were still in their homes well after that. Fire Department personnel reportedly walked door-to-door in full self-contained breathing apparatuses without the benefit of loud speakers. They were unable to converse in Spanish. The starting time for the evacuation was contested, with times as early as 4:15 suggested.)
- What is the emergency response plan for the area? (The Fire Department had emergency plans, but no specific plans for individual communities. Residents explained that given the concentration of Superfund sites and other industries, the area needed a specific plan. It was mentioned that this was the third evacuation that had occurred in the neighborhood)
- What level of coordination among city services was achieved during response to the incident?
- Why did various city agencies lack clear information about what was happening during the incident? (Several mentioned a communications disconnect and recommended a single point of access to information)
- Why was dealing with bilingual residents such a challenge to those responding to the incident?
- Why was Vulcan Materials not represented at the meeting and did they understand the legal reporting requirements under EPCRA?

Records indicate that Denver's Office of Emergency Preparedness and the Denver Fire Department did attempt to learn from the incident and address some of the residents' concerns, although the extent to which these responses were coordinated and resulted in improved emergency response capabilities is open to question.[29] What remains clear is

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[25] Cortez, A. (1995). Anger spills over: Residents vent their frustration with evacuation. *Denver Post*, March 31, 1995 at B-2.
[26] Denver Office of Emergency Preparedness, *Supra* note 24.
[27] Kirksey, J. & Cortez, A. (1995). Rail-car Leak Forces Evacuation. *Denver Post*, March 30, 1995 at B-1.
[28] Notes to Meeting with Public Concerning HCL Release. March 30, 1995 (compiled by author).
[29] Letter from Michael Michalek, Staff Assistant, Office of Emergency Preparedness to Debbie Gomez, Department of Health and Hospitals, July 17, 1995 (regarding a plan that provides an overview of agency duties and responsibilities, the future use of multilingual cards developed by the Fire Depatment, the need for multilingual Public Information Officers, and their attempts to find out about communications systems that would allow multiple calls to one phone number providing incident updates for residents); Denver Fire Department, Critique for Incident #14149, Hydrochloric Acid Leak, April 4, 1995 (states that training sessions should be conducted with mutual aid Departments and the State Patrol for future incidents); Memorandum from Captain Steve Maddock to Ch. 6 Sponsel, Critique of Hydrochloric Acid Spill 3-29-95,

that at least initially, the companies responsible for the incident were unresponsive to residents' concerns.

The Dispute. The community's efforts to learn the circumstances surrounding the release of hazardous chemicals would become the focus of litigation against Vulcan and other parties.[30] The primary cause of action for a citizen suit filed on behalf of the Cross Community Coalition and several residents was the Emergency Planning and Community Right to Know Act (EPCRA).[31] EPCRA was enacted following two chemical releases involving Union Carbide plants in 1984 (in Bhopal, India and Institute, West Virginia).[32] In both cases, government officials discovered that the extent of the disaster was heightened by a lack of an adequate emergency planning. Following a study by the EPA commissioned the following year (which identified over 6,900 chemical spill accidents across the country in the previous five years), Congress enacted legislation to improve the public's knowledge of chemicals located in their communities and to create plans at each level of government to respond to future accidents.[33] EPCRA provides two kinds of enforcement mechanisms to encourage implementation of its various planning and notification provisions: administrative proceedings initiated by the EPA, and citizen suits authorized when an owner or operator of a facility fails to complete certain forms or submit data or emergency notices.[34] At the time, citizen suits were increasingly relevant to enforcement of EPCRA as funding cuts for the EPA in the 1980's resulted in a significant drop in administrative enforcement.[35]

April 4, 1995 (site-specific improvements are listed such as the need to define warm and hot zones better during an incident, need to rethink the use of soda ash and ways to knock some of the vapor cloud down, need to manage number of people in the warm zone/site control, need to set up the decontamination trailer which is described as being in "sad shape," and the need for in-suit communications). Residents agree that the Fire Department, in particular Fire Chief Rich Gonzalez, pledged to overview their practices and make changes, including improved notification of clinics and other vulnerable places during an incident. After the community meetings, the City and Vulcan agreed to have Vulcan purchase and install a reverse 911 calling system for resident notification, which is now in place. Interview with Swansea residents, March 5, 2002 in Swansea.

[30] Specifically, Vulcan Materials was accused of failing to follow both Section 103(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Section 326 of the Emergency Planning and Community Right-to-Know Act (EPCRA), which dictate how an entity with hazardous substance holdings about reportable quantities must submit emergency notices in the event of an accidental spill or release. Plaintiffs' Complaint, Neighbors for a Toxic Free Community et al. v. Vulcan Materials Company et al., CA 95-D-2617 (N.Co. 1995); Administrative Complaint and Notice of Opportunity for Hearing, United States Environmental Protection Agency Region VIII v. Vulcan Materials Company, CERCLA-VIII-95-25.

[31] Section 326, 42 U.S.C. § 11046.

[32] Bumoer, K. (1997). United Musical Instruments v. Steel Company: The Conflict Over the Safety of our Communities and the Emergency Planning and Community Right-to-Know Act. *Northwestern University Law Review*, 91: 1599-1641. The Bhopal accident, which occurred on December 3, 1984, killed more than 6,000 people and sent over 100,000 to the hospital. Green, K. (1999). An analysis of the Supreme Court's resolution of the Emergency Planning and Community Right-to-Know Act citizen suit debate. *Boston College Environmental Affairs Law Review*, 26: 387-434.

[33] H.R. Conf. Rep. No. 99-962 (1986).

[34] 42 U.S.C. §§ 11045 and 11046.

[35] Stubbs, C. (2000). Is the environmental citizen suit dead? An examination of the erosion of standards of justiciability for environmental citizen suits. *New York University Review of Law and Social Change*, 26:

Under a provision of EPCRA that to date had not been used as a cause of action,[36] plaintiffs argued that those responsible for the release of a hazardous substance[37] must submit a written follow-up emergency notice to (in the case of Vulcan) the Denver Office of Emergency Preparedness and the Emergency Management Unit at the Colorado Department of Public Health and Environment.[38] Violations and associated penalties for not submitting a follow-up notice were to accrue on a daily basis, and at the time plaintiffs' civil suit was filed, 396 days had passed since the HCL release. The EPA's penalty policy for written notices submitted more than two weeks following a release called for the highest level of penalty ($25,000 per day) for such untimely notifications, meaning defendants faced potential civil penalties of up to $9.9 million, not including attorneys' and expert witnesses' costs.

Prior to litigation, plaintiffs (including Neighbors for a Toxic Free Community, the Cross Community Coalition, and several residents) attempted to share their concerns with Vulcan management through a series of letters outlining Vulcan's violations of EPCRA. Initially, they did not receive a response.[39] The letters were followed by a 60 day notice of intent to sue sent to Vulcan and other parties.[40] Importantly, Vulcan's lack of responsiveness and the willingness of the district court to hear plaintiffs' case differed substantially from the current state of citizen suit eligibility and standard industry practice. First, prior to *Neighbors v. Vulcan*, citizen suits under EPCRA for "past violations" had been upheld as constitutional. It was reasoned that while most environmental statutes authorized suits alleging a defendant to "be in violation" of the statute, EPCRA authorizes suit against parties for failure to "complete and submit" certain information.[41] Congressionally-mandated deadlines for filing would therefore prove meaningless, according to an early ruling on the matter, if a defendant could simply file information

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77-135. The number of 60 day notices sent for environmental citizen suits grew from 6 in 1981 to nearly 300 by the early 1990's.

[36] Section 326.

[37] Hydrochloric acid is listed as a CERCLA hazardous substance at 40 CFR 302 (Table 302.4) and as a hazardous chemical under sections 311(e) and 329(5) of EPCRA, 42 U.S.C. §§ 11021(e) and 11049(5).

[38] Such notice is required to contain information listed in Section 304(b) and (c) of EPCRA, 42 U.S.C. § 11004(b) and (c).

[39] Plaintiffs' Original Complaint, *Supra* note 30. Residents were familiar with EPCRA and the purpose of community right-to-know legislation. They sent four letters to Vulcan asking for such information as "what time this happened, why it happened, how long it took to clean up, and who was the person on-site, how does he receive training, we want a copy of your emergency plan and that kind of information." After hearing no response the first time, the second letter focused on the same request and Vulcan's legal obligation to report the events surrounding the HCL incident to the community. After a third letter which indicated that the community was willing to file suit under EPCRA, the residents finally received a reply. The response listed that Vulcan had carried out what it had assumed would sufficiently meet its reporting requirements, such as reporting to the EPA, the state, and others. A fourth letter emphasized that these activities did not constitute sufficient reporting. After receiving no response within 30 days of the third letter, residents submitted their 60 notice of intent to sue.

[40] Randall M. Weiner, Senior Attorney, Land and Water Fund of the Rockies to William Grayson, Jr., President, Vulcan Materials Company and P.F. Anschutz, President, Southern Pacific Rail Corporation, July 13, 1995.

[41] Atlantic States Legal Foundation, Inc. v. Whiting Roll-Up Door Manufacturing Corp., 772 F. Supp. 745 (W.D.N.Y. 1991).

after receiving a notice of intent to sue.[42] While *Neighbors v. Vulcan* was ongoing, the Seventh Circuit permitted a citizen suit under EPCRA, holding that the statute required a different analysis from other environmental laws.[43] Following the resolution of *Neighbors*, however, the Supreme Court held that plaintiffs in *Steel Co. v. Citizens for a Better Environment* lacked a "redressable injury," because the Chicago Steel Company had filed, after the fact, seven years' worth of usage reports for the HCL that it used to remove rust from steel.[44] This ruling essentially gave companies the chance to file their past due information before the expiration of a 60-day notice period, rendering citizen suits over EPCRA reporting requirements useless. Companies such as Vulcan, when faced with a similar 60-day notice today, would aggressively seek to meet all reporting requirements. Thus, the plaintiffs' bargaining position in *Neighbors* as the case moved from litigation to mediation was considerably stronger than it would be today under similar circumstances.

It is also important to remember that EPCRA contains provisions for both reporting the presence and use of hazardous chemicals *and* taking steps to ensure that localities, in coordination with state and federal agencies, can respond to a release. Both were the focus of grievances shared among residents attending community forums following the accident. Indeed, the March 30 community meeting ended with an agreement to discuss a more specific evacuation plan for the area.[45] The "emergency planning" component of EPCRA that deals with such concerns requires the establishment of national, state, and local commissions to prepare emergency response plans to be implemented in the event of a release.[46] The governor of each state is charged with creating a "state emergency response commission" (SERC), to include those with "technical expertise in the emergency response field."[47] SERCs are then required to designate emergency planning districts that will aid in the development and implementation of emergency plans,[48] and to create "local emergency planning committees" (LEPCs) to develop plans for chemical emergencies, receive reports and notifications required by EPCRA, and make these reports available to the public.[49] Given the presence of one or more "extremely hazardous substances" in the community, SERCs and LEPCs write emergency response plans, which must include several kinds of information.[50] Plaintiffs' representation, while aware of the fact that many localities

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[42] Steel Co. v. Citizens for a Better Environment, 523 U.S. 83, 86 (1998).
[43] *Ibid* at 109-110.
[44] Steel Co., 523 U.S. at 87-88.
[45] *Supra* note 28.
[46] 42 U.S.C. §§ 11001-11005.
[47] 42 U.S.C. § 11001(a).
[48] 42 U.S.C. § 11001(b).
[49] Kuszaj, J. (1997). *The EPCRA Compliance Manual.* American Bar Association Section of Natural Resources, Energy, and Environmental Law, p. 15.
[50] 42 U.S.C. § 11003(c) requires the following: (a) facilities where hazardous substances are stored or used and routes used to transport these substances, (b) procedures to be followed in the event of a release of the substance (to include responsibilities of owners, operators, and medical personnel), (c) designation of a community emergency coordinator, (d) procedures for providing prompt notice of a release to the public and to key personnel, (e) methods for determining the occurrence of a release and the population affected, (f) descriptions of emergency equipment and facilities in the community and identification of those who are responsible for such equipment at each facility, (g) evacuation plans and alternative traffic routes, (h)

(possibly including Denver, where the Fire Department served as the custodian of many of the EPCRA-mandated documents) were slow to develop their emergency response plans, chose to focus instead on the notification requirements of EPCRA.[51]

As with many environmental disputes, this conflict had the potential to follow a model of regulation where one party (EPA Region VIII) chooses to regulate prior to another (citizens using the citizen suit provision of EPCRA), reducing the chance that the second party will achieve their intended outcome.[52] Roughly four months after the HCL spill, the EPA Region VIII filed an administrative complaint under Section 103(a) of CERCLA against Vulcan. Under CERCLA, the person in charge of a facility utilizing hazardous substances must notify the National Response Center immediately following knowledge of the release of a substance in an amount equal to or greater than reportable quantities.[53] Failure to notify the NRC can result in penalties as high as $25,000 for each day a violation continues under CERCLA. The two parties entered into negotiations and Vulcan agreed to pay $844 in civil penalties while entering into a Supplemental Environmental Project to assist the Denver Fire Prevention Bureau in meeting its EPCRA obligations (a project to cost no less than $3,163). Following the issuance of a Consent Agreement between EPA and Vulcan,[54] the residents filed a citizen suit under Section 326 of EPCRA. While EPCRA's citizen suit provision gives residents a mechanism for ensuring compliance with the statute, the extent to which the statute's requirements differed from CERCLA's was subject to interpretation. Defendants in turn suggested that settlement under CERCLA with the EPA precluded the resolution of EPCRA claims.[55] Plaintiffs attempted to show that CERCLA only addressed Vulcan's responsibility to the government, while EPCRA required a series of additional steps including a specific, post-accident, written explanation of what happened, why, and steps that individuals should take to prevent reoccurrence.[56]

A complicating factor in the litigation involved questions of ownership and liability, as defendants GATX, GATX Capital, and Vulcan sought to prove that reasonable discretion and responsibility for preventing accidents fell upon each other.[57]

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training programs for emergency planning personnel, and (h) methods and schedules for exercising the emergency plan.

[51] Interview with Attorney, March 6, 2002, in Boulder, CO.

[52] While citizens filed their notice and intent to sue on July 13, 1995, they had to contend with the fact that a consent agreement had already been reached between the EPA and Vulcan when their complaint was filed.

[53] Long, V. (1999). The complexity and lack of incentives in the release reporting requirements of CERCLA Section 103. *Virginia Environmental Law Journal*, 18: 245-278.

[54] Shortly thereafter, a Consent Order was issued pursuant to Section 109 of CERCLA on October 4, 1995. Consent Agreement, United States Environmental Protection Agency Region VIII v. Vulcan Materials Company, CERCLA-VIII-95-25, October 2, 1995.

[55] Opposition to Vulcan Materials Company's Motion to Dismiss, Neighbors v. Vulcan. CA 95-D-2617 (N.Co. 1996).

[56] *Ibid.*

[57] *Answer by General American Transportation Corporation and GATX Capital Corporation*, Neighbors v. Vulcan. CA 95-D-2617 (No.C. 1995); Brief in Support of Motion for Summary Judgment by General American Transportation Corporation and GATX Capital Corporation, Neighbors v. Vulcan. CA 95-D-2617 (No.C. 1996).

Elements of Dispute Resolution Process. Mediation was proposed by Vulcan Materials after the Court granted summary judgment to GATX and GATX Capital while finding that plaintiffs' suit was not barred by the existing Consent Agreement between the EPA and Vulcan.[58] It was the first time a community was granted standing to sue in an EPCRA case. Parties filed motions for extension of time to answer the citizens' complaint while attempting to engage a mediation process. An experienced mediation firm, CDR Associates, was chosen to provide neutral assistance throughout. The decision to agree to move forward with the mediation was made by at least several of the plaintiffs, who believed that the forum was better suited for reaching their objectives, which in part could not be achieved through litigation:

> The other thing that is most fundamental to any of this is we went in that door saying there are several things that we want and money is not in the top five. We want those people to understand who we are, we want those people to learn about our community, we want those people to have some sense of what they did and who they harmed. We don't want to sit down here and say there was a spill, give us money. We want them to walk out of this room and understand that there are living human beings here and children and a community and a way of life that was disrupted and that money isn't the answer. What really is going on here is that there's this total disconnect from them, the company and what they do and the fact that they are a neighbor to us, they're in our neighborhood, they're in our community, and yet they're totally disrespectful. Not in the spill. When they move in here and they don't bother to meet you and they don't bother to talk to you and they don't come to the community association meetings and it's like you don't even know they're there until they spill 3000 pounds of HCL on you. You know, that's what we wanted, that somehow or another we should become human to these people. We are human beings and we have children and we have lives and that we're not to be discounted. And that was our major goal there, that we had to touch these people, we had to get inside of those human beings and to help them to see other human beings, not adversaries, not those colored folks, we needed them to see human beings who were vital and valuable. And that was our goal. And we discussed it and we planned it and we had done it before and we knew what we were doing, and that was clear to our attorneys, too.[59]

Pre-mediation. An overview of the pre-mediation phase of the process appears in Table 2. The primary objectives of this phase were to (a) agree to mediate, (b) choose and legitimize representatives for each side, including the mediation team, (c) internally develop objectives, and (d) begin to shape the process through interaction with the mediation team as they assessed the conflict and representational issues, culminating in the drafting of groundrules and an agenda for the process. Each of these elements was mutually reinforcing, particularly from the perspective of local residents. By agreeing to mediate, plaintiffs expressed a desire to move beyond punishment of an isolated incident to an *understanding* of the dynamics which were prevalent throughout the entire community and could lead to potentially more serious threats to their safety. Such an understanding would affect not only Swansea-Elyria but communities located near scores of other railroad terminals, tanker storage sites, and other chemical operations. Further, plaintiffs recognized and communicated through meetings with NTFC, CCC, and United Swansea members that tangible benefits to the broader community could not be achieved through litigation, as the cause of action in *Neighbors v. Vulcan* was linked to a limited

[58] Memorandum Opinion and Order, Neighbors v. Vulcan. CA 95-D-2617 (N.Co. 1997).
[59] Interview with Swansea resident, March 5, 2002 in Swansea.

set of possible court-imposed remedies pertaining to a specific site. That said, it was also accepted that mediation would *supplement* and not replace adjudication of residents' claims, should the former prove ineffective. As residents developed a shared sense of mediation's potential, their actions communicated legitimacy to Vulcan and CDR Associates, the non-profit mediation firm that was ultimately agreed upon.

Initially, the mediators sought to assess (through interviews and discussions with each party) the appropriateness of representatives and their willingness to attempt mediation and work with the proposed mediation team. This process culminated in the convening of a first meeting and agreement over the appropriate venue and space, drafting of groundrules that would guide conversation and the actions of parties during and after each session, and drafting of an agenda for Day 1. The groundrules are instructive in the context of resident reactions to the proposed process. Residents, during pre-mediation forums, expressed their strong doubts about the possibility of settlement:

> They were all in favor of it. They were also skeptical of it, because all of them were some older folks hat had been doing it and they said we've been fighting these battles since the highways cut the neighborhood in half. The railroads were expanding and different things happening. The businesses that were expanding and the housing going away. The National Western Stock Show was expanding and it took up half the housing stock out of Elyria and Elyria was almost left with nothing as far as housing stock goes. So people were really, what they were saying was we're glad that you're able to understand this stuff, because we're certainly not understanding a lot of these things, they're too technical for us, and we really want you to take on the issue and take on the fight but we want to say that you're spinning your wheels. We fought these battles with the city, and it doesn't matter what you do. The people with the money and the city, and those are usually in the same seat, they're going to do what they want to do anyway. So you're going to spend a lot of time, get a lot of people excited, and you're going to end up with nothing.[60]

With the views of the broader community in mind, plaintiffs expected the mediation team to provide a space in which historic power imbalances would be neutralized, at least in part, while the strength of other options such as adjudication were preserved. Plaintiffs had a good sense of the various tactics that could be used during negotiation and importantly, which could be addressed through the structuring of the process and which they would have to identify and counter on their own. The groundrules and agenda for Day 1 provided some of the assurance plaintiffs were looking for: information would not be shared or influence court proceedings, media interaction was limited to joint statements, plaintiffs' desire to be understood and respected as human beings was agenda item one, plaintiffs' need to understand the circumstances surrounding the incident was agenda item two, attorneys, whose objectives at times ran counter to those of their clients, were given a limited, clarifying and informational role, and expectations for resolution were built around the need to address EPCRA and the residents' "sense of harm."

The meetings were scheduled for a small rental office space with breakout rooms and secure telephone access to those with decision-making authority for Vulcan, after suggestions for holding the sessions at CDR, CCC, or the basement of a local Presbyterian church were rejected. The Spartan setting served to magnify expressions of "righteous anger" by plaintiffs and blunt statements by defendants without attaching them to certain symbols that non-neutral spaces might suggest. This encouraged the parties to move from earlier stages of anger and defensiveness to an expression of shared interests,

[60] Interview of Swansea resident, March 8, 2002 in Swansea.

which would begin toward the end of the first meeting. The absence of other parties such as those involved in emergency planning and response activities limited distractions to the central group dynamic at work: the transition from interests in acknowledgement, accountability, and recognition, which were infused with strong emotions and historically significant issues, to problem-solving and relationship-building based on linked issues and forward-leaning time horizons.

Table 2. *Neighbors v. Vulcan* Mediation Elements: Pre-Mediation.

Element	Residents	Vulcan	Mediators
Initiation	60 day notice of intent to sue indicates that the Land and Water Fund of the Rockies, representing plaintiffs, "has a policy of pursuing negotiation whenever possible" and invites Vulcan to "discuss with us your compliance with the Act"	Executives, through counsel, Land and Water attorneys after community was granted standing to sue under EPCRA; suggested the Keystone Center, with who they had set up CAP's in the past	Was contacted by Vulcan after residents declined their suggestion of using the Keystone Center
Assessment	Investigated 2-3 firms that were mentioned; attempted to find mediators of color but were unsuccessful; knew at least one mediator from CDR Associates and accepted assurances from counsel as to competence of CDR Associates	Tried to learn more about the community organizations involved; accepted assurances from Keystone Center as to competence of CDR Associates	Informal interviews by phone (Vulcan management in AL) and in person (CCC) to determine a) if residents wanted to pursue negotiation, b) if they wanted a mediator to help out, and c) if they wanted to use CDR Associates
Representation	Executive Director, Cross Community Coalition and President, United Swansea (attendance by 2-3 other plaintiffs who didn't actively participate); Counsel (2 attorneys)	Manager of Public Affairs, Chemicals Group of Vulcan Materials; Director, Logistics in Chemicals Group; Counsel (1 corporate and 1 outside counsel); on-site employee (present at first meeting only)	Mediation team consisting of two senior mediators (one of whom was an attorney)
Rationale for Representation	Previous experience with community organizing over ASARCO, medical waste incinerator, waste transfer station, etc.; had organized community forums for this and other incidents (attendance in the 100s); could contact 2200 homes within one day; had met with Neighbors members, CCC members, and Swansea neighborhood association for approval of their involvement	Substantial experience with negotiation and mediated dispute resolution; experience with CAPs; Logistics Director communicated directly to President of Chemicals Group who reported to Corporation Board Chairman	Balance of legal and process expertise; substantial experience with mediating community and environmental disputes; provided references from previous environmental disputes involving communities of color

Element	Residents	Vulcan	Mediators
Objectives	Vulcan has to "own" its mistakes; has to learn about neighboring communities; has to offer a settlement; settlement will NOT be divided among plaintiffs (must serve broader community); settlement must specific about what settlement is for Counsel: Add legitimacy to clients by signaling competence, aggressiveness when necessary	Protect reputation; protect shareholder value by limiting settlement value (potential penalties were significant); apologize to legitimate representatives of the community; (later) understand why Vulcan's actions were considered offensive and inadequate Counsel: Protect shareholder value by arguing that Vulcan had taken sufficient steps following incident; protect broader corporation from precedents that would require costly changes elsewhere	Explore possibility of settlement without transformation of clients or their relationships; provide sufficient time for airing and understanding of grievances
Groundrules	1. No statements will be provided to the media during mediation 2. Goal is to release a joint statement to the media after successful conclusion of the case and to provide information to satisfy the community's need to know what happened during incident 3. Resolutions will be framed to make regulatory sense under EPCRA and will address the community's sense of harm 4. Agenda will proceed from understanding each group's background and shared information to hearing each group's general interests and perspectives and to then to proposals for resolution 5. Parties' attorneys are welcome to attend and participate. However the focus of the process will be the principle, primary parties 6. People will avoid interruptions, try to avoid repetitions, and will show respect 7. Anything said during mediation will not be admissible in court in the event no agreement is reached		

Mediation. The plaintiffs entered the mediation phase well-prepared to frame the discussions around the need to redress "damage done to the community" while treating the HCL spill and delays in evacuation and notification as *symptoms* of broader causes of that damage. The challenge came in convincing Vulcan that their interests in addressing wider-ranging conditions overlapped with the community's. Ironically, it was the early discovery that Vulcan had decided to close the terminal in Swansea and leave the area, and the company's rationale for doing so, that allowed the group to transition to future relations and problem solving around community-industry dynamics and needs.

In the early 1980's, the facility in question employed two staff members.[61] Economic conditions led Vulcan to reduce its on-site staff to one terminal operator. In the fall of 1994, Vulcan determined that the site was no longer economical, and that leaving one staff person on site was not safe for the employee or the operation. In addition, vandalism, theft of guard dogs, and shooting at the railroad cars were reported. Vulcan declared the site unsafe and on February 2, 1995 an action plan to close the site

[61] Mediation notes recited during Interview with Mediator, March 7, 2002 in Boulder.

was put together. Less than two months later, the HCL incident occurred. It became apparent early in the first mediation session that the concerns which led Vulcan to close its operations were shared by local residents, who were also given substantial time, without interruption, to offer their account of the community in general as well as the accident.[62]

> In the neighborhood association, a lot of concerns would come up. We started noticing that there were a lot of things that were going on in the park that were changing. Our community was in a big change, there were lots of folks that lived around there that their families had been there 20, 30 years, and so people were quite concerned when we started hearing some of the things that were going on in the neighborhood and that led us to concerns that were concerns of the park. And those were, that a lot of the old families were moving out and we were getting lots of new people. And a lot of the new people coming in were Mexican nationals. And so we were getting a lot more kids in the neighborhood, a lot more families into the neighborhood and the neighborhood was growing quite rapidly. But with that, some of the things that they had done back home were becoming evident that they were doing that here as well. And a lot of that was guns. On Saturday evenings, Friday evenings, five or six of the men would be sitting outside the house, just sitting around drinking, and there were certain areas that are kind of isolated that are close to the tracks that dead end, and lots of rental houses. So people living in those areas would be drinking in the evening and later in the evening they would be a little bit drunk and we had a lot of reports of gunfire going off, gunfire firing around the park area and at the ends of those dead end streets adjacent to the train tracks.[63]

These concerns were linked to Vulcan's during the first mediation session by the plaintiffs:

> Companies like yours they come in, they plant down, they put up fences, they buy the dogs, and it's a message to us of how bad are we. How awful are we. How horrible are we that we must be locked out and have dogs in case we come near your site and that's the message that you send. And it's a bad message. You make no effort to know us. We're your neighbors for pete's sake. You know, there are houses not two feet away from where this spill happened. People living there, children living there, and you don't come over and say hello. You don't come to the neighborhood association as other companies have and say we're so and so, this is where we're housed, we wanted to let you know about us. You don't come to the family center and say we have jobs, we'd like to post it with you to employ people. You set down there with some of the most dangerous chemicals in the world, put up your walls and buy your dogs, ignore us and then are surprised when something like this happens, that we say we'll take you to court. What's the surprise? There's no relationship. If you were to respect people, treat them with respect, you would come to the neighborhood association meetings, we'd say let's see your emergency plan and go over it, let's have an evacuation plan and go over it, let's make sure that we keep in contact, you'd have maybe one or two folks from the community working there. We would have a relationship so that when the accident happens we could look at each other and say hey, we know how to deal with it. Then we'd sit down later and say how did the accident happen, how could it be prevented. Not only would we not end up in court, we could learn from that, we could be in a better position, but you totally discount us. "Well, you know we have heard a lot of things in this neighborhood you know like gangs and the people that were shooting, whatever...Does this neighborhood have troubles? You bet they do. Like any other neighborhood, especially low-income neighborhoods. We have our share of gangs. People do steal, do they not? You bet they do. And does that happen in every industrial area in this country? You bet it does. But you know,

[62] The mediation team focused early discussion on "what the community looked like" apart from how they were affected by the HCL spill, the residents' account of the spill, and Vulcan's account of what it was like to operate the terminal and deal with the spill. *Ibid.*
[63] *Supra* note 59.

> the thing that's going on here is that you see us as the other, and we are not the other. Don't you know that one of our greatest fears in life is that one of these gang members is gonna take a shot at one of those tanker cars and it's gonna blow up?[64]

Accounts of the first session suggest that it was this linkage of facility operations to neighborhood safety that led to considerations of how Vulcan could prevent such occurrences in the future at other sites. Some suggest that Vulcan's initial response to the possibility of residents helping to protect site operations from vandalism was in fact hostile. Others say that there was a moment where both sides realized the extent to which they were dependent upon one another, despite their previous lack of awareness of this fact. In either case, this pivotal moment shifted the focus from historic problems to improving community relations at other sites and protecting residents from adjacent industries. Residents were well-prepared to discuss both issues and to offer solutions that would form the basis for settlement of *Neighbors v. Vulcan.*

Vulcan's decision to close the terminal and the fact that the HCL spill was not an ongoing threat shifted Vulcan's focus to other sites while freeing residents to focus on broader community problems. After an initial offer which Vulcan had been authorized to make to plaintiffs ($10,000) was resoundingly rejected, the parties began to draft principles of settlement. Parties began to work under conditions of greater mutual respect, which was encouraged by the limited role granted attorneys, parties' candid accounts of living and working conditions, and Vulcan representatives' admissions of past errors (made easier by the fact that these admissions had already been made in settling the EPA's administrative action) and even apology for the entire incident. The principles were:

1. The community should know what happened during the mediation
2. The community should know of Vulcan's apology in that it shows respect to the people of the community
3. Information regarding what happened during the spill and any health impacts that could result should be made clear to the community
4. Vulcan should have an opportunity to repair its reputation within the community by being given access to the community
5. This experience should somehow inform other communities and be a model for improving processes (preventive as well as emergency preparedness) that would be helpful to both sides
6. An agreement that is seen as fair by both sides would include a dismissal of the lawsuit with prejudice
7. The settlement agreement will require oversight. Dismissal of the lawsuit will therefore include court oversight and enforcement
8. Parties should consider a supplemental environmental project as part of settlement[65]

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[64] *Supra* note 58.

[65] Mediation notes recited during Interview with Mediator, *Supra* note 60.

At this point, residents revealed what was indeed a strong vision for a suitable remedy under the final principle. In the early 1990's, the community had held a needs assessment and a three day charette in order to draft a neighborhood plan for Swansea. Coincidentally, the area near Vulcan's former operations was heavily dominated by industry. At the corner of 51st and Steele Streets was the last piece of green space (roughly two acres) in the area, behind which stood residential homes. Residents had suggested that the parcels be converted to a neighborhood park so that a buffer zone separating homes and industry could be created through use of shrubbery and fencing. In addition, the City of Denver had leased land in North Swansea to a number of trucking companies at below-market rates. Near the trucking facilities lies a mobile home park that lacks even a foot of green space and at the time housed 88 children. The children were forced to play in the streets, which continued to see heavy truck traffic. Plaintiffs made use of this story, in addition to a wealth of materials, photos, and plans to argue for the need to acquire the 51st Street site and convert it to a park. Their proposal included demographic data, information on land use trends and toxics release data for the zip code, and a diagram of the proposed park with two options for acquiring the site.[66] Parties agreed to gather additional data between the first and second mediation sessions, in order to more carefully consider the park option.

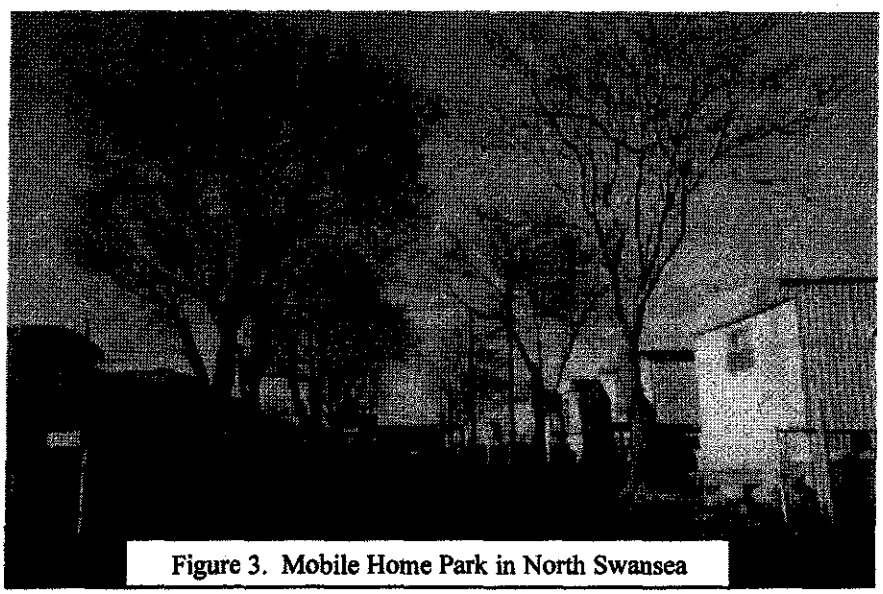

Figure 3. Mobile Home Park in North Swansea

[66] Cross Community Coalition, Swansea Community Park Project Proposal (no date).

Between September 19th and October 13th, 1997, the parties engaged the idea of a park through various forms of data gathering. The proposed park was the westernmost half plot of a 174,000 square foot plot owned by Sam's Produce, Inc. Initially, Sam's was not interested in selling the property, although it appeared that if the plaintiffs could develop a proposal for a park that would benefit children and other people in the community it might be accepted. It was also necessary to get the City's buy-in to the idea of preserving the parcel as open space. These were activities that required the due diligence of the plaintiffs. In addition, plaintiffs held another round of community forums and conducted a door-to-door survey, where they found that there were 265 children within a two block radius of the park (80% of whom were under 12). Within the 143 homes surveyed, 109 agreed to help with park planning and 114 agreed to work with police to ensure that the park remained a safe place for children.

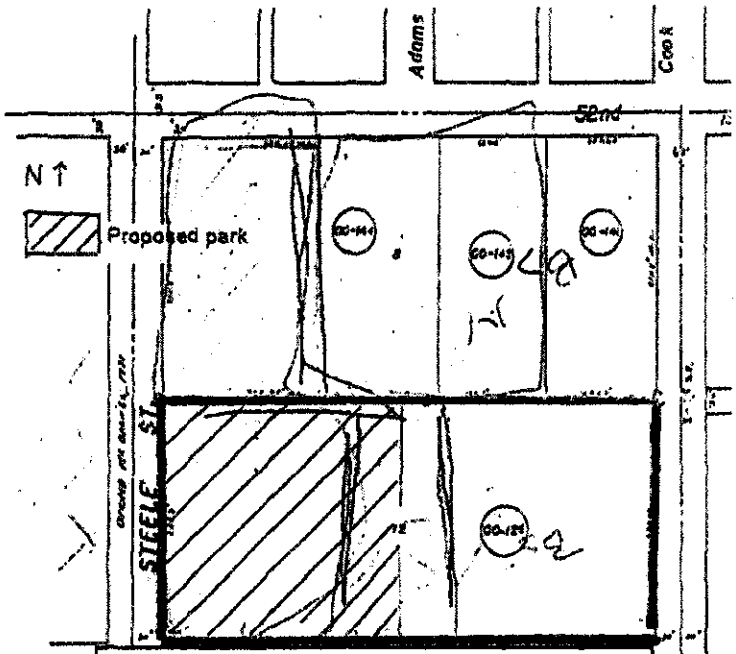

Figure 4. Swansea Community Park Proposal

Vulcan also began to investigate the implications of a park for settlement. Its outside counsel, based in Denver, looked at the property and comparable values, talked to realtors to determine a fair amount to contribute toward the purchase of the property, tried to figure out how it could be assured that a park would one day be sited in perpetuity on the plot of land, and found out whether those on the city council supported the idea. It was important for the Vulcan representatives to be convinced of the feasibility of the proposal, so that they could approach upper management and seek additional funds.

The Agreement. On October 13th, the parties met for a second session. By this point, the parties were focused on problem-solving, based on "mutual understanding" and "respect." The proposed remedy, tied to the cumulative effects of industry, was within the realm of possibility while plaintiffs had already pledged to help Vulcan consider community relations at its remaining sites. What remained was for one of the parties (or the mediators) to make another offer. An earlier offer by Vulcan had not served to anchor plaintiffs' expectations of an appropriate amount. Residents had entered the mediation in agreement over the priorities of relationship-building and prevention. Still, they had discussed the need to have a "walk-away" figure, which was in the range of $75-100,000. This would purchase a significant portion of the land and could be

leveraged by the plaintiffs to seek grant and city council assistance. After both sides presented their information regarding park feasibility and reported on their meetings with outside people, Vulcan declared that it had a final offer to make:

> Joy, who had the ear of the president of the Corporation, had parameters that she knew that she could go, from one to the other. Well, I think it went up to [undisclosed amount]. And her lawyers still were saying you have no need to do that, it would not be a good idea to do that, it would set a bad precedent. It's a bad idea...And at some point, Joy just sat on the edge of her chair and said do you know what, I'd like to offer you [undisclosed amount]. And you could hear a pin. At which point everybody said let's take a break. And it was, she wanted to do it. She felt as though what they had done had caused harm in a way that their lawyers couldn't get. She got it, and she just wanted to do it, so she did it.[67]

Plaintiffs returned and accepted the offer, whereupon Vulcan asked for their help in developing a blueprint for future community relations. The remainder of the meeting was used to settle a disagreement over attorneys fees and to draft the specific language of the Settlement Agreement, an Escrow Agreement, an Additional Settlement Agreement, and a Stipulation of Dismissal of the litigation.[68] These documents were finalized at a later date and signed by all parties to the litigation. The major elements of the Settlement Agreement are listed below:

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[67] *Supra* note 60.

[68] Exhibits to Order, Neighbors v. Vulcan. CA-95-D-2617 (No.C. 1997).

Table 3. *Neighbors v. Vulcan* Settlement Elements

Element
Court has jurisdiction over the Parties and the subject matter of this action pursuant to EPCRA
Undersigned representatives certify that they are authorized by their organizations to enter into these terms and conditions
Agreement applies to the parties, their directors, officers, employees, members, successors, and assigns
Settlement does not constitute an admission or evidence of wrongdoing or misconduct or liability on the part of Vulcan, nor shall it be admitted in any proceeding against any party except in a proceeding to enforce the Settlement Agreement
Before December 4, 1997, Vulcan will deposit with an Escrow Agent of the Swansea Community Park Project the sum of $125,000 to be used for purposes of purchasing an interest in and/or developing land to establish a public park or making other improvements to public lands for recreational purposes within the Swansea neighborhood
Pursuant to an Additional Settlement Agreement, Vulcan will contribute an additional amount to be used for like purposes
Details of specific expenditures of the Escrow Property will be determined by majority vote of individuals comprising the Plaintiffs (CCC-one vote, NTFC-one vote, individual members of Plaintiff party-one vote); Escrow Agent must abide by the directions given by representatives of the Plaintiffs
Parties will endorse and file with the Court a Joint Stipulation (copy attached), asking the Court to dismiss all claims with prejudice, to which a copy of this Agreement shall be attached
Vulcan will reimburse Neighbors $35,000 for expenses, attorneys' fees, and costs incurred in connection with the legal action
Parties will use their best efforts to draft a *joint press release to announce the resolution of this matter*. An additional press conference will be held when a final decision is made on the use of funds held in escrow for the Swansea Community Park Project
Parties will meet at the CCC together with Transcare State and Regional Coordinators to begin the process of drafting protocols for ongoing work with the community. Goals shall include providing guidance to industry for their work with other communities, as well as guidance for how communities might work together with industry using the factual backdrop of the action as an example
Plaintiffs forever release, discharge, and acquit Vulcan and its owners, successors, shareholders, employees, agents, directors, officers, attorneys, predecessors, assigns, representatives, and affiliates including subsidiaries from any claims, demands, liabilities, rights, actions, causes of action which Plaintiff Parties have against Vulcan which relate to the Action and were asserted or could have been asserted under EPCRA, CERCLA, or any other federal or state environmental statute or regulation. This does not release any claim, if one exists, which Plaintiff Parties may have for any personal injury arising out of the alleged release of hazardous substances at the facility
This agreement and the Additional Settlement Agreement constitute the entire agreement between the parties
Parties represent that each enters into this agreement upon legal advice of their attorney and that they fully understand and voluntarily accept the terms of the agreement
This Agreement shall be binding upon and shall inure to the benefit of the Parties and their respective successors and assigns
This Agreement may be executed in one or more counterparts. All counterparts shall be deemed to be one and the same instrument

Implementation presented its own set of challenges, although the agreement was rather straightforward. The CCC wrote a grant for $180,000 to cover the additional cost of the land, which it had planned to do even before the agreement was reached. The undisclosed sum sat in escrow for several years and accrued interest, leaving the community in need of just $18,000 before they could purchase the property at fair market value. Through the City Council, the CCC convinced the Parks and Recreation

Committee to give them the remaining funds that they needed. The parcel has been purchased, and the National Park Service is helping CCC and City brownfields workers to determine if the site is contaminated. Amazingly, the site, located within an area that is almost universally contaminated by some level of lead or arsenic, appears free from these substances.[69] Groundbreaking on the park will happen in the near future.

Meanwhile, plaintiffs and Vulcan worked to draft *A Blueprint for Community Relations and Involvement*, a guide to community outreach that has been widely distributed.[70] The document includes detailed steps for companies just starting to communicate with their host communities, including guiding principals for community involvement that mirror many of the lessons learned during the mediation process. Parties also made several presentations, to an annual meeting of the Society of Professionals in Dispute Resolution, to senior attorneys for the Chemical Manufacturers Association, and other smaller venues. Vulcan took at least some of the recommendations listed in the *Blueprint* seriously:

> We have since shut down some terminals and re-evaluated some locations as a result of this because we felt like there were potential risks that outweighed the benefit of having those and that we wouldn't be able to do the kinds of things there that were needed to ensure that we were basically not going to have a situation like this again, or if one happened that we would be able to address it...Another thing I think is that we learned out of this, that companies need to do a better job of figuring out who the stakeholders are and being more aggressive in seeking out problem spots and frankly we had a lot of success under our belt with advisory panels but our model was really limited to manufacturing sites and we – you just can't ever get complacent in that arena.[71]

Discussion. In communities such as Swansea-Elyria, multiple, overlapping sources of environmental risk, and the timing required to address quality of life issues can serve as sources of strength when grievances against a limited set of polluters are addressed. The manner in which *Neighbors v. Vulcan* was settled suggests that environmental justice organizations can and should consider, prepare for, and *shape* a mediated process so that their comparative advantages are leveraged to the fullest extent possible. These advantages include: (a) knowledge of community needs and the ability to mobilize consent around new ideas and proposals, (b) an understanding of the interconnectedness of environmental hazards, the dynamics behind their common location within a given place, and ways in which they can be mitigated or reduced (c) an intimate understanding of how common mistakes and accidents that are taken for granted in industrial society affect people's daily lives, and (d) connections to local officials and political leaders that may not be shared by industries, particularly those managed from out of state. Traditional means of resolving environmental disputes (i.e., hearing processes, adjudication) do not give community groups a chance to make use of these advantages, because they concern a narrowly constructed set of questions of fact or law that minimize the value of brainstorming, joint fact-finding, or inventiveness and restrict parties to consideration of an isolated, ongoing incident. Pursuing environmental justice, on the other hand, requires that attention be turned toward multiple sites, longer time

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[69] *Supra* note 58.

[70] Granado, L. (1997). *A Blueprint for Community Relations and Involvement.* Published jointly by the Cross Community Coalition and Vulcan Chemicals.

[71] Interview with Vulcan corporate official, *Supra* note 18.

horizons and slow-moving processes of change that need to be set in motion. If carefully structured, mediation can give community representatives a chance to think about and address the broader challenges that will remain, regardless of the outcome of the matter at hand.

To accomplish this in *Neighbors v. Vulcan*, plaintiffs had to shape the process, including the role of the mediators. This involved considerable preparation, including years of assessing community needs and developing plans and proposals, with multiple options for future site development before the dispute even materialized. It included the development of strong networks to overlapping communities of *interest* (older residents involved in the first wave of environmental struggles surrounding I-70, residents involved in organizing around the ASARCO/Globe site, neighborhood associations, and family service providers) that could be assembled within a short period of time. It required legitimation of their position as representatives of these overlapping communities and proponents of solutions that would satisfy a broader set of interests than their own. And it called for highly articulate leaders who could focus the agenda, groundrules, and discussions on appreciating past events *for the purpose* of focusing on relationships and remedies tied to cumulative effects of industry or prevention on a scale broader than the site in question.

The overlapping concerns for site safety (protecting operations and lives), once aired, marked this transition from appreciating past events to broader mitigation and prevention work. It was the mediation *space*, beyond any actions of the mediation team, that gave parties a chance to move in this direction. But while the mediation team did not plan on transforming relationships between parties, it did work at the margins to ensure that the parties' interests could eventually be addressed in a constructive manner: attorneys were given a limited yet important role to play (information, party and process legitimation when necessary), uninterrupted opportunities for the community to share its story and prove its competence were scheduled and enforced, and once parties turned to problem-solving, the mediators offered careful documentation and guidance during the due diligence phase. Had the dispute involved more specific aspects of site operations, the mediation team would have been responsible for controlling the pace of conversation and making sure that all sides had access to technical assistance. Beyond this, the community leaders were well aware of negotiation tactics and how to spot and defend against them (i.e., anchoring what the other side expects they will receive by making a first offer, timing and location issues, preconditions to agreement). And they came prepared to discuss solutions that were tied to their intimate knowledge of community needs and political feasibility.

Of course, the unique circumstances of the case (Vulcan had closed the site and there was no on-going threat from their tankers) may seem to suggest that there was no other choice but to direct parties' attention elsewhere. Yet, it is equally true that the community activists involved had only begun to scratch the surface in terms of possible solutions that could have grown out of their comparative advantages. Note that the ultimate solution, a park that would serve as a buffer zone, was tied to the clustering of trucking operations, the specific needs of a mobile home, broader community buy-in and willingness to assist, and broader concerns over industrial zoning in northeast Swansea and the lack of open space. These pieces of a narrative that the residents constructed around the proposed solution are but a few of the dozens that were raised during

interviews. The activities of small metal shops and painting operations in the area, truck traffic, use of the railroad tracks by other industries, terminal surveillance, access to networks that could help in disseminating information during a release, sites that remained open to future industrial development where transfer stations and incinerators had already been defeated, and many others were also aired, and continue to linger in the air, waiting to be skillfully attached to solutions that are forward-thinking and take advantage of the different time horizons of the parties to a dispute (in this case, immediate gains to Vulcan's understanding of community relations and prevention in other communities were linked to delayed but meaningful gains to quality of life in Swansea) Fitting these pieces together requires a flexibility and creativeness that mediation can encourage.

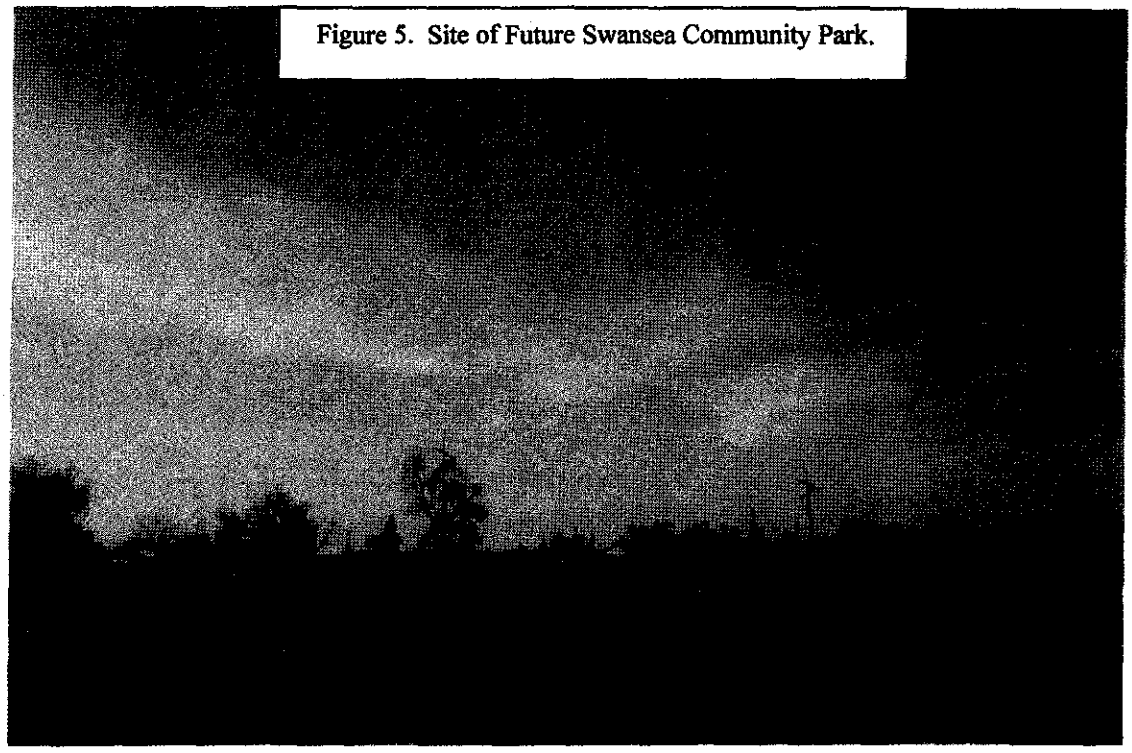

Figure 5. Site of Future Swansea Community Park.

Windows of Opportunity for Mediation in Swansea-Elyria, Colorado PART II.

Had we had some opportunity to shape that mediation it would not have looked like it did. But given that the situation was already predetermined, we have to be at the table. The only other thing that we could have done to change it would have been to *not* participate – Swansea Resident

Figure 6. Conoco Refinery from Brighton Boulevard

Background. Environmental justice disputes add distinct layers to existing regulatory, corporate, and industry developments. Communities are increasingly able to maneuver through these realms and understand the extent to which each can contribute to or help resolve risks to resident health and well-being. Yet, problems of judging whether behavioral changes by any given firm will yield noticeable improvements to quality of life at different geographic scales and dealing with this challenge within the context of multiple, overlapping, existing processes can limit the effectiveness of mediation in meeting a community's interests. As the communities of Swansea and Elyria entered into a second mediation regarding air emissions, they were given little time to come to terms with these challenges.

The Conoco Petroleum Refinery[72], located 1.5 miles northeast of Swansea in nearby Commerce City, was not technically a neighbor, although many of the odor complaints received by the state were from Swansea-Elyria.[73] These complaints peaked in September, 1996 when a disruption in refinery operations resulted in flaring that contained substantial amounts of sulfur dioxide (SO_2).[74] Conoco would later be accused of violating the Federal Clean Air Act by emitting sulfur dioxide and other compounds (potentially in excess of permit limits) and flaring certain gasses in violation of permit conditions.[75] Litigation was

[72] The Conoco Refinery has the capacity to process approximately 57,500 barrels of oil per day. The refining process involves separating hydrocarbons from crude oil and converting them into products. Crude oil, which contains a variety of toxins and impurities (such as sulfur), is first heated in a distillation column. This process causes various gasses to rise through the distillation column where they cool down and form liquids that move through piping and are used for various products (fractional distillation): heavy oils condense at the lower level of the column and are used for domestic heating oil, lighter products gather at the middle level and are used for gasoline and kerosene, and some are unable to condense and pass into a vapor recovery unit. The latter are then processed through a process called cracking (the application of either heat or chemicals). A number of toxic substances are released at various stages of the process, such as volatile organic compounds like benzene, toluene, and xylene. Conoco ranked among the highest producers of toxic air emissions in Colorado at the time of this study.

[73] Lorraine Granado, a plaintiff and head of the Cross Community Coalition, lived five blocks from the refinery with two sons at the time. Michael Maes, a plaintiff and head of United Swansea, also lived within the area most immediately impacted by Conoco's violations.

[74] Jerry Heyd, Refinery Manager, Conoco to Hugh Davidson, Air Pollution Control Division, CDPHE, RE: Tri-County/APCD meetings with Conoco on August 13 and 29, 1996, September 12, 1996. ADD

[75] Complaint, COPIRG Citizen Lobby, Lorraine Granado, and Michael Maes v. Conoco, Inc., CA 98-30 (N.Co. 1998).

initiated by the Colorado Public Interest Research Group (COPIRG), who had been active in passing the Colorado Clean Air Act in 1992.[76] The CO CAA required industries to more fully disclose their annual emissions through use of Air Pollution Emission Notices (APEN's)[77], which went above and beyond the EPA's Toxics Release Inventory and gave COPIRG and public interest attorneys a clear suspicion that Conoco was illegally venting sulfur dioxide. The Swansea-Elyria communities became involved as joint plaintiffs with COPIRG on a citizen suit under the CAA.

The Problem. COPIRG, an experienced public advocacy organization, had begun to look at stationary sources of air pollution across the state in 1990.[78] They conducted an early assessment of the CAA as it was federally reauthorized in 1990, determining what percentage of emitting sources would be cut through federal statutes. Conoco appeared in the early 1990's in their analyses of the Denver metropolitan area as one of the major sources of air pollution, particularly criteria air pollutants.[79] At the time, its emissions were dwarfed by those of power plants such as Public Service Company (now Excel).[80] COPIRG worked with Environmental Defense and the Land and Water Fund of the Rockies to reach a voluntary agreement with Public Service where the company would receive tax credits for pollution control equipment. This left oil refineries as the largest source of sulfur dioxide and nitrogen oxide emissions in the greater Denver area.

An attorney at the Land and Water Fund of the Rockies, based in Boulder, CO, was also investigating the refinery's activities.[81] His research, based in large part on a review of public documents such as facility permits, focused on the refinery's sulfur recovery operations.

> Conoco had two different pollution control devices, #1 and #2. And the refinery according to Conoco needs to operate 24 hours a day, 365 days a year, and yet those pollution control devices need to be shut down for maintenance periodically and sometimes it's for a long period of time. So you would think that OK, it's a redundant system. If you shut down one, then you reroute all the gasses through the second one and when you shut down two you reroute all the gasses through one. For some reason, whether it was one of the devices took liquid as opposed to gas, when they shut down one of these they could not reroute the gasses to the other one, so instead they routed the gasses to a central flare. Now central flaring is something that all refineries have the ability to do for emergency situations but it's a terrible form of releasing. Because flaring doesn't have any pollution control capturing. So you're venting the worst of the worst. So there was significant flaring going on at Conoco when they'd shut the facility.[82]

This problem substantially impacted the refinery's sulfur emissions. Specifically, the Conoco refinery contained two units (sulfur recovery units, or SRU's) where a catalyst is used to break hydrogen sulfide (which is formed when sulfur is removed from crude oil) into elemental sulfur which then solidifies and can be sold. Not all hydrogen sulfide is

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[76] Air campaign seeks ballot spot, *Rocky Mountain News*, March 12, 1992; Tough clean-air bill wins approval, *Rocky Mountain News*, May 6, 1992.
[77] *See* Concept A-1: Elements of a Colorado Air Toxics Strategy, COPIRG Discussion Draft, April 14, 1992; Overview of Hazardous Waste Pollutant APEN Reporting, COPIRG, Denver, CO.
[78] Interview with former COPIRG President, March 4, 2002, in Denver.
[79] *Ibid.*
[80] In 1998, Public Service Company released 18,228 tons of sulfur dioxide while Conoco released 2,498 tons into the atmosphere.
[81] Interview with former Attorney, Land and Water Fund of the Rockies, March 6, 2002, in Boulder.
[82] *Ibid.*

converted. Some is sent to a "tail gas incinerator" and either flared or burned. This results in a release of sulfur dioxide into the atmosphere during normal operations. Conoco was issued a permit in 1991 to construct and operate a second SRU in order to handle acid gas from a new Gas Oil Hydrodesulfurizer (GOHDS) as well as sour water stripping derivatives.[83] This structural change was part of a larger project to produce low sulfur diesel fuel.[84] The unit experienced operational difficulties, including a period in April 1996 where it was shut down for 20 days. When the SRU shut down, a gas stream was sent to a flare where it generated SO_2. Venting SO_2 into the atmosphere posed a nuisance and potential health problems to neighboring communities.

Conoco's SRU #2 permit limited the emissions of SO2 to 85 tons per year and 19.6 pounds per hour, and required "all gas from the sour water stripper shall be processed through the Claus sulfur recovery unit."[85] During maintenance, however, Conoco would shut down its GOHDS while continuing to operate. This would continue to generate a sour water stripper gas stream (containing an estimated 5 tons/day of SO2) that would be sent to a flare and vented into the atmosphere.[86] The attorney documented the following incidents of SRU#2 shutdowns and sour water stripper flarings between July 1995 and July 1996 as part of his preliminary analysis:

Table 4. Potential Permit Violations between July 1995 and 1996, Conoco Refinery.[87]

Incident Start Date	Duration (hrs.)	Lbs./hour SO2 release (est.)	Total SO2 Released (tons)
October 25, 1995	46.25	416.67	9.64
December 10, 1995	12.08	416.67	2.52
December 20, 1995	7	416.67	1.46
January 9, 1996	16.58	416.67	3.45
January 21, 1996	7.5	416.67	1.56
January 31, 1996	3.86	416.67	0.80
February 23, 1996	7.4	416.67	1.54
March 21, 1996	.4	173.6	0.03
March 23, 1996	11	416.67	2.29
April 1, 1996	5	416.67	1.04
April 3, 1996	.5	208.34	0.05
April 7, 1996	545	416.67	113.54
May 14, 1996	457.75	416.67	95.37
June 1, 1996	.91	381.9	0.17
June 14, 1996	.3	125	0.02
June 26, 1996	.38	159.7	0.03

[83] State of Colorado Department of Health, Air Pollution Control Division, Emission Permit 91AD180-3 issued to Conoco, Inc. (initial approval).
[84] Jerry Heyd, Refinery Manager to Bob Jorgenson, Colorado Department of Health, Re: Claus Sulfur Recovery Unit NSPS Subpart J Applicability, September 24, 1993.
[85] *Ibid.*
[86] CDPHE estimates can be found in Robert Jorgenson to Dave Ouimette Re: Conoco problems with Sulfur Plants, Inter-Office Communication, October 17, 1996.
[87] Adapted from Randall Weiner to COPIRG Citizen Lobby, Proposed Litigation, October 5, 1997.

COPIRG joined with the Land and Water Fund attorney to investigate a possible suit under the state and federal Clean Air Acts. They also sought out members of the affected community:

> We were aware of the concerns going on simultaneously about large numbers of companies operating in that area so we made contact with the director of the CCC and spoke with her about this issue and brought her in to the information that we had access to as well as the president of the local neighborhood association. So we, they had expressed some concern, there was some information in the file about concerns, basically neighbors smelling, I mean the oil refineries aren't particularly sweet smelling to begin with, but the residents were reporting that there were occasionally very nasty smells coming from the neighborhood, and we began to put two and two together that these were probably the occurrences of when there was large-scale venting occurring.[88]

By 1996, residents sensed that certain refinery emissions were increasing substantially from the norm, although they were not aware of the underlying causes:

> We didn't know what was going on over there, but we would readily complain because a lot of times when we would see that big flame at night or during the day and at the same time you would start getting the smells from the refinery. And you would smell it heavily in the neighborhood. And so we were complaining about a lot of that stuff at the time just like we had constantly been complaining for years and years and years about the rendering plant. Some days you don't even notice it, but then in the summer times or when the wind's just right it'll gank you, I mean it's a foul, foul smell. It's not unheard of somebody getting a whiff of that and starting to vomit.[89]

As COPIRG, the attorney, and local residents developed an understanding of Conoco's violations, broader regulatory developments began to shape how they would eventually resolve litigation over SO_2 emissions. Federal environmental statutes such as the Clean Air Act contain provisions that allow the EPA to place parts of the programs under state control.[90] This allows the EPA to avoid running programs in all 50 states, a task for which it lacks the necessary resources.[91] In the mid-90's, the Colorado Department of Public Health and Environment worked on meeting EPA delegation requirements, and the federal EPA began to promulgate monitoring, reporting, and enforcement requirements for state implementation (which, in the opinion of COPIRG yielded a more collaborative Notice of Violation policy given the CDPHE's agency culture).[92] By 1998, the state of Colorado was given interim approval for delegation of the EPA's permitting authorities.[93] The issue of delegated environmental enforcement is closely linked to Colorado's comparatively strong self-audit policy enacted by the state legislature in 1997.[94] The self-audit policy in Colorado allows "a privilege for self-

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[88] *Supra* note 78.
[89] Interview with Swansea resident, March 8, 2002, in Swansea.
[90] *See* Clean Air Act, 40 C.F.R. Part 70.
[91] Hawks, R. (1998). Environmental self-audit privilege and immunity: Aid to enforcement or polluter protection? *Arizona State Law Journal*, 30: 235; Markell, D. (2000). The role of deterrence-based enforcement in a "reinvented" state/federal relationship: The divide between theory and reality. *Harvard Environmental Law Review*, 24: 1.
[92] 42 U.S.C. § 7661a.
[93] § 25-7-111(2)(c), C.R.S. (1998).
[94] Colo. Rev. Stat. 13-25-126.5(3) (1997).

critical analysis done in a voluntary self-evaluation of a [company's] environmental compliance."[95] The Colorado state legislature, when enacting this legislation, stated:

> The general assembly hereby finds and declares that protection of the environment is enhanced by the public's voluntary compliance with environmental laws and that the public will benefit from incentives to identify and remedy environmental compliance issues. It is further declared that limited expansion of the protection against disclosure will encourage such voluntary compliance and improve environmental quality and that the voluntary provisions of this act will not inhibit the exercise of the regulatory authority of those entrusted with protecting our environment.[96]

Colorado's statutory privilege for environmental self-evaluation was passed in response to a 1993 case involving Coors Brewing Company, which was fined over $1 million by the Colorado Department of Health after disclosing volatile organic compound emissions.[97] The company was not required to disclose the information, and had learned of the emissions through its own voluntary study. The state statute went beyond mere privilege and relaxed requirements that reporting entities use prompt remediation of any contamination that they discovered. The federal EPA and the Department of Justice have actively opposed the self-audit policy and expressed the opinion that Colorado can no longer meet delegation requirements because of it. One of the mechanisms for the EPA to retain its authority over delegated powers, overfiling, was carried out as part of the EPA's attempt to compensate for the state's lack of sufficient use of its enforcement powers. Overfiling occurs when the EPA begins an enforcement action regarding a program that has been delegated to a state.[98] Residents' concerns over Conoco's sulfur emissions would be resolved in large part through the settlement of an EPA overfiling.

The Dispute. Plaintiffs in the Vulcan litigation were able to file suit in a relative vacuum: questions of agency responsibilities for emergency preparedness were being discussed and to some degree resolved in ways that did not impact the litigation or how it was resolved. The citizen suit against Conoco, on the other hand, was shaped in large part by processes beyond plaintiffs' control. Before COPIRG and Swansea residents filed a citizen suit, EPA Region VIII and the CDPHE stepped in, initiating what the former President of COPIRG would refer to as "four games of chess" that were played and solved nearly simultaneously among federal, state, and local interests:

1. EPA Region VIII overfiled on previous CDPHE enforcement actions on March 18, 1997, claiming that in a previous consent order between the state and Conoco the state did not adequately interpret regulations concerning inspections, record-keeping, hazardous waste discharges, notices to the state, and penalties associated with certain counts of RCRA violations;[99]

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[95] Formal Opinion of Gale Norton, Colorado Attorney General, No. 98-3 AG Alpha No. HL WQ AGAVQ, December 1, 1998.
[96] Colo. Rev. State. 13-25-126.5(1) (1997).
[97] $1.05 Million Fine Against Coors May Deter Corporate Environmental Audits, *Environment Reporter*, 24(13): 570, July 30, 1993.
[98] Zahren, E. (2000). Overfiling under federalism: Federal nipping at state heels to protect the environment. *Emory University School of Law*, 49: 373.
[99] Complaint, Compliance Order, and Notice of Opportunity for Hearing, RCRA (3008) VIII-97-03, in the matter of Conoco, Inc., March 18, 1997.

2. The state filed Compliance Advisories under RCRA and the Colorado Hazardous Waste Act, regarding the presence of benzene in one of Conoco's wells and the contamination of groundwater.[100] It also continued to work with Conoco on adjustments to its construction permits;
3. COPIRG and local residents filed a citizen's suit under Section 304 of the Clean Air Act, focusing on the fact that Conoco had failed to detect violations for five years as it had not properly monitored its $S0_2$ emissions;[101] and
4. Conoco continued to adapt to a series of regulatory and site-specific changes, while working with the CDPHE to ensure that its operations were in line with permit specifications. The company stopped producing leaded gas at its Commerce refinery in 1990, sought, announced, and then scrapped a proposed joint venture with the Colorado Refinery Company to share the costs of complying with more stringent environmental controls (requiring .05% sulfur diesel fuel by October 1993), addressed the reengineering of a device (the grubbs manifold) that caused the death of a worker who was cleaning a reactor in the hydrosulfurization unit, and faced budgetary limits to expenditures for on-site continuous emissions monitoring and sought to improve their control over fugitive emissions, two areas of concern that would be addressed in subsequent consent orders with the Justice Department.

Table 5 (See appendix) illustrates the progression of each of the above legal and organizational developments.

EPA's RCRA overfiling was both a part of its response to the state's audit privilege law and a result of EPA Region VIII's longstanding attempt to work with the state to enforce hazardous waste regulations. The EPA and the state engaged in joint inspections of the refinery in March and April of 1992. The state cited violations found during the inspection in a Compliance Order against Conoco. The Order required compliance within 45 days and required actions similar to what the state had called for in 1985. In December 1995, another inspection took place, unearthing violations that mirrored those found in 1985 and 1992. The Complaint lodged in 1997 amounted to a sprawling list of violations, from faulty recordkeeping to storage and disposal without a permit. The Complaint prompted Conoco to file two motions for accelerated decision, claiming that in their rush to undermine the state's statutory authority the EPA failed to take a proper inventory of Conoco's inspection records.[102]

While the CDPHE was arguably sub-par in its enforcement of certain RCRA violations, it was actively involved in discussing whether the refinery was required to include "routine maintenance" in its APEN emissions estimates. Conoco claimed that process unit turnarounds, which resulted in substantial increases in SO_2 emissions, were

[100] Compliance Order on Consent, 98-08-07-02, RCRA (2008)-VIII-98-03, In the matter of Conoco, Inc., August 7, 1998.
[101] Complaint, COPIRG Citizen Lobby, Lorraine Granado, and Michael Maes v. Conoco, Inc., CA 98-30 (N. Co. 1998).
[102] *Conoco, Inc.'s First Motion for Accelerated Decision, No. 97-03 In the matter of Conoco, Inc., June 6,* 1997; Conoco, Inc.'s Second Motion for Accelerated Decision, No. 97-03 In the matter of Conoco, Inc., June 6, 1997.

not distinct from start-ups, shutdowns, and malfunctions and should not be included.[103] In August, 1996, CDPHE requested that Conoco provide the Air Pollution Control Division a record of all incidents where acid gas or sour water stripper offgas was combusted in the main flare since June, 1993. The information was requested in 12 month segments, suggesting the agency was investigating when permitted levels were exceeded.[104] The CDPHE was also actively engaged in a separate RCRA action regarding hazardous substances and waste material found to be migrating from the facility into groundwater and nearby creeks and wells. Compliance Advisories were issued to Conoco in February and August, 1997.[105] Both the EPA Region VIII and CDPHE were in the process of resolving Compliance Advisories with Conoco when citizens filed suit under the Clean Air Act.

The citizen suit was planned well before the two resident-plaintiffs were aware of the legal issues involved, although residents arguably assisted COPIRG and the lead attorney in determining the severity of various malfunctions at the facility. The citizen suit was brought under the Federal Clean Air Act for Conoco's alleged sulfur dioxide emissions.[106] The problem, according to the original complaint, began when Conoco installed a second SRU. The unit malfunctioned on numerous occasions, causing Conoco to perform maintenance while diverting gas to its main flare. In addition to alleged violations of permit emissions requirements, plaintiffs alleged that continuous monitoring and recording of concentrations of sulfur dioxide discharged into the atmosphere was not taking place. Conoco's lack of a continuous monitoring instrument was one of three causes of action for the citizen suit (the final being Conoco's failure to process all gas from the sour water stripper in the SRU). Relief sought included declaratory judgment, a compliance order (that would include monitoring), penalties of $27,500 per day for each violation under the CAA, and $100,000 for beneficial mitigation projects. COPIRG asked two of the residents involved in the Vulcan Materials citizen suit to join them as plaintiffs in the case, and the competing focus of the two groups increased the complexity of an already challenging dispute. The community representatives focused on particularized impacts to local residents and the need for monitoring and resident notification, while the state-wide organization sought precedent-setting results at the level of construction permitting. Members of Commerce City neighborhood associations were not asked to involve themselves in the litigation or the mediation process that followed.

Conoco Adapts. Conoco sought to adapt to each of the above developments through the efforts of managers, engineers, and environmental professionals.[107] Conoco responded to new corporate objectives, pollution control challenges, or regulatory or permit changes through adjustments in two directions. First, new objectives were tied to

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[103] Inter-office communication from Robert Jorgenson to Dave Ouimette of CDPHE RE: Conoco problems with the sulfur plants, October 17, 1996; Jay Christopher, Air Program Leader, Conoco to Dave Ouimette, Air Pollution Control Division, CDPHE RE: Conoco Denver refinery, SO2 issues, March 20, 1997.
[104] Jerry Heyd, Refinery Manager to Hugh Davidson, Air Pollution Control Division, Re: Tri-county/APCD Meetings with Conoco on August 13 and August 29, 1996, September 12, 1996.
[105] Compliance Order on Consent Number 98-08-07-02, RCRA (3008)-VIII-98-03, In the matter of Conoco, Inc., August 7, 1998.
[106] *Supra* note 101.
[107] This section was adopted from Interview of Environmental Director, Conoco Refinery, March 7, 2001 in Commerce City and Interview of Air Program Leader, Conoco Refinery, March 22, 2001 via telephone.

specific roles and personnel from upper management through various incentives. Second, middle management used data in what is called the "plant management system" to track emissions points (80-85 in all), respond to "upticks" and regulatory exceedances, carry out trend, incident, and root cause analyses, and propose changes that accounted for budgetary constraints, systems effects, and broader plant optimization goals. The two directions often intersected, particularly within a given refinery's various emissions programs (i.e., Air Program) and broader Environment, Health, and Safety management. These streams of adjustment, adaptation, and innovation were in motion long before the filing of *COPIRG v. Conoco*, and provide valuable information on the feasibility, timing, and potential effectiveness of various options for source reduction.

Since 1990, environmental managers at the refinery had been working on nine environmental initiatives instituted by Conoco upper management, including a pledge to reduce toxic air emissions and hazardous solid waste significantly beyond existing legal requirements. Efforts to adapt to such objectives are limited by whatever information is available and the ability to process and interpret the data. For example, sulfur, which is allowed in finished products in varying (and over time decreasing) amounts, is not uniformly monitored at the refinery, as a patchwork of regulations guide the facility's tracking of various chemicals:

> Environmental regulations apply to specific pieces of equipment, so if your piece of equipment is covered by a specific regulation that requires a certain kind of monitoring that's what you do. So, for example, I talked about the heaters and boilers we have, and there's a requirement that the fuel that you burn, if you think of them as big gas stoves almost, not to be too simplified, but if you think about it, we've got dozens of big gas stoves all over the place, we have one monitor that measures the hydrogen sulfide in that gas that goes to every burner, and that's a continuous emission monitor. And we have requirements on the limit of hydrogen sulfide we can have in that monitor, or have in that gas in any period of time. So we get a continuous readout. If the monitor fails for some reason, then we have to take other samples and get other readings so that even if the monitor is not working we have to prove that we stayed in compliance. And then we have a continuous emission monitor, when I mentioned earlier all of the changes we had to make in the early 1990's to get the sulfur out, we put in a process that helps us process the sulfur, and it has a continuous emission monitor for our sulfur dioxide concentration in that. The rest of our facility now, because we haven't made the kind of changes that require the emissions monitors, we use what are called AP-42 factors. The EPA has said if you process this much crude oil through a certain kind of unit, this is the factor you use to estimate your emissions[108]

> It depends on the units involved. There's multiple places where we have sulfur dioxide emissions. There's one that has a continuous monitor on it. There's one that's not yet been required. We have two sulfur recovery units. One of those is continuously monitored right now. The other one which is an older one had not triggered the requirement to do so, but under the national consent decrees [lodged after the settlement of *COPIRG v. Conoco*] will. And it will have a continuous monitor on that. And there are other sulfur dioxide sources in the plant as well. And some are monitored more frequently, some less, a lot of that dependent on regulatory requirements[109]

Monitoring other sources of environmental contamination, such as particulate matter and fugitive emissions and flaring, poses completely different sets of challenges. For each of these areas of emissions, environmental managers work in teams (such as the Reliability Group and the Refinery Leadership Team) to (a) stay within permit requirements, (b)

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[108] *Supra* note 107 (Environmental Director)
[109] *Supra* note 107 (Air Program Manager)

avoid upsets and reduce the unplanned release of certain chemicals, and (c) increase plant efficiency. Given the fact that the refinery process is continuous throughout the year, crude oil and its various toxicants and impurities are flowing through the system every hour of every day. Uncontrolled or unplanned releases, resulting because of electrical or system component failure, can account for a significant percentage of overall emissions. An upset that lasts 10-20 minutes, where certain streams are sent to a flare to avoid overpressuring vessels or spilling hazardous chemicals, can yield more emissions than normal operations for 1-2 days. Routine maintenance factors strongly in attempts to achieve reliability and emissions reductions. A weekly incident review process involves a formal management review of incidents and in the case of large-scale incidents a root cause failure analyses. Under the recent consent decree between Conoco and the Department of Justice, the facility must comply with strict guidelines for when to trigger a root cause failure analysis (for example, releases of more than 500 lbs./day of sulfur dioxide).[110]

Communicating what is learned through failure analysis, and assigning new roles or incentives to engineering groups, operators (who work on four separate shifts under contract), mechanical personnel, and planners who determine how the facility should be run is a challenging task. Equally daunting is the need to target cost-effectiveness across the universe of a facility's boilers, valves, pumps, flanges, and other pieces of equipment, estimate the effects of any changes on the system as a whole, and propose changes that will remain within projected budget allocations or convince upper management of their need.

> The process engineers are kind of the ones sitting out there saying how can I run this unit better? What can we do that can create an advantage for us someplace? And so they're by nature looking out ahead and I think that's the guys who can do that. And the other one here probably who has a really good long-term and kind of how does it all fit together is the optimization leader...The barrier is getting projects to be viewed as cost-effective and that might not be at the site level, it may be at a higher level than that. I mean there's people look at a project, and a as a company you've gotta make money. And so that ultimately sits out there behind things, and people have always struggled with the concept of does an environmental project make money and I actually think that there's more acceptance now that they do. But the payback's different than what the people are normally used to looking for. It might be indirect. Traditionally, from an engineering perspective, people would look at a project and they'd say if we do this then we can produce x amount more gasoline and that means we make that much money, so you compare that to the original cost of the project and you can say yeah, this is justified. And the environmental projects don't have the same direct payback to them. Sometimes they are cost-avoidance: if you do this you won't get a penalty. Sometimes, and then there's the grey, it's really hard to quantify community acceptance.[111]

The challenges of cost-effectiveness, mining and interpreting thousands of data points, coordinating among diverse work groups, operators, engineers, and upper management, and communicating new goals and tasks to over 200 employees on-site are indeed daunting. At the same time, they offer opportunities for those seeking to enforce the permits and regulations that drive much of the refinery's environmental management work. Indeed, the fact that citizen concerns over SO2 emissions could be resolved by

[110] Notice of Lodging of Consent Decree under the Clean Air Act, Federal Register, 67(17): 3735 (January 25, 2002).
[111] *Supra* note 107 (Air Program Director).

finding a practical or engineering solution rather than a legal finding of fact encouraged settlement discussions in the first place. But once discussions commenced around Conoco's proposed solutions to SO2 emissions, there is little evidence that the mediation process offered a full appreciation of how plaintiffs could shape discussions around Conoco's *broader* attempts to address sulfur emissions in order to address the company's environmental management challenges. Nor was it clear that EPA Region VIII, the Justice Department (involved in settlement negotiations with a significant percentage of the nation's refinery operations at the time), or plaintiffs had figured out an appropriate division of labor to maximize Conoco's promised reductions in emissions more broadly. Lacking broader coordination among these groups, Conoco developed a response to EPA's RCRA action that served as the primary driver behind the mediated resolution of the citizen suit.

Elements of Dispute Resolution Process. As indicated in Table 2, the citizen suit was filed after the RCRA actions were commenced by EPA Region VIII and CDPHE. Plaintiffs gave notice of violations in the citizen suit on November 3, 1997.[112] EPA Region VIII and Conoco had been engaged in an alternative dispute resolution process facilitated by an administrative law judge since June 30th 1997.[113] By September 2nd, the parties to the EPA RCRA action reportedly had "developed some reasonable possibilities for settlement that remain to be explored."[114] The parties' tone changed a month later, when they recommended termination of the ADR process.[115] Two weeks after plaintiffs in *COPIRG et al. v. Conoco* gave notice of their intent to sue, Region VIII and Conoco made a joint request for a stay of litigation.[116] Parties believe that it is at this point that Conoco began to contemplate and design a settlement that would satisfy the demands of Region VIII, COPIRG, residents, and the CDPHE as expressed in the RCRA action, the citizen suit, and state activities such as discussions over permitting of the #2 SRU (see Table 2). Court records confirm that two months after a stay was granted for the RCRA matter, parties began to reach a "settlement in principle" that included a supplemental environmental project (SEP), the magnitude of which "may impact other issues currently being discussed by the parties outside the context of this matter."[117] Less than a month following the RCRA "settlement in principle," parties to *COPIRG v. Conoco* began to meet under the direction of a mediator to consider the "Conoco Denver Refinery Sulfur Project Presentation."[118] Importantly, parties to the EPA RCRA action had to request motions for extension of time, and were given several deadlines for submitting an executed Consent Agreement to the court.[119] Parties to the citizen suit, particularly

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[112] Notice of Intent to File Suit, COPIRG Citizen Lobby, Lorraine Granado, and Michael Maes v. Conoco, Inc., CA 98-03 (No. Co 1997)

[113] Notice from ADR Judge, RCRA (3008) VIII-97-03, In the matter of Conoco, Inc., July 2, 1997.

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[115] Report Recommending Termination of ADR Process, RCRA (3008) VIII-97-03, In the matter of Conoco, Inc., October 1, 1997.

[116] Joint Request for Stay of Litigation, RCRA (3008) VIII-97-03, In the matter of Conoco, Inc., November 18, 1997.

[117] Complainant's Status Report and Request for an Extension of Time, RCRA (3008) VIII-97-03, In the matter of Conoco, Inc., January 22, 1998.

[118] Meeting Notice, Conoco Denver Refinery Sulfur Project Presentation, February 17, 1998, 9:00 a.m.

[119] Orders Granting Exension, RCRA (3008) VIII-97-03, In the matter of Conoco, Inc.: April 15, 1997, June 19, 1997, January 22, 1998, and March 17, 1998.

resident-plaintiffs, thus entered settlement negotiations *after* Conoco had begun to try to link settlements in the two cases and the court had set tight deadlines relevant to such linkage. Conoco would ultimately resolve the above two actions as well as CDPHE's RCRA action over groundwater contamination with essentially the same Supplemental Environmental Project.

Pre-mediation. The district court hearing *COPIRG v. Conoco* tried to order the parties to attempt settlement negotiations in January, 1998 (the judge ordered the scheduling of a settlement conference to be presided over by a magistrate judge in early February). Parties did not seem particularly interested in following the judge's timeline (they filed a joint motion to vacate the judge's scheduling orders), and instead continued discussions with a mediator whom they had selected jointly (although residents did not have any input to this process).[120] Conoco had already begun to focus on an overarching settlement to cover the citizen suit and RCRA action. Plaintiffs to the citizen suit, on the other hand, approached negotiations with conflicting interests. While plaintiffs eventually coalesced around seeking refinery process changes, the residents entered the mediation phase in order to gain *assurances* of reduced flaring and emissions, *understanding* of the risks associated with sulfur dioxide and other chemicals released, and the ability to *educate* other residents of impacted communities of the risks posed by the facility. Compare this with COPIRG's interests in source reduction as well as setting precedent around specific permitting and broader regulatory concerns:

> We came in with an agenda that we had, that we are the victims of what's going on over here and it needs to be fixed not because of your profits or not because of anything else but that we're overburdened, and that's been our story over here is that we are the center of everything and we're overburdened by everything from all across the city. People drive into the city to work, we get the fumes from their cars. They need more highways, they come right through our neighborhood. The trains, people want to move downtown, they need a place to switch the trains and store the trains, we get them in our backyard. I think COPIRG stuck pretty much to their stuff and we jumped on them for things that we needed. We needed the assurance that the flare-ups wouldn't keep going up, we wanted an understanding of what was being released in all of those releases, we wanted an understanding of what the health effects would be from the things that we were breathing from that area, and that just the assurances that those would be reduced or stopped.[121]

> We were trying to get to the "bubble," and that is tell us your total emissions as the plan and now let's talk about what strategies would it take for you to actually prevent the pollution in the first place. And we started inquiring about changes in the production process. So I think the fact that we brought a source reduction, pollution prevention orientation was very important to negotiations. Institutionally both ourselves and I think the community groups had an interest in saying, we would like to see how you could reduce emissions.[122]

One of the mediator's tasks was to justify representation of all interests that could either influence or be affected by the outcome of any settlement of *COPIRG v. Conoco*. Assuming the alleged violations were true, the mediator assessed whether plaintiffs' interests, if obtained, would benefit "others that were similarly situated" or part of the

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[120] Joint Motion to Vacate Scheduling Orders, COPIRG Citizen Lobby, Loraine Granado, and Michael Maes v. Conoco, Inc., CA 98-N-30 (N. Co 1998).
[121] *Supra* note 89.
[122] *Supra* note 78.

same class.[123] Because the mediator could not identify any proposed solutions to sulfur emissions that could prove detrimental of the broader community if implemented, he chose not to broaden the mediated discussions beyond the parties to the suit. The mediator was responsible for trying to align the interests of the plaintiffs, whose interests did not entirely overlap as they commenced discussions with a company that was already in the process of justifying proposed process changes to the EPA Region VIII. Table 6 provides the premediation elements of *COPIRG v. Conoco*.

Table 6. *COPIRG v. Conoco* Mediation Elements: Pre-Mediation.

Element	Residents	COPIRG	Conoco	Mediator
Initiation	Informed of discussions between COPIRG and Conoco that had led to desire to reach settlement	Agreed to attempt to reach settlement	Agreed to attempt to reach settlement	Contacted by counsel for plaintiffs and senior counsel for Conoco
Assessment	Limited; approached the mediation prepared to learn about sulfur recovery and flaring operations	Extensive research of Conoco's emissions; comparative knowledge of emissions for Denver area, region; contacted petrochemical operations expert in CA	Series of discussions with EPA Region VIII regarding settlement of RCRA action; internal consideration of process changes necessary to meet projected regulatory changes; formulation of Sulfur Project Presentation	Discussions with parties; discuss and agree to responsibilities of parties to mediation; interviews to discern consistency of issues and appropriateness for mediation discussion; assessed willingness to reach agreement
Representation	President of CCC; President of United Swansea (counsel – same as COPIRG)	Colorado Public Interest Research Group President, counsel	Plant manager; senior counsel, and environmental manager	Environmental attorney hired jointly by parties
Rationale for Representation	Experience with mediation; substantial knowledge of environmental concerns of neighboring communities	History of advocacy for clean air legislation; involved in passage of CO CAA and proponent of the APEN system; represented statewide and air basin interests	Persons with greatest knowledge of plant operations and challenges, including sulfur recovery; experienced counsel with knowledge of RCRA action with EPA Region VIII	Experience working with Conoco and Land and Water Fund; knowledge of both sides' concerns; extensive experience mediating environmental disputes and understanding of legal issues

[123] Interview of Mediator, April 4, 2002 via telephone.

Element	Residents	COPIRG	Conoco	Mediator
Objectives	Convince Conoco to make necessary changes to reduce their sulfur dioxide emissions; wanted to improve Conoco's practices, not their image; wanted assurance that flare-ups wouldn't continue; understanding of what was being released; build relationships; pursue monitoring technologies for advanced warning of releases; set precedent for other community-corporate relations	Focus attention on serious environmental concern; take away economic incentive for Conoco to violate the laws in question; include a financial component that would go toward broader environmental benefits; settlement goes to a third party (not spent by the company or COPIRG); set precedent for other statewide litigation	First phase of meetings: demonstrate that Conoco is operating within parameters of relevant permits Second phase: determine how interests of plaintiffs could be build into a settlement that also addresses the RCRA action; work with community on an environmental project; develop more productive relations; improve efficiency/legitimacy of refinery operations; be viewed as a good citizen	Help parties reach settlement that addresses their underlying interests
Groundrules	1. Neutral must maintain impartiality toward all parties 2. Neutral has the obligation to assure that all parties understand the nature of the process, procedures, role of the neutral, and the parties' relationship to the neutral 3. Neutral must refrain from entering or continuing any dispute if he believes that participation would be a conflict of interest 4. Confidentiality must be respected and maintained where appropriate 5. Neutral will exert every responsible effort to expedite the process 6. Neutral has no vested interest in the settlement, but must be satisfied that the agreement will not impugn the integrity of the process 7. Statements and representations will not be later used by one party against another in litigation			

Mediation. The mediation commenced with a meeting at the refinery where parties considered a presentation of Conoco's proposed sulfur project. In addition to proposed structural changes, the presentation included a "Pollution Prevention Progress Report" outlining the refinery's goals for emissions reductions: 5% per year for TRI, criteria air (including sulfur), and hazardous waste emissions, using 1993 as a base year. Also listed as facility-wide goals were the improvement of energy utilization and reliability, documentation of operating standards, enhanced environmental training for all employees, clear roles and accountability for employees, and improved emergency preparedness.

Formally, the mediation began less than a month later (March 10, 1998), at a preliminary meeting where parties discussed (a) an agenda, (b) the objectives of the mediation, (c) groundrules for the process, (d) a timeframe for completion, and (e) the factual background of the controversy.[124] The scope of settlement discussions was

[124] Draft Settlement Discussions between COPIRG and Conoco, March 10, 1998, 9:00 a.m. to 12:00 noon, Suggested Meeting Agenda.

limited to the factual background and violations alleged, actions that Conoco could take to resolve the alleged violations, and the drafting of a settlement that would codify actions required of Conoco and the plaintiffs for resolving the issues at hand.[125] The timeframe, established during the next meeting, was surprisingly short (3-4 meetings over a span of weeks) for discussion of refinery process changes and broad community- and state-wide concerns. Within the context of the "four games of chess," it is possible to see why the timeframe had to be condensed.

Mediation progressed through a combination of shuttle diplomacy and face-to-face meetings between the parties, including COPIRG, resident-plaintiffs, plaintiffs' counsel, the refinery's plant and environmental managers, senior counsel, and other attorneys (some outside counsel). An additional party, a scientist with experience in refinery emissions who worked for an environmental organization in California, joined via telephone for at least one meeting. Her role was to ensure that proposed alternatives were feasible and would meet plaintiffs' objective of reducing sulfur emissions. Plaintiffs understood that there were probably problems at the facility beyond the matter of the sulfur recovery units, but lacked the sophistication to pursue them. Plaintiffs' attorney admits that the case lacked the *value* necessary for bringing in more experts to consider other options (value in terms of the potential for success at trial). Nonetheless, their hired expert was adept at evaluating Conoco and offered a buffer for the plaintiffs as they discussed refinery operations under conditions of uneven information.

The first meeting after preliminary discussions took place in the mediator's offices on March 31st.[126] The meeting's agenda, drafted by the mediator, included (a) a presentation by Conoco, (b) a discussion of a proposed SEP, (c) summary of the preliminary meeting, (d) possible approaches to the EPA, (e) steps to address the court's schedule, and (f) scheduling issues.[127] Conoco's environmental manager began the session with a presentation of the refinery's efforts to reduce sulfur emissions, using an aerial photograph of the refinery as a backdrop. Sources of sulfur dioxide and sour water, fate and transport, historic emissions, odor dynamics, and other aspects of the broader problem were presented. The mediator, an experienced environmental attorney, modeled the discussions after the National Environmental Policy Act's scoping process, where project alternatives are scoped and then compared in terms of their environmental and economic impact. Plaintiffs relied almost entirely on Conoco's information, much of which had been promised at the preliminary meeting and shared at the first session, in order to evaluate Conoco's proposals. Information sharing was followed by a discussion of whether the settlement discussions could result in a SEP that would resolve EPA Region VIII's RCRA action. There were concerns that such an arrangement wouldn't work, that plaintiffs would still require a consent order for any settlement with them, that an EPA global settlement with Conoco refineries could negate elements of the SEP that parties were working toward, and that EPA would require a permit modification that could delay resolution of the citizen suit because it would require extensive emissions modeling and public comment. Parties agreed to work toward an interim agreement

[125] Draft Settlement Discussions between COPIRG and Conoco, March 10, 1998, 9:00 a.m. to 12:00 noon, Responsibilities of the Parties.
[126] Minutes of Settlement Discussions, March 31, 1998, between COPIRG and Conoco.
[127] Settlement Discussions Between COPIRG and Conoco, March 30, 1998, 9:00 a.m. to 12:00 noon, Meeting Agenda.

during the next meeting and to put aside these broader issues. Conoco's involvement with EPA in active litigation restricted their ability to collect additional information requested by plaintiffs for the next meeting (such as an inventory of sulfur and other compounds emitted by the facility).

Between the first and second meetings, plaintiffs met with the mediator to discuss desired components of an interim agreement.[128] Here, the community's sense of what an agreement should include was made clear. It is instructive to compare these elements with an interim agreement that was developed at the next mediation session, held on April 20th:

Table 7. Comparison of Plaintiffs' Desired and Actual Components of Interim Agreement.

Plaintiffs' Elements (April 7, 1998)	Interim Agreement Elements (April 20, 1998)
Conoco to provide SO2 inventory for the refinery	NOT INCLUDED
Conoco to provide $5,000 to COPIRG to hire a technical consultant to participate in development of a SEP; consultant would: a. Conduct a literature review of technology options for SRU upgrades b. Evaluate the engineering work performed by Conoco concerning the preferred option for an SRU upgrade	NOT INCLUDED
Conoco to support a community educational program for the Swansea, Elyria, and Globeville neighborhoods that would be conducted over one year and include: a. Information and briefing concerning efforts to minimize or eliminate to the extent possible odor sources in the area b. A one-time performance of a simple air quality dispersion model to illustrate how emissions are dispersed under different meteorological conditions c. A briefing about on-site monitoring that is performed by Conoco to protect employees and the possibility of fenceline monitoring to protect the community	Conoco to specify the anticipated design and development schedule for any engineering studies or other efforts underway or planned to reduce emissions related to this action at the refinery (adherence to this schedule will not be subject of a breach claim) Conoco to keep plaintiffs informed on a regular basis of efforts or development work to reduce emissions related to this action through an information exchange process designed and facilitated by the mediator Conoco to provide all relevant information regarding current or planned efforts to reduce emissions related to this action as soon as practicable after information is available or after submission of such to EPA or the State of Colorado Conoco to fund a Community Right-to-Know project in a lump sum of $72,000. Project designed to collect information about emissions in the community and to evaluate options to reduce such emissions. May include air quality modeling, monitoring, and technical assessments by consultants hired by plaintiffs. Plaintiffs to use scientifically recognized methods and protocols to ensure accurate information. Agree not to use funds for adversarial proceedings or for directly targeting Conoco's facilities

[128] Meeting with Randy Weiner, Michael Mae, Lorraine Granado on April 7, 1998.

Plaintiffs' Elements (April 7, 1998)	Interim Agreement Elements (April 20, 1998)
Conoco to invite the Swansea, Elyria, and Globeville communities to participate as a member of the Industrial Council	SAME, with option for parties to determine that a different or new forum would be more appropriate than the Council
Conoco to establish a performance measure (reduction of SO2 emissions by a certain tonnage per year) for the SEP as determined by the evaluation process	Parties agree that the Agreement is directed toward significantly reducing emissions in the community including SO2 and other pollutants that cause odors
	Conoco to withdraw request to State for modification of existing permit related to turnaround emissions
	Any press releases or public information related to this action shall be jointly issued
	Plaintiff agrees not to encourage the EPA or State of CO to prosecute a civil action in court related to the subject matter of this action
	Plaintiff agrees not to review automatic disclosure materials until May 4, 1998
Plaintiff to dismiss civil action without prejudice	SAME, although a Second Settlement Agreement to be executed by Conoco would require dismissal *with* prejudice
Conoco to pay plaintiff's costs and attorney's fees	SAME, with amount stipulated

The above interim agreement accomplished several things: it maintained a certain level of ambiguity around the process and extent of sulfur dioxide emissions reductions, it transferred some of the monitoring, modeling, and emissions investigatory work from the company to the plaintiffs, and it included stipulations that served to shield the company from further liability. It also de-linked the establishment of a performance measure (SO2 emissions reductions) from any community-driven evaluation process, for which plaintiffs had advocated. Thus, the interim agreement gave Conoco a level of flexibility that was necessary to pursue negotiations with EPA Region VIII, which by this time began to focus on an SO2 emissions reduction SEP.

As with the Vulcan mediation, it was challenging for the parties to reach a point where they could engage in creative problem solving. As the interim agreement suggests, progress in this regard was slow at first. At some point, either at the second meeting or at future sessions designed to finalize settlement documents, the parties began to focus on some of the specific elements of the production process. Plaintiffs credit the plant manager for showing a level of patience in explaining how production was related to sulfur emissions. While Conoco's attorneys sought to limit his sharing of information, plaintiffs were given an opportunity to evaluate what they were being shown:

> Then we were really clear that they needed to replace sour water stripper number one. It was ancient, it was frequently down, it wasn't able to process as much as the second one. And so what had happened is since this area was declared an economic enterprise zone, then well you know all the tax breaks and stuff, so Conoco had literally quadrupled in size. But it had not necessarily kept up making the changes to deal with the additional production. And so the sour water stripper was older than heck. They had to put in one new sour water stripper that was unit number two but

> unit number one had never been replace so how they were dealing with that was just flaring, just burning it off. So we were really clear that the response had to be that they had to replace this.[129]

> They were so busy selling us on their preferred solution that it seemed that we were getting really good answers to our questions. And ultimately I think Conoco did a very good job of killing three birds with one stone. And I think we went along with it in part because I recommended that we not continue with strong litigation with the judge that we got and because they did provide us with some things. And we did get a green light from the San Francisco folks that ultimately this is what a refinery ought to do in a situation like this. So, that's when you settle.[130]

Plaintiffs characterize the mediation as a relatively straightforward process that lacked the "human element" of the Vulcan process. It is also made clear that the process *overall* seemed driven by Conoco as well as forces beyond the scope of the mediation. Information flowed primarily in one direction: from Conoco to plaintiffs, who felt as though Conoco was "selling" a preferred option from the outset. Even the first official proposal for a community-driven SEP was made by Conoco. The effect of this arrangement was to give residents a sense that "there wasn't much to discuss," which discouraged attempts to reconfigure the process around their objectives (i.e., monitoring, modeling, community awareness, informed, community-driven process of selecting engineering alternatives):

> I think we let them off the hook too easily. And I think the things that they planned on doing were OK, but we really didn't get anything that we were looking for as far as the community goes. We did want some type of air monitoring, we did want some type of notification system in case there was a bad flare-up so that people with allergies could stay in the house or lock themselves off. We wanted some of those kinds of things that we probably could have forced on them. Small things, but things that would really make the community feel a little bit more protective of their health. [We didn't pursue these because] I think that there were so many different people involved in the process, they were so willing to give up what they were giving up, and they were really pushing on a timeline and trying, there was already a suit filed I think and they had so much time to come up with a solution.[131]

As parties moved toward detailing the final settlement documents, the two most important questions for the residents remained: How did Conoco's sulfur emissions problems affect the surrounding area and What level of emissions reductions would amount to a noticeable improvement in odor abatement and human health more generally? Residents' notions of how these could be answered were de-linked from Conoco's decision-making processes (both internal and with regard to the RCRA actions), meaning residents had to rely in large part on the expertise and leverage of the environmental agencies to ensure that these were properly addressed.

The Agreement. The final agreement between plaintiffs and Conoco was signed on April 29th, 1999, nearly a year after plaintiffs filed a Notice of Dismissal dismissing the citizen suit without prejudice.[132] Parties reached an Agreement Regarding Notice of

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[129] Interview of Swansea Resident, March 5, 2002 in Denver.
[130] *Supra* note 81.
[131] *Supra* note 89.
[132] Settlement Agreement and Release between COPIRG Citizen Lobby, Michael Maes, Lorraine Granado, and Conoco, Inc., April 29, 1999.

Dismissal on May 4th, 1998, which would guide development of the final Agreement. Table 8 details elements of each document:

Table 8. *COPIRG v. Conoco* Settlement Elements.

Notice of Dismissal Agreement	Settlement Agreement
Plaintiff agrees to file notice of dismissal	Plaintiffs will designate a payee and account to receive funds, to which Conoco will pay a lump sum of $72,000
Conoco to sign Settlement Agreement, which will become fully effective on or before May 4, 1999	The Community Right-to-Know Project is designed to collect and disseminate information about emissions in the community and to evaluate options to reduce such emissions.
Conoco to use its best efforts to secure participation of a representative of the Globeville, Swansea, or Elyria communities in the Industrial Council (best efforts commitment not subject to breach claim)	Conoco to withdraw its December 30, 1997 request to the state that the state modify Conoco's Permit #91AD180-3 to include turnaround emissions
Conoco and EPA are contemplating entering into an agreement regarding a sulfur dioxide SEP, which will identify several technical options, each of which will result in SO2 reductions from the refinery. The evaluation process will be completed within three months of the signing of any consent agreement with EPA. Should EPA and Conoco enter into a consent agreement, Conoco will: a. Provide plaintiffs with copies of the SEP design and development schedule within two weeks of signing the consent agreement b. For twelve months, beginning on April 27, 1998, Conoco will inform plaintiffs of SEP progress, providing all information regarding the SEP (including all information received from EPA) as soon as practicable c. Conoco is not required to disclose to plaintiffs any information that would be "confidential business information" under state or federal law	Parties agree and assume the risk that if facts with respect to the matters covered in the Agreement are found hereafter to be other than or different from the facts now believed or assumed to be true by either or all parties, that this Agreement shall nonetheless remain in full force and effect and fully effective Plaintiffs discharge Conoco from all liability, rights, claims, costs, expenses, actions, causes of action, suits of liability and controversies of every kind concerning the claims and incidents which were raised in Civil Action No. 98-N-30
Conoco to pay Plaintiffs their costs, expert witness fees, and attorney's fees associated with this action ($23,000)	Agreement shall not be construed as an admission by any party
Agreement shall not affect parties' rights if litigation is refiled; if an action reasserting the claims in this case is filed, parties agree that all defenses and arguments will be argued as if this case had been stayed rather than dismissed	All press releases will be jointly issued
Agreement shall be binding upon and inure to the benefit of the parties, their heirs, executors, administrators, successors, and all persons now or hereafter holding or having all or any part of the interest of a party to this agreement	Parties have not assigned or transferred or subrogated any interest in any claims related to the subject matter of the Agreement
Agreement supercedes all prior and contemporaneous negotiations, agreements, representations, and understandings of parties	Persons represent that they are fully authorized to execute and deliver the agreement on behalf of each party; agreement is binding, constitutes the entire agreement, can not be supplemented unless in writing by each of the parties, shall be governed by the laws of the state, and may be executed in any number of counterpart originals.
If any provision is held to be invalid or unenforceable, such holding will render this Agreement invalid unless provisions are severable and if severance is equitable to the parties	

Sulfur dioxide emissions had already been addressed through a Consent Agreement approved under EPA Region VIII's RCRA action as well as a Compliance Order issued by the EPA and CDPHE regarding separate RCRA and Colorado Hazardous Waste Act violations.[133] Terms of settlement for the RCRA actions included a SEP in the amount of $337,500 plus $627,500 in addition to mitigated civil penalties.[134] A SEP, the purpose of which was to reduce sulfur emissions by 200 tons per year, was designed to proceed according to an engineering assessment of three options, detailed by the EPA, for structural changes at the facility to address sour water stripper gas emissions. Plaintiffs in *COPIRG v. Conoco* were kept abreast of developments through periodic reports that included activities accomplished, problems and solutions, any sampling activities, personnel or schedule changes, activities planned, and estimated costs for activities planned. A deadline of October 1, 2000 was set for completion of construction, testing, and implementation of the engineering alternative selected. A representative of the Cross Community Coalition attended further meetings with refinery staff and three community involvement groups in order to help the residents oversee the implementation of sulfur dioxide emissions reductions while planning an appropriate Community Right-to-Know project. The SEP proceeding on-schedule, leading to improvements to the #1 SRU and its associated tail gas incinerator and allowing sour water stripper overhead gas to be proceeded in the #1 SRU.[135] Conoco's completion of the SEP was conditioned in part on its agreement to modify its air emissions permits for its #1 and #2 SRU's to indicate that (a) all sour water stripper overhead gas would be processed in the two units, (b) no sour water stripper gas would be flared unless both SRU's were incapacitated unless there is an emergency situation, and (c) SRU emissions would be monitored and records maintained.[136] The refinery's startup, shut down, and malfunction emissions fell from an average of 322 tons per year (1994-1998) to 18.4 tons in 2000.[137] Conoco's overall expenditures for the construction phase of the project totaled over $2 million.[138]

Residents, having achieved their objectives of ensuring substantial reductions in sulfur emissions as well as permit modification that restricted the kind of flaring operations that led to citizen complaints, were left to decide how best to apply their settlement dollars under the Right-to-Know Project.[139] The settlement dollars were spent

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[133] Consent Order, RCRA (3008) VIII-97-03 in the matter of Conoco, Inc., August 11, 1998; Compliance Order on Consent, RCRA (3008) VIII-98-03 in the matter of Conoco, Inc., August 7, 1998.

[134] *Ibid.*

[135] *See* Quarterly Status Reports, Docket Numbers RCRA (3008) VIII-97-03 and RCRA (3008) VIII-98-03, Conoco Sulfur Dioxide Emissions Reduction Project.

[136] Brenda Morris, Legal Enforcement Program, US EPA Region VIII to Thomas Meyers, Environmental Director, Conoco, Inc., March 17, 1999.

[137] Brian Lever, Refinery Leader, to John Works, Technical Enforcement Program, EPA Region VIII, Re: Sulfur Reductions SEP Completion Report, Docket Numbers RCRA (3008) VIII-97-03 and RCRA (3008) VIII-98-03, June 29, 2001

[138] *Ibid.*

[139] In addition to carrying out the Right-to-Know project, residents had to determine whether involvement in one or more of the existing community involvement forums would be worthwhile. The Settlement Agreement required the parties to seek inclusion of a Swansea-Elyria-Globeville representative on the Industrial Council, which was formed in 1993 by Conoco to address odor complaints originally made by Commerce City residents. The Council was responsible for setting up meteorological stations around the area and link them to the existing complaint response system. The network gave Conoco and other businesses the ability to identify where the source of a complaint may have originated. Residents did appoint a representative for the Council, but were dissatisfied with the format of the meetings as well as the

through the Colorado People's Environmental and Economic Network (COPEEN), an organizing and environmental advocacy group operating under the CCC organization.[140] A substantial portion of the settlement was used to research the Toxics Release Inventory and Environmental Defense's "Scorecard" website. The goal of this project was to "develop accurate and thorough information around who the major polluters are in the area, what sort of toxics they emit and the possible detrimental health effects of those pollutants."[141] COPEEN developed a better understanding of the cumulative impacts of pollution to Northeast Denver, and worked with the 80216 Regional Geographic Initiative (the zip code has the highest emissions levels in the state of Colorado) to disseminate educational materials regarding how to prevent everyday exposures to toxic pollutants.[142] COPEEN discovered through its research, which was assisted in part by a public relations representative of Conoco, that much of the emissions in the 80216 zip code did not come from large point sources:

> We learned from TRI data that there 2 million pounds a year of legal hazardous emissions into the air, water, and soil. However, we found out that it's really the smaller emitters that emit more than that. Because the three major emitters are classes of businesses. It's autobody paint shops, printers, and wood treatment plants. You know we have so many of those that put together, those plus other small businesses actually emit more than the 2 million pounds but they're not required to report to TRI. So we did that and [the Conoco representative] was very instrumental. In fact, he used our money to have Tetra Tech do some GIS mapping for us.[143]

COPEEN began planning a regional initiative to help small businesses improve their pollution prevention practices in 2000.

Discussion. Much of the residents' concerns regarding air emissions were indeed resolved by the convergence of the citizen suit and EPA and CDPHE RCRA actions. Sulfur dioxide emissions originating from malfunctions and maintenance were reduced dramatically, while permit modifications called for an end to the flaring practices that led to citizen complaints. At the same time, the division of labor with regards to generating and exploring options for improving refinery operations and meeting residents' interests *beyond sulfur emissions* left considerable room for improvement. To understand why, we have to return to the mediation space itself. The meetings between parties to the citizen suit were short, limited by the agenda to an exploration of solutions to a highly specified and technical problem, and bound by time limits imposed by external processes. In addition, plaintiffs did not have the momentum and strength of a ruling such as the order granting standing to sue in the Vulcan case. More important than the parties' alternative to negotiated settlement, however, was the manner in which the parties' alternatives to a negotiated agreement *changed*, at times without even their awareness, as Conoco adapted and linked the citizen suit to other actions.

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lack of authority for those not on the executive committee. *Supra* note 108 (Environmental Director); *Supra* note 129; Memorandum to Randy Weiner et al. from Glen R. Smith, Re: Update/Conoco/Citizen Involvement Forums, September 8, 1998.

[140] Interview with COPEEN coordinator, March 4, 2002 in Swansea.

[141] COPEEN Annual Report, Year 2000.

[142] *Ibid.*

[143] *Supra* note 129.

It would be unfair to claim that the residents in the Conoco civil suit lacked a vision for achieving their communities' objectives. To the contrary, the residents' proposals that were communicated to the mediator show a level of subtlety and sophistication that one would expect from a group that had built a community visioning process into an EPCRA settlement months prior. In the end, residents' desires to involve the community in generating engineering options and encouraging Conoco to carry out modeling and an exploration of fenceline and other monitoring technologies were ignored. Conoco had already determined, through work predominantly with EPA Region VIII, an acceptable range of engineering options to consider through implementation of a SEP. The alignment of two RCRA actions allowed Conoco to suggest that adjudication of *COPIRG v. Conoco* would recommence should plaintiffs in the citizen suit fail to take advantage a common, environmentally beneficial project. Thus, rather than utilize the resources, attention, and authority of state and federal actors, residents found themselves in a narrow, diminishing window of opportunity, and they acted as any rational actor would: they settled.

While contextual influences limited residents' ability to fashion a process around their broader interests (as they did in the Vulcan case), the dispute resolution process itself had equally important effects on the outcome. First and foremost was the representation of interests at the mediation. While the mediator was right to conclude that residents of other areas including Commerce City were "similarly situated" and thus would benefit from whatever agreements could be reached, he failed to anticipate how even similarly experienced problems can suggest a wide range of solutions, particularly when the problem is relatively complex. For example, Commerce residents, who had been represented for years on Conoco's Citizen Council, would have brought a level of experience with odor complaints and dealing with and interpreting Conoco's explanations of such odors beyond the scope of North Denver residents' more recent concerns. They would have offered additional organizational capacity and knowledge that could have increased the feasibility of the use of low-cost air monitoring equipment. Most importantly, they would have been able to communicate how Conoco's past attempts to adapt to changing regulatory requirements for sulfur emissions had *or had not* affected quality of life in the surrounding community. Some of this knowledge would have overlapped with what was known by North Denver residents, while some of it would have been unique and worthy of consideration.

Second was the manner in which interests were prioritized. Limited agendas (and groundrules), as well as representation of residents who began to take note of Conoco's sulfur emissions only recently, encouraged the mediation group to focus on sulfur dioxide and the technical feasibility of solutions to the flaring dilemma. It is safe to conclude that sulfur emissions was the primary topic of discussion, while permit violations was secondary (not because the citizen suit claimed violations but because Conoco's proposed solution demanded attention to permit language) and the need for monitoring and notification was tertiary or ignored. This ordering of interests open to discussion left the residents at a comparative disadvantage: They had to struggle with technical jargon and scenarios that did not call for their unique understanding of the effects of emissions, Conoco's contribution to odor problems vis-à-vis other facilities, or potential means of assisting the company with its monitoring efforts. Without broader experience with emissions reductions efforts at the refinery and other industries, residents were also

unable to judge what certain emissions reduction goals would actually *mean* in terms of the reduction of nuisances or threats to human health. This lack of comfort in making certain value judgments also encouraged the group to yield to EPA's understanding of an adequate reduction level.

Third was the fact that plaintiffs had only partially overlapping interests. COPIRG had to answer to a state-wide constituency eager to win legislative victories and set precedent through administrative changes and legal rulings. Residents desired these as well, but *only* if they served to enhance their sense of security, knowledge of emissions sources and effects, and ability to plan for and respond to emergencies or episodes. Even substantial reductions in sulfur emissions and associated permit changes do not alone ensure that these interests will be met. This is particularly true with a large facility that has over 80 emissions points and numerous toxic and hazardous pollutants to contend with. In thinking about future conflicts over plant emissions, the question of whether or not the mediation space can be expanded to include broader issues and concerns that more closely match a party's interests should be explored. When considering this question, it is important to ask whether joint filers of a citizen suit will impede a group's or coalition's ability to do so.

Finally, one must develop a better appreciation for how agencies initiate and industries adapt to regulatory actions and changes. Residents would have had a different bargaining position given (a) the lack of any RCRA action, (b) the initiation of only a CDPHE or EPA action, (c) a reversal in the order in which the actions were filed, or (d) a difference in Conoco's ability to anticipate regulatory change and build it into its goals and staff roles. As the RCRA actions moved toward resolution, residents unwittingly engaged in a mediation and considered a zone of agreement that had already been shaped beyond their ability to push back, through the assistance of the mediator, agenda, party representation, or other means. The importance of the mediator's style and approach is clear here: A mediator who operates by modeling the NEPA alternatives analysis approach will encourage biases that are similar to what NEPA engenders: technical and engineering forms of knowledge predominate, and social and experiential knowledge is subsumed. The mediator should also assist parties in building a shared understanding of anticipated regulatory developments. Indeed, the Department of Justice's recent settlement with Conoco greatly overshadows any progress made in sulfur dioxide reductions through the citizen suit. Residents had a chance to achieve meaningful, potentially cheaper improvements to monitoring and community relations within the context of larger sulfur emissions reductions encouraged by the federal government. Again, purposive thinking about the appropriate division of labor should be considered long before a party enters a mediation setting.

The Swansea-Elyria communities clearly demonstrated their ability to convert local experience, talent, and ideas into action and positive change. This was evidenced by the Swansea Community Park Proposal and COPEEN's use of lessons learned through the Right-to-Know project in working with small businesses. Representatives of these communities, from CCC and the neighborhood association in particular, have provided us with a unique opportunity to learn from their experience with mediation under different conditions. We will return to those lessons and further prescriptive advice in the closing chapter.

Appendix A

Table 5. Important Events in Addressing Conoco SO2 Emissions.

Date	EPA	CDPHE	Citizens/COPIRG	Conoco
1980's	Grants final authorization to operate a hazardous waste program in lieu of federal program to CDPHE in 1984; Consent Order issued regarding hazardous waste emissions	Issues Compliance Order in May, 1985 pertaining to recordkeeping, storage of waste in open or poorly maintained containers, inadequate aisle space in hazardous waste areas, and personnel training; Consent Order issued		
1990			COPIRG begins investigation of stationary sources of air emissions in CO as CAA is reauthorized	Stops producing leaded gas at Commerce City refinery; begins to offer low-sulfur diesel fuel at some Denver locations
1991	Notifies Conoco that significant hydrocarbon seepage into Sand Creek has been observed	Permit 10AD998 issued to Conoco for Claus Sulfur Recovery Unit and Tail Gas Incinerator ; Notifies Conoco that significant hydrocarbon seepage observed		Announces joint manufacturing venture with Colorado Refining Co. to share the cost of complying with environmental controls (.05% sulfur diesel fuel required by Pct. 1993)
1992	Inspection of Conoco for RCRA compliance	Inspection of Conoco for RCRA compliance; Issues Compliance Order in November (same issues as above plus container labeling and need to modify inspection program and contingency plans)	COPIRG helps pass the CO CAA; identifies power plants, refineries as major sources of air pollution in state/Denver area	Joint venture concept abandoned after Federal Trade Commission expresses concerns
1993		Asks Conoco for explanation of why No. 2 Claus Sulfur Plant is not subject to monitoring requirements, modification of permit and updated APEN		Requests modification of two air emission permits for sulfur processing facilities; upsets can cause diversion of sulfur to flare; request permit 91AD180-3 be modified to allow diversion of off-gas to #1 SRU; builds #2 SRU

Date	EPA	CDPHE	Citizens/COPIRG	Conoco
1994		Agrees to suspend modifications to 91AD180-3; Issues Inspection Report of Conoco in July		Writes CO attorney general regarding #1 SRU; explains changes made to allow processing of SWS offgas in #2 SRU; press reports toxic emissions increase 12% over 1993 to 143,611 pounds/yr (but has halved emissions since 1988); worker killed while vacuuming spent catalyst waste from reactor that removes sulfur from hydrocarbon streams
1995	Inspection of Conoco for RCRA compliance; violations noted mirror 1985 and 1992 Compliance Orders	Inspection of Conoco for RCRA compliance; grants permit to Conoco for construction of three stage claus sulfur recovery unit to convert sulfur in claus unit tail gas to sodium bisulfite (91AD180-3); emissions not to exceed 171 tons/yr SO2		Modifications to No. 2 Sulfur plant and tail gas unit reported to CDPHE; requests permit modification No. 90AD524 changing fired duty for one heater and updating emissions calculations using current emission factors
1996	Enters into Compliance Order on Consent to resolve Conoco's civil violations of 1989 Consent Order	Discuss odor complaints and upsets at refinery with CDPHE; discuss several areas of possible noncompliance with Conoco; requests data on incidents where acid gas and SWS offgas have been combusted in main plant flare since June 1993	Odor complaints made to CDPHE and other agencies	Discusses odor complaints and upsets with CDPHE; Enters into Compliance Order on Consent to resolve civil violations of 1989 Consent Order (includes SEP to collect household hazardous wastes in Commerce City
January 1997			Land and Water Fund of the Rockies attorney requests emission inventory retrievals from Air Pollution Control Division	

Date	EPA	CDPHE	Citizens/COPIRG	Conoco
February 1997		Process turnarounds and associated emissions differ from start-ups, shutdowns, and malfunctions; therefore, emissions need to be included in Conoco's construction permit; possibility would be to include process unit turnarounds as alternative operating scenario for #2 SRU		
March 1997	Complaint (78 counts of RCRA violations); proposed civil penalty of $666,771 according to RCRA civil penalty policy			
April 1997				Motion for extension of time
May 1997				Answer and request for hearing
June 1997	Sends letter to Conoco counsel regarding pilot ADR project; motion for extension to consider pilot project and agency's national position on respondent's legal issues	Requests seven day advanced notice of major planned maintenance activities impacting SO2; planned maintenance for #2 SRU need to be incorporated into construction permit for unit; process turnaround emissions need to be included in permit as alternative operating scenario		Motions for accelerated decision (counts 42-59 and 62-73); claim that failed to conduct certain inspections is unfounded, as Conoco has logs for inspections in question
July-Sept. 1997	Participates in ADR process with administrative law judge – litigation to recommence if settlement not reached; continuation recommended in Sept.			Participates in ADR process with administrative law judge
Oct. 1997	ALJ recommends termination of ADR process; parties remain far from agreement; order scheduling reply brief		Attorney proposes litigation to COPIRG	ALJ recommends termination of ADR process; parties remain far from agreement; order scheduling brief reply

Date	EPA	CDPHE	Citizens/COPIRG	Conoco
Nov. 1997	Requests stay of litigation to pursue settlement negotiations; hearing to proceed Jan 31 if no settlement		Notice of violations and intent to sue	Requests stay of litigation to pursue settlement negotiations with EPA
Dec 1997		Involved in detailed discussions over permitting #2 SRU with Conoco		Conoco agrees to modify permit to include condition to address emissions which occur during planned process unit turnarounds
Jan. 1998	Reach settlement in principle; settlement to include sum plus SEP that meets SEP guidance; motion for time extension (granted)		Complaint filed under Section 304 of the CAA; proposed penalty of $27,500 per day	Reach settlement in principle with EPA; motion for time extension (granted)
Feb. 1998			Notice of Settings; order for settlement conference; **meet with Mediator on Feb. 17**	Notice of Settings; order for settlement conference; **meet with Mediator on Feb. 17**
March 1998	Motion for extension; proposed SEP is administratively complex and involves CO, EPA, and COPIRG	Evaluates proposed SEP for possible necessary permit modifications; SEP will require administrative permitting review by CO air program, EPA, and COPIRG	Joint motion with Conoco to vacate order; joint motion to vacate scheduling orders (denied); scheduling conference for April 15; **meet with Mediator on March 10 and 31**	Joint motion with COPIRG to vacate order; joint motion to vacate scheduling orders (denied); scheduling conference for April 15; **meet with Mediator on March 10 and 31**
April 1998			Scheduling order and rule 26(f) discover plan; **meet with mediator on April 20**	Scheduling order and rule 26(f) discovery plan; **meet with mediator on April 20**
May 1998			Agreement regarding notice of dismissal; will sign settlement agreement and release	Agreement regarding notice of dismissal; will sign settlement agreement and release
June 1998	Motion for extension to file Consent Agreement (granted)			
July 1998	Several negotiation sessions since June 1998 with EPA (one remaining for July 21)	State of Colorado Inspection Report for Conoco (July 26)		Several negotiation sessions since June 1998 with EPA (one remaining for July 21)

Date	EPA	CDPHE	Citizens/COPIRG	Conoco
August 1998	Consent Agreement and Order	Compliance Order on Consent	Order of dismissal (sign agreement with Conoco on April 29, 1999)	Order of dismissal (signs agreement with COPIRG et al. on April 29, 1999); Consent Agreement and Order with EPA

Negotiating with a Captive Audience in Kennedy Heights, TX

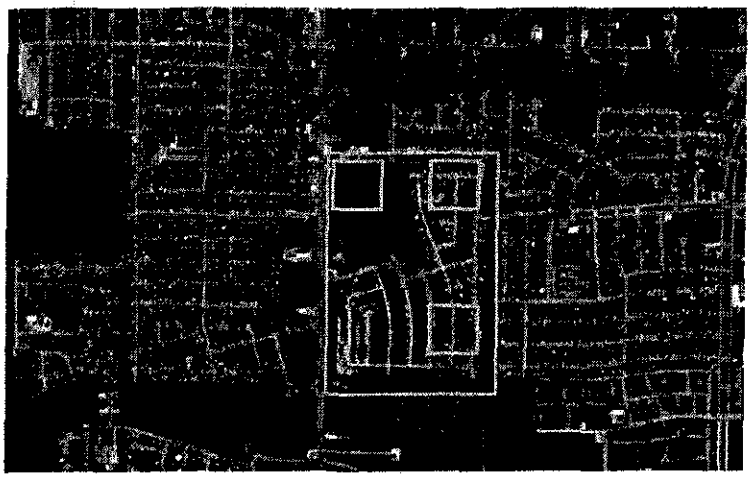
Settling Environmental Justice Litigation with a Special Master

Gregg P. Macey

> It's really hard not to just give up in despair, because you have to keep on living, regardless of the circumstances you live in. And one thing is true about this, we do believe that there's a being that will look out for us, you know, a lot of people don't think that's popular, but it does give you some comfort. Because I can't go around saying oh, I live on top of a, I can't do that, because I can't move. I have to work. But sometimes, that will creep in on you, but I don't let it take me over – Resident of Kennedy Heights, 2002.

Background. Whether viewed from the air or on the ground, Kennedy Heights does not evoke the kinds of images that predominate in accounts of environmental injustice. Yet subtle clues of the land's history, which propelled residents through one of the most expensive (and to many involved, costly) environmental justice lawsuits in history, emerge as one walks the streets of this subdivision in southwest Houston. A plot of land is left undeveloped, sidewalks appear to have buckled and cracked at certain points, and a few yards seem in the process of gradually sinking in. Starker signs of environmental neglect are prevalent, but only to those who must daily question their land, or find a way to justify putting it out of their minds. The locus of residents' concerns is the water. Many Kennedy Heights residents appear to have abandoned trying to drink their tap water, but stories of the many shades and smells of water used for cooking and bathing are still common. To this day, some of the residents have not been given what they feel is a definitive account of whether the source of these signs is a continuing threat to their health, or just an unfortunate vestige of another time. This uncertainty is directly related to prior uses of the land upon which Kennedy Heights was built, dating back many decades.

Figure 1. Kennedy Heights (rectangle) and Approximate Crude Oil Storage Tank Locations.



The Pierce Junction oil well yielded as much as a quarter of a million barrels of oil every two months during the 1920's.[1] Discovered in 1921, it was connected by pipeline to a series of pits, including three unlined, earthen storage tanks southeast of Houston, known as the Mykawa Tank Farm. These pits, each with the capacity to hold 300,000 barrels of crude oil, were

[1] Pierce junction well flows 250,000 barrels in two months period. *The Houston Chronicle*, September 2, 1921.

located to the south of Selinsky Road and to the east of what is now Cullen Boulevard (then Chocolate Bayou Road) in the Kennedy Heights subdivision.[2] The northeast (NE) and northwest (NW) pits were operational and covered with lumber roofing while the southeast (SE) pit simply filled with brine.[3] The storage tanks were partially destroyed by a hurricane that broke apart the wooden roofs covering the tanks in 1927. Because of the damage as well as marginal production at the Pierce Junction field, owners Gulf Production Company (Gulf Oil) ceased operations at the tank farm.

Figure 2. Earthen Pits Prior to Residential Development.

While use of the property after the pits were abandoned is subject to debate, it is clear that the site would accommodate other land uses over the course of the next four decades.[4] The pits remained visible in aerial photographs taken in 1935, 1945, 1955, and 1969.[5] Plaintiffs later alleged that during much of this time, Gulf Oil failed to "secure the site from the public and, as a consequence, municipal waste, junk, debris, rubbish, and hazardous substances were deposited at the site."[6] In the mid-1960's, Gulf had the site appraised and began to take steps to relinquish their control over the property. The appraisal documents include references to desired levels of racial segregation, and refer to the land near the tank farm, located near Chocolate Bayou, as a "typical Negro area."[7]

> Should this land be developed for low- to medium-priced housing with FHA or VA financing, it would have to be a bi-racial development according to present regulations. It is felt that eventually this would be the highest and best use of this property because it would then serve as a

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[2] Statement showing amount of tankage capacity location and quantity of crude petroleum owned by the pipe line, also amount held in storage for others and unfilled storage at close of business, November 30, 1924, received December 15, 1924 by the Texas Railroad Commission.

[3] Deposition upon written questions of James F. Stephenson, *John R. Simmons et al. vs. Chevron U.S.A., et al.* (C.A. No. 95-14770).

[4] For example, some documents suggested that Gulf leased the property to local dairy farmers and cattlemen. A review of aerial photographs from 1930 to the 1960's revealed evidence of cows in a field southeast of the NW pit in 1955.

[5] Krentz, D. (1991). Interoffice correspondence from to Anthony Crisci, Capital Projects, City of Houston from David Krentz, Environmental Health and Human Services, October 30, 1991.

[6] Plaintiffs' Second Amended Complaint, *Adams et al. v. Chevron U.S.A. et al.* (96-CV-1462) (S.D. Tex, October 1, 1996). In a letter to a city official, the contractor who first encountered signs of crude oil contamination also noticed items that appeared to have been dumped in the area of the former pits ("6/3/91 – *Hit Foreign Debris at 5002 Fairgreen*"; "8/5/91 – *Hit Car Rim 11326 Murr Way, underground*"; "12/3/91 – Murr Way Station #32+55 (car door)"; "12/3/91- Murr Way Station #32+55 (tire)"). Paskey, C.W. (1992). Letter to Richard Scott, Deputy Director, Capital Projects Department, City of Houston from C.W. Paskey, Construction Coordinator, Pas-Key Construction Services, Inc., August 27, 1992.

[7] Wyatt, E.A. (1966). Letter to M.L. Hanna, Gulf Oil Corporation from Earl A. Wyatt, Earl A. Wyatt and Associates, August 15, 1966.

buffer between the white residential area in Crestmont Park and the heavily colored developments to the north and west.[8]

We feel by being surrounded by negro subdivisions this property is committed to a use, either for subdivision purposes or other, by this element. Eventual industrial use may be foreseeable; although, this seems unlikely with the nearest trackage available two miles away.[9]

Such references to the demographics of the area are striking. Yet they mask a more important distinction that was made in appraisal documents for the tank farm. Prior to sale of the property, efforts began to discern the appropriate cost of the land purchased with the storage tanks filled, *after* their contents ("sludge," or the remnants of stored crude oil[10]) were removed.

The present worth of subject property is its market value less the cost of draining, filling, and leveling the three large open tanks. Mr. R. Salmon, a dirt moving contractor, estimates it will take 3 months or longer to do this work, at a cost of $2,500 per tank. Mr. Neville of Humble figures his cost at $1,500 per acre of tank on some tanks in Humble that have as much as six feet of B.S. & W. These tanks are approximately 400 feet square, and it is felt that $5,000 per tank is a safer estimate of cost, as it is not known how much experience Mr. Salmon has actually had in this type of work. Like Mr. Neville, Mr. Salmon would spread out the sludge on the land to dry. It is felt that land east of Chocolate Bayou Road will not sell as high as land adjoining a present residential development, especially where this land will have to be developed as a buffer zone between colored and white areas. For the above reason it is felt that the price being asked for the 29 acres fairly well represents the price at which a residential developer would buy subject property, if it were in its original condition and free and clear of tanks.[11]

Highest and best use: The most profitable use for this land appears to be for medium priced houses for white occupancy, with a 200-foot-wide commercial strip fronting on Chocolate Bayou Road as a buffer strip against the all colored Cloverland Subdivision on the west side of Chocolate Bayou Road.[12]

This area is both colored and white, with Chocolate Bayou Road serving as the dividing line. Because of colored settlements across the road to the west the highest and best use for this land appears for low cost homes for white occupancy. The three large open earthen pits on the land will have to be filled before subdivision work can proceed on all the land. This may cost from $2,500 to as much as $5,000 per tank.[13]

For six years, Gulf Oil "unsuccessfully attempted to dispose of this acreage."[14] The company then began negotiating with John Lester, President of Log Development Company, who was interested in "acquiring the site for a Negro residential and commercial development."[15] In 1968, Gulf Oil granted, sold, and conveyed the site to

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[8] *Ibid.*
[9] Clemons, R.E. (1961). Letter to J.L. Irvine, Vice President, Gulf Refining Company from R.E. Clemons, The Clemons Company, January 5, 1961.
[10] The contents of crude oil storage tank bottoms include a mixture of crude oil, water, and other substances commonly referred to as basic sediment and water, or BS&W.
[11] Wyatt, E.A. (1964). Appraisal of 131.61 acres of land, John White Survey, A. 1001, Harris County, Texas, by Earl A. Wyatt, for M.L. Hanna, Gulf Oil Corporation, February 10, 1964.
[12] *Ibid.*
[13] Wyatt, E.A. (1964). Letter to M.T. Hanna, Gulf Oil Corporation, February 17, 1964.
[14] Memorandum from P.J. Maddison to R.B. Gillies regarding Exchange of Properties, Pierce Junction Earthen Tank Farm, Chocolate Bayou Road, Houston, Texas, November 14, 1967.
[15] *Ibid.*

Log Development.[16] The transaction involved a tax-free exchange of the Pierce Junction Tank Farm (valued at $274,107) for the northwest corner of Richmond and Montrose, in Houston.[17] Log Development did not remove any tank bottoms in the area of the earthen tanks utilized by Gulf, a practice that had been suggested for the property when it was assumed that it would become a white subdivision.[18] Lester simply had the berms along the sides of the pits pushed inward, filling the pits.[19] The Kennedy Heights subdivision replaced the Mykawa Tank Farm in the late 1960's.

The Problem. The name of the subdivision, its location, a savvy marketing campaign, and documents obtained from Log Development suggest that in the end, the homes were targeted at below-middle-income African-American residents. The subdivision quickly filled with families realizing the American dream of owning their own home for the first time. However, several aspects of the subdivision seemed "off" to the new residents. Sidewalks and backyards began to buckle and sink. Residents noticed putrid smells and strange colorations in their tap and bathwater. Some even fell ill to diseases that were not in their family histories, including multiple forms of cancer as well as lupus. One individual had to cope with four different forms of cancer nearly simultaneously.

> Well, what I remember though, when I was a kid, we used to crawfish in the ditch behind the house, and I remember the soil had like four or five different levels. It was like orange, purple, blue, and I guess reddish, plus the dirt on top. But as a kid, I didn't know what it was.[20]

> I've been in Kennedy Heights for 30 years. I waited for my house to be built over there, so that's how long I've been here. And as having young kids there, the water has always been bad. We tried putting water filters, everything on the water. And really I wish I would have kept the filters. Because the filters that we would take out, it was filled with oil and green gook and everything else. So finally it got so bad to where we were afraid to drink the water even with filters. We changed filters 2-3 times a month and it still was bad, so we had to start buying water to drink. And we've always had dogs in the backyard. And every dog we've had, anytime they would dig, they would die. At first we thought somebody was poisoning them. But after we looked at it, anytime they would dig deep in the yard, they would die. So every dog we had in the back, that's what happened to them. And we had a pear tree in the back and it was like one side of it would bear pears and one side wouldn't. So the side that didn't bear pears, that's where the dogs would dig all of the time and evidently there was something there.[21]

> There's too many deaths for the amount of people. And that's what got somebody's attention. That too many people were getting sick and dying. And there were too many abnormalities and birth defects in people. I mean, you know, even whole households, everybody was sick. You know, not just one.[22]

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[16] State of Texas, County of Harris (1968). Conveyance of property from Gulf Oil Corporation to Log Development Company, Inc., January 29, 1968.
[17] Maddison, P.J. (1967). Letter to R.B. Gillies from P.J. Maddison regarding exchange of properties, Pierce Junction Earthen Tank Farm, Chocolate Bayou Road, Houston, Texas, Richmond and Montrose, Houston, Texas, November 14, 1967.
[18] Affidavit of John R. Lester, *Dorothy Adams, et al. vs. Chevron, et al.* (C.A. No. H-96-1462).
[19] Verdicts Forecast (1997). Kennedy Heights case narrative. http://66.12.145.114/vf/narrative/html (Accessed December 4, 2002).
[20] Interview with Kennedy Heights resident, April 20, 2002, in Houston.
[21] Interview with Kennedy Heights resident, April 20, 2002, in Houston.
[22] Interview with Kennedy Heights resident, April 15, 2002, in Houston.

> Like on my side, it was like every other house, somebody had died of cancer. You don't tell me that's normal. That's not normal. [The special master] was trying to tell us that that was normal in a neighborhood. It's not. This was just on one side, within a block. I'm not talking about the other side, or down the street. Just one side. You're talking about 12 houses and every other house, somebody has died with cancer.[23]

A more prevalent concern to local residents than even disease and health problems was the fact that the water lines under subdivision properties would continuously rupture. One resident, a school teacher, recorded important events on the inside cover of her husband's Bible:

> Lord help us. We are your children. God, seems like the water is making Albert sick. Lord help him.
> September 12, 1971. The water has broken again.
> October 4, 1971, water break.
> October 22, 1971, water break. The water smells real bad today. It's yellow-looking. What are we going to do?
> April 5, 1972, water break.
> April 26, 1972. The pipes are rusty, the workers said to let the water run a long time.
> July 1973, the water has broken again. Albert is sick. Lord, I have called the city. They won't fix the water.
> April 1975, water breaks.
> June 1975, water breaks.
> December 1975 water break.
> May 1976, water breaks.
> November 12, 1976, water breaks.
> January 1, 1977. New Year's Day. The water breaks. I can't cook.
> January 20, 1977, water breaks again.
> May 10, 1977, water breaks.
> May 8, 1978. City put in a blue plastic pipe. Hope it will hold.
> This is May 3, 1981. The pipes burst.
> Oh, God. The pipes are bursting.
> Feb. 4, 1982. Pipe burst.
> June 19, 1983. Pipe burst. I can't cook. Lord, what's next?[24]

In spite of countless complaints made to the city for twenty years, Houston's Capital Projects Department did not begin major work on pipe excavation and replacement until the early 1990's.[25] A contractor, Pas-Key Construction Services, was sent to excavate a site on Murr Way in order to replace some of the waterlines. On September 18, 1991, the contractor shut down the site when a worker collapsed during site excavation. Other employees remarked that there was a creosote odor in the area and complained of eye irritation.[26] The workers left a sizable hole in the ground and "ceased all construction operations until further notice from the City of Houston Health Department."[27] Residents began to wonder why the work had ceased. Perhaps the pipe replacements were part of a

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[23] Interview with Kennedy Heights resident, April 20, 2002, in Houston.

[24] Taken from the inscriptions made on the inside cover of *The Holy Bible*, Michelangelo Edition, owned by a resident of Kennedy Heights.

[25] Even after litigation began, City of Houston Utility Complaint Notices from July 14, 1995 to September 29, 1996 reveal at total of 108 utility complaints made by Kennedy Heights residents. Residents continue to complain of water main breaks.

[26] Pas-Key Construction Service, Inc. (1992). Report on Water Project No. 10086.

[27] Paskey, R.L. (1991). Letter to Howard Nicholas, Director of Capital Projects Department, Department of Public Works from R.L. Paskey, Pas-Key Construction Service, Inc., September 26, 1991. Thereafter, the Director of Health and Human Services for the City of Houston recommended that "excavations in the Kennedy Heights subdivision be temporarily halted." October 15, 1991 doc.

broader effort to increase the number of units available within the subdivision, as word spread that a low-income housing development was in the planning stages.[28]

Unbeknownst to the residents, the city of Houston hired a contractor (Lockwood, Andrews, and Newnam, Inc. [LAN]) to investigate potential petroleum contamination at the site. This occurred after Public Utilities Branch personnel sent to the site by the city noted a "creosote like odor in the air" and found trihalomethanes (a volatile organic compound) and evidence of the possible occurrence of 1,1,1 trichloroethene.[29] Soil borings drawn along the water main replacement route at 0-10 feet found contamination at a depth of 2-7 feet, including petroleum hydrocarbons "not normally indigenous to surface soils."[30] While the city's analysis of samples taken from the two water mains near Murr Way (where Pas-Key work had ceased) suggested "no contamination of the potable water supply system," LAN, Inc. found concentrations of total petroleum hydrocarbons (TPH) above levels recommended by the Texas Water Commission (TWC) for soil contamination.[31] It was also argued by the city's Director of Health and Human Services that replacement of water lines should continue, to allow for "higher water pressure" that would "decrease the probability of groundwater infiltration."[32] It would later be determined that the community's water lines ran through the layer of soil where the some of the highest concentrations of hydrocarbons were found. Plaintiffs would argue that contamination migrating through ruptured pipes was the primary route of exposure to the residents.

The full results of the city's testing efforts were not initially shared with residents or the contractor.[33] The Texas Water Commission (TWC), Texas Railroad Commission (RRC), and regional office of the Environmental Protection Agency, on the other hand, were contacted. A TWC official arrived to conduct a site inspection, but because the excavated site had been filled in, he was not able to take samples (according to what are

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[28] A new section of the Kennedy Heights subdivision was developed in 1994 and started accepting residents in July of that year. The developers engaged in one of the first environmental reviews of the area, which included soil and groundwater tests of the vacant property by Law Environmental Inc.

[29] City of Houston (1991). Report of laboratory investigation of samples collected from Murr Way locations, City of Houston Public Utilities Branch, Laboratory Section, September 18, 1991.

[30] Arradondo, J.E. (1991). Letter to Howard N. Nicholas, Director, Capital Projects Department from John E. Arradondo, Director, Health and Human Services, October 15, 1991. City officials did not know "exactly what the man-made pits were used for" at this point, although they had obtained aerial photographs indicating the three large pits, each four acres in size.

[31] Lockwood, Andrews, & Newman, Inc. (1991). Potentially petroleum contaminated materials investigation, Kennedy Heights Subdivision. Prepared for the City of Houston, Project No. 10086, November, 1991. Concentrations of total petroleum hydrocarbons that were above action levels for soil contamination set by the TWC were found in soil samples from five of the 21 soil borings.

[32] Des Vignes-Kendrick, M. (1992). Inter Office Memorandum to Director of Capital Projects, City of Houston from M. des Vignes-Kendrick, MD, MPH, Interim Director, Health and Human Services regarding Kennedy Heights Contaminated Soil Complaint, February 6, 1992.

[33] In a summary of Water Project 10086, Pas-Key states that "Because the City had not transmitted to Pas-Key the promised test results, on January 22, 1992 Pas-Key submitted various soil samples to Dr. Edwin B. Smith, a consultant retained and paid by Pas-Key. Pas-Key Construction Service, Inc. (1992). Report on water project number 10086.

now TNRCC guidelines).[34] Residents, who had begun to meet as part of the Kennedy Heights Civic Association, formed a Contamination Committee and collected money to pay for their own environmental consultant. Pas-Key also hired a consultant to investigate the site. By January 1992, the contractors hired by Pas-Key found that "the contaminant is creosote mixed with crude oil which will cause skin rash, dermatitis, and breathing difficulties."[35] Four streets were listed as affected by the city's sampling activity, although until this point contractors had focused predominantly on the excavation area.[36] A contractor hired by the residents found even higher levels of polyaromated hydrocarbons in the soil.[37] At around the same time, the TWC changed its policy for analyzing hydrocarbons.[38]

The pace of activity picked up in 1994-5, when American Home Dream Corporation requested an investigation of potential contamination at the site of a proposed additional 53 units within Kennedy Heights.[39] The contractor, RRC, and Chevron met to discuss the results, starting a trend where environmental scientists, regulators, and the regulated would meet regarding the site, at times without the input of the affected community. Meanwhile, John Simmons, who headed the Kennedy Heights Civic Association at the time, began an investigation of his own, finding enormously high rates of cancer and lupus through an informal survey of the subdivision's 325 homes.[40] Simmons approached one of the most well-known trial attorneys in the region, and the first step taken by John O'Quinn and his associates was to seek temporary injunction against a new

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[34] A TNRCC official familiar with the Kennedy Heights investigation stated: "When we received the complaint in 1991 and went out and took a look at what was going on. Yeah, when the investigator actually got to the site, the excavation would have been for the placement of the water line and they had already filled that in when the investigator went out there. [If it had not been filled], it's possible that there could have been a sample taken." Interview with Texas Natural Resources Conservation Commission official, May 28, 2002, via telephone.

[35] Smith, E.B. (1992). Letter to Robert Paskey, Owner, Pas-Key Construction Service, Inc. from Edwin B. Smith, EFEH and Associates, January 29, 1992.

[36] Barnard, P. (1992). Letter to Robert Paskey, President, Pas-Key Construction Services, Inc. from Philip D. Barnard, P.E., Assistant Director, Capital Projects Department regarding Water Project #10086, March 20, 1992.

[37] John Hanby, the consultant hired by the Civic Association, found "extremely high levels of petroleum-related chemicals" in the soil, with concentrations "several times higher than the city's highest reading." Dawson, B. & Robinson, J. (1994). Housing project site may be contaminated. *Houston Chronicle*, February 15, 1994, p. A-1.

[38] Rhyne, A. & Meyers, S. (1992). Interoffice memorandum to all laboratory personnel from Sheila Meyers and Anne Rhyne, Quality Assurance Specialists, Field Operations Division, September 3, 1992 ("The purpose of this letter is to inform the laboratories that the TWC will only accept method 418.1 from 'Methods for Chemical Analysis of Water and Wastes' as an acceptable method for analysis of Total Petroleum Hydrocarbon (TPH) of water, soil, and wastes…a decision has been made to withdraw ASTM method 3328-78-B as an acceptable method").

[39] Prehmus, C.A. & Pickett, K.L. (1994). Proposal for phase I additional research and limited phase II – field sampling and laboratory testing program, Kennedy Heights subdivision, Houston, TX from Cynthia A. Prehmus, Project Environmental Scientist and Kendall L. Pickett, Principal, Law Engineering and Environmental Services to Sid Stephenson, American Home Dream Corporation, February 18, 1994.

[40] A survey taken by Simmons showed that there were 113 cases of cancer, brain tumors, lupus, and birth defects in the subdivision's 325 homes. Cable News Network (1997). Houston residents sue Chevron over health problems. http://www.cnn.com/US/9705/26/toxic.controversy/html (Accessed November 30, 2002).

contractor hired to complete the work of Pas-Key. The injunction was granted, and a case was set for trial.[41]

Attempts to sort through accounts of possible contamination under the Kennedy Heights subdivision were made on two parallel tracks: by the Texas Railroad Commission (and, near the conclusion of settlement negotiations, the EPA), and by the courts. The RRC initially assessed the neighborhood in 1994, by reviewing results of the city Health Department's earlier tests for contamination and above-ground visual survey.[42] Based on the city's data, the RRC concluded that there was no basis for the initiation of cleanup activities. To encourage regulatory action, residents began a letter writing campaign in August 1995, sending letters to the TNRCC and the RRC which urged them to investigate the reported contamination under their homes.[43] An attorney representing John Simmons and other families (approximately 2,000 individuals at the time) also presented a letter to the Chairman of RRC containing 68 pages of signatures and citing findings of "explosive levels" of methane gas under certain homes. RRC involvement began in earnest on August 23, 1995, when Commission and Chevron representatives met to discuss the site. As much of the emphasis of plaintiffs' motion for a temporary injunction against the new contractor focused on the threat of explosive levels of methane, Chevron proposed the installation of several gas monitoring wells in areas where high levels of subsurface methane had been previously identified.[44] The stated purpose of the testing was to "assist in identifying the source of the gas" and to inform the applicability of surveying homes in the subdivision for gas concentrations within the residences.

Chevron presented its initial Methane Investigation Proposal in September 1995. The proposal called for three gas monitoring wells that would use push tools in areas of "highest reported gas concentrations" (as found by residents' contractors[45]) to take

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[41] Order Granting Temporary Injunction, *John R. Simmons, et al. v. Chevron, U.S.A., et al.* (Cause No. 95-14770) (Tex. Dist. 281, June 3, 1996).

[42] Flynn, G. & Dawson, B. (1995). Relocation of residents proposed: Kennedy Heights area contaminated. *Houston Chronicle*, August 8, 1995, p. A1.

[43] Over 200 letters were received by RRC, mostly in September. Most of the letters followed a similar format. Some included entirely unique portions, such as a letter sent by Anita Smith, a resident of Kennedy Heights:

> We the residents in the Kennedy Heights subdivision area have relatives that have died. And we still have family, neighbors who are still dieing and we have children who are having liver, kidney, tumers, and heart problems. And there are more than just that of problems and a lot of residents and their family are having. And we have some children who will not grow...I also have a four-year-old...ever since he was born he have had the liver problem he born with a piece of his liver missing. Please. We need your help bad get us out of here. The people of Kennedy Heights need help now.

[44] Tintera, J. (no date). Memorandum to Brenda Loudermilk, Special Counsel from John Tintera regarding Status of Kennedy Heights Investigation, Harris County, Texas.

[45] In the EPA's final report on the site, it was indicated that "Methane has been reported at concentrations ranging from 25,000 to 480,000 ppm in samples collected by the residents' contractors." Ecology and Environment, Inc. (2001). Expanded Site Inspection Final Report, Kennedy Heights, Houston, Harris County, Texas, prepared for U.S. Environmental Protection Agency, Region 6, May 2001, p. 3-3.

samples at two-foot intervals (vertical).[46] The sample with the highest TPH reading for each well would undergo additional testing for PAH's, metals, volatiles, semi-volatiles, and hazardous characteristics. In addition, 12-15 soil borings were to be taken to a depth of 4 feet to test for lower explosive limits of methane, CO2, and O2. This was the first of several attempts to measure the extent of contamination in Kennedy Heights by Chevron. They were based on a series of assumptions that were contested by plaintiffs. Tables 1 and 2 provide a sample of the concerns raised by RRC staff and plaintiffs during testing at the subdivision.

Table 1. RRC Concerns Regarding Chevron Sampling Proposals for Kennedy Heights.

Chevron Proposal	Date	RRC Concerns
Methane Investigation Proposal (resubmitted as Installation of Gas Monitoring Wells for the Measurement of Methane Concentration and Flux Rates from Soil)	September 9, 1995 (revised October 11, 1995 and resubmitted December 7, 1995)	• Need to provide estimated time frame for conclusion • Clarify volumes to be evacuated through tubing • Provide approximate location of proposed 12-15 in-situ borings • Expand on reasons for limiting the shallow borings to a depth of four feet • Comment on whether Chevron still plans to pursue determination of the origin of the methane gas • Comment on why intervals of one and two months for sampling were chosen[47]
Comprehensive Work Plan for Kennedy Heights Subdivision (updated ADD)	October 18, 1996 (3rd Draft)	• Should include conceptual site model and data quality objectives that will explain purpose of various aspects of plan • No deep monitor wells planned within pit boundaries, the most likely site of groundwater contamination – install within each of northern pits • Justify sampling frequency and intervals • Need rationale for number of drinking water samples, residences being tested, and timing of samples • How will locations for line break sampling be identified • Explain difference in analyte list for line break areas and the testing of tap water • Methane sampling should use statistically valid representative number of residential foundations at NE pit • Provide details for beneath-slab methane testing, standard procedures for such testing, statistical analysis for #, location of methane background sampling points • Additional samples needed in utility backfill zones • Should focus on genesis and pathways of methane; consider testing additional gases • Will Chevron conduct ambient air sampling in interior of all residences over NE pit? • Explain how proposed soil sampling will provide sufficient data for a credible risk assessment, particularly in shallow zones[48]

[46] Railroad Commission of Texas (1995). Kennedy Heights Chevron Methane Investigation Proposal RRC Comments, October 17, 1995 (Draft); Railroad Commission of Texas (1995). Kennedy Heights Summary, 11/95.
[47] *Ibid.*

Table 2. Resident Concerns Regarding Chevron Sampling Proposals for Kennedy Heights.

Chevron Proposal	Date	Resident Concerns
Methane Investigation Proposal (resubmitted as *Installation of* Gas Monitoring Wells for the Measurement of Methane Concentration and Flux Rates from Soil	September 9, 1995 (revised October 11, 1995 and resubmitted December 7, 1995)	• Vapor phase hydrocarbons are from 2-11 feet with random, thin, and discontinuous distribution • Pockets of liquid and residual hydrocarbons are at 5-26 feet; sampling is too shallow at 4-10 feet • Three wells is inadequate • Need in-situ and discrete samples with depth instead of 5 foot screens, to avoid dilution of samples • Samples will vent; will not be able to measure concentration, generation, or flux • Should test for a greater variety of PAH's • Vertical averaging will depress values • Fractures in clay can intersect methane pockets, allow gas to migrate to homes with cracked slabs • Methane will be generated until food source (hydrocarbons) is removed[49] Concerns post-investigation: • Systematic tight grid approach not used • Chevron "abandoned" sampling if no results, reported "no vapor" when should state "no sample" • Calculations for generation of methane based on inappropriate assumptions • Soil descriptions, video tapes do not support statement that grass roots caused elevated levels of methane • Comments that subsurface methane would render landscape barren are unsupported • Neglects methane accumulations beneath foundations[50]
Comprehensive Work Plan for Kennedy Heights Subdivision	October 18, 1996 (3rd Draft)	• TNRCC regulations for residential exposure limits should be considered to determine acceptable levels of contamination • TNRCC should be involved due to the presence of chlorinated hydrocarbons • Chevron uses random rather than systematic sampling and too few samples within pits • There is no effort to locate the boundaries of the former pits • Monitor wells are too shallow at 5 feet • Chevron attempted to abandon a sampling effort in previous testing • Further testing should include tight grid of 50 feet for soil borings, borings where ETI sampled, borings and wells up to 14 feet, mapping of petroleum contaminated soils, testing for TPH using methods 418.1 and GC 8015B (before this only used 418.1)[51]

Residents' representatives and RRC staff were able to comment on several iterations of Chevron proposals, although this process was at times disjointed. RRC records indicate

[48] Railroad Commission of Texas Oil and Gas Division (1996). *Comments on Chevron's Comprehensive* Work Plan for Kennedy Heights Subdivision, Houston, Texas Dated October 23, 1996.
[49] *Supra* note 44.
[50] Railroad Commission of Texas (1996). Summary of Residents Representatives Methane Comments, March 20, 1996.
[51] *Railroad Commission of Texas (1996).* Kennedy Heights Residents Representatives Letter of 4/3/96.

that certain meetings to discuss sampling efforts were held exclusively among Chevron and RRC representatives.[52] Still, subsequent iterations of testing proposals made some improvements in sampling methodology, in response to RRC and resident concerns. As sampling began, RRC and resident representatives were also present to observe and record (by video tape) Chevron's efforts and to split samples for their own analysis when desired.[53] The RRC adopted a statistical sampling frame for split samples, in addition to the splitting of samples with visible contamination. An RRC staff member recorded notes during a meeting with Chevron less than a week before testing was to begin:

> Noon on Monday
> Any violence leave
> Safety #1...
> Any questions about Chevron's plan will be referred to Chevron...
> What to say:
> 1. On top of situation
> 2. We are monitoring the situation
> 3. Long as it takes
> 4. Chevron foot the bill, not the taxpayers...
> Sample splitting priority:
> 1. Chevron
> 2. Plaintiff
> 3. RRC...
> Soil gas permeability we will not be involved in...
> Pick worst looking samples for analysis[54]

On December 7, 1995, an RRC staff member was told that he had the authority to contract for equipment and materials that would be needed to analyze the soil samples for methane gas and other contaminants that RRC planned to split with Chevron. The official was told, "It is understood that the cost of this operation shall not exceed $2,500."[55] At the same time, an attorney for the plaintiffs requested that the RRC observe certain sampling efforts on behalf of the residents.[56] Some of the final preparations made by RRC included coordinating plans for responding to media interest. Interoffice correspondence regarding sampling activities would often include a characterization of media interest and any RRC response. Before testing started, Chevron's public affairs representative was told by an RRC official that his plan was to "respond to media inquiries about RRC monitoring roles but to refer questions about the

[52] For example, meetings held in May and December, 1996 included only RRC, Chevron, and consulting firm representatives. RRC/Chevron Kennedy Heights Meeting, 5/13/96 Sign-in sheet; KH Chevron Technical Mtg., 12/6/95 Sign-in sheet.
[53] December 6, 1995 doc. Some of the questions raised regarding split samples were whether Chevron would provide sample containers to RRC, whether they would be loaded under RRC observation, and whether Chevron would avoid RRC's personnel decontamination.
[54] Railroad Commission of Texas (1996). 12/6/95 Meeting with Chevron. Handwritten notes to meeting.
[55] Tintera, J. (1995). Letter to Guy Grossman, District Director, Railroad Commission of Texas from John James Tintera, Assistant Director, Site Remediation, December 7, 1995.
[56] Boyt, J. (1995). Memorandum to Chairman Rylander, Commissioner Williamson, and Commissioner Matthews from Jeb Boyt, Staff Attorney, Railroad Commission of Texas, December 8, 1995.

testing, sampling, analysis, timetable, etc. to him."[57] By December 15, Chevron's methane investigation was ongoing with what had become four gas wells installed.[58]

Testing continued at predetermined intervals from mid-December 1995 to February 15, 1996. Preliminary data yielded 4,000-5,000 parts per million methane recovered from the monitor wells over the pits. This was far below the level that RRC considered "explosive" (50,000 ppm) but it was believe to be "a greater concentration than Chevron anticipated measuring."[59] Data also showed 2 of 25 samples in excess of 1% TPH.[60] As Chevron periodically repeated its sampling procedures, a ritual ensued where RRC Site Remediation personnel would unlock the wells, monitor sampling activities along with plaintiffs' representatives, and request split samples when visual contamination was noted. Occasional problems were reported. For example, instrument problems at the laboratory used by RRC meant that certain samples had to be shipped to a Corpus Christi lab for analysis.[61] These samples were shipped to Corpus Christi, then to Louisiana, and then back to Corpus Christi.[62] RRC officials questioned the integrity of such samples, and were told that there would be no charge for them.[63] On another occasion, Chevron told the other parties that a sample was insufficient and wanted to re-sample. RRC representatives noticed visible contamination in the sample "and insisted and received split samples with residents."[64] Another problem concerned the effects of the wells themselves on samples and readings for methane. In mid-January 1996, field reports indicated that 3 of the 4 monitoring wells had partially filled with water. RRC officials indicated that they would ask Chevron about "what effect the water is having on the integrity of the testing."[65]

Methane testing ended with samples showing a maximum of 23,000 ppm methane at 5 feet, taken in an area where plaintiffs also encountered high levels. RRC personnel reported that surrounding tests indicated that such comparatively high concentrations were localized.[66] Elevated TPH was found at levels up to 5,990 parts per million (recall

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[57] Schaible, B. (1995). Electronic mail to COMW.DEESJ, RED.BeshearD, White.ScottB, OG.Tinteraj, OG.EatonT from Brian Schaible regarding Kennedy Heights, December 8, 1995, 12:08 p.m.
[58] Tintera, J. (1995). Electronic mail to RED.KellyM, RED.BeshearD, COMW.DEESJ, COM.HACHTMA, CARLICKD, WrotenberyL, EatonT, RossC, and IC.SCHAIBLEB from John J. Tintera regarding Kennedy Heights Update, December 15, 1995, 3:42 p.m.
[59] Tintera, J. (1996). Electronic mail to KH from John J. Tintera regarding Kennedy Heights Status Update, January 10, 1996, 9:13 a.m.
[60] Tintera, J. (1995). Electronic mail to KH from John J. Tintera regarding Upcoming Activities at Kennedy Heights, December 21, 1995, 11:52 a.m.
[61] Correa, A. (1996). Electronic mail to MIERTSCHINW and OG:RRC:RRC.OG (TINTERAJ) from Art Correa regarding KH Core Lab Samples – Reply – Reply – Reply, January 17, 1996, 8:55 a.m.
[62] Correa, A. (1996). Electronic mail to MIERTSCHINW and OG:RRC:RRC.OG:TINTERAJ from Art Correa regarding KH Core Lab Samples – Reply – Reply – Reply, January 17, 1996, 9:28 a.m.
[63] Ibid
[64] *Supra note 48.*
[65] Correa, A. (1996). Electronic mail to MIERTSCHINW and TINTERAJ from Art Correa regarding KH, January 24, 1996, 2:33 p.m.
[66] Tintera, J. (1996). Electronic mail to Kennedy Heights from John J. Tintera regarding Kennedy Heights Status Update, February 16, 1996, 8:35 a.m.

that preliminary data in two samples showed 10,000 ppm, or 1% TPH).[67] By the close of the investigation, the highest concentrations of TPH found by Chevron and RRC were 29,000 ppm and 24,000 ppm, respectively. Exploration Technologies, Inc. (a consulting firm hired by the plaintiffs) found levels as high as 32,060 ppm, in addition to "liquid product" (crude oil) at several locations.[68] It is difficult to draw conclusions directly from these numbers in terms of required regulatory action, particularly since the finding of liquid product was never officially verified by the RRC. For instance, a 1993 RRC rule provided for cleanup of "non-sensitive" areas when TPH levels exceeded 10,000 ppm.[69] Kennedy Heights was a sensitive area, implying that a lower threshold should be applied, albeit with adherence to specific risk-based decision making rules and procedures.[70] This was suggested by RRC District Manager Guy Grossman.[71] However, the rule (Statewide Rule 91) did not apply to spills that took place before November 1, 1993. For spills that did qualify for cleanup under the rule, RRC provided the following advice:

> Statewide Rule 91 distinguishes two categories of spills: (a) crude oil spills into non-sensitive areas; and (b) (i) hydrocarbon condensate spills and (ii) crude oil spills in sensitive areas. Rule 91 establishes clear goals for cleanup of crude oil spills in non-sensitive areas: immediate removal of all free oil, immediate vertical and horizontal delineation; specifying the "area of contamination" that must be delineated and disposed of or remediated, and specification of a final cleanup level of "1% by weight TPH." Rule 91 is less clear about the second category of spills. It stands to reason that hydrocarbon condensate spills and crude oil spills in sensitive areas, which pose greater risks, should at least follow standards established for the equally important but less threatening spills.[72]

Yet the same residential and industrial limits are given for TPH and BETX, a group of particularly toxic compounds associated with the processing of crude oil (benzene,

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[67] Tintera, J. (1996). Electronic mail to KH from John J. Tintera regarding Kennedy Heights Status Update, February 21, 1996, 2:48 p.m.

[68] A map of bore hole locations over the NE pit (which is bisected by Murr Way and Lockgate Lane) indicates that "liquid product," or crude oil, was found at 11302 Murr Way (at 8-10 feet), 11303 Murr Way (24 feet), 11315 Murr Way (10 and 26 feet), 11323 Murr Way (6-9 feet), 11322 Murr Way (5-8 feet), and 11323 Lockgate Lane (8-10 feet). Exploration Technologies (1995). Bore Hole Locations, Pit Number 1, Prepared for O'Quinn, Kerensky, McAninch & Laminak, August 15, 1995. During joint testing by RRC and Chevron, ETI workers asked a RRC official for permission to demonstrate where the liquid product was located, and were told that they lacked a work plan and had not submitted one in the requisite number of hours preceding their sampling activities on site. Interview with Exploration Technologies employee, December 17, 2002, via telephone. On December 13, 1995, RRC notes suggest this encounter: "Plaintiffs want to spl (core soils) w/in and adj. to Chevron monitoring well @ 11323 MW. We have mtg. – Chevron say core rig disturb their well. I say we are implement Chevron plan and want to maintain interpret of Chevron data – but the next round of assessment we may address this. Plaintiffs can core other places as long as they stay away from Chevron well." Railroad Commission of Texas (1995). Handwritten field notes for December 13, 1995.

[69] Statewide Rule 91 criteria are for crude oil spills in "non-sensitive" areas and include the following requirements: removal of all free oil immediately according to SWR 91 guidelines, horizontal and vertical delineation of all areas with more than 1% TPH (10,000 ppm), and proper reporting. A much more involved process for addressing sensitive areas has been developed by RRC, called the Risk-Based Decision Making (RBDM) program. Railroad Commission of Texas (2001). Guidelines for Spills, Releases, and Risk Based Decision Making for Oil Field Related Sites in Texas, June 21, 2001.

[70] *Supra* note 42.

[71] *Ibid.*

[72] *Supra* note 69.

ethylbenzene, toluene, and xylene). Another regulation governing sites similar to Kennedy Heights is Statewide Rule 8, also known as the "no pit rule." Rule 8 provides that "no person conducting activities subject to regulation by the Commission may cause or allow pollution of surface or subsurface water in the state." Before this rule was adopted in 1969, open pit storage of crude oil as well as the disposal of salt water and chemicals (including arsenic, barium, and cadmium) in open pits was standard practice. Plaintiffs argued that certain PAH's identified at Kennedy Heights were "hazardous substances" according to the Comprehensive Environmental Response, Compensation and Conservation and Recovery Act (CERCLA).[73] CERCLA does not impose any quantitative requirement when liability under the statute for release or threat of a release of a hazardous substance is determined.[74] The standards for encouraging agency action differed from the liability standards to which the parties would be held at trial.

In March 1996, RRC met with Chevron to discuss the second phase of the investigation. Chevron's plan included an evaluation of all three former pits with ten shallow groundwater monitoring wells, 33 hollow stem auger soil samples, and 24 cone penetration tests. The overall goal of this phase of the investigation was to "conduct a detailed toxicological risk assessment that will address the presence and distribution of contaminants, any exposure risk to residents, and surface or subsurface water pollution."[75] Sixty days of fieldwork were planned to gather data that would allow for a more comprehensive investigation of site contamination. RRC and Chevron worked out field operations so that representatives would be present for surveying, probing, and sampling. Again, RRC officials describe budgetary constraints that "will limit us to five samples."[76] The parties started with the NW pit for one week, and then moved into the neighborhood.

By this time, residents and a series of named defendants (including Chevron and Gulf companies and subsidiaries, developers, construction companies, investors, and investment trusts) had begun to prepare for trial. Consultants for both sides began testing for PAH's, some of which are known carcinogens.[77] Results were gathered by such firms

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[73] Plaintiffs' Motion for Summary Judgment on the Scientific Significance of the Quantity, Scope, and Density of Contamination as it Relates to the Risk to Health for the Residents of Kennedy Heights Pursuant to the Court's March 5, 1997 Order, *Adams et al. v. Chevron U.S.A. et al.* (H-96-1462) (S.D. Tex, April 10, 1997).

[74] *Ibid.*

[75] *Supra* note 48.

[76] Correa, A. (1996). Electronic mail to MIERTSCHINW and TINTERAJ from Art Correa regarding Bids for KH Sampling, March 22, 1996, 10:41 a.m. ("As of 10:00 a.m. we have received three bids. The low bidder is a hub – Chemsolve from Austin. Bid is for $481 for either fluid or soil samples. The amount we are authorized will limit us to 5 samples. Bids have been signed and amounts double checked for accuracy. Any suggestions on what criteria we can document to award it as lowest and best bidder. Bidding is officially closed at 10:10 a.m. after checking fax maching and with SR & SRT personnel from any other bids.")

[77] The Agency for Toxic Substances and Disease Registry explains that "The Department of Health and Human Services has determined that some PAHs may reasonably be expected to be carcinogens. Some people who have breathed or touched mixtures of PAHs and other chemicals for long periods of time have developed cancer. Some PAHs have caused cancer in laboratory animals when they breathed air containing them (lung cancer), ingested them in food (stomach cancer), or had them applied to their skin

and individuals as Exploration Technologies (ETI)[78], Research Statistics, Inc.[79], and Dr. Jack Matson.[80] Health effect and symptom surveys were conducted by Dr. Dick Clapp, an epidemiologist from Boston University[81] and researchers from the University of Texas at Galveston.[82] Residents' representatives began to piece together a story for trial: during periods of depressurization, caused when breaks in the pipes or repairs occurred, contaminants entered the water pipes, located at a depth below the surface where some of the highest levels of contaminants were found. Water main breaks occurred within Kennedy Heights at a rate of 20-30 breaks per mile per year.[83] The contaminants included several known animal carcinogens, including a number of aromatic hydrocarbon compounds. One of the areas of the body affected by exposure to polycyclic aromatic

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(skin cancer)." Agency for Toxic Substances and Disease Registry (1996). ToxFAQs for Polycyclic Aromatic Hydrocarbons, http://www.atsdr.cdc.gov/tfacts69.htm, accessed April 9, 2002.

[78] Preliminary results showed that samples from Kennedy Heights matched with samples of Pierce Junction's oil. ETI also produced a series of contour maps detailing estimates for methane, TPH, and other chemical concentrations. TPH was found as high as 9,925 ppm at 4-6 feet on Murr Way. Exploration Technologies, Inc. (1996). Preliminary Environmental Site Assessment, Kennedy Heights Subdivision, Houston, Texas. Prepared for O'Quinn, Kerensky, McAninch, and Laminack, Houston, Texas, January 29, 1996.

[79] Concluded that "The residents of Kennedy Heights, present and former, have not been exposed, if at all, to concentrations of polycylic aromatic hydrocarbons sufficient to produce any diseases or dysfunctions, acute or chronic, including cancer of any form." Pier, S. (1996). Toxicological Report prepared for Clade R. Treece, Esq., Gardere Wynne Sewell & Riggs, L.L.P. by Stanley M. Pier, Ph.D., Research Statistics, Inc., October 28, 1996.

[80] Found that "crude oil constituents from tank bottoms entering the drinking water system are distributed to homes in a short period of time." The primary mechanism for the transport of hydrocarbons was "entry from suspension in water surrounding a main break." Also found that methane had evolved from the conversion of tank bottom hydrocarbons and represented "an explosive threat to residents within the Pit Number One area (Northeast Pit)." Matson, J.V. (1996). Expert Report: Environmental Conditions at Kennedy Heights Subdivision, Houston, Texas. Prepared for O'Quinn, Kerensky, MacAninch, and Laminack by Jack V. Matson, Ph.D., P.E., Consulting Environmental Engineer, October 1, 1996.

[81] Richard Clapp, MPH, D.Sc., with Boston University, reviewed a report by Meta Environmental, Inc. and testing done in September, 1996, which found several substances which are animal carcinogens "and therefore may be expected to cause cancer and other toxic effects in exposed humans." He also calculated prevalence rates for systemic lupus erythematosus (SLE), and compared his results with estimates of prevalence in whites and African-Americans in the U.S. National prevalence rates ranged from about 10-50 cases per 100,000. His estimate for the combined (current and former) population of homes in Kennedy Heights to be 2,435, of which 10 cases of SLE were reported. The prevalence of SLE in the combined population was estimated at 411 per 100,000, or between 4.9-8.2 times the upper end of the range of prevalence of SLE in the U.S. population. Clapp concluded that since the lower end of the confidence interval for his estimate was still more than three times higher than the upper range for the U.S. population, the results were not likely to be due to chance fluctuation. Clapp, R. (1996). Repot of Richard W. Clapp. October 1, 1996.

[82] A symptom survey was completed by 72 residents. Within this group there were ten reported cases of cancer as well as eleven reported cases of benign tumors. There were 26 reported problems with pregnancies (out of 90 experienced by the group). The group also reported 350 symptoms of central nervous system problems as well as 108 immune system-related ailments or conditions. The toxicologist responsible for the survey stated that "PAH's and naphthlamines are known to cause serious health effects. When these effects are exhibited by the plaintiffs, it is my opinion, to a reasonable scientific probability, that these chemicals caused or significantly contributed to the adverse health effects suffered by the above trial plaintiffs." Legator, M. (1996). Addendum to Symptom Survey. Prepared by Marvin S. Legator, Ph.D., University of Texas Medical Branch at Galveston.

[83] *Supra* note 80.

hydrocarbons is the immune system.[84] Lupus, a disease in which the immune system loses its ability to tell the difference between foreign substances and its own cells and tissues, was prevalent in Kennedy Heights at a rate that was several times the national rate.[85] Other diseases linked to some of the known or suspected carcinogens in the soil were also prevalent in the subdivision. Some of the diseases, including lupus, were not known to be in the family histories of those who suffered from them.

In response to concerns about drinking water, Chevron's Comprehensive Work Plan was drafted to include a proposal to collect samples from the outside hose bibs of 13 selected homes "as soon as reasonably possible, but no later than 24 hours after a water line break has been repaired in the Kennedy Heights subdivision."[86] The company also offered free drinking water testing to residents whose homes were located in the general area of the NE pit. Plaintiffs were opposed to the sampling program, claiming that it was "unlikely to detect contamination at any home not affected by a specific pipeline break."[87] More importantly, it would have "limited utility in determining how much contaminated water has entered homes in Kennedy Heights during the last twenty-five years."[88] As preliminary fieldwork for the Work Plan commenced, relations among the parties soured. Residents picketed some of the testing activities, claiming that RRC was responding at a slower pace to their concerns than to problems with a former crude oil storage site near the Memorial Glen subdivision south of Humble, Texas.[89] The Houston District Office of RRC was forwarded approximately 80 letters from residents, originally mailed to the

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[84] *Supra* note 81.
[85] *Ibid.*
[86] Flour Daniel GTI (1996). Comprehensive Work Plan for Kennedy Heights Subdivision, Houston, Texas, Third Draft, prepared for Chevron U.S.A. Production Company, October 18, 1996.
[87] Bell, A.E. (1996). Letter to Terri Eaton, Assistant Director, Environmental Section, Railroad Commission of Texas, Office of General Counsel from Allen Eli Bell, Bernsen, Jamail and Goodson, L.L.P., June 4, 1996.
[88] *Ibid.*
[89] On at least two occasions, RRC officials assembled data regarding site investigation on other pits within their jurisdiction. These included Memorial Glenn (the Landslide site), which was adjacent to a subdivision ("Texaco had crude oil storage pits dating from the 1920's with liquid crude exposed to the surface. No residences were involved. Remediation was a stabilization program where the pit contents were solidified on site"); Wilson Court, in Humble a few miles south of Landslide ("Numerous large crude oil storage pits dating from the 1920's were partially backfilled on a 104 acre site. Liquid hydrocarbons were seeping to the ground surface. Current pilot program is a bioremediation/landfarm effort on 19 of the 104 acres"); and the Sun site ("four large and several smaller crude oil storage pits at the site again dating from the 1920's, a few miles south of Wilson Court. The pits were open and exposed to the surface. A bioremediation project is currently being conducted for closure"). Tintera, J. (1996). Electronic mail to IC.SCHAIBLEB from John J. Tintera regarding Remediation project info – Reply, April 4, 1996 10:19 a.m. This information was gathered in response to requests from the media as well as State Senator Rodney Ellis' office. Ellis' Chief of Staff was most concerned about the "Texaco Humble Pits" and whether they were similar to the Kennedy Heights site, as well as the length of time between discovery and site closure. In reply, RRC maintained that "The age and use of the Humble pits are similar to KH, however many of the Humble pits were open at the surface and had not been backfilled. Residences were adjacent, not within, the pit boundaries. Elevated methane concentrations were not reported. Similar investigation activities were required, which included the installation of water monitor wells and extensive soil sampling." Tintera, J. (1996). Electronic mail to IC.LawsonS from John J. Tintera regarding Sen. Ellis Kennedy Heights Info Request (and attached answers to information request by Chief of Staff William Paul Thomas), March 27, 1996, 10:50 a.m.

TNRCC, requesting cleanup of contamination at Kennedy Heights.[90] Fifty residents attended a technical meeting regarding Chevron's Work Plan, again questioning the risk assessment and its ability to appropriately characterize sporadic contamination entering residential lines after water main breaks.[91] At a pre-hearing conference in Houston, residents' attorneys claimed that the hearing process lacked clear ground rules, standards, and a clear burden of proof.[92] The residents withdrew from the hearing, but implored RRC to continue its efforts, citing "ample technical data available to support enforceable remediation measures."[93] Residents would rely predominantly on the courts, under the belief that a "federal judge will move faster than RRC."[94]

Upon conclusion of sampling over each pit by various consultants, RRC prepared summaries of contamination that was found. Tables 3-5 provide an overview of the highest concentration of various types of compounds, as summarized by RRC.

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[90] Tintera, J. (1996). Electronic mail to COMW.OG_GREENSHEET from John J. Tintera regarding Kennedy Heights Correspondence, May 9, 1996, 2:47 p.m.
[91] Tintera, J. (1996). Electronic mail to COMW.OG_GREENSHEET from John J. Tintera regarding Kennedy Heights, May 23, 1996, 2:41 p.m.
[92] Tintera, J. (1996). Electronic mail to EatonT, LG.JohnsonB, LG.FowlerL, SchieckD, Wrotenb... from John J. Tintera regarding Kennedy Heights Pre-Hearing Conference, November 17, 1996, 12:45 p.m.
[93] *Ibid.*
[94] *Ibid.*

Table 3. Highest Concentration Found as Proportion of TNRCC Regulatory Limit, NE Pit (ppm).

	Chevron	RRC	ETI	City	PSI
TPH at Surface	1,453	800	7,797	590	-
TPH	29,000*	24,000*	9,720	-	-
VOC	43.49*/10.7 (Methylene Chloride)	-	.212*/1.33 (Benzene) 25/1.0 (Toluene)	-	-
S-VOC	39.18/45.7 (Bis 2-ethylhexyl phthalate)	-	33*/.00608 (Bis 2-ethylhexyl)	-	2.649*/ .00608 (Bis 2-ethylhexyl)
Total Metal	11.7*/.366 (Arsenic)	-	2.5*/.366 (Arsenic)	-	.450*/.366 (Arsenic)
SPLP VOC	2.99*/.005 (Methylene Chloride)	.009*/.005 (1,2 dichloroethane) .037/.005 (Methyl Chloride)	-	-	-
SPLP S-VOC	.021*/.006 (Bis 2-ethylhexyl phthalate)	-	-	-	-
SPLP Metal	.24/2.0 (Barium)	.004*/.002 (Mercury) 1.7/2.0 (Barium) 2351*/300 (Sulfates)	-	-	-
DW VOC, S-VOC, Metal	-	-	-	-	.016/.1 (Chloroform), .012*/. 00608 (Bis 2-ethylhexyl), .001/.05 (Arsenic)

TPH = Total Petroleum Hydrocarbons
VOC = Volatile Organic Compound
S-VOC = Total Volatile Organic Compounds
SPLP = Synthetic Precipitate Leaching Procedure, an analytic method to determine the mobility of compounds in soil
DW = Drinking Water
- = no hit or test for this compound
* = above TNRCC regulatory limits (number below / represents limit); numbers for TPH with a * are above RRC guidelines for non-sensitive areas; at the time, sensitive areas were assessed on a case-by-case basis

Table 4. Highest Concentration Found as Proportion of TNRCC Regulatory Limit, NW Pit (ppm).

	Chevron	RRC	ETI
TPH at Surface	3,674	1,100	636
TPH	23,450*	18,000*	32,060*
VOC	36.63*/10.7 (Methylene Chloride)	-	-
S-VOC	19.39/45.7 (Bis 2-ethylhexyl phthalate)	-	33*/.00608 (Bis 2-ethylhexyl)
Total Metal	11.4*/.366 (Arsenic)	-	2.5*/.366 (Arsenic)
SPLP VOC	4.07*/.005 (Methylene Chloride)	-	-
SPLP S-VOC	.0068*/.006 (Bis 2-ethylhexyl phthalate)	-	-
TCLP Metal	-	1.2/2 (Barium) 303*/300 (Sulfates)	

TPH = Total Petroleum Hydrocarbons
VOC = Volatile Organic Compound
S-VOC = Total Volatile Organic Compounds
SPLP = Synthetic Precipitate Leaching Procedure, an analytic method to determine the mobility of compounds in soil
TCLP = Toxicity Characteristic Leaching Procedure, an analytic method to determine metal mobility
- = no hits or test for this compound from samples taken
* = above TNRCC regulatory limits (number below / represents limit); numbers for TPH with a * are above RRC guidelines for non-sensitive areas; at the time, sensitive areas were assessed on a case-by-case basis

Table 5. Highest Concentration Found as Proportion of TNRCC Regulatory Limit, SE Pit (ppm).

	Chevron	RRC	ETI
TPH at Surface	24	200	31
TPH value	31	200	8
VOC	5.99/10.7 (Methylene Chloride)	-	-
S-VOC	6.99/45.7 (Bis 2-ethylhexyl phthalate)	-	-
Total Metal	12.1*/.366 (arsenic)	-	-
SPLP VOC	4.14*/.005 (Methylene Chloride)	-	-
SPLP S-VOC	.01198*/.006 (Bis 2-ethylhexyl phthalate)	-	-
TCLP Metal	-	2678*/300 (Sulfates) 305*/300 (Chlorides)	-

TPH = Total Petroleum Hydrocarbons
VOC = Volatile Organic Compound
S-VOC = Total Volatile Organic Compounds
SPLP = Synthetic Precipitate Leaching Procedure, an analytic method to determine the mobility of compounds in soil
TCLP = Toxicity Characteristic Leaching Procedure, an analytic method to determine metal mobility
- = no hits or test for this compound from samples taken
* = above TNRCC regulatory limits (number below / represents limit)

While certain compounds were found at levels exceeding regulatory standards, RRC determined, through analysis of a risk assessment performed by Chevron, that the levels of contamination did not pose a sufficient threat to human health to warrant remedial action. Prior to completion of Chevron's Work Plan, the RRC responded to concerns

expressed by State Senator Rodney Ellis regarding the anticipated risk assessment. The Assistant Director of the Environmental Section of the RRC characterized risk assessment as follows:

> No single risk assessment model will account for site-specific variables in all cases, including those at Kennedy Heights. However, risk assessment techniques are designed to be adjusted to accommodate site-specific variables. Commission staff has experience evaluating site-specific risk assessments, including assessments of risk to nearby residents from surface and subsurface contaminants. It a thorough risk assessment of the residual contamination at Kennedy Heights indicates that the residents are or may be exposed to constituents of concern at unacceptable levels, appropriate remedial measures will be required.[95]

RRC's evaluation of Chevron's risk assessment led them to conclude that residents were not exposed to unacceptable levels of hydrocarbons. Residents were left to seek relief through the courts.

The Dispute

The procedural history of the lawsuit began when the original suit, *John R. Simmons et al. v. Chevron U.S.A.*, was filed in state district court on March 24, 1995.[96] In August 1995, plaintiffs' property claims were bifurcated from the personal injury case and set for trial on January 8, 1996. Judge William Bell recused himself from the case, which was reassigned to Judge Tony Lindsay, who was disqualified for ownership of stock in Chevron. The case was transferred to Judge Lamar McCorkle. At that point, the state court cause of action was removed to federal court (under Judge Sim Lake) and eventually consolidated into *Adams et al. v. Chevron et al.* (under Judge Kenneth Hoyt).[97]

Plaintiffs in the *Adams* case alleged that the three pits upon which the Kennedy Heights Subdivision had been built were utilized, stored, removed, and filled in an unreasonably dangerous and unlawful manner.[98] They claimed that chemicals from these operations had volatized and remained in the soils and groundwater in toxic and explosive quantities, exceeding federal and state regulatory limits. Further, it was believed that "these chemicals and other unknown chemicals have infiltrated the water supply and may infiltrate the water system servicing the residents in and around the site."[99] It was argued that defendants failed to disclose or falsely represented the historical uses of the site and presence of residual contamination in order to obtain government financing that would facilitate the purchase of the property from Chevron.[100] The manner in which defendants

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[95] Eaton, T.K. (1996). Letter to William-Paul Thomas, Chief of Staff, Office of Senator Rodney Ellis from Terri K. Eaton, Assistant Director, Environmental Section, Railroad Commission of Texas, Office of General Counsel, June 7, 1996.

[96] Plaintiffs' Sumary of the Case, *Adams et al. v. Chevron U.S.A., Inc. et al.*, 96-CV-1462 (S.D. Tex. September 10, 1997).

[97] Order Granting Motion to Consolidate Cases, *Adams et al. v. Chevron U.S.A., Inc. et al.*, 96-CV-1462 (S.D. Tex. August 6, 1996).

[98] Plaintiffs' Original Complaint, *Adams et al. v. Chevron U.S.A., Inc. et al.*, #96-CV-1462 (S.D. Tex. May 6, 1996).

[99] *Ibid*, at 5.

[100] Plaintiffs' Second Amended Complaint, *Adams et al. v. Chevron U.S.A., Inc. et al.*, #96-CV-146 (S.D. Tex. October 1, 1996).

could be held negligent was outlined, in addition to allegations of nuisance, trespass, toxic assault and battery, fraud, misrepresentation, concealment, failure to disclose material facts, conspiracy, and other claims. Residents sought damages for physical, mental, medical, property, and punitive damages, as well as attorneys' fees, expert fees, and other costs. The primary defendant, Chevron, argued that no liability existed for any of the alleged damages, many of which they claimed were speculative, due to risks assumed by plaintiffs, related to conditions that Chevron did not have control over, barred under the statute of limitations, and barred because they were not addressed by plaintiffs in a manner consistent with the National Contingency Plan for dealing with contaminated sites.[101]

The complexity and cost of preparing for the case grew seemingly exponentially as routes of exposure, computer simulations, a variety of sampling protocols, and lab tests were each pursued. Analysis of various aspects of the site reached a fevered pitch by October 1, 1996, when a series of consultants' reports were made available to either the plaintiffs or Chevron, covering everything from human factors[102] to historical aerial photograph[103] to sociological[104] to forensic architectural[105] to toxicological[106] to fate and transport to property value[107] analysis. Chevron continued to meet with the Railroad Commission,

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[101] Affirmative Defenses and Answer to the First Amended Complaint, *Adams et al. v. Chevron U.S.A., Inc.*, H-96-1462 (N.D. Tex. July 12, 1996).

[102] For example, a human factors psychologist argued that when addressing residents, "Chevron failed to take into account important characteristics of the population – their beliefs, history, and lack of sophistication with regard to chemical dangers and routes of exposure. In assuring the residents that there were no toxins buried on the site, they were using language to attempt to deceive the scientifically naïve residents of Kennedy Heights (toxin is a specific term meaning a poisonous animal or plant substance)." She further characterized Chevron's use of the media as "intended to increase the residents' feelings of helplessness and to influence public opinion." Laux, L. (1996). Letter to Carl Shaw, O'Quinn, Kerensky, McAninch and Laminack from Lila F. Laux, Ph.D., Human Factors Consulting, September 23, 1996.

[103] For instance, the plaintiffs asked Robert Maggio to review aerial photographs of the Kennedy Heights area from 1930-1996. Maggio, R.C. (1996). Expert Report of Dr. Robert C. Maggio in Case No. 95-14770, *John R. Simmons et al. v. Chevron U.S.A., Inc. et al.* October 1, 1996.

[104] Sociologist Steven Couch referred to the belief among Kennedy Heights residents that there is environmental contamination as a "culture of distress" that included severe uncertainty about the extent and scope of contamination, powerlessness, pervasive fear, constant vigilance, stigma, social isolation, disillusionment, anomia (the belief that following societal rules will not lead to the ends people wish to achieve), alienation, anger, blame, mistrust, social conflict, preoccupation with contamination-related problems, changes in the meaning of "home," and stress resulting from "the endless nature of the problem." Couch, S.R. (1996). Letter to Dr. John P. Wilson, Department of Psychology, Cleveland State University from Stephen R. Couch, Ph.D.

[105] An engineering report by Peverley Engineering Inc. found that a number of homes on Murr Way required foundation repairs. Peverley, R.W. (1996). Forensic Examination of the Structural Foundations of Selected Residential Buildings Which are a Part of the Kennedy Heights subdivision, Houston, TX. Pevereley Engineering Inc., September 26, 1996.

[106] For example, Dr. Richard Irons with the University of Colorado reviewed the environmental testing data gathered prior to October 30, 1996. He said that samples containing detectable amounts of flourene, chrysene, or phenanthrene did not represent PAH's that are among the 15 for which sufficient evidence of carcinogenicity exists in animals. Irons, R. (1996). Letter to Robert Scott, Esq., Adams, Scott, and Bickley, L.L.P. from Richard Irons, Ph.D., Director, University of Colorado Health Sciences Center, October 30, 1996.

[107] For example, one report compared survey results from Kennedy Heights and control areas regarding attitudes about property values and residents' desire to move. The survey, taken via telephone in

which in Texas had nearly sole jurisdiction over matters of petroleum production, transport and related hazardous waste sites, to develop and execute their comprehensive work plan.

As with many mass torts cases, community representation became a source of contention. Attorneys represented groups ranging from between a handful of claimants and several thousand residents, some who had not lived in Kennedy Heights for a number of years. Some of the initial motions filed in this case dealt with how such a case, where exposure, physical manifestations of ailments, and corresponding damages were uncertain and unevenly distributed, could be fairly tried. On December 19, 1996, an order establishing trial plans and resolving some of these dilemmas was issued.[108] Thirty bellwether plaintiffs were chosen, 15 by each side, and the case proceeded with a focus on individual claims and the issue of the existence of liability on the part of Chevron for pollutants that gave rise to claims under CERCLA, RCRA, the Safe Drinking Water Act, the Clean Water Act, the Oil Pollution Act, the Fair Housing Act, and the Civil Rights Act of 1983. Defendants argued that such a selection process would not allow for the trial to consider a representative group of plaintiffs, as they were not similarly situated.[109] Further, defendants claimed that the solution of a bellwether trial might place intense pressure on them to settle if the plaintiffs experienced illnesses and suffered injuries that were not representative of the now more than 3,000 residents involved.[110] The defendants proposed stratified random sampling as an alternative means of selecting bellwether claimants. Due to the extensive history of the case, Chevron's previous lack of attempts to modify the proposed trial plan, and the court's discretion in choosing how to bifurcate or trifurcate liability, general causation, and individual causation, defendants' writ of mandamus was denied and the trial proceeded.[111] However, the 5th Circuit prohibited the trial judge from using the results of a trial of the 30 plaintiffs to establish issue or claim preclusion in the case.[112]

As the trial advanced through 31 days of testimony by plaintiffs' witnesses and cross-examination by attorneys predominantly for Chevron, several facts of the case became clear: (a) the residents of Kennedy Heights had not been aware of the former use of the

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November and December 1995, suggested that few residents rated their environmental quality as "low" (11.8%). It also analyzed price trends for housing at various distances from the storage tanks. The results did not show that homes closest to the tank were selling at a discount to homes more distant from the pits. However, significant news coverage of the story occurred in February 1994 (results of tests of residents' contractor mentioned and the Health Department contended that petroleum-related chemical concentrations were not of concern) and did not reappear until April, 1995 (when it was ruled that continued digging in Kennedy Heights created a substantial risk). Chalmers, J.A. (1996). Expert Report on Kennedy Heights Property Value Analysis. Coopers & Lybrand, L.L.P., October 30, 1996.

[108] Order Granting Motion to Determine Trial Plan, *Adams et al. v. Chevron U.S.A., Inc. et al.* (96-CV-1462) (S.D. Tex. December 19, 1996).

[109] Supplemental Brief by Chevron USA Inc., Gulf Oil Corporation, Gulf Refining Co., Gulf Pipeline Co., Gulf Production Co. in support of its recommendation on the trial of this case, and supplemental response to Plaintiffs' statement of case and request for ratification of Bellwethers, *Adams et al. v. Chevron U.S.A., Inc. et al.* (96-CV-1462) (S.D. Tex. November 1, 1996); Petition for Writ of Mandamus, *Adams et al. v. Chevron U.S.A., Inc. et al.* (96-CV-1462) (S.D. Tex. December 19, 1996).

[110] *Ibid.*

[111] *Supra* note 108.

[112] 109 F.3d 1016, 1017 (5th Cir. Mar. 1997).

site, (b) residual contamination from a prior use of the site for crude oil storage was present in the soil, (c) the presence of certain substances in the soil could be linked to the Pierce Junction well owned by Gulf Oil (which transferred liability to Chevron), and (d) there was a cluster of disease in the subdivision, particularly in the vicinity of the NE pit (although there were strong differences over whether this cluster had anything to do with environmental contamination). While these facts were relatively easy to demonstrate,

> [C]ausation was going to be a difficult issue. Essentially, you may have a toxin, and it may have a vehicle by which it could reach the victims but the measuring of what level of intake would be required to cause certain manifested injuries, the science was not as aggressive as the accusations, and so I felt that that was going to be difficult. We believed that it would be easy to show the presence of the toxins. We believed it would be easy to show how the toxins were being delivered to the victims. Quantifying the delivery system and qualifying the amounts of the toxins in a diluted substance were going to be incredibly difficult because the science was just not established with the requisite level of certitude...[I]t's the tried and true plan of strategy of starting with damages and using the Cartesian formula that there is a cause and effect. We knew that we had an effect. We had the injury, and we had the search for the cause, and when you have cumulative effects that have a certain pattern, we use science as probabilities that if you have a common occurrence that is the effect, there should be in all reasonable probability a common cause, and so we used the strategy of going for the effect first, because that we could prove with certainty, and then the causal link we thought would necessarily follow if the Cartesian formula was correct. The mind would beg for a cause if you could establish the existence of the effect...Our victims were the predominant vessels of the effects. They had the lupus that had been fully diagnosed by scientists who had no prejudice one way or the other in the case. And their proximity to each other, those were easily establishable facts. They were close to each other, they all had lupus-like and lupus diseases.[113]

When the case shifted from the presence of certain effects, such as disease rates, to the other end of the Cartesian formula, problems arose. Doubt was cast particularly on the plaintiffs' witnesses charged with generating a computer model and theorizing how toxicants were moved from waterlines to residents' sinks and bathtubs. For much of this work, plaintiffs retained Charles Howard & Associates. Howard was a consultant to water, sewerage, and power utilities, as well as local, state, and federal governments across North America, in the development and use of computer techniques for water management. After taking field measurements of water pressure at various points across the distribution system in Kennedy Heights, Howard used EPANET, a computerized water distribution system simulation developed by the Environmental Protection Agency, to model the fate and transport of contaminants to plaintiffs' homes.[114] Based on the introduction of 1 g/m^2 of a contaminant to a hypothetical pipe break along the network, EPANET was modeled to provide estimates of contaminant concentrations at certain locations, given in maximum levels within each hour in mg/l over a 24-hour period. Assuming that contaminants entered the system during water main repairs, Howard modeled concentrations at various points along water pipes and at certain bellwether homes after a hypothetical repair at 11322 Murr Way or 11322 Lockgate Lane.[115] His

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[113] Interview with Attorney for Plaintiffs in *Adams et al. v. Chevron USA et al.*, April 18, 2002, in Houston.
[114] Howard, C.D. (1996). Letter to Carl D. Shaw, O'Quinn, Kerensky, McAninch & Laminack from Charles D. Howard, Charles Howard & Associates, Ltd., September 30, 1996.
[115] Plaintiffs took water samples and samples of "oil floating on the surface of the water and entering a pipe during a pipe repair" after a pipe break at 11326 Lockgate Lane in September 1996. They found PAH

findings suggested that between .027 and 5.082 mg/L of contaminant would be found in pipe 4243, which delivered water to seven of the bellwether plaintiffs' homes, over the course of a 24 hour period following introduction of the contaminant into a pipe at 11322 Murr Way. Chevron questioned many of the assumptions underlying the model itself as well as Howard's choice of inputs into the model.[116]

Despite numerous challenges against many of their expert witnesses, plaintiffs were able to present and enter into evidence most of the data that they had gathered. However, as they neared completion of their presentation of the case, an unexpected series of events unfolded. First, the fifth judge assigned to the case, Kenneth Hoyt, recused himself after weathering a series of accusations of bias from Chevron and (according to plaintiffs' attorneys) other outside pressures. Plaintiffs accused Chevron of "forum shopping" and cited evidence of defendants' efforts to avoid compliance with the court's discovery orders.[117] Chevron maintained that Hoyt had shown favoritism for the plaintiffs and made biased comments, primarily during bench conferences.[118] The Fifth Circuit Court of Appeals was not entirely persuaded of the existence of prejudice.[119] However, "in the interest of justice," Hoyt disqualified himself and declared a mistrial in August 1997.[120]

Dispute Resolution

The final judge to be assigned to the case, David Hittner, focused hearings on several issues following the mistrial[121]:

1. How best to proceed with a trial plan:
    a. Make use of a similar bellwether claimant selection process to what had been tried to date (plaintiffs preferred that a trial proceed for the 29 previous bellwethers or a representative subset, with the court

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concentrations of 2.4 ppm in the water and 7,826 ppm in the oil. Plaintiffs' Summary of the Case, *Adams et al. v. Chevron U.S.A., Inc. et al.*, H-96-1462 (S.D. Tex. September 10, 1997).

[116] Defendants claimed that the model was not scientifically valid because (a) it was not initially designed to model oil contamination but was created for the modeling of soluble substances such as chlorine, (b) was not calibrated in response to field measurements, (c) eliminated portions of the water distribution system to increase amounts of the contamination to certain homes, (d) was run twice and then totaled, and (e) resulted in more PAHs at certain homes than had been entered under the assumed water line break. Defendants further disagreed with the model's assumptions regarding the amount of contaminated water to enter the pipes and the amount to stick to pipe surfaces and remain after post-repair flushing of the system. Summary of the Case Submitted by Defendants, *Adams et al. v. Chevron U.S.A., Inc. et al.*, H-96-1462 (S.D. Tex. September 10, 1997).

[117] Platintiffs' Response to Chevron Defendants' Motion for Disqualification, *Adams et al. v. Chevron U.S.A., Inc. et al.*, H-96-1462 (S.D. Tex. July 25, 1997).

[118] For instance, Judge Hoyt discounted a pamphlet presented by Chevron attorneys that stated that blacks had a higher incidence of lupus than whites, because "white people write it." Tedford, D. (1997). Judge Hoyt recuses self from trial: Kennedy Heights case will have to be retried. *Houston Chronicle*, August 22, 1997, p. A-1.

[119] *In re Chevron U.S.A., Inc.*, Cause No. 97-20612 (5th Cir. August 19, 1997).

[120] Order, *Adams et al. v. Chevron U.S.A., Inc. et al.*, H-96-1462 (S.D. Tex. August 21, 1997).

[121] Hearing before the Honorable David Hittner, *Adams et al. v. Chevron U.S.A., Inc. et al.*, H-96-1462 (S.D. Tex. September 18, 1997).

maintaining previous rulings regarding admissibility of evidence under the *Daubert* doctrine[122]),

b. Apply defendants' previously proposed selection methodology for a bellwether trial, or

c. "Try the site," by determining whether harmful substances that were the responsibility of Gulf Oil were found in Kennedy Heights and whether those substances could cause diseases that were a part of the lawsuit (defendants' preferred approach);

2. Which hearings and motions for summary judgment should be held and ruled on, particularly relating to the admissibility of certain medical and scientific evidence gathered by plaintiffs (defendants argued that much of the evidence regarding drinking water contamination was inadmissible under the doctrine set forth in the case of *Daubert* and cited approvingly in other cases, including a recent 5th Circuit ruling[123]);
3. Which issues would be heard first should the case be retried; and
4. Whether there was interest in exploring settlement possibilities in the case.

Defendants initially expressed doubts about the probability of settlement, "if a settlement implicates or necessarily implicates the personal injury medical claims of the plaintiffs." Chevron was of the opinion that it would succeed in its legal position against plaintiffs' medical case either on its *Daubert* motions, at trial, or in the 5th Circuit. They were thus amenable to segregating the medical case from the property damage claims of plaintiffs for rulings by the court. They did not approve of the consideration of medical claims in mediation.

> Our position is that if we went into a mediation, no matter how good the mediator, no matter what the good faith of the parties, if they're expecting compensation for the medical part of their case and we are not intending to pay anything on the medical part of their case, that a mediation would be fruitless.[124]

Nevertheless, both sides agreed to three names of mediators before the original hearing by Judge Hittner in September 1997. Plaintiffs' attorneys listed M.A. "Mickey" Mills first on their list and Chevron found the choice acceptable. John O'Quinn described his reasons for wanting to explore mediation:

> I have got clear proof that your company sold what I call dirty land; and I have got clear evidence from competent real estate experts that that has affected the value of our land, whether it caused any disease or not. There is a stigma value associated with having your house built on top of an old toxic waste dump. I said, surely you can come and settle that part of the case. Why can't we do that? Because one of the big points that has been driving my decision making is, I feel out of concern for my clients, I want them to have an economic way to get off of this land, to get away from it. I want them to have some money where they can move on with their lives. If they could get their property damage, perhaps that could be done...So, here's my point: I don't see any

[122] The case of *Daubert et al. v. Merrell Dow Pharmaceuticals, Inc.* established the standard whereby scientific evidence in torts claims is admissible. Evidence is admissible only if the principle upon which it is based is "sufficiently established to have general acceptance in the field to which it belongs." 509 U.S. 579, 113 S.Ct. 2786.

[123] *Allen v. Pennsylvania Engineering Corp.*, 102 F.3d 194 (5th Cir. 1996).

[124] *Supra* note 121, p. 61.

> reason why we can't at least in good faith mediate the property damage. I mean, [Chevron] doesn't have a *Daubert* hearing, as I see it, on the property damage.[125]

Other matters remained unresolved. For instance, plaintiffs were concerned about how mediation would affect their claims under CERCLA, which allows for recovery of money spent investigating the extent of site contamination. In addition, under the Resource Conservation and Recovery Act (RCRA), plaintiffs claimed a right to require defendants to remediate the site, a process which their lead environmental engineering expert estimated at between 30 and 42 million dollars. O'Quinn felt that recovery of certain expenditures as well as punitive damages (should they be linked to a property damage claim) could be explored and potentially resolved through mediation. Defendants countered that they would prefer not to discuss all of the above issues, only to have to subsequently try the personal injury claims. While the issue was left to the judge to determine, plaintiffs urged the court to "see if we can start a mediation in the near future," while defense attorneys noted that "it would be more productive to undertake serious settlement negotiations, if they're possible, after we have had a hearing on the motions we have been discussing." The court ordered the case to mediation on September 22, 1997, noting that "Mr. Mills was the mediator agreed to by all parties, in the event the Court elected to forward this case for mediation."[126] Further, it was ordered that approximately 1,000 plaintiffs who had been previously severed from the case be rejoined with the other O'Quinn plaintiffs.[127] At around the same time, a matter in state court that focused primarily on property value diminution was ordered into the same mediation.[128] Several small, independent groups of plaintiffs were also folded into the talks. The court's objective of applying whatever was to be worked out in mediation to all claimants was potentially met.

Chevron asked the court to allow it to file additional motions for summary judgment, particularly regarding plaintiffs' medical testimony and the admissibility of evidence regarding water contamination. As the mediation progressed, Judge Hittner gave a clearer picture of what a trial would look like should mediation prove unable to yield a settlement. First, Hittner would hold *Daubert* hearings regarding water contamination *and* property value claims. He further planned to convene oral hearings for a number of defendants' motions to exclude testimony.[129] Knowledge of recent court rulings that referenced and reinforced the doctrine established in *Daubert* started to shape certain plaintiffs' attorneys' views of their changes of success should the case be retried.

Mills began to carry out his tasks as mediator in the case, and was later appointed "special master" under rule 53(b) of the Federal Rules of Procedure. He was asked to:

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[125] *Supra* note 121, p. 62.
[126] Order, *Adams et al. v. Chevron, U.S.A., Inc.*, H-96-1462 (S.D. Tex. September 22, 1997).
[127] *Ibid.*
[128] Interview with Plaintiffs' Attorney, December 19, 2002, via telephone.
[129] Transcript of Hearing before the Honorable David Hittner, *Adams et al. v. Chevron U.S.A., Inc.*, H-96-1462 (S.D. Tex. February 19, 1998).

Make recommendations to the Court to define the final/complete plaintiff group in this case; and

Report to the Court and the parties his determination of an allocation of any of the settlement funds among the final/complete plaintiffs in the Kennedy Heights litigation.[130]

Thus commenced the settlement negotiations that plaintiffs had long prepared for (attorney notes suggest preparation of a settlement matrix linking plaintiffs to exposure years and forecasting bellwether claims settled in a certain dollar value range). The special master described "four phases" to settlement of the case on June 2, 1998, after having met with most or all of O'Quinn's clients (roughly 1,700 people):

> The **first phase**, which I have explained extensively to the various clients and to the plaintiff attorneys, would be what I call a settlement model. The settlement model treats all of the parties fairly, even though each of the parties may get a different amount of the settlement. I should have the settlement model done within the next week, maybe as late as 10 days, to present to the plaintiffs and their counsel. Once the settlement model has been agreed to by the plaintiff attorney, because it's essentially for their allocation of whatever amount the case settles for, I **would then** be involved in negotiating an actual settlement agreement. The settlement agreement will set out all of the detailed terms of the settlement. For example, the amount of plaintiffs that have to agree to the settlement and any other particular terms that may be unique to the settlement. Once the settlement agreement has been negotiated, Your Honor, we would then negotiate the dollar amount, the actual amount of settlement, and I will make clear to all of the parties and all of the attorneys that my view of the settlement has no bearing on liability of any. It is a settlement; it is a resolution of the dispute. **Once we agree** on the settlement amount, then the respective attorneys would send letters out with their signature and my signature to their clients recommending the settlement and the amount they would receive. As we did in the Fench Ltd. Case and the way I settled the Colonial Pipeline case, any of the clients who are not happy with the settlement then had a right to come and meet with me to review their settlement, and then I would make a recommendation to the Court whether their settlement should be raised or lowered or remain the same. **The fourth phase** would be for those clients who are just not happy with the settlement. The way we have handled it in the past is, after reviewing their claim, I have made a recommendation to the Court that their attorney, for example, O'Quinn should have the right to withdraw, and they would have the right to seek other counsel; and as long as the requisite number of plaintiffs agree to the settlement, then the settlement would go forward.[131]

Interviews revealed a broad range of accounts of the special master's meetings with plaintiffs. It was agreed that all resident-plaintiffs met with the master, for the most part on more than one occasion and in groups of roughly 20-30. Some recalled that these groups were divided according to geography. All sides agreed that the master discussed what he felt were the facts of the case and the case's merits with the residents. While certain residents were convinced by their meetings and by data made available to them that the neighborhood was only contaminated at "a minimal amount or level,"[132] others expressed concern over the master's apparent use of the meetings as a means of cajoling settlement by raising doubts about evidence and plaintiffs' chances at trial. Of equal

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[130] Agreed Order to Appoint Special Master, *Adams et al. v. Chevron U.S.A., Inc.*, H-96-1462 (S.D. Tex. April 21, 1998).

[131] Status Hearing Before the Honable David Hittner, *Adams et al. v. Chevron U.S.A., Inc.*, H-96-1462 (S.D. Tex. June 2, 1998), pp. 6-7.

[132] Interview with Kennedy Heights residents, December 12, 2002, via telephone. Residents who reported that they were confident that the contamination posed no danger were not without their own stories of suspected contamination, such as "odor in our water that comes out of the faucet."

concern to residents, particularly some who lived in the vicinity of the NE pit, was the manner in which their concerns were heard and then apparently discarded. For example, it was suggested that the master shared with the small groups a number of issues that would be considered during the process. One resident recounts these issues in a letter to U.S. Representative Sheila Jackson Lee:

> My concerns with the case vary from the frequent presiding judges removed from the case to the apparent disregard of factors, such as the six elements. These elements were argued and discussed in trial and reiterated with residents in a meeting with the mediator as the basis to reach decision on during mediation, per Judge Hittner's orders. The six elements included: (1) the buyout of homes over two of the three pits in the subdivision; (2) relocating residents; (3) transaction cost; (4) clean-up of area for other residents outside the pits; (5) move and replace water lines; (6) personal injury. The proposed settlement award for Kennedy Heights residents appears not to reflect the judge's request.[133]

Another discusses what he perceived to be the master's discussion of weaknesses in plaintiffs' case:

> One of the things that came to my mind, the meeting that we did have with him. His thing was, OK, how many of you all here have ever heard of tort reform? And we were like. And then he said, now ya'll know that there has been tort reform that has taken place in Texas. So it's like, in other words, at this point here, because of tort reform, these particular categories here, you can just forget about these. And that's when one of us rose up a bit, and said "what are you talking about?" And he said all of the things that have happened to everybody. So the mediator's thing was, because of tort reform, you're not going to be able to get what you asked for. He had mentioned that Texas legislature had gotten involved in the whole process of tort reform, and everything, had turned everything around. So it was like he just found this out. He just found this out. And he said, since I know what I'm talking about, these categories here, you know, there's nothing that's going to really be done about all of these.[134]

Unfortunately, no records of the meetings were available for review, making it difficult to reconcile the various accounts of meetings with the special master. However, it is clear in court transcripts that by June, 1998, Mills claimed to have "explained to the O'Quinn clients that part of the settlement would not include a sale of their house, unless it was voluntarily by them to some third party."[135] The master also recalled his general approach to meetings with residents:

> They're never OK with anything. Until you convince them that they can't win their case in the eyes of the law. I'll give you an example. If you're asked to mediate a wrongful death case. The first thing you have to do in a wrongful death case as a mediator is you have to say to the people, are you willing to settle your case for the value that is set in the eyes of the law? If you're not willing to settle your case based on the value as the law sees it, then we need to go home. You don't get over that hurdle in a wrongful death case, in the first five minutes, you might as well give the people their money back and not mediate it. And as a mediator you're wasting your time. You have to sometimes tell the people the hard truth. I do it early, not later. Just like in Kennedy Heights, people had to understand the consequence of the law. I'm a consequence mediator, not a risk mediator. Risk is not what I'm concerned about in mediation. And you don't know what the

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[133] Jones, D. (1999). Letter to James Gaston, Chief of Staff, Office of U.S. Representative Sheila Jackson Lee from Kennedy Heights Plaintiff, October 18, 1999.
[134] Interview with Kennedy Heights resident, April 20, 2002, in Houston, Texas.
[135] *Supra* note 131.

consequence is until you have something to lose in the mediation. So my notion with these people was if you all don't understand the law and the consequence of the law, then I'll never be able to work a settlement with you. And you all need to understand that 9 chances out of 10, O'Quinn is gonna get poured out on summary judgment, he's never even gonna get evidence on, and for some reason if you get the one chance in ten that you get a trial, the 5th Circuit will take it away, ten out of ten times. There is no basis for this lawsuit...

Q: So when did you switch from trying to educate them about the case as it stood to the solution that you offered?

A: When I was satisfied that I had the confidence of the community. I never talked to them about solutions until I felt they were educated on the facts and the consequences of the trial.

Q: And so the solution that you offered at first, did that look a lot different from what eventually came to pass?

A: I worked through a series of solutions.

Q: What did the first one look like?

A: What everybody wanted.

Q: Which was?

A: New homes in another community. I let them come up with lots of different solutions that they thought were available and I worked on those solutions and I was not able to obtain their solutions. Then we worked on solutions that I could accomplish. What I'm saying to you is, I knew their solutions were unobtainable, that was OK. Because it's not like the bell was gonna go off and if I didn't get it done a bomb was gonna go off. So I had to let them work through the fact that their solutions were not obtainable. I had to get them some respect for what they wanted even though I knew from the beginning they would never be achieved. They were impossible.

Q: Did that include taking their proposed solution and then trying to work that out with Chevron and the attorneys?

A: I don't work exactly that way. I'm a very proactive kind of negotiator. If you have solutions that make no sense, I'll negotiate with you a different solution. I won't take what you think is a solution and dignify it if it makes no sense. I don't do that.

Q: So what was the first kind of solution that did warrant your bringing it to both sides?

A: The only solution that Chevron was ever gonna agree to was just an aggregate dollar amount. I had to deal with the allocation of it.[136]

In addition to their concerns regarding meetings with the master, residents did not express an understanding of how a final settlement was determined or allocated. The total dollar value was determined through positional bargaining between attorneys for both sides, with the assistance of the special master in terms of information regarding appropriate amounts based on computer-generated settlement models developed by his associates. The details of these discussions are privileged. However, it was generally agreed that some number approaching what plaintiffs' attorneys had prepared for before and during trial was asked for and rejected. The extent to which Chevron's offers changed was not

[136] Interview of Special Master, *Adams et al. v. Chevron U.S.A., Inc.*, April 16, 2002, in Houston, Texas.

clear, although attorneys for Chevron described "a rigorous litigation risk analysis" performed in order to arrive at a settlement offer. The logic was simple: Chevron had spend x amount of dollars on the case to date, and a second trial on the merits would cost at least a certain fraction of that number. In addition, Mills' efforts figured into the decision-making:

> Mills had a formula for distributing money, an amount with that many plaintiffs, trying to figure out how much each plaintiff should get, and I think kind of a combination of how much money we were willing to put up and how much he felt that the plaintiffs would be willing to accept through his formula, we somehow ended up at that $12 million figure.[137]

Complete records of the final settlement or the development of the settlement model were either privileged or unavailable for review. However, it is clear that the model involved, at a minimum, two primary variables: "property" (a function of distance from the NE and SE pits) and "personal" (which was determined as a composite of duration of time spent in the subdivision, the monetary value of certain diseases suffered, and other considerations).[138] Higher dollar values were computed for homes of varying distances from the NE pit, as it had been used for crude oil storage while the SE pit had stored brine. Property awards were determined for each address and divided among the number of plaintiffs who claimed to have lived at the address. The master made an effort to ensure that those living on top of the NE pit had sufficient resources to allow them to purchase a home elsewhere.[139] Review of a map illustrating "Total Property Award" for plaintiffs in the *Adams* case shows that homes above the NE pit were awarded $54,000.[140] By comparison, homes over the SE pit were allocated $15,000. The distribution of property awards appears uniform across the subdivision within a distance of 500 feet from the NE ($25,000 when not directly over the pit) and SE pits ($10,000 when not directly over the pit). At distances greater than 500 feet, the value appears as a continuous function of distance. The NW pit was not factored into the property determinations. Nor was the exposure pathway claimed by plaintiffs (ingestion, inhalation, or absorption of contaminated water through daily activities such as cooking

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[137] Interview of Attorneys for Chevron (in-house and outside counsel), December 18, 2002, via telephone.

[138] Special Master's Report, *Adams et al. v. Chevron U.S.A., Inc.*, H-96-1462 (S.D. Tex. March 24, 2000):

> The Master, in reaching his allocation, has reviewed all of the relevant facts and circumstances in the case including, but not limited to, a determination of the address of each Plaintiff's residents to establish whether their property was in the subdivision known as Kennedy Heights, and if so, the distance from Kennedy Heights, whether the Plaintiff was a real property owner, a relative to a real property owner or an unrelated visitor. Any real property determined to be within Kennedy Heights was further evaluated based on its location within Kennedy Heights. The Master further evaluated each Plaintiff's award based on the length of time the plaintiff lived in Kennedy Heights and based on an examination of each Plaintiff's medical records, questionnaires and interrogatories provided to the Master by the Plaintiff's attorney and other factors.

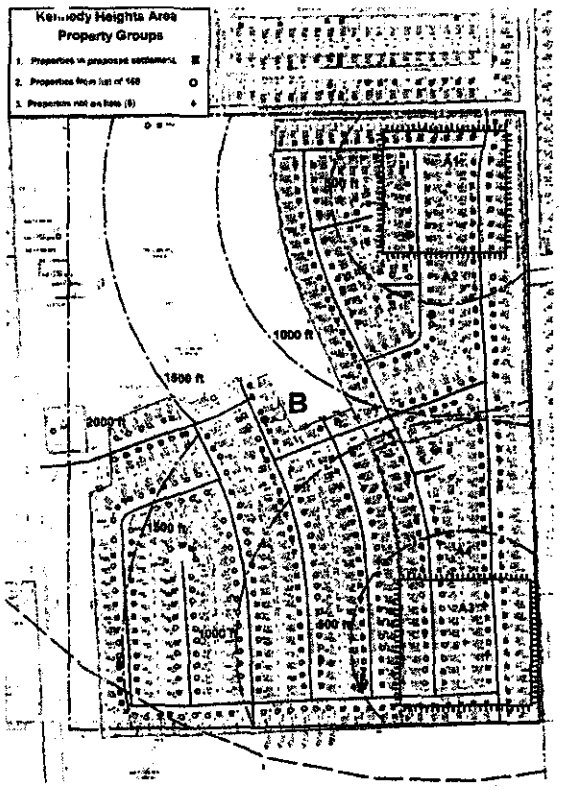
[139] *Supra* note 136:

> I was able to show Chevron based on objective evidence that houses built over a pit have less value than houses that are not built over a pit. And so I took data from the same or similar type of subdivisions and showed how much those houses were selling per square foot, and then I did a model which for 44 houses over the NE pit, I gave those people 100% of the value of their houses, it was like $50,000.

[140] Adams Plaintiffs, Kennedy Heights Litigation, Total Property Award map (no date), obtained from the special master of *Adams et al. v. Chevron U.S.A., Inc. et al.* during interview, April 16, 2002.

and bathing) factored into the model. This makes sense, as the property variable was designed to model property value diminution, which would likely follow a linear distance path rather than a more complicated hypothetical exposure path. It was not possible to determine how these numbers were determined. The special master indicated that he reviewed hedonic pricing models and other estimates provided by plaintiffs and defendants. Residents also stated that the master requested information from them regarding the cost of relocation. Some were not confident that the final system of allocation based on the property variable yielded fair outcomes. For instance, there were reported disagreements over whether "median" or "mean" home values in Houston should be used (residents said that the master preferred to use median values, which they claimed resulted in lower housing value estimates). A broader concern was expressed over the fact that the "stigma" of living in a community that had been repeatedly labeled a "toxic waste dump" had reduced the value of *all* homes in Kennedy Heights substantially. Under this logic, a person living less than 1,000 feet from the center of a pit and receiving $5,000 for property damages would not be able to afford equivalent housing elsewhere in the city.

Figure 3. Kennedy Heights Plaintiffs Represented on a Settlement Allocation Map.



Residents interviewed understood the "personal" variable even less. Review of a map showing personal awards to *Adams* plaintiffs reveals that this variable was not a function of distance. What is clear is that certain residents on Murr Way in the vicinity of the NE pit were offered personal awards far above the average settlement value (some in excess of $50,000 and less than a handful above $100,000).[141] A source of much uncertainty following the release of the settlement amounts, the "personal" variable appears to have been built based on a system of "disease levels" developed by the special master and his team. One sheet lists plaintiffs, their diseases, and a monetary value attached to each disease (i.e., colon cancer victims appear to have been offered $5,000 while those suffering from lupus were offered $25,000). Multiple diseases received the sum of the value attached to each condition. The fact that residents were offered amounts that were not so evenly rounded (e.g., $5,300, $500, $10,700) suggests that other factors, perhaps including time spent in the subdivision, were included in this variable. As one can imagine, the personal variable resulted in a wide variance of

[141] Adams Plaintiffs, Kennedy Heights Litigation, Total Personal Award map (no date), obtained from the special master of *Adams et al. v. Chevron U.S.A., Inc. et al.* during interview, April 16, 2002.

settlement offers, even for people living on top of the NE or SE pit (for instance, three adjacent homes on Lockgate Lane received personal award offers of $3,300, $102,400, and $6,200). To the present, residents who lack a clear understanding of the model or who feel that it was not fairly constructed are embittered by rumors of settlement offers received by their neighbors.

While the mediation was ongoing, residents noticed that much of the attention that had been focused on the case seemingly disappeared "overnight." After decades' worth of concerns over water main breakages, water quality, and disease, discovery of residual contamination, video tapes showing layers of crude oil near Pas-Key's excavation site, and months' worth of testimony and expert witnesses' accounts of their neighborhood, residents were surprised by the speed at which elected officials and political leaders "abandoned" their cause. Part of the explanation for this dynamic can be found in the activities of the special master, who "met with non-party leaders of the African-American community" in 1997 to discuss his duties and interpretation of the case.[142]

A final question remains: why did plaintiffs' attorneys agree to settle the case for $12 million? First, it had become more apparent over time that Judge Hittner would make swift rulings on certain aspects of the case should mediation fail. In a hearing in August 1999, he explains:

> There is a major legal question that I was ready to decide for the last two years on the legal matter as to the basic liability at all of Chevron due to, I guess, the intervening purchase of Log Development. Then, of course, there was the *Daubert* hearing, the expert witness hearing as to, what is it, the water itself first; and then if we got past that, as to the cause, you know, for the folks with their physical ailments.[143]

Second, Hittner had granted several extensions throughout the mediation process, and made it clear in August 1999 that he would not allow further extensions (the agreement had been signed by this point but had yet to be ratified by the residents).[144] Plaintiffs' attorneys, in a letter to residents in March 1999, explained a third source of pressure on their side to settle the case:

> Our recommendation that you accept the settlement is based on a decision issued by the 14th Court of Appeals in Houston in the case of *Hicks v. Humble Oil and Refining Company*. In *Hicks*, the land in dispute had been used for the storage of crude oil in pits back in the 1920's. The land was subsequently sold by Humble (now Exxon) in the 1940's, and several homes were built on the land. People living in the houses became ill and sued Exxon for the damages resulting from their illnesses, asserting the illnesses were caused by contamination of the soil by the oil stored there in the past, which contamination got in the water supply which the plaintiffs drank. Those facts closely parallel the fact pattern in our case. In June of 1998, the Houston Court of Appeals issued the *Hicks* opinion holding that Humble Oil was <u>not legally responsible</u> for any of the illnesses, stating that because the purchaser of the land knew that the land had been used for crude oil storage, Humble owed no duty to those living in the houses ultimately built on the land. Thereafter, lawyers representing the Hicks plaintiffs sought to appeal the case to the Texas

[142] Joint Status Report, *Adams et al. v. Chevron U.S.A., Inc.*, H-96-1462 (S.D. Tex. November 21, 1997).
[143] Hearing before the Honorable David Hittner, *Adams et al. v. Chevron U.S.A., Inc.*, H-96-1462 (S.D. Tex. August 25, 1999), p. 8.
[144] *Ibid.*

Supreme Court, which denied the application and refused to hear the case, making *Hicks* law in Texas.[145]

On March 23, 1999, roughly 2,400 plaintiffs met at the Hofheinz Pavillion basketball court at the University of Houston, and were again called upon to accept the settlement.[146] An attorney asked the group to pause and recite the Prayer for Serenity.[147] Most residents were too broken to protest the choice that they would have to make: either accept their settlement, or be deemed *pro se* (representing themselves, should the court grant motions by O'Quinn and associates to withdraw as counsel)[148] in a case that, should it proceed, will begin by considering strong challenges to Chevron's liability and the admissibility of evidence.[149] A few residents, some of whom had already moved out of Kennedy Heights, refused to accept their settlement allotments (including one resident who declined an offer of more than $50,000) and expressed their concerns in writing to the master, their attorneys, and public officials. They protested the "ethical dilemma" in which they had been placed by the decision, and questioned the true extent of similarity between the *Hicks* case and their own.[150]

In the end, plaintiffs' attorneys entered into a master settlement on July 28, 1999, which set a number of conditions that had to be satisfied by plaintiffs' counsel. Depending on where they resided and their representation, certain percentages of groups of plaintiffs had to elect to participate for the settlement to move forward.[151] The maximum amount of funds to be paid by the Defendants was set at $12 million (later raised to an aggregate amount of $12.9 million), including $4 million for plaintiffs' trial counsel for partial reimbursement of expenses and $400,000 (later raised to $650,000) for the special master.[152] Residents were given the opportunity to meet with the master and discuss any

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[145] O'Quinn, J.M. (1999). Letter to Kennedy Heights Residents from John M. O'Quinn, O'Quinn & Laminack, March 1, 1999.

[146] Chambers' Plaintiffs' Response to Motion to Withdraw of John O'Quinn et al from their Representation as their Councel, *Adams et al. v. Chevron U.S.A., Inc.*, H-96-1462 (S.D. Tex. February 9, 2000).

[147] "Lord, grant me the serenity to accept the things I cannot change, courage to change the things I can, and wisdom to know the difference."

[148] O'Quinn, J.M. (2000). Letter to Client from John M. O'Quinn, O'Quinn & Laminack, July 28, 2000.

[149] In September 1999, Judge Hittner made the following comments during a hearing: "So the folks who elect – and that's your perfect right – to opt out of any settlement, you had better get a lawyer to come into this case where he or she will say that they are up to speed and ready to represent you, or you'll have to represent yourself. I certainly encourage you to get a lawyer, because on this date – I'm going to give you a date. On that date I'm going to begin writing as to whether this case is legally sufficient and whether or not you've got a case or whether the defense is correct that the whole thing should be poured out. I'm going to start writing on a certain date with no further notice to anybody." *Supra* note 144, p. 35.

[150] In the case of *Hicks et al. v. Humble Oil and Refining Company, Exxon Corporation and Exxon Company U.S.A.*, 970 S.W.2d 90 (Tex App. 1998), the court found that since the Hicks family had notice of the "dangerous condition" (the oil pits) when Thomas Hicks purchased his land, Exxon did not have a legal duty to give notice of the potential effects of the residual oil. Residents in Kennedy Heights continue to claim that they received no notice of the presence of the pits under their properties.

[151] For a certain number of plaintiffs living over the NE pit, the settlement called for 100% acceptance. Other groups had settlement requirements of various percentages below 100%.

[152] Master Settlement Agreement for Plaintiffs Represented by O'Quinn & Laminack, *Adams et al. v. Chevron U.S.A., Inc.*, H-96-1462 (S.D. Tex. July 28, 1999). Amounts were increased by the time the special master filed his report in March 2000. Special Master's Report, *Adams et al. v. Chevron U.S.A., Inc.*, H-96-1462 (S.D. Tex. March 24, 2000).

grievances that they had with the settlement. A total of 3,150 residents settled. An additional 589 did not. The court granted Chevron's motions for summary judgment and dismissed remaining plaintiffs' claims with prejudice on October 1, 2002.[153] Log Development was also granted summary judgment based on limited immunity under the Texas Business Corporation Act, due to their bankruptcy and dissolution.[154]

The EPA performed an Expanded Site Inspection in Kennedy Heights starting in August 1998.[155] Sampling of the subsurface soil, groundwater, and soil gas commenced in June 2000, focusing on areas where EIT had previously documented contamination. The Inspection did not include drinking water samples, as "a review of City and State records indicate that the drinking water supply in the Kennedy Heights neighborhood meets all drinking water standards."[156] Soil samples were taken at depths of 0-2 feet and 4-6 feet (30 near NE pit, 8 near NW pit, and 18 near SE pit). Groundwater samples were collected from existing monitoring wells within the NE pit. Soil-gas samples were collected from properties within the NE pit. TPH levels of up to 16,500 ppm were detected at a depth of 4-6 feet. Traces of VOC's were also found in soil samples, as were traces of contaminants in the groundwater samples. In addition, "a thin oily layer of non-aqueous phase liquid (NAPL) was encountered while taking water level measurements at groundwater monitoring well NE-30."[157] EPA contractors documented hydrocarbon odors at several sampling locations when opening soil core barrels. Visible hydrocarbons were present in a monitoring well and in one of the soil samples.

The EPA developed of a "worst case scenario," where the highest concentration of TPH found would be excavated and spread on dirt where a child would play and come into direct contact with the soil through oral, dermal, and inhalation routes. Because this scenario yielded a hazard quotient less than one, the EPA concluded that "the soils do not present a risk to the residents from exposure to TPH by direct contact with soil."[158] They concluded that the site did not qualify for listing on the Federal Superfund's National Priorities List. However, they noted that the water mains in the area of the NE pit were old and in need of repair. City officials noted at the time that they were prohibited from replacing mains during litigation, and that they would "try to move forward with the replacement."[159] To date, residents say that no work has been carried out to replace the

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[153] Final Judgment, *Adams et al. v. Chevron U.S.A., Inc.*, H-96-1462 (S.D. Tex. October 1, 2002).
[154] *Ibid.*
[155] Ecology and Environment, Inc. (2001). Expanded Site Inspection, Final Report. Prepared for U.S. Environmental Protection Agency, Region 6, May 2001.
[156] *Ibid*, p. 2-3 ("However, the EPA has met with both City officials and the residents several times, and the residents' concerns about their drinking water supply remain unresolved.")
[157] *Ibid*, p. 4-7 ("An attempt was made to capture enough of the NAPL to send for laboratory analysis, but there was not a sufficient quantity available for sample collection. A decision was made to go ahead and sample the well, which went dry during purge activities. The well was allowed to recover and a sample was collected for analysis.")
[158] *Ibid*, p. 5-2.
[159] *Ibid*, p. 3-1 ("The piping is cast iron and was installed in a configuration which requires periodic flushing at fire hydrants throughout the neighborhood to eliminate corrosive buildup. Replacement of the existing water mains with new piping was well as additional tap water sampling were both brought up during a meeting with residents and City officials.")

pipes. Some believe that the City is reluctant to act, because "if they dig, they'll find something else."

Discussion

Recent research into court-centered mediation reveals that the procedure, when utilized in civil litigation, is drifting toward bilateral negotiation between attorneys, with clients playing minimal or no role.[160] The originally dominant vision of mediation as guided by the principle of self-determination, where parties actively participate, choose and control decision-making norms, create options for settlement, and control the final decision regarding whether or not to settle, has given way to norms of settlement aimed at case evaluation and closure.[161] This trend is viewed positively by those who ascribe to a transactional model of adjudication and view mediation as a means of efficiently managing mass tort and other forms of complex litigation.[162] In contrast to the transactional model, the notion of "procedural justice" proceeds from an understanding of certain needs expressed by disputants, particularly disadvantaged parties. These disputants value (a) the opportunity to tell their story, (b) control over the telling of their story, (c) knowledge that their story has been considered fairly by a mediator, and (d) signals from a neutral that would suggest that a public institution such as the judiciary values and respects them as members of society.[163] A number of process characteristics that influence procedural justice judgments center around the style employed by the court-appointed neutral. It is clear that the orientation of the mediator in *Adams v. Chevron* influenced not only the decision to settle, but also the judgments of residents who had for years sought closure of their claims and perceptions of where they lived. Thus it is instructive to consider the different mediation styles that are employed in such situations and their ramifications for community members who believed themselves the target of policies that exposed them to serious health risks, possibly on account of the ethnicity of the members of the community.

There are two "ideal types" of mediation styles that have been given careful consideration in the literature: facilitative and evaluative mediation. Facilitative mediation assumes that parties can work collaboratively, provided certain conditions of their interaction are met. Mediators who adopt this style tend to focus on assisting parties in reaching mutually acceptable decisions by clarifying communication, urging an understanding of underlying interests, and creating means through which disputants can gather and interpret information and understand their options. By contrast, evaluative mediation spends little time satisfying interests and focuses on the merits of parties' positions as expressed through the courts. In practice, mediators will often make use of aspects of both facilitative and evaluative mediation. Still, the trend toward evaluative mediation has led some states to adopt court rules governing their behavior. These rules

[160] Welsh, N. (2001). Making deals in court-connected mediation: What's justice got to do with it? *Washington University Law Quarterly*, 79: 787-861.
[161] Welsh, N. (2001). The thinning vision of self-determination in court-connected mediation: The inevitable price of institutionalization? *Harvard Negotiation Law Review*, 6: 1-93.
[162] Rubenstein, W.B. (2001). A transactional model of adjudication. *Georgetown Law Journal*, 89: 317.
[163] Tyler, T.R. (1987). Conditions leading to value-expressive effects in judgments of procedural justice: A test of four models. *Journal of Personality and Social Psychology*, 52: 333-339.

are often modeled after the Model Standards of Conduct for Mediators that was prepared by a joint committee of the American Bar Association, the American Arbitration Association, and the Society of Professionals in Dispute Resolution (now the Association for Conflict Resolution).[164] The Standards emphasize self-determination, mediator impartiality, and the role of professional advice. Let us consider each in term as they relate to *Adams v. Chevron*. While these standards are not incorporated into Texas state laws governing mediator conduct, they allow us to contrast the special master's work with what are viewed as important elements of a mediation process, particularly one that includes a party which feels that it has been denied adequate avenues for obtaining procedural justice.

Self-determination. Self-determination is upheld if the parties' right to decide is protected, parties are not unfairly influenced into settlement, material facts are not misrepresented, and the parties are encouraged to conduct the deliberations in a non-adversarial, respectful manner.[165] When considering the role of the mediator in respecting a disputant's right to self-determination, one must discern whether the neutral engaged in facilitative influence or coercion. Even the most facilitative of mediators uses process considerations to influence how parties interact and the issues that they consider. Coercion is more likely to occur as elements of self-determination are ignored, set aside, or deliberately violated in an effort to settle a case. In *Adams v. Chevron*, there were clear signals from the court that the case was to consider which plaintiffs could be included in a settlement, and what resources should be made available and in what proportion as they related to each disputant. Chevron made it clear from the beginning that settlement would only occur in the *absence* of reference to contamination, links between residual hydrocarbons and disease, water quality, or other matters of medical or epidemiological causality. In this context, plaintiffs were given the opportunity to meet with the mediator, but the utility of their stories of living with contamination was greatly reduced before they even entered the mediation. Further, their ideas about settlement "elements," however implausible given Chevron's stance on each of them, were used only as a means of illustrating their unrealistic nature to the residents. Meetings with the mediator focused on matters of "legal consequence," meaning deliberations were imbalanced in the direction of using claimants' legal standing to reduce what they would be willing to accept in the way of monetary settlement. While there is no evidence that the mediator misrepresented any information in this case, he still undertook the task of translating voluminous records of years' worth of preparation, testing, studies, and findings into a compact picture of why, in his view, contamination did not exist in Kennedy Heights. Any opportunity for the residents to use the mediation process to address their fears of and experiences with contamination would come only when residents were willing to accept this translation of a complex reality with which plaintiffs were most intimately involved.

Impartiality. This principle requires that a mediator disclose of any circumstance that could lead to bias or prejudice in their understanding of a case, views of one or more

[164] Levin, M. (2001). The propriety of evaluative mediation: Concerns about the nature and quality of an evaluative opinion. *Ohio State Journal of Dispute Resolution*, 16: 267-296.
[165] *Ibid.*

parties, or actions in shaping or interpreting proposed options for settlement. There is no evidence that the mediator in *Adams v. Chevron* favored one side over the other. However, his reading of the case and formulation of a view of the extent of contamination, which went beyond his reading of the plaintiffs' likelihood of success at trial, meant that any questions that he raised regarding residents' accounts would be biased in the direction of his conclusions regarding the subdivision. Plaintiffs, who were asked during their meetings with the mediator to suggest what they felt were the "facts" of the case only to see many of them crossed out on a board, had to spend a considerable amount of their very limited time with the mediator either defending their understanding of the facts or coming to terms with the mediator's interpretation. This left little time or energy for an adequate understanding of plaintiffs' interests, which may or may not have differed from what had been represented by their attorneys and may or may not have led to options other than a strict dollar value distributed among individuals.

Professional advice. A mediator who elects not to refer parties to sources of neutral, professional advice and undertakes these tasks himself assumes increased responsibilities. This does not mean that a mediator who is also an attorney cannot provide assessments based on the law, as occurred in this case. However, this role should be undertaken *at the request of the parties* and with a clear explanation of whether the advice is based on a personal reading of the facts of the case and the law or some special knowledge of how a particular judge will rule. It should also avoid directing parties to a certain resolution of the issues at hand. Finally, information provided by the mediator should conform to what that individual is qualified by training or experience to provide. In the case of *Adams v. Chevron*, it is difficult to determine whether information about tort reform, court rulings, and the like were used to provide a realistic account of plaintiffs' options or to encourage timely settlement. What is clear is that very strong statements about the facts of the case were based on readings of evidence by a trained accountant and attorney, not a toxicologist, epidemiologist, environmental engineer, or physician.

One might ask, within the context of complex mass torts claims involving thousands of claimants, how would it be possible for a mediator to engage in more facilitative practice? One would also be correct in asserting that in the case of *Adams v. Chevron*, Judge Hittner expressly called for swift determination of settlement potential when he ordered the case to mediation. Yet shorter timetables and limited areas open to deliberation can be used to *enhance* claimants' perception of procedural justice, should they be presented in a transparent manner and used to focus deliberations on exploring how best to meet underlying interests with what limited resources are available. The mediator in *Adams v. Chevron* did consider how those living over the NE pit could meet their primary interest, safety, by securing resources that could be applied toward their relocation. And despite Chevron's denials of any real exposure pathway that could have resulted in disease among the residents, the mediator allocated part of the settlement toward families suffering from certain diseases that he felt could have been caused by PAH's and other contaminants. He should be commended for his efforts on both accounts. But as the literature on procedural justice would suggest, the *manner* in which these allocations were arrived at can be just as important as the acceptability *per se* of a monetary award to an individual claimant. To this day, uncertainties surrounding the mediation process fuel not only anger and resentment regarding settlement amounts, but

fear and anxiety over what may or may not linger in the soils of Kennedy Heights. Far from options such as relocation *en masse* or site remediation that after a point became untenable, the exploration of lower-cost options such as water main replacement, drinking water monitoring, filters, and sidewalk and yard repair could have more realistically reduced these anxieties, which had been sustained for years and then summarily dismissed by the mediator as pure fantasy.

This discussion is not meant to criticize the actions of any individual involved in the case at issue. None of the standards described have been made into law in Texas. Meetings with the mediator in *Adams v. Chevron* were attended with attorneys for the plaintiffs, who viewed the process as one of integrity. The mediator spent roughly 20 months meeting with thousands of residents, many who were hostile to the idea of settlement. But it is important to illustrate that the use of mediation as an alternative to adjudication is dependent upon the timing of the process, tasks assigned to the mediator, legal and extralegal considerations that affect the positional bargaining of claimants' attorneys, and the extent to which the mediator is willing to uphold certain principles that will increase the perception of procedural justice. Attorneys for the residents of Kennedy Heights, convinced from early on that there was indeed something wrong in the neighborhood that had to be addressed, were nearly always prepared to mediate this case. They had careful medical documentation of personal injuries, financial accounts of property value loss, and psychological reports of emotional distress and a "culture of contamination." But they never really prepared the *residents* for what would ensue should (as with many cases involving environmental justice claims) the final resolution have to be race-neutral, de-linked from experiences with contamination, and focused on the individual rather than the community in its entirety.

Anticipating the Status Quo in Manchester, Texas

The First Community Environmental Audit Agreement

Gregg P. Macey

History

The Houston Ship Channel, one of the busiest, most prosperous ports in the world, is home to the largest concentration of petrochemical operations in the United States.[1] Oil tankers, cargo ships, liquid petroleum gas carriers, and other bulk carriers move continuously up and down the narrow channel, their huge engines burning "bunker oil," the cheapest, dirtiest fuel available.[2] Each year, these vessels release 273,000 tons of nitrogen oxides into the air.[3] The channel itself also carries the distinction of having some of the most polluted water on Earth, a mixture of industrial wastes and sewage that has at least twice caught fire.[4] On May 11, 1990, a Panamanian freighter dumped its wastes into the channel. The waterway, as well as the ship, exploded into flames.[5]

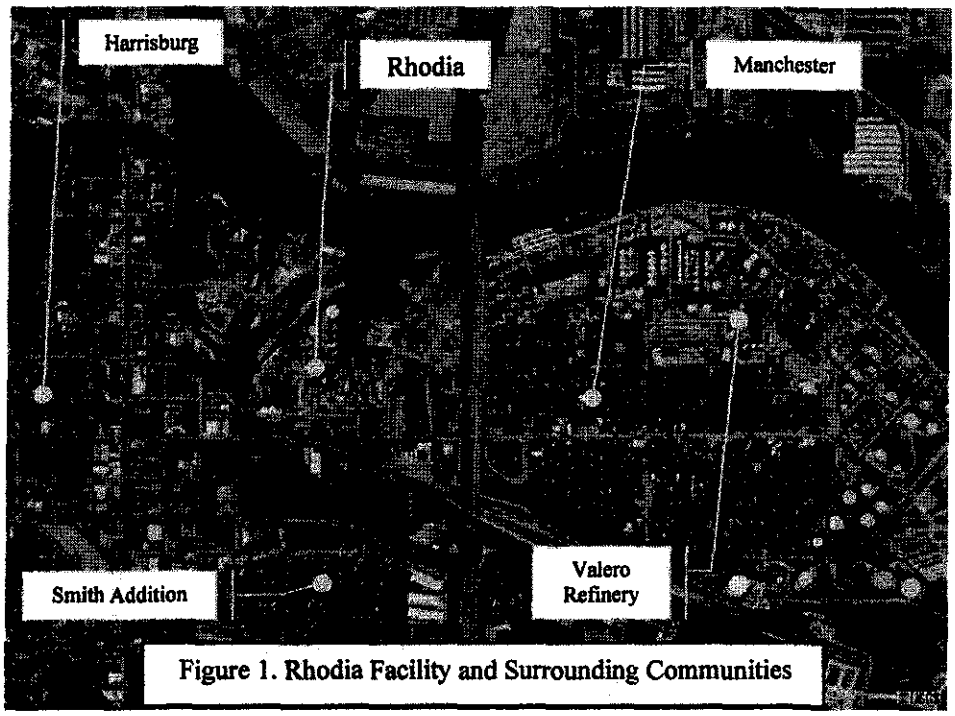

Figure 1. Rhodia Facility and Surrounding Communities

The region surrounding the channel includes numerous, predominantly Hispanic residential developments. Communities such as Manchester, which lies at the confluence of Sims Bayou and the Ship Channel,[6] were born in the early 1920's as

[1] Freemantle, T. (2002). Ships fouling the air: State regulators have few remedies for pollution issue. *Houston Chronicle*, July 21, 2002 at 1A.

[2] Category 3 vessels, which carry most of the world's cargo, are fueled by bunker oil, which is the residue of the production of higher-grade fuels. Bluewater Network (2000). *A Stacked Deck: Air Pollution from Large Ships.* July 17, 2000.

[3] *Ibid. See* also Area industrial accidents. *Houston Chronicle*, October 24, 1989 at 15A ("The worst industrial accident in U.S. history occurred when the French ship Grandcamp exploded while docked at Texas City. The vessel was loaded with ammonia nitrate fertilizer. The next day, another ship, the High Flyer, also blew up. Authorities said 576 people were killed and another 5,000 were injured.").

[4] Tutt, B. (1993). Did channel really catch fire? *Houston Chronicle*, September 4, 1993 at 37A.

[5] *Ibid.*

[6] August 3, 1997.

refinery and ship workers began to build homes on small lots worth about 450 dollars apiece.[7] Over time, Manchester[8] grew into a working-class Hispanic community, sandwiched between the Channel (to the North), a refinery (now owned by Valero, to the East), a railroad yard (to the South), and a sulfuric acid processing facility (to the West), owned by the French multinational Rhone Poulenc (now Rhodia). An "enclave of faded wooden houses and taquerias languishing in the shadows and the stench of the petrochemical industry," Manchester, as well as Smith Addition (an African- American settlement south of Rhodia) and the multiracial Harrisburg (west of Rhodia), faced many challenges. For one, they lacked some of the basic services that towns their size had come to expect.[9] Harrisburg and Smith Addition civic clubs struggled for years with the Greater East End Management District to enforce anti-dumping laws and to monitor illegal disposal of tires, furniture and household hazardous wastes.[10] The Management District recently has only recently donated a video camera to be installed at a dumping hotspot.[11] Endangered historical markers, garbage dumping, graffiti removal, unnecessary stoppages of residents by the local police, abandoned homes, cluttered lots, and dangerously deep drainage ditches along residential streets were consistent matters of concern to members of the three communities.

While such a scattered list of concerns could seem disorienting to a local public official, there was for many years a common rallying point that stirred the minds of those in the area: the railroad tracks that crisscross the communities.[12] Over one thousand boxcars (40% of which carry dangerous or flammable cargo) lumbered across the tracks at Central and Manchester Avenues every day, sealing off the only points of entry for emergency services into Manchester.[13] The principal of J.R. Harris Elementary, located right down the street from Rhone Poulenc, used to watch children throw their bicycles under stalled trains, crawl under, and pull them out on the other side on their way to school.[14]

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[7] Interview with Manchester Civic Club President, April 16, 2002 in Manchester, TX.

[8] Houston's Planning Department classifies communities as "Super Neighborhoods," including the Harrisburg/Manchester area, to assist in local service provision. This area in 1990 included 3,895 people, (81% Latino and 10% African-American). Seventy-six had not graduated from high school and more than half of the households had incomes below $25,000. Still, the area maintained a rate of homeownership (80%) above that of the city at large (63%). City of Houston Department of Planning and Development, Super Neighborhood Resource Assessment, Harrisburg/Manchester, June, 1999.

[9] Manchester lacks a fire department or a library, for example.

[10] Interview of Harrisburg Residents, April 19, 2002, in Harrisburg; Interview of Smith Addition Residents, April 19, 2002, in Smith Addition.

[11] Weber, R. (2001). Sense of urgency: Eastender wants cleanup 'before God calls me'. *Houston Chronicle*, August 9, 2001 at 1 (This Week).

[12] Edleson, H. (1985). Chronicle report: The East End: Residents challenge change in awakening neighborhood. *Houston Chronicle*, March 24, 1985 at 9.1; Brewer, S. (1997). Forgotten promises: Many residents in southeastern neighborhood feel that city's mayoral race is passing them by. *Houston Chronicle*, September 29, 1997 at 13A; *Supra* note 10; *Supra* note 6.

[13] Zuniga, J. (1993). Residents finally supported on overpass. *Houston Chronicle*, April 9, 1993 at 27A; Brewer, S. (1998). Idling trains strain patience of motorists: Officials seek answers from Union Pacific. *Houston Chronicle*, February 9, 1998 at 13A (MetFront); Vaughn, C. (2002). Rail plans raise resident concerns. *Houston Chronicle*, January 17, 2002 at 1 (This Week).

[14] *Supra* note 13.

Manchester was in a state of flux in the early 1990's when the local precinct judge received word from a union worker at Rhone Poulenc that the company was pursuing a permit amendment. The facility needed to reclassify several hazardous waste materials that were already being recycled on-site.[15] At the time, the blue-collar community experienced a wave of immigration that, according to some longtime residents, yielded a number of distinct groups of residents in terms of how they perceived environmental conditions. New arrivals lived mostly in apartments and developed few attachments to the community, staying for as long as it took to save enough to move elsewhere. Starting in the mid-1980's, these and other residents began to find it increasingly difficult to find work at surrounding industries, and the "walk-to-work" incentive that had encouraged employees to construct modest wooden homes on the plot of land began to erode:

> Because you have another neighborhood across from the other big street, which is Lawndale, and there's another small community like this, and it was all Hispanic and blacks and a few whites. And then across Broadway, which is about a mile and a half down, there's basically the same thing. You had the blacks and the Hispanics that wanted to live close to whatever job they had. Whether it was at the docks, or at the cement plant, the chemical company, the refinery, or the railroad. And like I say, back then, all you needed was a strong back and you know, a little common sense. And you get a job. They say "OK, we'll hire you." Or somebody recommended you. It doesn't work this way now...The only place is I guess the docks, where they don't ask you if you have a college education. We have one, two, three real close docks right here[16]

Unlike the new wave of immigrants from Central and South America, those who had lived in Manchester for most or all of their lives watched as relatives who worked at the plants grew older and often died of cancer.[17] This group of senior citizens consisted of homeowners mostly of Mexican ancestry, and was the primary group organized in opposition to Rhone Poulenc's proposed permit modification. A third group, also consisting of homeowners, was not as familiar with the plight of former refinery and shipyard workers but was more concerned about environmental conditions than the newly arrived population of renters but also more engaged in daily blue collar issues that affected their jobs, homes, and children.

Environmental conditions at facilities such as Rhone Poulenc began to improve starting in the early 1990's while issues that more directly impacted residents' quality of life worsened. Toxic releases, beginning in 1989, dropped precipitously, and the spate of accidents at former Stauffer Chemicals subsided for the time being.[18] At the same time, truck traffic became more visible. The number of accidents, involving haulers of hazardous chemicals increased. Accidents occurred as the trucks, carrying molten sulfur and other materials, traveled on residential streets or overturned while exiting the I-610 bridge.[19]

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[15] Campbell, J. (1991). Residents vent anger at chemical firm. *Houston Chronicle*, November 22, 1991 at 38A.

[16] Interview of Manchester resident, April 16, 2002, in Manchester.

[17] Interview of Houston City Councilperson, April 17, 2002, in Houston.

[18] For a history of Rhodia's toxic releases, see http://www.scorecard.org/env-releases/facility.tcl?tri_id=77012STFFR8615M#data_summary. Historic accidents preceding the purchase of the facility by Rhone Poulenc are described below.

[19] *Supra* note 17.

Within this setting, the first permit-driven "good neighbor agreement" signed between residents and a neighboring industrial facility was developed. Community-corporate compacts, or good neighbor agreements (GNA's) are terms used to denote "instruments that provide a vehicle for community organizations and a corporation to recognize and formalize their roles within a locality."[20] Armed with toxics release inventory data, pollution monitoring results, or stories of residents' daily experiences living next to polluting industries, citizen groups are sometimes able to organize campaigns to bring industries who are in violation of local ordinances to the bargaining table. There, parties seek mutually beneficial solutions to problems stemming from their operation within the community. Involvement of these stakeholders can help to compensate for the lack of resources available to the EPA in regulating industrial activities.[21] In a shift from command-and-control regulations that focus on the management of end products of industrial processes and the shifting of effluent from one medium to another (air, water, and soil), GNA's can engage industries in serious discussions regarding pollution prevention strategies.[22] At the same time, stakeholder audits and negotiations can potentially increase access to information about operations, worst case scenarios, and other vital data that will facilitate the exploration of creative solutions and monitoring of agreements reached. These developments reinforce Congress's attempt to encourage emissions reductions through passage of the Pollution Prevention Act and other legislation in the early 1990's.[23]

Prior to 1991, the term "good neighbor agreement" was used to describe settlements reached after considerable mobilization by residents against owners of particularly noxious or dangerous sites. The use of a permit change or renewal as a leverage point for encouraging constructive negotiations was the subject of discussions but had not yet been successfully achieved.[24] In Texas, the shift to this strategy grew out of *ad hoc* attempts by an environmental organization to discourage further allowable emissions from some of the many facilities in the area (in addition to Rhone Poulenc and the refinery, facilities owned by Goodyear, ExxonMobile, Texas Petrochemical, and Lyondell-Citgo dotted the landscape) and elsewhere across the state. The lead proponent of community organizing around petrochemical plants was the statewide environmental advocacy group, Texans United (TU). Prior to Rhone Poulenc's proposed permit modification, TU was involved in two attempts to negotiate a "precedent-setting good neighbor agreement," with Exxon in Baytown and the Star Refinery in Port Arthur.[25]

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[20] Lewis, S. (1999) Good neighbor agreements, a tool for environmental and social justice. *Social Justice,* 23(4).

[21] Adriatico, M. (1999). The good neighbor agreement: Environmental excellence without compromise. *Hastings West-Northwest Journal of Environmental Law and Policy:* 5: 285.

[22] Lazarus, R. (1992). Pursuing environmental justice: The distributional effects of environmental protection. *Northwestern University Law Review*, 87: 787-857.

[23] 42 U.S.C. § 13,101(b)(1994). *See* also the Environmental Protection Agency's Pollution Prevention Strategy, 56 Fed. Reg. 7849 (1991).

[24] Interview with Community Organizer, April 18, 2002, in Houston.

[25] TU newsletters (*Exxon: How to be a Bad Neighbor*, January 1990; *Sanctions Sought for Information Denial*, Spring, 1992; *Refinery Inspection by Environmental, Church, and Labor Representatives – A Texas First!*, November, 1990).

> The first one, I believe it was Exxon in Baytown, and we actually went into negotiations, built a grassroots group called Baytown Citizens Against Pollution, had meetings with the company, and then that just completely fell apart. The company refused to negotiate what we asked for, which was a citizen inspection with an authorized, I mean with an expert that the citizens chose and had confidence in, an independent expert the company was to pay for. Exxon wasn't willing to do that, and then set about trying to divide the group and publicly accused me of going up in their plant and taking a sample. I took it where they discharged into Galveston Bay. When they accused me of [taking the sample from inside the plant] I sued them for slander, defamation. Then we eventually challenged their permit for that discharge point and filed a citizens' suit for violation of the Clean Water Act and eventually won that. That whole battle took about five years, so that's where we went in, met with the company, tried to negotiate, and then the company didn't want to negotiate and we ended up fighting them in the regulatory arena and in the courts. And for five years. But we tried first the constructive approach, and Exxon wasn't interested in doing that. Star Refinery, you know, we had not done anything over in Port Arthur. We had a board member and groups over there, so in that case we did negotiate with the company, the company did agree to an independent, we call it environmental and safety audit. We picked the expert, someone that I had met when I first came to Texas, and went in the plant, interviewed workers, looked at records, physically inspected the plant, and the company split the cost of the auditor. We chose him and the company approved him and the company split the cost. And some people in our group wanted to share in that cost because they felt the results would be more credible. But anyway, the recommendations were made, a report was issued, and the company refused to implement the recommendations[26]

TU learned some important lessons from its early experiences with community-corporate negotiations. First, it was important to narrow the scope of a community's requests or what they wanted to accomplish *before* negotiations commenced. With Exxon, TU was unable to choose an isolated problem area or unit within the facility to focus on throughout discussions with plant management. Following their interaction with Star Refinery, the group further realized that reaching agreement was a hollow victory as long as a company was not convinced that implementing its various provisions was in fact beneficial to itself. TU continued its search for a precedent-setting agreement with modified criteria for selecting an appropriate site for their next organizing campaign: an organized or close-knit community, a serious problem, a facility that was not unreasonably complex (as was the Exxon refinery), and a "winnable fight" that would have repercussions for other industries in the region. Rhone Poulenc and the Manchester community seemed to meet all of these requirements.

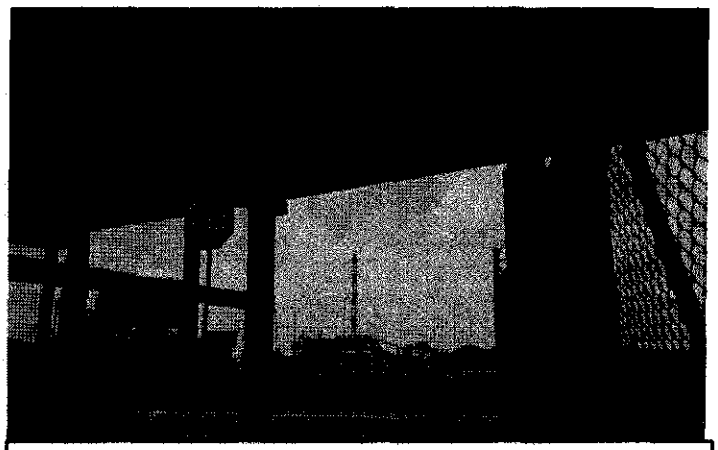

Figure 2. Rhone Poulenc facility seen from Manchester under 610 bridge.

The Problem

The Rhone Poulenc facility had been operating since 1917.[27] Starting in 1955, when the plant was acquired by Stauffer

[26] *Supra* note 22.

[27] Proposed Rules: Environmental Protection Agency, 40 CFR Part 261, Hazardous Waste Management System; Identification and Listing of Hazardous Waste; Proposed Exclusion. Federal Register 64(199): 55880-55882.

Chemical Company, the plant regenerated sulfuric acid from spent sulfuric acid, sulfur, and bauxite.[28] It began to use waste-derived fuel in 1976 in order to provide energy for the regeneration process, which required that a certain amount of wastes be added to an acid-producing furnace (the facility did not receive a RCRA permit for this activity until March, 1987). In 1985, the 46-acre site began to shift ownership frequently. Stauffer Chemical became a subsidiary of Cheeseborough-Ponds. Owership was subsequently transferred to Unilever, Imperial Chemical Industries, Akzochemie, and finally Rhone Poulenc Basic Chemicals in January 1990.[29]

Changes in environmental regulations at the state and federal levels reclassified some of the wastes used in Rhone Poulenc's incineration process "hazardous," meaning that permit alterations were required for several Rhone Poulenc-owned facilities, including a plant in Hammond, Indiana.[30] At the time (1990), the facility did not have as sophisticated a set of environmental professionals or internal policies for dealing with regulatory changes as it does today. Plant managers were given a lot of discretion in handling public relations, but they rarely remained at a site for more than three years. Prior to the proposed permit modification, the Manchester community and Rhone Poulenc management had failed to develop any kind of relationship institutionalized by regulation, organization, or trust.[31]

Interestingly, former site owner Stauffer Chemical did not have to contend with public opposition when it sought a permit at the same site to become the second commercial facility in the state to accept and incinerate toxic waste from other companies in 1986.[32] Facing a slowdown in the oil industry (one of its primary customers), Stauffer responded to new provisions added to the Resource Conservation and Recovery Act that encouraged incineration and other alternatives to landfilling.[33] The first commercial incinerator to take industrial waste in Texas was operated in nearby Deer Park by Rollins Environmental Services starting in 1981. The project was the focus of intense opposition as it was the first commercial incinerator to receive a permit to burn polychlorinated biphenyls (PCBs). While the Stauffer plant did not accept PCBs, it did burn organic wastes such as benzene and carbon tetrachloride, both of which are carcinogenic. Still, the company avoided serious opposition by engaging with community leaders, residents, public officials, and environmental experts at local universities to explain plant operations. These meetings were set up in addition to regular discussions held following two sulfuric acid leaks in 1980, one of which sent 54 to the hospital. Community leaders,

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[28] Jill Burris, Field Investigator, Region 12, TNRCC to File, Re: Rhodia, Incorporated, June 18, 1999.
[29] As companies merge, so do their corporate nameplaces. *Houston Chronicle*, January 9, 1990 at 4 (Business); Stauffer Chemical being sold in $1.69 billion deal. *Houston Chronicle*, June 6, 1987 at 2 (Business).
[30] Interview with former Plant Manager, Rhone Poulenc Basic Chemicals, April 1, 2002 via telephone.
[31] *Supra* note 30.
[32] Britt, B. & Warren, S. (1986). Gasoline leaks drive local residents away. *Houston Chronicle*, December 14, 1986 at 1.
[33] Dawson, B. (1985). Permit sought to commercially incinerate hazardous wastes. *Houston Chronicle*, July 25, 1985 at 21.

including Councilman Ben Reyes, believed that the company had "cleaned up its act" in the few years directly preceding their move into hazardous waste incineration.[34]

Members of the three surrounding neighborhoods speak of *serious* environmental problems as diminishing by the time Rhone Poulenc requested a permit modification in 1991. Residents of Smith Addition recall a facility that was once located "in front of Rhone Poulenc" that consisted of a series of storage tanks that "used to catch fire and you could feel the heat standing over here."[35] The Hill Chemical Company, located near Manchester and San Saba Streets where Smith Addition begins, experienced a gasoline tank leak in 1986 that forced 50 families to leave their homes.[36] A blaze also occurred in November, 1988 when a pipe carrying oil into a diesel heater ruptured at Hill Chemical.[37] A third major incident involved a lightning-induced fuel oil tank explosion at the same facility that could be heard for five miles and sent flames 200 feet in the air in September, 1990.[38] Harrisburg residents recall a facility known as Eddie Oil Refinery as "the only plant that we really had trouble with":

> It's no more in existence, the one that was right, I live at a dead-end street, and across the track was Eddie Oil Refinery. They changed its' name to Key Oil Refinery. And I can tell you about that because my brother worked there from the age of 18 until he passed away. That was the most dangerous place that was close to us, because it was always exploding and putting out chemicals and finally they closed it down, because it was just really unsafe...The back part of it ran right into our street which was on Magnolia. The oil company itself, the refinery part is gone. They tore it down. So that was the closest environmental problem we had to us[39]

Memories of such facilities and images of the particularly dramatic episodes that they caused formed a mental baseline for the level of environmental quality that residents experienced. They also shaped residents' perceptions of what further pollution reduction efforts were needed and their evaluations of environmental performance at facilities that remained. While Rhone Poulenc had to contend with the troubled past of Stauffer Chemical, it was not perceived as the primary source of environmental problems by at least two of its neighboring communities. And within Manchester, where Rhone Poulenc's small relative contribution to area toxic emissions had yet to be understood, the company had substantial room in which to improve its image and relations with concerned citizens. Stauffer Chemical's record of accidental releases as well as permitted toxic releases was well-known to regulators and citizens alike, although the company had succeeded in building support for some of its operational changes.[40]

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[34] *Ibid.*
[35] Interview with Smith Addition residents, April 19, 2002, in Smith Addition.
[36] *Supra* note 32.
[37] Kreps, M. & DiSessa, B. (1988). Pipeline inferno fizzles; residents return to homes. *Houston Chronicle*, November 29, 1988 at 13A.
[38] Perry, E. (1990). Lightning may have sparked tank blast. *Houston Chronicle*, September 16, 1990 at 30A.
[39] Interview with Harrisburg residents, April 19, 2002, in Harrisburg.
[40] Interview with Texas Natural Resources Conservation Commission official, August 14, 2002 via telephone.

The emerging regulatory framework was in large part responsible for Rhone Poulenc's facility-wide emissions reductions starting in the late 1980's. One of the most effective environmental statutes, Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986, directed industries that met certain requirements to maintain inventories of hazardous chemicals stored, processed, and emitted from their facilities.[41] The release of TRI data started in 1987. The data were made available through local libraries and later the internet, and interpreted through analyses of the data comparing states, counties, and industries in terms of relative emissions. These reports, by the EPA, the Environmental Defense Fund, and other organizations, encouraged industries to pursue both real cuts in emissions and diversions of emissions to unreported media (such as deep well injections).[42] Nevertheless, TRI emissions dropped substantially at many facilities, including Rhone Poulenc's Manchester plant. By the time residents began organizing around the proposed permit modification in 1991, the facility accounted for a small percentage of toxic emissions affecting the three surrounding communities (see Figure 3 for one comparison).

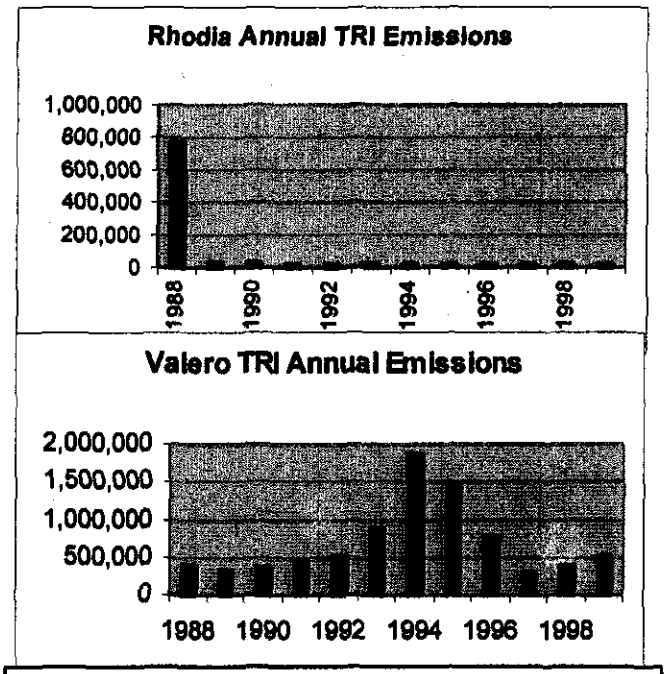

Figure 3. Comparison of Rhone Poulenc (now Rhodia) and Valero TRI Emissions, 1988-1999

The Dispute

On January 16, 1991, proposed actions regarding the Rhone Poulenc facility began to appear on the agenda of the Texas Water Commission:

> Item 31. Application by Rhone Poulenc Basic Chemicals Company (formerly Stauffer Chemical Company) for a minor amendment to Permit No. HW-50095 which currently authorizes a commercial industrial hazardous and non-hazardous solid waste storage and processing facility. The facility is located at 8615 Manchester Road, west of Loop 610 East in the City of Houston, Harris County, Texas[43]

[41] Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986, 42 U.S.C. §§ 11001-11050 (1986) mandates that the Environmental Protection Agency provide the public with access to all annual information collected on routine releases of certain chemicals (specifically those which fall within Standard Industrial Classifications 20-39 and are released from facilities that employ ten or more workers and use more than 10,000 pounds of a listed chemical within a calendar year. This information is presented in a searchable index and in map form at http://www.scorecard.org.

[42] Fung, A. and O'Rourke, D. (2000). Reinventing environmental regulation from the grassroots up: explaining and expanding the success of the Toxics Release Inventory. *Environmental Management*, 25(2): 115-127.

[43] Uncontested Agenda, Wednesday, January 16, 1991, Texas Water Commission.

The proposed change was listed as a "Class 2" modification. A class two modification simply requires a company to issue a notice through the local paper and hold a public hearing where they review the proposed changes to a facility. While Rhone Poulenc considered its proposed changes "nothing of consequence," the dozens of residents that attended initial meetings with the company were determined to call for a Class Three format. Class Three applications undergo a formal discovery and evidentiary process and in some respects mimic legal proceedings. At the time, the Texas Water Commission had a legal department charged with handling the public interest aspects of permit modifications. This department had the authority to alter applications and to move them from Class Two to Class Three status.[44]

On November 21st, the company held an informational meeting at the JR Harris Elementary School.[45] The permitting manager, Floyd Dickerson, explained that it was necessary to modify the permit to reflect changes in how the EPA classified several hazardous waste materials currently recycled at the plant. For the 40 residents at the meeting, most of whom had been recruited by the precinct judge by flier, it was their first opportunity in years to voice their frustration with the plant. First, they did not feel that placing an ad in the Houston Post and the Spanish language El Sol and notifying a few residents by letter was sufficient. Some of the residents spoke of the dangers of living near the facility. Diane Olmos told of her husband, who died at the age of 38 after living adjacent to a toxic waste disposal company similar to Rhone Poulenc.[46] Also of importance was the presence of a number of important local elected officials, such as State Senator John Whitmire, who due to redistricting had a strong Hispanic opponent challenging him at the time.[47] Rhone Poulenc's plant manager agreed to make a more concerted effort to notify Manchester residents of a second meeting, which was planned for January, 1992. By then, precinct judge Carol Alvarado was able to mobilize newly elected councilor-at-large Gracie Saenz, State Representative Mario Gallegos, Gene Green, a candidate for U.S. Congress, Rick Noriega, a candidate for State Representative, and Mario Quinones, a civic leader and retired local businessman, among others. Through a list of residents provided by Alvarado, plant manager Bill Colvin notified most of the residents of a second meeting, called a "community day," scheduled for January 1992 at the community center. By the time this second informational meeting was over, it was clear to Rhone Poulenc management that they would have to contend with

Figure 4. Valero refinery adjacent to a Manchester home.

[44] *Supra* note 30.
[45] *Supra* note 15.
[46] *Ibid.*
[47] Interview of State Senator, April 18, 2002 in Houston.

a Class 3 modification process. Alvarado had convinced the TWC to require a formal hearing.

Between the "community day" and the formal hearing, several developments began to increase the community's leverage over the permit modification process. Timing became an important factor as the process expanded. Rhone Poulenc had customers who were already shipping waste to the Manchester facility that would in several months be reclassified. Second, commercial hazardous waste incinerators were becoming some of the most visible targets of environmental groups in the state. Dubbed the "new environmental menace," multi-million dollar incinerator projects were surfacing all over the country, in response to RCRA amendments that imposed strict requirements for the operation of hazardous waste landfills, such as the installation of double liners.[48] Houston's Chemical Services had just won approval to build the fourth commercial hazardous waste incinerator in the state, and the many elected officials rallying around the Manchester community were well aware of the growing public concern over such facilities. Finally, on July 16th, a toxic cloud of sulfur dioxide gas was released at the Rhone Poulenc facility, sending 30 plant workers to the hospital (including 20 from Newpark Shipbuilding and Repair, located across the Ship Channel).[49] The accident was caused by a two-inch pipe that broke as a truck was being moved at the plant's loading site. Importantly, the latter two developments heightened resident awareness of the risks posed by the facility at large, rather than the specific operations mentioned in the proposed modification. The sulfur dioxide incident increased regulatory scrutiny of the facility, which faced potential occupational health and safety as well as environmental violations by the TWC, OSHA, and the City of Houston.

The hearing, held on June 30th, began with a hearing examiner explaining that the focus of the meeting would be restricted to the proposed permit changes. Local residents, who had by this time had sought the assistance of Texans United, had other plans. Areas of concern, some of which barely overlapped with Rhone Poulenc's operations (let alone proposed changes), were many and diffuse, including railway traffic and blockages to the streets, chemical releases to air, water, and soil,[50] truck traffic on residential streets, citizen participation in site-specific decisions and awareness of potential risks posed by the site, and emergency preparedness. While Rhone Poulenc did not have the ability to address some of the residents' concerns, they agreed to meet with a small group of residents to discuss conditions for their dropping all opposition to the proposed modifications.

Dispute Resolution

Manchester residents were the only citizens to request party status to the hearing process, following the advice of TU. Because of this, the exclusion of Smith Addition and

[48] Morris, J. & Dawson, B. (1990). Nobody's neutral about toxic waste incinerators. *Houston Chronicle*, October 22, 1990 at 11A.
[49] Perry, E. (1992). 27 injured by toxic fumes at chemical plant. *Houston Chronicle*, June 17, 1992 at 9A.
[50] Although Rhone Poulenc accounted for a very small fraction of these emissions. In 1991, TRI emissions from the facility totaled 19,000 pounds compared with half a million pounds by the Valero refinery, which encircled Manchester to the East.

Harrisburg residents was not of concern to any of the parties. Plant management was aware of these communities, particularly Smith Addition, described as "closer to the plant but not nearly as organized."[51] Providing a forum in which the concerns and interests of surrounding communities could be aired was also not necessary given the purpose of the discussions agreed to by the plant manager. Knowing that changes in waste classifications were not going to happen for several months, the company saw the proposed discussions as an opportunity to establish a structured relationship with nearby residents, which had not materialized since Rhone Poulenc had assumed ownership of the facility:

> At that time, because I had quite a bit of time. These changes in the classifications weren't actually going to take place for several months, and I knew I had the time to try to work with the community and see if I could resolve this. And one of our goals was to come out of this with an advisory panel. And so that's the way I sort of approached this: you know, if you want to have an agreement, our agreement will be to work with the community, but we're going to have to organize a group, an advisory committee, and this document will basically establish ground rules on how we'll work and who will be on it and what issues we're going to talk about[52]

Plant management entered negotiations confident that the Texas Water Commission would grant their permit modification. They also were aware of the growing scrutiny that their facility was receiving, and of the hostile community relations that would prevail should talks break down.

Texans United viewed contested hearings as an assured means of "getting to the table" with a company:

> We didn't have lawyers, they did, and they were going to have to pay their lawyers, and the discovery process – I mean you get to look at all their records about complaints, upsets, relevant to the permit it was an air pollution permit. So we could have found our about all their releases, near misses, accidents, and we would have gone after all of that. And there's a hearing examiner that acts like a judge and what they always do, before they go through this formal contested case hearing, is they try to get the parties together and say you guys talk about this and see if you can resolve it before this hearing. The hearing's expensive for the state, a lot of work for everyone and they want to avoid it. So that kind of automatically puts you at the table with the company.

As the community began to prepare to negotiate with facility management, TU was still learning how to structure good neighbor agreements, which until then were usually typed on one or two sheets of paper and did not include provisions for implementing audit findings or ensuring on-going citizen involvement.[53] As stated, one of its earlier lessons was to narrow down what a community wanted to accomplish when discussing a given facility with its management and legal representatives. TU and local residents carried out an informal discovery process prior to the hearings in order to focus their objectives, even though their demands would remain wide-ranging. Residents credit TU for "taking us through the discovery process."[54] In addition to helping residents request party status,

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[51] *Supra* note 30.
[52] *Ibid.*
[53] *See*, for example, Settlement Agreement with Merichem Company (no date) and Settlement (with ARCO Chemical), February 14, 1992.
[54] *Supra* note 17.

TU shared its knowledge of how to ask for certain kinds of information, summarized materials in terms of what they revealed regarding community impacts, and helped residents prioritize what they needed to understand from the outset.[55] Documents such as air pollution data, enforcement documents, and other public records in agency files (Texas Air Control Board, Texas Water Commission, Harris County Pollution Board) were used to give an indication of site-specific problems. As TU did not have any legal or technical capacity, a group of TU staff met with residents to pour through the documents and extract broad trends and concerns. These included *information sharing* (Rhone Poulenc had some SO_2 monitors in operation but had no means of distributing the results to neighboring towns), *truck traffic to and from the facility*, and *emergency preparedness* (Rhone Poulenc lacked an emergency notification system). TU experts were unable to figure out how the company could ensure further emissions reductions at its facility, and a review of their fugitive emissions showed that state regulations were already fairly stringent as to how long broken valves and flanges could be kept on a replacement list. As the contested case hearing process had not begun, the information available to residents and TU was limited. Discovery during a contested case hearing process allows residents to access anything related to the facility's emissions that is not proprietary: more detailed enforcement documents, interoffice communications about pollution events, and a variety of reports used by facility management to trace problems as they develop on-site.

Throughout negotiations with Rhone Poulenc and implementation of the agreement that followed, residents became increasingly acquainted with the facility's operations. It is instructive to consider how such a plant dealt with emissions on a daily basis, as it provides clues as to the extent to which residents' desired changes were acceptable or even possible from a permit applicant's perspective. Facility operators, engineers, and environmental professionals kept track of emissions through a variety of programs, some of which are mandated by their various permits and some of which are driven by site and upper management. Rhone Poulenc's permits called for the plant to monitor sulfur dioxide, nitrogen oxide, particulate matter, and hydrocarbon emissions, the latter produced mostly from fugitive emissions.[56] Because at one point Rhone Poulenc maintained storage tanks at its property line adjacent to the former Eddie Oil refinery site, the state set particularly stringent guidelines for fugitive emissions to make sure that future owners of the site would be protected.

> If you had anything, 25 parts per million above background, which most places is 500 to a thousand parts per million or even higher than that, it's an action level and we can have it repaired within four hours[57]

These conditions took effect in 1987. In addition to an array of monitors established for some chemicals, Rhone Poulenc was able to estimate emissions for others through trial burn factors. Under state permit, the facility submitted Discharge Monitoring Reports on a monthly basis that provided quantity and concentration figures for all "parameters"

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[55] *Supra* note 17.
[56] Interview with Rhodia environmental professionals, April 23, 2002, at Rhodia, Manchester, TX.
[57] *Ibid.*

(substances) used during that period.[58] While the company engaged in pollution reduction projects, it believed that there was a limit to the control the company had over what is released in a given month:

> This facility, we're not, there're not multiple changes occurring. It's the same project, same materials coming in. There's very little variance in what we're doing out here...The thing about this plant right here, is that we are an inorganic facility. So we don't – and what we do generate a lot of stuff, like some of the protective personal equipment that we use, some waste oils and stuff like that, we can burn on our permit ourselves. We generate ash from our furnace that is hazardous by nature, and that is basically driven by how much throughput of hazardous waste and our sulfuric acid we burn there, so that's a function of production. Then we have a filter cake, which is hazardous waste, based on some regulatory requirement, and that's again regenerated based on the amount of throughput through the unit. And it's all wastewater. So it's, some of these things we have, we really have no control. Business is high one year, down next year. The other, only other thing we can, state classifies it as hazardous, because of the acidic nature, is our wastewater here. And we have looked at ways of minimizing the amount of acid drips and stuff like that in the sewer system, so it will minimize the amount of, you know. It's cost-effective, too, because you don't have to neutralize everything. Those are the areas we can really come up with[59]

Much of the discussions with Manchester residents focused on these limitations to further reducing emissions, caused by the stringency of existing permits and the nature of the sulfur regeneration process. It was claimed that there was a narrow range of "lost products" or emissions that if captured could be reprocessed and sold to various industries. In addition, plant management stated that there was little that could be done to change the facility's raw material feeds, which remained the same and fluctuated only according to the needs of Rhone Poulenc's customers: refineries (catalysts), carpet producers (fibers), and electroplaters (ultra-pure acid). But when one considers the facility's improvement programs today, it becomes clear that there were approaches to emissions reductions that could have been addressed during negotiations: reducing the risk of releases and containing accidental spills. Presently, the plant uses a hazardous operations methodology known as Layers of Protection Analysis (LOPA), which is a systems design approach to isolating opportunities for releases, understanding how protective devices or materials can fail, and ensuring that backups and secondary forms of containment are in place. A related initiative, mechanical integrity, is a records maintenance and analysis approach whereby equipment standards for things that can degrade or be corroded over time (pumps, gaskets, valves, pipelines) are researched. Equipment that is then determined high-risk or is found to be no longer maintained at an appropriate frequency is then addressed. These programs were not in existence when negotiations began.

When negotiations commenced on August 24, 1992, residents were not prepared to scrutinize the corrosive effects of Rhone Poulenc's production process on its equipment, or brainstorm potential management initiatives for dealing with this broad concern. With limited access to expert opinions about the facility, Texans United tried to figure out how Rhone Poulenc could reduce emissions, with limited success.

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[58] Permit No. TX007072, discharge numbers 101A and 001A.

[59] *Supra* note 50.

> They had the best available pollution control technology at the time. Reducing emissions wasn't – we couldn't get a handle on how they could do that. Now one of the things our expert looked at was the whole issue of fugitive emissions. He went through the files and all of that, and I don't think there was a recommendation that came out of that that they could do anything to further reduce emissions[60]

In the absence of any known alternatives for emissions reductions, and lacking sufficient understanding of the business to consider such issues as mechanical integrity, residents and TU representatives focused on two kinds of proposals. It is important to note that none of these were made in any particular order, as the meetings were not bounded by groundrules or agendas (except for items proposed by plant management at the outset of each meeting), or assisted by any outside facilitation. And while elected officials were present at the first session, residents agreed to exclude them from negotiations. It was argued that most of the officials did not have to live with the consequences of what was being discussed. Further, they had an incentive to support an agreement that lacked substantive changes so long as it offered them positive publicity. Thus, roughly 5-6 members of a community-based negotiating committee, two representatives from TU, the plant manager, and a staff attorney from Rhone Poulenc discussed proposals at meetings held at St. Alphonsus' (a local Catholic church) and in a conference room at the facility. The first kind of proposal involved arrangements whereby the facility would create, share, or help the community gather information. A second kind of proposal was more controversial: duties that the facility would owe the community under various circumstances. Table 1, which outlines the negotiation process, includes some of the proposals made.

[60] *Supra* note 24.

Table 1. Manchester-Rhone Poulenc Permit Modification Negotiation Elements.

Element	Residents	Rhone Poulenc	TU
Initiation	Called for formal hearing; agreed to meet after first hearing	Called for formal hearing process; agreed to meet after first hearing	Attended preliminary meetings between residents and facility; asked to participate
Assessment	Engaged in voluntary discovery process with TU whereby they assessed the company's record of episodes, enforcement actions, emissions, and potential for emissions reductions; learned about general plant operations, what was processed, deliveries to the facility, truck routes, accident history, and violations ("nothing alarming"); little assessment of the broader conflict	Provided certain kinds of information to residents upon request; little assessment of the broader conflict	Assisted residents in prioritizing what they needed to know, summarizing information, and explaining how it impacted the community
Representation	At least four members of a broader negotiating committee composed of roughly 25 residents; staff from several offices of elected officials who did not directly negotiate the agreement; no representatives from Smith Addition, Harrisburg, or the businesses affected by a recent sulfur dioxide release	Plant manager and staff attorney	President and staff member
Rationale for Representation	Representatives of committee were strong leaders, with a history of political activism and business relations with Manchester residents; able to meet with newly founded Civic Club and communicate with broader community in an efficient manner	Most intimately aware of the facility's operations and broader regulatory trends. Given broad discretion in terms of the specifics of any agreement reached. Could communicate directly to upper management through the Vice President of Manufacturing	Provided needed technical and strategic advice to residents and could assist in organizing the broader community during ratification and implementation phases
Objectives	1. Increase knowledge of and the ability to anticipate and respond to facility emissions and episodes 2. Eliminate blockages of access roads by railroad cars 3. Regulate truck traffic along residential streets 4. Address health effects of facility 5. Improve relations with the facility	1. Improve relations with the community 2. Structure relations with the community 3. Communicate and help community understand the nature of risks posed by facility operations	1. Develop a precedent-setting agreement that would influence other area and regional facilities 2. Ensure that the agreement included a community-driven audit of the facility and information exchange 3. Assist the community and determining its objectives and helping them to articulate these during negotiations
Best alternative to a negotiated agreement	Contested case hearing process would commence and they would force delays; ultimate granting of proposed permit modification assumed	Proposed permit modification would be granted; future relations with community more hostile, leading to additional contested permit changes, greater scrutiny by regulators; potential trouble with certain elected officials (i.e., Whitmire sat on committee that made appointments to TWC; Saenz could affect easements and rights-of-way for pipelines to and from the facility as well as municipal permits)	Would continue to provide assistance during contested hearing process; would eventually have to seek out other communities with whom to work toward negotiated agreements with facilities in need of permit modifications; potential lawsuit over property diminution or health effects
Proposals	Monitor contracted truck traffic, eliminate railroad blockages; increase monitoring of groundwater and air emissions; sharing monitoring and modeling results; fund a citizen's health survey, canvass neighborhood to determine symptoms of disease	Community Advisory Committee; emergency notification system	Same as residents' proposals except: against a health survey; wanted to set conditions for facility operations (i.e., residents able to notify facility and have it cease operations under certain conditions)
Groundrules/ Agenda	No groundrules; agenda was open except for plant management's proposals for mitigating resident concerns expressed at preceding sessions		

Residents realized early in the process that they would not be able to prevail in a contested case hearing. This understanding encouraged concessions on their part, such as decisions to drop most of TU's ideas for setting conditions for facility operations. Residents and TU were also divided in terms of how to approach resident health. Residents were strongly in favor of canvassing the neighborhood and collecting information on disease symptoms. Plant representatives opposed the proposal outright, believing the information would be inconclusive or simply misrepresentative of the sources of various symptoms. TU was also against entering into such an indeterminate cycle of talks over survey design, administration, analysis, and interpretation:

> Just designing the health study could have been a whole separate negotiating process, and then whether or not it's scientifically valid, and then you get the results and they're going to be challenged. My position has always been, we don't have to get up there, we don't have to prove, we don't have to prove scientifically that these plants are hurting people. It's enough that people are sick, that they're complaining, that they can smell it; that's all the proof we need. That means that the companies need to do everything they can to stop the damn pollution...Just the possibility that the plants might be causing the problem is enough that they should be doing everything they can do to stop the pollution. It's kind of simple. And this whole thing about diverting us into this whole battle to prove it's really a problem[61]

> They had health concerns, and they wanted to bring in people to do some kind of canvassing of the neighborhood to document all of the health concerns throughout. And this was a neighborhood that was right in the back of chemical plants, not just ours. I told them that we weren't willing to do that unless it was a – if they wanted to do something that was a recognized method and the technique they used was actually a recognized way of doing it and we had a non-biased group come in and do it, then it wouldn't be a problem. We would provide an amount of money and it would cost quite a bit more than that[62]

Division among representatives of Manchester was at times overt, as with the proposed survey, and often subtler, in terms of the importance of an environmental audit vis-à-vis changes that would immediately impact the community's sense of quality of life. In spite of this, the process gained momentum, as the group set aside problematic ideas and proposals and focused on items that concerned (a) sharing information, studies, and scenarios that already had to be collected or created under various permits, (b) building relationships through development of an advisory committee, and (c) adding resident involvement to an environmental audit provision that was also required by the state. The most important dynamic within this timeframe concerned how an initial set of proposals would be offered. TU, based on previous experience, was convinced that the first single text should come from the company, as resident concerns and more appropriate wording could be added within a framework that made the company feel more at ease. What was put in writing was viewed by TU as a company's interpretation of what had been discussed and what they wanted to propose. Residents, in their opinion, should see how the company perceived the negotiation process before they proceeded.

As the date of a subsequent hearing approached, the company used an implied division between resident representatives and the broader community to encourage agreement. While it is difficult to prove that this approach affected the final agreement, it is

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[61] *Supra* note 24.
[62] *Supra* note 30.

instructive in that community-corporate negotiations often hold the potential for lopsidedness: residents include a number of different groups from within and outside a given community while a company has a well-structured set of objectives and parameters to follow during negotiations. After roughly 4-5 sessions, the plant manager approached community leaders with an ultimatum:

> It was getting close to the time for the hearing, and I just basically went in and said, you know, we've met with you for a while, we've had a lot of people in from the community and we've communicated to them what we're trying to do and we want to share with them and how we want to get them involved. But some of the stuff you're asking for is so far out that we're never going to be able to agree to it. And if you don't back off on all this, then we're going to go back, we're going to drop everything and go back to the public hearing, and not only will you not get anything out of this but, based on some of your demands, that even the community looks on as ridiculous, you're going to come out the bad guy on all of this[63]

While the effects of such threats on an ultimate agreement cannot be verified (record-keeping during these negotiations was almost nonexistent), the company's perception that community representatives had divergent incentives to reach agreement is clear. A final agreement, signed shortly before the next hearing was to occur, excluded proposals for emissions reductions, resident control over facility operations, or meaningful assessment of community health. Table 2 outlines the elements of the good neighbor agreement.

Table 2. Settlement Agreement Elements to Class 3 Modification, Permit HW-50095.

Formation of a Community Advisory Committee, that differed from the chemical industry's community advisory panels in that it was geographically diverse, selected by local residents, given a precise geographic boundary, and was to consider a set of informational topics on a consistent basis (including business conditions, turnarounds, shutdowns, expansions, milestones, hiring/layoffs, noise, odor, and other complaints)
Improvement of the local emergency notification system through CAC input into the system's design, a set timeline for implementation (120 days), and a minimal boundary for system coverage
RP agreement to improve its hazardous waste transportation routes and provide specific forms of information regarding its enforcement efforts of transportation requirements and restrictions to the CAC
Provision of any groundwater or surface water monitoring analyses to the CAC and an agreement to split samples with the CAC upon request
Provision of RP's employee health study to the CAC, and agreement to consider the feasibility of a citizens' health survey and to fun such a survey in an amount not to exceed $4,000
Provision of OSHA-reportable accident information on a monthly basis to the CAC
Funding and participation by RP in an independent annual environmental and safety audit, the first of which should occur within 90 days of the issuance of the modified permit
Maintenance of an off-site sulfur dioxide monitoring system
Completion of dispersion modeling and hazard assessments to identify potential plumes of contamination into the community
Agreement not to receive household hazardous wastes unless RP will be able to operate within all permit parameters and the request for receipt of household hazardous wastes is issued by the TWC

[63] *Ibid.*

Implementation

On December 16th 1992, the following action was taken by the Texas Water Commission:

> Item 50. Consideration of Examiner's memorandum concerning the application of Rhone Poulenc Basic Chemicals Company for a Class 3 Permit Modification to authorize the operation of a hazardous waste incinerator storage and processing facility in Harris County, Texas (Recommendation: Issuance)[64]

The examiner's memorandum was adopted and the modification was granted. The Settlement Agreement became part of the permit and therefore prevailing regulations of the facility for the duration of its operation. While the agreement was hailed as a "first" in terms of "real access" to the facility, it did not depart from standard practice as radically as suggested in media coverage. First, many of the agreement parameters (including the audit, off-site monitoring, and data provision) were already required by state law. In fact, the audit provisions were already a part of the facility's operational permit. Items that were not already required (such as a health survey) remain underdeveloped. TU has moved on to other struggles while much of the local leadership that was instrumental in encouraging negotiations with Rhone Poulenc has left Manchester. We will consider each of the major elements of the agreement in turn, and then focus on overarching trends that have emerged since the GNA was finalized.

Accidents/Emergency Preparedness. As noted earlier, toxic releases from the Manchester facility declined in the late 1980's and stabilized at approximately 19,000 tons per year. In addition, accidental releases became almost nonexistent at the plant. Table 3 shows the history of plant episodes through the present.

Table 3. Incidents at 8615 Manchester Street, 1990-2002.[65]

Date	Material	Quantity
February 27, 1990	Petroleum	95 gallons
September 24, 1991	Aluminum Sulfate	27,365 pounds
November 12, 1991	Sulfuric Acid	500 gallons
December 13, 1991	Aluminum Sulfate	3,000 pounds
January 21, 1992	Sulfuric Acid	Unknown
February 26, 1992	Weak Acid	3 gallons
June 12, 1992	Sulfur Trioxide	1 pound
June 16, 1992	Sulfur Dioxide	100 gallons
July 8, 1992	Sulfuric Acid	1,774 pounds
October 28, 1992	Hazardous Waste	10 gallons
March 17, 1993	Sulfuric Acid	200 gallons
November 10, 1996	Sulfur Dioxide	2 pounds
February 14, 1997	Sulfuric Acid	700 gallons
September 21, 1999	Oleum ?	Unknown
October 13, 2000	Sulfuric Acid, Sulfur Trioxide	Unknown
March 12, 2002	F002 Hazardous Waste	Unknown

[64] Third Addendum to Uncontested Agenda, Wednesday, December 16, 1992, Texas Water Commission.
[65] Sources: Emergency Response Notification System and National Response Center databases, accessed June 5, 2002 by United States Environmental Protection Agency, Region 6 as part of Freedom of Information Act request 06-RIN-00689-02, May 21, 2002.

The facility has averaged approximately one accidental release every two years during GNA implementation. Residents are also better informed in the event of an episode, through the emergency notification system that was designed as part of the GNA. The company purchased a radio station (1290 FM), established an alarm system that could be heard within a five mile radius of the plant (at a cost of $250,000), and began weekly tests of the system every Saturday at noon.[66] While the system has proven effective in encouraging residents to shelter in place during the few accidents that have occurred, the idea of a public warning system was actually being negotiated between residents and city officials of a number of nearby cities (Channelview, Pasadena, Deer Park) before the GNA was reached.[67] In fact, dozens of chemical plants in the area had already agreed to cover the costs of phase I construction of siren warning systems.[68] As part of the Local Emergency Planning Committees (LEPC's) mandated by EPCRA, communities were working with area industries to plot public safety plans, use common computer programs, and share warning systems, relying on community advisory panels for advice. While the GNA secured a system for Manchester residents while progress continued at a slow pace elsewhere, it is clear that pressure for a public warning system was building at nearby facilities when Rhone Poulenc made its commitment to local residents.

Citizen Audit. Rhone Poulenc was already subject to an independent auditor's assessment under Texas law when it incorporated an independent annual environmental and safety audit program in the GNA.[69] The only difference between what was previously required and the GNA provision concerned the involvement of local residents in the process. Citizens were to participate in the physical inspection of the plant, review of documents, and interview of plant personnel. The GNA specified Dr. Ralph Cooper of the American Institute of Hazardous Materials Management (an individual who had been active in the drafting of RCRA) as the initial auditor. His report, issued several months after the GNA was finalized, focused on several regulatory compliance and best management practice issues where Rhone Poulenc stood to improve:

- more attention should be given to the lay-down yard for possible recycling and other reductions in the amount of materials in the yard
- soil and other materials removed from the settling pond should be removed from the site more frequently
- the facility should develop and implement a program to make appearance of the facility a matter of pride among employees at all levels
- particular attention should be given to *leaks of sulfur*, appearance from the street, and evident corrosion of the equipment
- there seemed to be less concern regarding waste generated during normal industrial operations than for waste received for incineration and residuals
- should consider making more frequent hazardous waste and Texas waste classification determinations
- should record video and store tapes for a short period for post-incident analysis

[66] *Supra* note 17; Interview with Manchester resident, April 22, 2002 in Manchester; Interview with Manchester resident, August 12, 2002 via telephone; *Supra* note 26; Zuniga, J. (1995). A community's work for safety pays off: Chemical company's siren alarm warns area residents of toxic leaks. *Houston Chronicle*, July 16, 1995 at 29A.
[67] Haines, R. (1993). Cities near plants address fears. *Houston Chronicle*, January 3, 1993 at 1C.
[68] *Ibid.*
[69] 31 TAC 305.147 and Section X TWC permit No. HW-50095.

- written emergency response plan is weak; should enhance the facility's programmatic plant-wide analysis of potential accident events and their prevention (single master plan is preferred rather than multiple plans for RCRA, Clean Water Act, etc.)
- need to decide in advance when evacuation is necessary and what gear and decontamination equipment is appropriate under different circumstances
- more detailed analysis of the *sources of acid losses to wastewater* as well as the generation of wastewater in total
- evaluation of surface protection for secondary containment and other surfaces needed given the fact that *unprotected concrete rapidly degrades with acid exposure*
- materials used for line cleaning are burned in the incinerator; *review of alternatives may suggest cost-effective changes*
- plant should request delisting or permit modification for delisting scrubber sludge to allow disposal in a non-hazardous waste landfill.[70]

These recommendations, some of which have been implemented (filter sludge was delisted in 1999), point to the existence of ways to reduce accidental emissions and the need to more purposefully counter the corrosive nature of the materials used at the facility. Further joint development of additional recommendations has not occurred, however. Each year, in accordance with state regulations, the plant has issued a public notice for selection of an independent auditor, and held a public meeting with little or no attendance. There has never been another independent audit of the facility.[71]

Community Advisory Council. Rhone Poulenc's primary objective in negotiating with Manchester residents was to institutionalize a relationship between the plant and local residents. The GNA includes specific instructions ("groundrules" as the former plant manager called them) for how a Community Advisory Council (CAC) should be set up: it should be geographically representative of the local community surrounding the facility, be composed of no more than 25 members, include residents located within set boundaries (north to Harrisburg Street, west to 97th Street, east of the plant to Evergreen Street, and south of the plant to La Porte Freeway), set its own agenda, be notified by the company of changes to hazardous waste transportation routes and shipments to the plant, receive copies of groundwater and surface water monitoring analyses on a monthly basis, receive OSHA recordable accident information on a monthly basis, and work to review the feasibility of a citizens' health survey. The CAC met monthly at first and now meets once per quarter. At each meeting, two reports are provided to CAC members: a report from the Environmental Manager and the state-mandated Discharge Monitoring Report. Below is a sample of the Environmental Manager's report:

Rhodia, Inc. Manchester Plant
Monthly Citizens Advisory Committee Report
Month: January
Year: 2000
Have any changes been made to hazardous waste transportation routes? No
Number of hazardous waste shipments into the plant: 170/month
Copies of Permit Discharge Reports:
EPA (DMR)
RCRA Pond has been closed and no more groundwater monitoring necessary
Number of OSHA recordable accidents: 2

[70] Independent Auditor's Report under 31 TAC 305.147 and Sec. X TWC Permit No. HW-50095.
[71] *Supra* note 49.

Leaders of the three civic organizations of Manchester, Smith Addition, and Harrisburg sit on the CAC and praise the company's sustained involvement in local issues and projects. For instance, Rhone Poulenc (and now Rhodia) has provided an annual $10,000 college scholarship award to a local high school student, cleaned sidewalks, painted homes, provided a block of funds to be allocated to various groups, and improved Pizer Park, across the street from the plant.[72] Some residents have resigned from the Council, frustrated by its focus on such projects that benefit individuals or segments of the community rather than facility changes that will benefit residents at-large. Because of the limited variance in terms of facility operations, Rhodia management agrees that the focus of the CAC has shifted from explaining permits, modeling and monitoring results to community improvements and awareness. In the event of an accident, Rhodia anticipates the CAC meeting by developing an analysis of the incident, causation, and corrective actions taken.

Railroad Tracks/Truck Traffic. Facility management has sought to address what were arguably the most prevalent concerns of local residents in the early 1990's. Rhone Poulenc created a routing system to keep truck traffic away from JR Harris Elementary School, and to minimize exposure of any residential population to the movement of hazardous materials. These changes were made in consultation with the CAC, whereby Rhone Poulenc explained restrictions in its waste disposal contracts that could be used to minimize local transportation risks. While not included in the GNA, the company also appeared with residents in support of a grade separation and an overpass across Central Avenue. The overpass would allow residents evacuating Manchester to cross over Manchester Yard, one of several rail terminals serving the Ship Channel. The Houston City Council approved funding for a feasibility study for the bridge in August, 1997.[73] Conditions worsened in February 1998 with the merger of Union Pacific and Southern Pacific Rail Corporation.[74] Union Pacific reportedly gave preferential treatment to moving their trains through the city first, causing even longer delays at railroad crossings. Finally, the U.S. House of Representatives passed a transportation bill that included

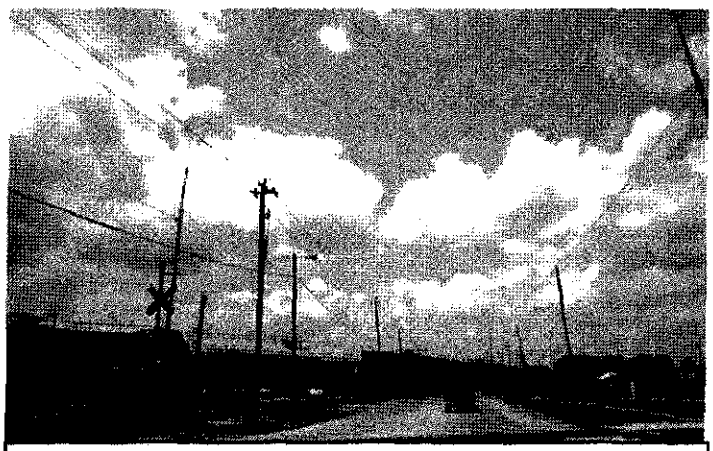

Figure 5. Railroad cars blocking Manchester Street on April 23, 2002.

[72] Zuniga, J. (1994). Chemical plant is neighborly. *Houston Chronicle*, June 4, 1994 at 27A; Pickler, N. (1997). Residents help build playground at park. *Houston Chronicle*, June 29, 1997 at 38A; Plant workers make sidewalk safer for southeast area pupils, parents. *Houston Chronicle*, May 9, 2001 at 7 (This Week).
[73] Dawson, B. (1997). Living with pollution Part I: Communities in industrial sections of Houston grapple with pollution with varying success. *Houston Chronicle*, August 3, 1997 at 1A.
[74] Brewer, S. (1998). Idling trains strain patience of motorists. *Houston Chronicle*, February 9, 1998 at 13A.

$16 million for the grade separation in June, 1998.[75]

Information. Most elements of the GNA involved one-time or monthly provision of information already mandated by state law, such as hazard assessments, dispersion modeling, and a consequence analysis. The exception, an agreement to "review the feasibility of a citizens' health survey," has never been attempted. Facility management admits that the sum promised in the GNA, $4,000, was barely a fraction of what would be needed for a cross-sectional epidemiological study of Manchester and a carefully selected control community. Residents continue to express their concerns regarding the prevalence of cancer in the area. Yet, the CAC has to date been unable to mobilize sufficient support to initiate serious talks with Rhodia about such a study.

Discussion

A very telling announcement was made by a number of industries, including Rhone Poulenc, five days before its permit modification was issued in December, 1992: they would agree to take part in the TWC's Clean Industries 2000 program.[76] In order to qualify for the program, a company had to agree to either make at least a 50% reduction in its generation of toxic substances, or commit to a similar reduction in its direct release. The news was followed by word that area industries had been working since at least the late 1980's to develop public warning systems. A more recent conclusion to negotiations between residents and officials with neighboring Lyondell and Equistar Chemicals has lead to substantial emissions cuts.[77] The latter agreement was reached with two facilities that together released 20% of the benzene in Harris County. With the help of a facilitator who also managed discussions on the area CAP, residents met with the companies 32 times following planned facility expansions in 1997 that were later scrapped. The discussions yielded changes in plant procedures, processes, and equipment, and have already reduced emissions of benzene by 40% and butadiene by 41%.

Following its inclusion in Clean Industries 2000, Rhodia's toxic emissions have not been significantly reduced, although total production-related waste has fallen dramatically.[78] The above developments suggest that improvements in Manchester-Rhodia relations (achieved through regular explanations of operations to the CAC, community improvement projects, and a near elimination of facility episodes) mask some potentially missed opportunities. Current projects at the facility, such as its Layers of Protection Analysis and mechanical integrity programs as well as reductions in production-related waste suggest that there was in fact room for improvement in terms of how the facility produced and handled its waste streams when the GNA was negotiated. Indeed, the sole independent audit performed at the site unearthed concerns with corrosive materials and

[75] Feldstein, D. (1998). Transportation bill increases spending for projects in Texas. *Houston Chronicle*, June 10, 1998 at 17A.

[76] Dawson, B. (1992). 75 facilities promise to cut emissions under state plan. *Houston Chronicle*, December 11, 1992 at 36A.

[77] Dawson, B. (2000). Channelview project seen as model in cutting pollution. *Houston Chronicle*, November 15, 2000 at 31A.

[78] Toxic air releases were 24,218 pounds in 1992 and 25,765 pounds in 2000 (Rhodia did not have any water, land, or underground injections of toxicants in these years). At the same time total production-related waste fell from 14,429,232 pounds in 1992 to 9,261,910 pounds in 2000. *Supra* note 18.

secondary containment of spills that could have been further explored with residents. The facility's permit, reissued on December 14, 2000, calls for a five year Source Reduction and Waste Minimization Plan in addition to an annual report submitted to the TNRCC.[79] The GNA has provided scant means of involving residents in mandated source reduction planning.

As this agreement was the first of its kind, it most strongly reflects the need to develop means of institutionalizing a new relationship, based in large part on information sharing, in ways that will encourage further improvements to environmental quality and operational efficiency. Nothing in the GNA anticipated the possibility of such joint efforts, or how they could be linked to those of neighboring industries. As Rhone Poulenc continued to hold community events attended by hundreds of residents, and hired a local business leader to offer tours of the plant, residents, particularly senior citizens, continued to feel as though an opportunity had been squandered. Carol Alvarado, sensing this undercurrent of disappointment, announced in 1997 that she wanted to engage nearby industries in talks about ways to reduce routine emissions, through a focus on production, technology, purchasing, and updating equipment.[80]

Now, the community, without the constant presence of Alvarado and other seasoned leaders, has to press for these improvements with a more transient, preoccupied, and in some respects assured population than what had endured high-profile accidents in the early 1990's. Residents currently lack the assistance of experienced community organizers such as those employed by Texans United. Their new civic club leader, employed by Rhodia to help maintain Pizer Park, believes that the plant and other area facilities are responsive to the community's requests. At a recent meeting of the civic club, members of the Southeast Chapter of Mothers for Clean Air encouraged residents to join a local "bucket brigade."[81] Their demonstration of how to use the air sampling technology was met without a single question or volunteer. The dozen residents at the meeting turned to more immediate concerns, such as traffic safety.

In 2000, Rhodia successfully renewed its RCRA Permit. CAC approval was used in part to request exemption from the required installation of a hydrocarbon and opacity monitor.[82] Long before renewal, the benefits to Rhodia of structured relations with residents were made clear, in the lack of opposition to other minor permit modifications, positive media coverage, and accidents that did not result in legal action or increased regulatory scrutiny. Residents negotiating future good neighbor agreements must ask themselves: Were the conditions of Manchester, Smith Addition, and Harrisburg *similarly* improved *because of* the GNA? In developing the agreement with Manchester residents, facility management was able to anticipate regulatory changes and respond to regional trends in a matter that appeared groundbreaking. Indeed, from the standpoint of community-corporate relations at the time, it was. Still, these relations were created at

[79] Permit for Industrial Solid Waste Management Site issued under provisions of Texas Health and Safety Code Ann. Chapter 361, Permit No. HW-50095-001 issued to Rhodia Inc., December 14, 2000.
[80] *Supra* note 73.
[81] Observation of April 17, 2002 meeting of the Manchester Civic Club.
[82] *Supra* note 56; Order, Application of Rhodia Inc. for a Regulatory Flexibility Order Exempting Rhodia from the Requirements of 30 Tex. Admin. Code Sec. 111.127, July 7, 2000.

little or no cost to the company over the years when compared with what could have been expected of the facility. They also split the most concerned segment of the population, the senior citizens, into two groups: representatives who received constant updates and developed vested interests in their relationship with the plant, and outsides, who never saw their true interests (i.e., health) addressed. In an unstructured, unassisted negotiation setting, Rhone Poulenc was able to take bits and pieces of resident concerns and create an acceptable proposal given anticipated constraints. Future community-corporate negotiations will be judged by the extent to which they can secure and perpetuate resident involvement in purposive facility change that goes above and beyond the "projected status quo."

Seeking Good Neighbor Agreements in California

Gregg P. Macey

Part I.

"The Piecemeal Agreement"

> The Chevron agreement is interesting because it's basically pieced together from so many different pieces of paper, you've got the city council and the air district and the planning commission so it's a peculiar thing. Because it's on so many different pieces of paper, it's hard to enforce – Richard Drury, Managing Attorney, Communities for a Better Environment

Background. Rarely has environmental regulation necessitated such an infusion of capital funds or the need for timely public participation as the Clean Air Act's (CAA) motor gasoline requirements. The regulations, along with the California Air Resources Board's (CARB) Phase 2 reformulated gasoline rules, required changes in the composition of motor fuels, which in turn forced modifications to the petroleum refineries that produced them.[1] Industry estimates for the capital costs of complying with the CAA Amendments ranged initially from $35-40 billion.[2] In some cases, it made sense for certain refineries to close down rather than upgrade their facilities at considerable risk to the company. This potential wave of refinery closings came at the tail end of a period of steady decline in the number of refineries operating in the United States. The Department of Energy counted 176 such facilities in 1994, compared to 301 in 1982.[3] Most of the refineries involved in this wave of closings were small, 50,000 barrel per day plants that could not justify the high cost of meeting the new product standards. At the same time, demand for refined petroleum products continued to rise, a trend that was met by increased capacity and utilization rates at existing plants and through a heavier reliance on imported finished products.[4]

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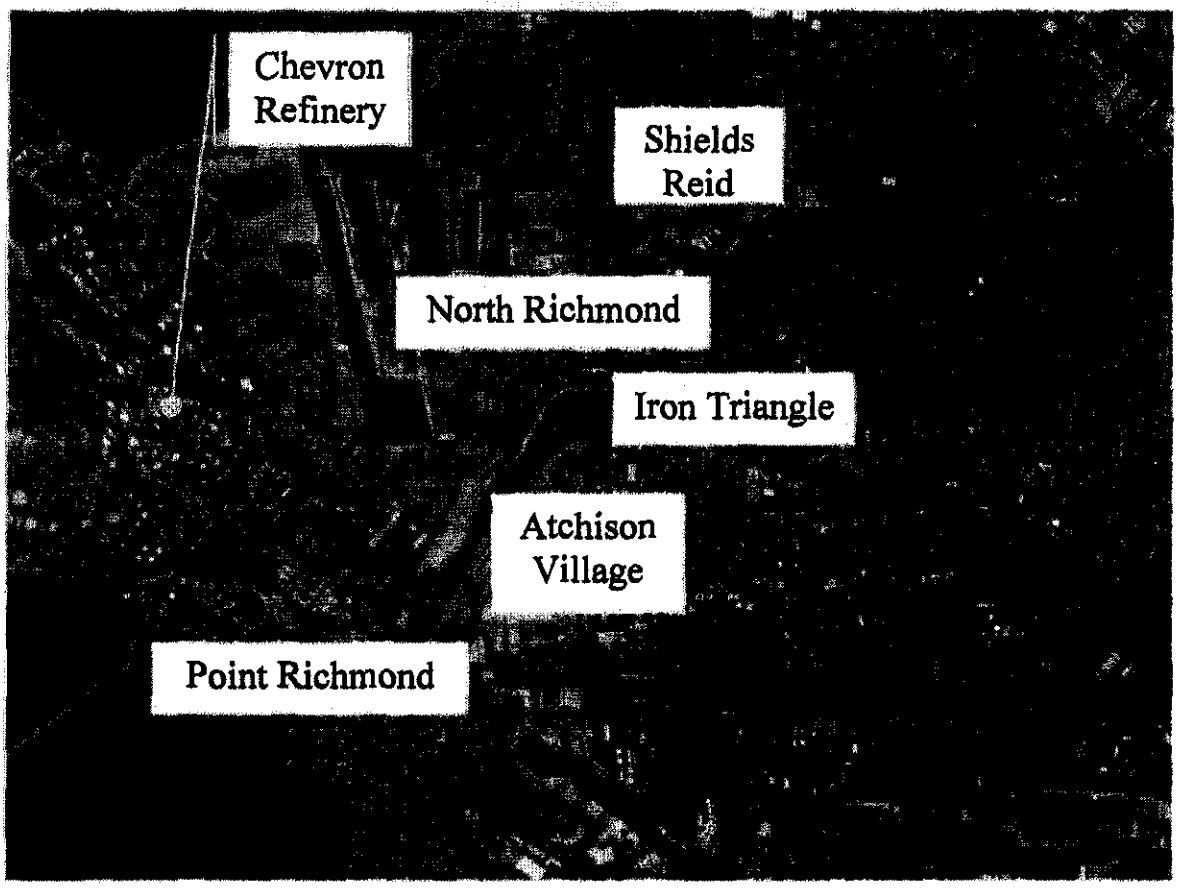
[1] Scherr, R.C., Smalley, G.A., & Norman, M.E. (1989). Clean Air Amendments put big burden on refinery planners. *Oil and Gas Journal*, 89(23): 35-38; Hadder, G.R. (1992). Future refining impacts of the Clean Air Act Amendments. *Energy*, 17(9): 857-868.

[2] Cheremisinoff, N.P. (2001). *Handbook of Pollution Prevention Practices*. New York: Marcel Dekker, Inc.

[3] *Ibid.*

[4] Khadimally, R.A. (1990). Job losses, refinery cuts. *Oil and Gas Journal*, 90(10): 8.

Figure 1. Select Richmond Communities and the Chevron Refinery.



The new regulations affected the operations of large-scale refiners as well as smaller, independent (no upstream production capability) firms. Prior to 1990, when the CAA Amendments were passed, Chevron Corporation ranked 11th on the Fortune 500's list of America's largest industrial companies, with annual sales of over $25 billion.[5] The corporation owned and operated a massive infrastructure, including five refineries and a network of service stations on the West Coast alone.[6] Other companies relied on this network for their very survival. For instance, when Chevron decided to construct a cogeneration plant that would provide electricity for its Richmond refinery, Pacific Gas and Electric stood to lose more than $60 million annually.[7] The city of Richmond, host to the sprawling, 2,900 acre facility occupying almost an entire peninsula near San Francisco Bay, received its share of benefits from the refinery. Twenty percent of the city's general fund revenues and 44% of the jobs were made possible, directly or indirectly, through the operation of Chevron's Richmond refinery.[8]

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[5] Los Angeles Times (1989). List of Top 500 Industrial Firms. *Los Angeles Times*, April 5, 1989, p. B6.
[6] Lee, P. (1989). Pumping Life into Chevron. *Los Angeles Times*, December 4, 1989, p. D1.
[7] Pelline, J. (1990). Chevron Modernization Outlay Put at $13 Billion. *San Francisco Chronicle*, March 9, 1990, p. C1; Chevron (1992). Chevron's Largest Cogen Plant Comes to Life After Super Start-up. *Dialogue*, 44 (November 1992), p. 1.
[8] Hannan, M.D. (1994). Letter to City of Richmond Festival by the Bay from M.D. Hannan, General Manager, Chevron U.S.A. Products Company Richmond Refinery, January 13, 1994.

The City of Richmond, chosen as the terminus for the Santa Fe Railroad, was incorporated in 1905.[9] The region's transportation networks encouraged many companies to locate in the city, including Standard Oil, which purchased 85 acres along the shoreline for $15,000 and built the world's second largest refinery in the area in 1902.[10] Standard Oil was followed by Western Pipe and Steel Company shortly thereafter. The residential population of Richmond did not see a substantial increase until World War II, when the Kaiser Permanente Shipyard was transformed into a facility capable of producing one ship per day.[11] The wartime production efforts in Richmond encouraged southern black farmers to migrate to the region. Richmond's population expanded from 23,642 before the war to over 100,000.[12] Following the war, African-Americans remained in the city. By 1990, they accounted for roughly 50% of the population, while Latino and Asian populations encompassed 15 and 8 percent of the city, respectively.[13] The city is divided into roughly 40 neighborhoods, each of which maintains a neighborhood council that functions as an advisory body to the city council and mayor.[14] Of the fourteen neighborhoods located closest to industrial corridors, the population is between 72 and 94% African-American.[15] The comparative location of industry and minority residential neighborhoods encouraged an environmental organization to draft one of the first empirical studies of environmental inequity, entitled *Richmond at Risk*, in 1989.[16]

Despite its contributions to the fiscal health of the city, the presence of one of the most profitable companies in the world was not well-received by all in Richmond. By 1982, Chevron's Richmond refinery was considered the San Francisco Bay area's largest single polluter.[17] This distinction was garnered in a city that played host to a cluster of roughly 350 petrochemical facilities, including the refinery, Chevron Ortho pesticide plant (now General Chemical), Witco Chemical, Airco Industrial Gases, and ICI pesticide plant (formerly Stauffer Chemical).[18] Each of these facilities handled hazardous waste, with Chevron Ortho alone accounting for over 40% of the hazardous waste in Richmond. Despite its efforts to reduce toxic wastewater discharges and air emissions, Chevron remained among the top five emitters of toxic waste in Contra Costa County in the early

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[9] National History Day (2000). A Case Study of War and the Transformation of Communities: Richmond, California. www.nationalhistoryday.org/03_educators/2000/richmond.htm, accessed October 1, 2002.
[10] Diringer, E. (1992). Big Industry Under Fire in East Bay: Contra Costa County homeowners live in fear of toxic disaster. *San Francisco Chronicle*, July 6, 1992, p. A1.
[11] Citizens for a Better Environment (1989). Richmond at Risk: Community Demographics and Toxic Hazards from Industrial Polluters. Oakland, CA: CBE.
[12] *Ibid.*
[13] Bureau of the Census (1990). Census data for zip code 94801.
[14] City of Richmond (2002). Richmond Active Neighborhood Councils and Groups. www.kcrt.com/specialfeatures/neighbor/index.html, accessed October 1, 2002.
[15] Reich, P.L. (1992). Greening the ghetto: A theory of environmental race discrimination. *University of Kansas Law Review*, 41: 271.
[16] *Supra* note 11.
[17] Wildermuth, J, (1990). Conservationists Sue to Force US to Set Bay Water Standards: Groups Say State has Failed to Take. *San Francisco Chronicle*, April 18, 1990, p. A4.
[18] Bullard, R. (1993). Anatomy of environmental racism and the environmental justice movement. In R. Bullard (Ed.), *Confronting Environmental Racism: Voices from the Grassroots*. Boston: South End Press.

1990's.[19] In addition to emitting over 300,000 pounds of toxic waste per year, the Chevron refinery experienced numerous accidental releases in the early 1990's. From 1992-1994, the facility averaged 45 "episodes," or accidental releases and spills, per year.[20] These accidents included some high-profile events. Table 1 outlines the episodes and regulatory violations at the Chevron Richmond refinery to receive media attention in the late 1980's and early 1990's:

Table 1. Refinery Episodes and Events to Receive Media Coverage, 1988-1992.

Media Coverage Date	Episode/Event
Sept. 2, 1988	Agrees to pay $550,000 to settle hazardous waste handling violations from 1986-1988
Apr. 11, 1989	Fire and explosion in hydrogen cracking unit send seven workers to area hospitals
Sept. 27, 1989	Labor Department to fine Chevron $877,000 for 114 safety violations during April fire
Dec. 28, 1989	Scientists puzzled by deaths of rainbow trout used to test toxicity of 6 million gallons of wastewater daily at refinery
Jan. 29, 1990	Fireball ignites atop 120 foot flare stack at the refinery due to a compressor shutdown
Jan. 31, 1990	Toxic compounds found in mussels near refinery; highest levels of polycyclic hydrocarbons ever to be found in coastal waters off of the US
Apr. 11, 1990	Two thousand residents mark anniversary of fire that sent asbestos, nickel and other toxics into the air with a lawsuit fo physical and property damages
Apr. 13, 1990	Union officials say 20 fires recorded in one unit at the refinery in the past five years, some linked to contract workers
June 21, 1990	Chevron ordered to clean up underground pool of crude oil that has leaked from its refinery
Aug. 2, 1990	AQMD releases list of region's toxic air pollution "hot spots"; Chevron refinery tops list
Oct. 5, 1990	EPA gives refinery three years to reduce emissions of selenium
Nov. 12, 1990	Serious violation of Petroleum Safety Orders affirmed with a $600 penalty for employee injured in a sulfuric acid spill during the change of rusted flange bolts
Mar. 16, 1991	Will pay $275,000 fine to OSHA for safety violations at refinery for April 1989 fire
Oct. 31, 1991	Fire sends black clouds over Bay Area, forces evacuation of rail collisions
Dec. 7, 1991	Cleanup crews sweep through Richmond, washing away fine gray dust from refinery; 60 tons of potentially toxic powder sent across 10-square block neighborhood
Dec. 21, 1991	Sulfur dioxide leak causes rotten-egg smell across surrounding neighborhoods; residents demand detailed disaster plans and air quality officials call for intensified monitoring
Jan. 31, 1992	Fumes released from refinery that stop Bay Area Rapid Transit trains
Mar. 13, 1992	Residents plan protest march on refinery to demand compensation for ailments and property damage from Dec. 1991 fire and release
June 24, 1992	Residents told to stay indoors after broken pump at refinery sends oily plume over San Pablo Bay; computer virus incapacitates emergency notification system
Jul. 26, 1992	511 complaints by residents against refinery from 1990-1992; 8 citations
Sept. 10, 1992	Twenty-five residents of Point Richmond sue in small claims court for damages to health from Dec. 1991 fire and release

Source: Lexis-Nexis search, California newspapers, 1988-1992.

Figure 2 provides an historical account of plant violations and fines assessed for violations at the refinery by the Bay Area Air Quality Management District. As the number of violations recorded for the facility rose from three in 1989 to 83 in 1997, the value of fines assessed fell from an average of over $10,000 to $400 in the same period. It was at a peak of agency scrutiny, in 1993, when Chevron began to publicly discuss desired modifications for the refinery. These improvements including a project designed to meet the requirements of state and federal "clean fuels" regulations.

[19] *Supra* note 10.

[20] Personal communication, Bay Area Air Quality Management District, July 20, 2001.

The Chevron facility was part of a network of competing refineries located in areas surrounding the East Bay, including Exxon, Tosco, and Pacific Refining.[21] Shell operated an additional refinery in neighboring Martinez.[22] Chevron was not the first facility to move ahead with plans to comply with the Reformulated Fuel Project (RFP). Pacific Refining Company and Shell Oil Company advanced plans for the RFP in 1993. These proposed projects gave a regional environmental organization, Citizens for a Better Environment (CBE), significant experience in investigating and commenting on project impacts stemming from the Clean Fuels program. A non-profit environmental advocacy group composed of organizers, scientists, and attorneys, CBE became aware of the nexus between race and environmental quality issues through its research of the Richmond community in the late 1980's. Its scientists analyzed each of the environmental impact reports issued for the RFP, starting with Shell Oil.

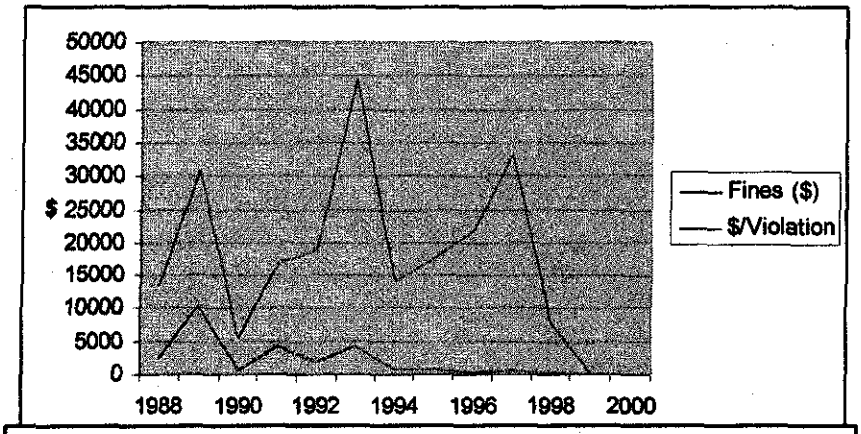

Figure 2. Fines Collected by AQMD for Violations at Chevron Refinery, 1988-2000.

> Shell was our first good neighbor agreement and it was fairly easy. Although Shell's got a really bad reputation in Nigeria and I'm sure that they are doing terrible things. But here in Martinez where they have the refinery, they have historically hired from the local community, supported local community organizations and have really positive relationships with the community there, largely. And they came, they agreed to settle this thing I'd say within a month or two. I was really surprised.[23]

CBE found it difficult to mobilize opposition to the project, although it was ultimately successful in encouraging Shell to agree to a set of conditions for its receipt of a construction permit. It relied on a limited group of residents who lived along the fenceline of the facility, as well as citizen groups such as Communities for a Safe Environment.

> In the case of Shell, because they have better relations with the community, there are less people who want to take them on. There is a group of folks who live right up next to the fenceline that we work with, and they are understandably concerned about emissions and odors that come out, but it's a much smaller group than say the folks who live next to Tosco, where they have had four

[21] Pelline, J. (1989). Chevron's Richmond Plan May Hurt PG&E. *San Francisco Chronicle*, October 5, 1989, p. B1.
[22] Nolte, C. (1990). Tosco Ordered to Clean Up Leak: East Bay Refinery Admits it has Huge Underground Pool of Crude Oil. *San Francisco Chronicle*, June 21, 1990, p. A6.
[23] Interview of Attorney, Communities for a Better Environment (formerly called Citizens for a Better Environment), June 6, 2002, in Oakland.

> fatalities at that plant over the last two years. Huge explosions, workers literally dying and communities getting exposed to all kinds of nasty stuff. So around Tosco, it's easy, around Shell, it's harder, and there are other refineries in between. Chevron's in between.[24]

Communities for a Safe Environment (CSE), a citizen group based in Martinez, brought prior experience with community-corporate negotiation to the dispute with Shell Oil. Their first attempt to secure a good neighbor agreement occurred under conditions that mirrored those in Manchester, TX. As in Manchester, Rhone Poulenc sought to build a commercial industrial incinerator at its Martinez plant, one of five in operation at the time.

> They're a sulfur recycling plant. You're really talking about a new use, and you're talking about transporting hazardous materials to be burned in their furnace and that got a lot of people upset. Rhone Poulenc ended up having an explosion. Killed one person, severely injured another. But as a result of that, they made an agreement with the community and the city council that they would not attempt to bring up the issue again of putting the incinerator there. And they also agreed as part of this to a settlement with the community and the city where they would provide a million dollar settlement and of that $500,000 would be cash and the rest would be in various types of services. A foundation was established as a result of that and money given through that foundation to various groups that applied for grants from there. The other $500,000 was in-kind donations. Maybe buying computers for the school, doing some work on the marsh for rehabilitation. They changed all the valves that had that potential. What else did they do? I believe there was some relocation because they had to rebuild, there was some relocation of where part of the plant was that blew up. There was also as a result of that, a reformulation of the type of acid that was coming over from Shell. They actually reformulated that so it had a lower explosive point.[25]

The good neighbor agreement with Shell, by contrast, focused almost exclusively on pollution reduction and monitoring capabilities. In a 77-page response to Shell's EIR, CBE outlined the focus of its objections to the project: Its failure to consider alternative approaches that would minimize or eliminate further emissions of volatile organic compounds, selenium, coke dust, and other hazardous materials.[26] CBE advanced several solutions to project impacts, including use of cleaner crude oil, use of bellows valves to reduce fugitive emissions, recycling selenium on-site, reduction of hazardous substances on-site, use of early warning systems, finding an alternative to MTBE (a gasoline additive), use of sensitive infra-red monitoring equipment to identify air pollutants, and hiring a community technical advisor to monitor implementation. After talks with a CBE attorney and CSE, Shell agreed to purchase and sit on $390,000 worth of air pollution credits from nearby San Jose.[27] They also agreed to install a fenceline monitoring system, the utility of which has been question by CSE members.

> They had a monitor set up at somebody's house. A single beam stretching across and it was very primitive and there was an argument as to whether that was the best technology and Shell won and the environmental groups lost. For what they were testing for, they said it was the best, because they said that you can't test for certain types of the chemicals crossing it and that a lot of them weren't what you were looking for in the first place. So there would be no point to that. And they were supposed to provide information to the community group and to CBE on an ongoing basis.

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[24] *Ibid.*

[25] Interview of Board Member, Communities for a Safe Environment, June 5, 2002, in Martinez.

[26] Citizens for a Better Environment (1993). Comments on Shell Oil Company Clean Fuels Project DEIR, June 21, 1993.

[27] *Supra* note 25.

> And if that happened it didn't happen with the group. If CBE was provided the information, I doubt that they provided much for any extended period of time. Possibly after it was first set up and then it sort of fell by the wayside. As far as I know, the monitor is still there.[28]

The Rhone Poulenc and Shell agreements led to the establishment of community advisory panels, which in the case of Shell was dominated by former Shell employees. Still, Martinez residents and Shell were able to agree to further improvements that were not a part of their good neighbor agreement, including trucking routes and hours of operation and the location of a coke storage unit on Shell's property.

CBE's next intervention occurred in the city of Hercules, where the Pacific Refinery issued a draft EIR for its version of the RFP. The project, according to CBE, represented a major risk to nearby residents, as it called for the construction of a number of refining units previously not in existence at the site: an alkylation complex, an isomerization unit, a fluid catalytic cracking complex, a hydrogen plant, and a sulfuric acid reclamation complex.[29] CBE argued that as these units were put in operation and run in different combinations over the course of three years, a growing threat of accidents would accrue. The new units were to be placed in close proximity to residences. Some of the proposed units had been implicated in major accidents in the Bay Area, including a sulfuric acid reclamation plant model that was responsible for the Rhone Poulenc accident in Martinez and a General Chemical release that sent more than 20,000 people to area hospitals.[30]

A final experience with community-corporate negotiations before the Chevron project occurred between CBE, residents of Crockett, and C&H Sugar Company, which sought to construct a cogeneration unit for the world's second-largest sugar refinery.

> So when we started hearing about how they were going to site this powerplant virtually across the street from some of our neighbors, we were appalled. We couldn't believe that it could happen. So I became involved that way more through, I was concerned with I had one child and I was pregnant at the time, and we were concerned about the chemical fallout. We were also concerned about the chemicals that they used in the process because they were using an ammonia and it was going to be in a tank that was gonna be situated right on the curve of the railroad track. There were several items about the powerplant they were proposing that we thought were crazy to be putting so close to a neighborhood of 3200 people... And then as I got into the process I was even more upset. Because it was even more reckless in the way that they were trying to put this thing

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[28] *Supra* note 25. *See* also J. May (1993). Memorandum to Keith Howard, representing Shell Oil from Julia May, Citizens for a Better Environment, September 9, 1993 ("The remote sensor fenceline monitor pilot project will evaluate either odors, accidental releases, cancer-causing or other toxic ongoing releases, VOC emissions, or some combination of these. A work plan for the pilot project will be provided by Shell to CSE and CBE by March of 1994. The pilot project will be installed by October of 1994. The length of the pilot project will be mutually agreed upon through discussions by Shell, CSE, and CBE. Shell will share the data from this project with CSE and CBE.").

[29] Alkylation is used to produce high octane gasoline from the isobutene formed during catalytic cracking. Alkylation joins compounds using either sulfuric acid or hydrofluoric acid catalysts. When sulfuric acid is used, the sulfuric acid must be regenerated in a sulfuric acid reclamation plant. An isomerization unit is used to alter the arrangement of a molecule without adding or removing anything from the original molecule. Fluid catalytic cracking uses heat, pressure, and catalyst to break larger hydrocarbon molecules into smaller, lighter molecules. It can produce more gasoline with a higher octane than previous methods.

[30] Citizens for a Better Environment (1993). Comments on Draft EIR for Pacific Refinery, September 24, 1993, submitted to Community Development Department, City of Hercules.

> up and the return to the community was practically nil. It was for C&H Sugar, and also PG&E liked it, because they were going to be sold the excess power. And the state of CA liked it because it would be what they considered a co-generation plant, and therefore generating cleaner and less expensive energy. We didn't believe it and we proved it time and time again in front of all kinds of people.[31]

After ten years of opposition by the town and a citizen group called the Crockett Power Plant Committee, the applicants agreed to compensate Crockett residents for the effects of the new facility. Compensation came in the form of development of a portion of the Carquinez Strait for public access, various community improvements, and the establishment of a foundation.[32] While the plant was only sited *near* the town of Crockett, the town received a share of the company's property tax payments. An agreement between the companies, Contra Costa County, and Crockett ensured a stream of $25 million in corporate donations and property taxes would be available to pay for community and public works projects.[33] The Crockett Power Plant Committee secured the agreement after C&H received approval from the state Energy Commission for its building permit in April, 1993. Opposition was dropped as C&H went before the state Lands Commission in July, 1993.[34] CBE would model the improvement package that it submitted to Chevron in part after the C&H Sugar community fund agreement.[35]

The Problem. The above interactions between CBE, residents, and industrial companies marked the formative stages of CBE's efforts to negotiate terms of continued operation with each oil refinery in the Bay Area, through a combination of good neighbor agreements and consent orders following litigation. Chevron offered the next proving ground for this model of citizen-driven environmental regulation. On August 11, 1993, a Draft Environmental Impact Report (DEIR) was distributed for public review.[36] The document, prepared by Environmental Science Associates for the City of Richmond, outlined the scope of the proposed Chevron Reformulated Gasoline and FCC Plant Upgrade Project. The project was announced at a moment of heightened scrutiny of petrochemical plants in the Bay Area. In addition to the accidents listed in Table 1, a defining event took place less than two weeks before the DEIR was issued. The General Chemical Company, collocated on the Chevron property, was involved in an accident similar to what was experienced in the Swansea-Elyria communities in North Denver: a safety valve on a railroad car manufactured by GATX Corporation ruptured, sending a cloud of sulfuric acid over parts of Richmond and thirteen other communities.[37] The effects of the accident were felt on a far greater scale than during the incident in Colorado:

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[31] Interview of Member, Shoreline Environmental Alliance, May 31, 2002, via telephone.
[32] Burress, C. (1993). Crockett Power Gets Panel Approval. *San Francisco Chronicle*, July 30, 1993, p. A22.
[33] *Ibid.*
[34] Bancroft, A. (1993). Crockett Power Plant Approved: Foes say they will Appeal State Energy Commission's Decision. *San Francisco Chronicle*, April 27, 1993, p. A16.
[35] Kay, J. (1993). "Victim" to bill Chevron for Fuels Project: Richmond Requires $60 Million for City Development. *San Francisco Chronicle*, December 18, 1993, p. A4.
[36] Environmental Science Associates (1993). Chevron Reformulated Gasoline and FCC Plant Upgrade Project, Draft Environmental Impact Report. Prepared for City of Richmond, August, 1993.
[37] Kisliuk, B. (1993). Toxic Cloud Looks Like a Rainmaker. *The Recorder*, July 28, 1993, p. 1; San Francisco Chronicle (1993). Richmond Chemical Spill. *San Francisco Chronicle*, July 27, 1993, p. A8.

the plume extend fifteen miles, sending more than 24,000 to hospitals and clinics.[38] After the accident, a study conducted by Rosemarie Bowler, a professor at San Francisco State University, compared Richmond residents with a control group from East Oakland. Nearly 90 percent of those in the Richmond sample exhibited symptoms of either respiratory or skin-related diseases along with numerous emotional problems. Forty-five percent of the Richmond residents also suffered from post-traumatic stress disorder.[39] The accident led to the formation of the Toxic Cloud Task Force, composed of victims of the release. It raised numerous questions about the adequacy of the region's early warning systems and accident prevention plans. And it encouraged numerous lawsuits by victims and environmental groups.[40]

As AQMD and other agencies' fines against the Chevron refinery and General Chemical peaked, and environmental groups such as CBE honed their skills at extracting concessions from area industries, Richmond began to experience a renaissance of activity that heightened tensions between heavy industry, commercial activities, and residential communities.[41] Traffic congestion in Marin County increased the attractiveness of the city as a bedroom community. The opening of the I-580 connected the I-80, approaching the city from Sacramento, with the Richmond-San Rafael Bridge. The planned Richmond Parkway (Highway 93) offered improved access to North Richmond. High profile companies such as Pixar and United Parcel Service began to locate facilities in Richmond.[42] The city sought to recapture its potential for becoming a vibrant commercial and residential center. Yet its major landowner, Chevron, continued to dominate the landscape. And the city's geography, including vacant lots, boarded up storefronts, numerous rail crossings, and heavy truck traffic, belied attempts at revitalization.

In a County known for having one of the nation's highest mortality rates for various forms of cancer,[43] any proposed facility expansion would likely raise the concerns of multiple constituencies. Chevron's project attracted particularly acute opposition, given the company's record, high-profile events, forced agency responses, and a growing confidence among environmental groups that had worked closely with several of Chevron's competitors. Early good neighbor agreements with Rhone Poulenc, Shell, and C&H Sugar began to accumulate a sense of what should constitute "standard industry

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[38] Rosen, R. (1993). Toxic Racism: Disaster in the Works: The Fight Moves from Saving Wilderness to Saving Low-Income, Minority Communities. *Los Angeles Times*, September 5, 1993, p. M5.
[39] Hallissy, E. (1993). New Study Details Injuries from Spill: Richmond Residents Suffered Stress, Physical Ailments. *San Francisco Chronicle*, December 4, 1993, p. A21.
[40] Kay, J. (1996). Richmond Plant Safety Pact OK'd: General Chemical, Environmentalists Sign Agreement on Safeguards at a New Sulfuric Acid Factory. *San Francisco Examiner*, February 7, 1996, p. A5.
[41] Diringer, E. (1992). Big Industry Under Fire in East Bay: Contra Costa Homeowners Live in Fear of Toxic Disaster. *San Francisco Chronicle*, July 6, 1992, p. A1.
[42] Hall, C.T. (1990). Sun Starting to Shine on Richmond. More Firms Calling East Bay City Home. *San Francisco Chronicle*, March 10, 1990, p. B1.
[43] Austin, F., Nelson, V., Swain, B., Johnson, L., Lum, S. and Flessel, P. (1984). Epidemiological study of the incidence of cancer as related to industrial emissions in Contra Costa County, California. *United States Environmental Protection Agency Project Summary*, EPA-600/S1-84-008. Cincinnati: Center for Environmental Research, July, 1984.

practices" for dealing with the concerns of fenceline communities. These practices were evoked almost immediately when the Chevron RFP, one of the largest capital projects in the history of California,[44] was proposed.

From the title of Chevron's DEIR, it should be clear that the project encompassed more than a response to new state and federal clean fuels regulations. Indeed, Chevron had been discussing plans for a major plant modernization program as early as 1989.[45] The project, slated to cost over $1 billion, was vaunted as an effort to improve efficiency, cut costs, and widen profit margins.[46] Chevron even took a special charge against its earnings in the fourth quarter of 1989 for future work at the Richmond refinery.[47] Estimated costs of the project ballooned to $1.3 billion by March 1990, as Chevron was cutting over 800 jobs in the United States alone.[48] The city of Richmond was told that the project would generate 3,500 construction jobs and increase Chevron's property tax bill from $14 million to $32 million.[49] One year later, however, Chevron begun to scale back the scope of plant modernization, citing industry uncertainty caused by clean fuels and anticipated pollution regulations.[50] The DEIR submitted for Chevron's RFP included one of the smaller projects that the company had indicated it would pursue to secure some of the improved yields anticipated through the original modernization concept.[51] An upgrade to the refinery's fluid catalytic cracking (FCC) unit[52] was proposed along with improvements required to conform with CAA and CARB regulations, in an effort to "improve the reliability and safety as well as to increase the efficiency of the FCC Plant."[53] The FCC Plant upgrade was not required to produce reformulated gasoline.

Thus, the first concern of local and regional environmental groups centered on the project's scope. The project contained elements unrelated to the federally-mandated RFP, which were validated in the DEIR by reference to the benefits of the RFP: the use of reformulated gasoline would decrease emissions of carbon monoxide, hydrocarbons, nitrogen oxide, and sulfur oxide within the County.[54] It was further argued that County-wide reductions of these chemicals, which are the precursor emissions to particulate matter (PM10), would offset an *increase* in refinery emissions of PM10 caused by project

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[44] *Supra* note 21.
[45] *Ibid.*
[46] Lee, P. (1989). Pumping Life into Chevron. *Los Angeles Times*, December 4, 1989, p. D1.
[47] Pelline, J. (1990). Chevron Loses $883 Million: Huge Write-Down is Taken. *San Francisco Chronicle*, January 25, 1990, p. C1.
[48] Pelline, J. (1990). Chevron Modernization Outlay Put at $13 Billion. *San Francisco Chronicle*, March 9, 1990, p. C1; Pelline, J. (1990). Chevron to Cut Jobs, Sell More Properties. *San Francisco Chronicle*, February 21, 1990, p. C1.
[49] *Ibid*; Pelline, J. (1990). Chevron Refinery Overhaul to Create up to 3,500 jobs. *San Francisco Chronicle*, June 9, 1990, p. B1.
[50] Pelline, J. (1991). Chevron Cuts Back Big East Bay Project. *San Francisco Chronicle*, March 8, 1991, p. C1.
[51] *Ibid.*
[52] Catalytic cracking uses heat, pressure, and a catalyst to break larger hydrocarbon molecules into smaller, lighter molecules. It is able to produce more gasoline at a higher octane and with less heavy fuel oils and light gases.
[53] *Supra* note 36, p. I.1.
[54] *Supra* note 36, p. I.16.

upgrades. The extent of project impacts went far beyond emissions, as illustrated in Table 2.

Table 2. Potential Impacts of the Chevron RFP Project and Reported Significance Levels.

Issue Area	Potential Project Impacts	Significance Before and After Proposed Mitigations	
Land use	Increased industrial development; intensified land use	LS	LS
Traffic	Increased traffic on Castro Street; increased parking; accelerated pavement deterioration; increased vehicle trips; growth in traffic	LS	LS
Air Criteria Pollutants	Increased emissions of particulate matter, nitrogen oxides, and hydrocarbons	S	S
	Increased roadside carbon monoxide concentrations, odors	LS	LS
	Reduced use of freons, cumulative decrease in PM10 precursors within the Bay Area and County	B	B
Air Toxics	Toxic air concentrations with adverse health effects; cumulative toxic air emissions contribute to human health effects	LS	LS
Public Health/Safety	Increased handling of hazardous materials; increased hazardous waste for disposal; increased risk of upset	LS	LS
	Exposure of workers to hazardous materials; potential for accidents involving hazardous materials	PS	LS
Emergency Services	Need additional fire suppression and water flow; complications to emergency evacuation plans	LS	LS
Public Services	Increased demand for police, fire department services; increase in pavement deterioration, use of water, natural gas, and electricity; increased disposal of contaminated soil	LS	LS
Energy	Increased use of non-renewable energy resources	LS	LS
Culture	No impacts	N/A	N/A
Geology	Potential damage from seismic groundshaking, soil settlement	S	S
Hydrology	Increased contamination of storm water, impervious surfaces	LS	LS
Noise	Increased construction and operational noise levels	LS	LS
Biological	Remove vegetation, increase wastewater discharge	LS	LS
Visual	Increase industrial appearance, add new sources of light and glare	LS	LS
Fiscal	On-time and on-going revenues for city, County, and schools	B	B
Employment	Increase demand for construction workers	B	B

LS = less than significant; S = significant; PS = potentially significant; B = beneficial

The project encouraged the participation of a broad cross-section of Richmond residents, local businesses, and area and regional environmental organizations. To get a sense of the range of their concerns, it is helpful to examine the public comments made about the proposed project during the EIR process. These were collected in the form of letters as well as oral testimony at a hearing held on September 15, 1993.[55] Through an understanding of these comments, we can compare the proposals and ultimate agreement reached between Chevron and several organizations to the broader concerns of the Richmond community. Table 3 provides an overview of concerns expressed by public agencies. Table 4 presents comments by organizations, including environmental and

[55] Environmental Science Associates, Inc. (1993). Chevron Reformulated Gasoline and FCC Plant Upgrade Project, Volume I: Comments and Responses. Prepared for City of Richmond, November, 1993.

neighborhood groups. Table 5 lists the concerns of individuals, expressed in writing or at an Environmental Assessment Panel meeting. These tables exclude the concerns of three organizations that would later negotiate the final terms of project approval with Chevron: The West County Toxics Coalition, People Do!, and Citizens for a Better Environment.

Table 3. Primary Concerns Expressed During EIR Process by Public Agencies.

Agency	Concerns
Bay Area Air Quality Management District	• Best available control technology not being applied for certain project components such as pumps and seals • FCC combustion emissions (i.e., NOx emissions calculated at 8247 lbs/day vs. 7900) • Emissions calculations have not been finalized for health risk assessment • Offsets that satisfy permit requirements do not necessarily satisfy CEQA requirements
State Department of Transportation	• Traffic study data is inadequate
East Bay Municipal Utility District	• Project should be designed to maximize water conservation and use of reclaimed wastewater
East Bay Regional Park District (EBRPD)	• Land use discussion should describe the Trails Plan of the EBRPD Master Plan
San Francisco Bay Conservation and Development Commission (BCDC)	• Anchors for wires stabilizing a flare may be constructed in BCDC jurisdiction • Project will contributed additional contaminants to storm water runoff system
Alameda-Contra Costa Transit District	• Recommends a reduction in supply of on-site permanent parking spaces; transit service should be identified in the traffic element of the DEIR; pedestrian access should be established to minimize travel distances for transit patrons
Contra Costa County Community Development Department	• Need more information on impacts on Congestion Management Program roadways • Need more information on impacts to area pedestrian and bicycle circulation • Traffic analysis needed for post-construction impacts
Contra Costa County Public Works Department	• DEIR should designate construction traffic routes that do not impact local streets
Contra Costa County Flood Control and Water Conservation District	• Project may be subject to Department of Fish and Game, Army Corps of Engineers, and National Pollutant Discharge Elimination System
West Contra Costa County Unified School District	• Increased health risks from increased emissions • Increased public safety risk from fires, explosions, or accidental releases • Increased odors, noise, traffic, possibility of accidents involving tanker trucks, and hazardous waste

Table 4. Primary Concerns Expressed During EIR Process by Organizations.

Organization	Concerns
Richmond Annex Neighborhood Council	• Needs corrective mitigation for use of Richmond Annex segment of Carlson Boulevard for project-related truck, tanker, and other heavy vehicles. • Traffic impacts on Richmond surface streets warrant complete discussion and planning
California Rural Legal Assistance	• Chevron plans to dispose of certain hazardous wastes from project in landfills in Kettleman Hills, Buttonwillow, and Anderson • Transporting hazardous wastes and asbestos through Kettleman City and Buttonwillow will significantly impact their environments; these communities should have received public notice
Point Richmond Neighborhood Council	• No assessment of mental health, physical well-being, or quality of life for residents living near refinery • Mitigations should include reduction of pollutants, hazardous emissions, and noise levels; use of state-of-the-art technology; dollar contribution to offset effects on neighbors • Cumulative effects of air toxics in "toxic corridor" from Richmond to Martinez should be studied • Report should list all emissions credits and their source • "Sacrificial pocket" around the refinery cannot be ignored because of promised area-wide air quality improvements • Appropriate baseline criteria for health risk assessment not used • Project's "distance" from residential areas ignores Point San Pablo Yacht Harbor and recreational areas • Point Richmond neighbors already extremely affected by noise • Chevron should relocate the city and County telecommunications installations onto its property as part of mitigations
Sierra Club San Francisco Bay Chapter	• Are there alternatives to using MTBE and TAME compounds? • Greater use of best available control technologies (such as low leak valves) needed • Need more specific breakdown of increased hydrocarbon emissions from project • Local levels of pollutants will increase in area that is overburdened • Need commitment from Chevron to use of fenceline monitoring of chemicals produced/stored at facility • Increased discharges to San Pablo Bay • What species were observed in area effected by project? • Need an effective Community Alert System
Southwest Richmond Annex Neighborhood Council and Crimewatch	• Scope of area covered regarding traffic flow and impacts is too small • Many items under Public Services are really Emergency Services that will see increased demand • No mention of impacts from transporting waste materials • Railcar transportation estimates are flawed • Hazardous waste transport by rail along I-580 through Southwest Richmond Annex increases potential spills and evacuation needs • Recent General Chemical incident suggests that certain presumptions as to wind direction, chemical concentrations, and effects of an incident are wrong • Richmond Fire Department staffing is inadequate • Recent General Chemical incident suggests that County Community Notification Network is flawed • Project will result in new sources of light and glare

Table 5. Primary Concerns Expressed During EIR Process by Hearing Attendants and Individuals.

Individual	Concerns
William Collins, Environmental Association	• Better technology needed to address safety
Steven Friedman, Environmental Health Network	• Against the project and reformulated gasoline; He had a central nervous system reaction to oxygenated fuels; oxygenates have an affect on the olfactory system
Richard Katz, Point Richmond Neighborhood	• Astonished that projected emissions would be so high
Robert Coleman, North Richmond	• CFC's need to be recycled completely; facility goes into "overproduction" at night; needs to be inspected at night; should learn lessons from the General Chemical release
Robert Carlson, Toxic Cloud Task Force	• Many of the emissions come from burning natural gas for energy; solar panels could be used for at least the first 100 degrees
Michele Jackson, Neighborhood House of North Richmond	• Project is an opportunity to develop a partnership in jobs and an evacuation plan; Chevron has consistently provided resources to the community
Kwasi Harris, Richmond	• Opposed to the project; local impacts for regional benefits; lower life expectancy for African-Americans due to heavy industry
Greg Freers, Contra Costa Building Trades Council	• Project will result in significant number of jobs; need a community outreach program; labor is available to facilitate discussions between environmentalists and Chevron
Sharon Sims, Richmond	• Concerned with increased long-term risk to the community; need a community inspector; property values will suffer
Judy Morgan, Richmond Chamber of Commerce	• Four ways in which Chevron supports the community: supports local and small businesses, supplies lists to contractors, sends purchasing agents to Chamber events, and participates in community programs
Dennis Spaniol, Council of Industries	• A lot of building trades out of work and this project will give them work; half of Council membership works at Refinery
Ron Deziel, Richmond Annex Neighborhood Council	• Traffic increases on Carlson Blvd. near Annex not addressed
Jeffrey Dodge, Oil, Chemical, and Atomic Workers	• Most impacts less than significant
Jay Vincent, Richmond	• Project should provide monitoring stations along the fenceline with wind direction as an early warning system; need a more aggressive attitude toward development of an emergency system
Sara Eeles, Point Richmond Neighborhood Council	• Health study needed for those already affected by contaminants or those who are sensitive receptors
Margaret Hollingsworth	• Richmond already has 400 per million excess cancer cases – how can any increase in carcinogenic pollutants be less than significant; City does not require industries to carry catastrophic insurance policies; inspection is inadequate; emergency response network is inadequate; how does the City decide it is unable to minimize acceptable risks; what would be an adequate buffer zone; what are transportation routes for hazardous substances; will project increase the chance of accidents; do ratings of hazardous waste storage, transport, handling, and disposal, and the effects of pollutants on the public take into account cumulative and synergistic effects; given 63% chance of magnitude 7 earthquake, how can the City approve the project; who will monitor noise levels

While a broad array of concerns encouraged individuals, representatives of neighborhood councils, and citizen groups to question various aspects of the project, systematic opposition to the RFP was mobilized by the coalition of three environmental organizations mentioned above. The West County Toxics Coalition is a local, member-driven environmental justice organization established in 1980 over concerns stemming from the Chevron refinery and other industrial land uses.[56] Members hail from the City of Richmond, while the organization serves Richmond and the adjacent cities of San Pablo and El Cerrito. Henry Clark, himself born and raised in North Richmond, formed the organization as a complement to the predominantly social service groups operating in the neighborhood. WCTC was founded as an environmental organization, specifically focused on the unique concerns of environmental justice communities. Having heard about the permit process, Clark contacted his allies, CBE and People Do! People Do! was composed of residents of Point Richmond, a white, middle-class neighborhood that constituted one of the four most proximate communities to the Chevron refinery. People Do! described itself as a "community coalition dedicated to working with Chevron to achieve an equitable share of public improvements and adverse impact mitigations for the continued operation and upgrading of the Chevron Refinery."[57] Its president, Tom Butt, was the first to accuse Chevron of "piecemealing" its modernization efforts – seeking approval of small segments of the originally intended project – in order to avoid an evaluation of the cumulative impact of plant changes.[58] The two groups joined CBE in offering extensive commentary on the DEIR and working with various neighborhood councils to incorporate their interests into a "Community/Environment Improvement Package," proposed to Chevron and then the Richmond Planning Commission. CBE's lead community organizer for the project describes the organizing process:

> The process started with making all of the neighborhood councils and existing groups that we thought might be interested aware of this project coming through and the opportunity for a good neighbor agreement. There were a bunch of meetings with those groups to get them involved including the Chevron Community Advisory Panel, and then those groups participated in these meetings with Chevron to understand the project better and give them our ideas of what they needed to do to make the project acceptable. These are meetings between the groups and the company. There were public meetings as the outreach started, to the neighborhood councils, saying this is happening, this is what Chevron is proposing, these groups are joining together to negotiate with Chevron to try and improve the project, we want to be involved, here's how you can be involved, and again you tend to get a self-selected group out of that. Who represents their neighborhood council, their CAP, their organization, that becomes part of essentially like a steering committee and you proceed with the company. Generally [the companies] will make some changes. I think in Chevron's case there were little or none that they agreed to.[59]

Organization representatives differed slightly in their depiction of the extent of community-corporate interaction before the hearing process began. Yet it is clear that discussions with Chevron did not yield concessions. CBE, WCTC, and People Do! were left to meet with members of the Richmond Planning Commission, charged with

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[56] Interview of Member, West County Toxics Coalition, June 5, 2002, in Richmond.
[57] People Do! (1993). Response to the Draft Environmental Impact Report for the Chevron Reformulated Gasoline and FCC Upgrade Project. September 23, 1993.
[58] Ibid, p. 7.
[59] Interview of former Organizer, Communities for a Better Environment (formerly Citizens for a Better Environment), June 4, 2002, in Point Richmond.

approving a conditional use permit for the project. A letter from these organizations to the General Manager of the refinery on November 29, 1993 expresses their frustration with the extent to which their concerns had been considered.[60] The groups cancelled a scheduled meeting with Chevron and requested a written response to their demands, which focused on community development, accident prevention, air and water pollution prevention, and improved environmental assessment and monitoring. No further communications occurred.

Before we consider the permitting process which led to an agreement between environmental groups and Chevron, let us contrast the concerns of these organizations with those expressed during the DEIR public comment period. This will give us a sense of the extent to which broader interests of Richmond stakeholders were incorporated into the Improvement Package, Commission and Council decisions, and a Memorandum of Understanding signed between Chevron, CBE, WCTC, and People Do! at the final stage of the permitting process. Agencies that commented on the project expressed relatively isolated concerns linked to organizational mandates and limited jurisdictions. These included an array of traffic and transit issues as well as land use considerations. Only the Air Quality Management District and West Contra Costa County School District raised specific concerns regarding the project's potential to increase emissions, with the former concentrating on the DEIR's failure to adequately consider best available control technologies (BACT). By contrast, organizations, including neighborhood councils and regional environmental groups, broadened the scope of environmental impacts that they considered important and inadequately addressed. Traffic and other nuisance concerns predominated in some councils, while others joined environmental groups in characterizing the project's disproportionate impacts on a "sacrificial pocket" of residents near the site.[61] The inadequacies of public services, including police, fire, and emergency response capabilities, were also priorities of commenting organizations. Individuals who commented on the DEIR offered a better cross-section of the city that would be mobilized by both sides for subsequent commission and council hearings. Here, we get the first sense of outright opposition to the project, in addition to accounts of residents' experience with the facility (e.g., "overproduction at night"). A number of individuals represented organizations with an interest in the construction and permanent jobs promised by the project. Finally, several North Richmond social service organizations spoke in favor of the project. The Neighborhood House, for instance, characterized the project as "an opportunity to develop a partnership" with the company.[62]

By contrast, the three major environmental groups offered lengthy, extremely detailed responses to the DEIR, outlining their rationale for specific mitigations to refinery equipment and processes (CBE/WCTC) and for general and site planning considerations to improve public access, scenic routes, conservation, transportation, and recreation

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[60] Leedie, M., Clark, H., Eels, S., & Butt, T. (1993). Letter to Michael Hannan, General Manager, Chevron USA, Inc. from Michael Leedie, West County Toxics Coalition and CBE, Henry Clark, West County Toxics Coalition, Sarah Eels, Chevron CAP, and Tom Butt, People Do!, November 29, 1993.
[61] Eeles, S. (1993). Comments – Chevron Reformulated Gasoline and FCC Plant Upgrade Project. Submitted to Jim Farah, Director, Planning Department, City of Richmond, September 27, 1993.
[62] *Supra* note 55.

opportunities (People Do!). CBE/WCTC provided an account of "significant impacts omitted from or underestimated in the current DEIR."[63] These included:

- The assumption that crude oil high in selenium and sulfur will not be used in the future, when no such commitment has been made
- An improper characterization of the site's accident history, rendering the DEIR's depiction of the project's "environmental setting" inaccurate
- An underestimation of existing health risks posed by the presence of other hazardous facilities in the area, which constitute a "toxic soup" in the city
- A portrayal of baseline emissions at the existing facility that resulted in an underestimation of the impacts of the proposed project
- An inaccurate assumption that a CO boiler will be in place to reduce emissions when Chevron planned to remove the boiler from the site
- Failure to propose mitigation measures that would reduce an expected increase in VOC and NOx emissions, each by over 150 tons per year
- Failure to consider the impacts of toxic air emissions by considering the project's impacts together with other sources of emissions in the area
- Failure to account for emissions resulting from the refinery's increased production levels
- Failure to consider the true scope of impacts on water quality in the Bay, particularly through selenium discharges
- An underestimation of the risk of accidents
- Failure to consider the effects of the project on urban deterioration in the city (decreased property values, residential flight, and decreased quality of life)
- Lack of an adequate mitigation monitoring program to ensure that mitigations are properly implemented

In response to these deficiencies in the DEIR, CBE/WCTC proposed a series of mitigation measures for the proposed project:

- The use of bellows valves in both the proposed project and the existing refinery would mitigate VOC emissions increases from the new project. Low-leakage bellows valves, hermetically-sealed control valves, and relief valves vented to a gas recovery system are all feasible technologies in use at area facilities such as Shell Oil in Martinez. Bellows valves are particularly useful in reducing fugitive emissions
- Control technology such as those listed above will reduce or prevent flaring, and the visual, noise, and emission impacts of the practice
- Replacement of perchloroethylene with hydrogen chloride to avoid the risk of phosgene (nerve gas) formation in the event of a fire
- Revised methodology for risk of upset calculations is needed
- Creation of a community development fund, a job training program, a guarantee for construction jobs, and an environmental fund to improve Richmond's environment would mitigate the urban degradation experienced due to the proposed project
- A mitigation monitoring program that includes a community technical advisor and fenceline monitoring (remote sensors using infrared or laser technologies to measure refinery emissions including VOC's)
- WCTC added a separate list of mitigations, including use of best available control technology, long-term health assessment, increased recycling and reuse of materials, a community alert

[63] Citizens for a Better Environment (1993). Chevron Reformulated Gasoline and FCC Plant Upgrade Project – Comments on Draft EIR. Submitted to James Farrah, Planning Director, Richmond Planning Department, September 27, 1993; *See* also West County Toxics Coalition (1993). Chevron Reformulated Fuels and FCC Plant Upgrade Project Draft EIR Written Public Comments. Submitted to Jim Farrah, Planning Director, City of Richmond, September 24, 1993.

network including sirens and public education, a community development fund, and upgraded evacuation plans.

People Do! focused on the power of the city of Richmond to impose conditions on the project beyond what would be allowed under the California Environmental Policy Act. The first such power was the ability to issue a conditional use permit (CUP). The Chevron refinery required a CUP because its use was considered one of the uses "which may be obnoxious or offensive by reason of emission of odor, dust, smoke, gas, noise, vibration, and the like."[64] The Planning Commission has the power to

> Impose such conditions, including but not limited to, a time limitation on the effectiveness of the use permit, as it deems necessary to protect the best interests of the neighborhood property or neighborhood and to carry out the purposes of the Zoning Ordinance and the Richmond General Plan.[65]

The interests of Point Richmond, the Iron Triangle, and North Richmond are evoked as those most directly tied to the conditions that People Do! asked the city to levy on the proposed project. In addition, People Do! suggested that the project would have to undergo a Site Development Review, the purpose of which is to

> Promote orderly, attractive, and harmonious development, recognize environmental limitations on development, stabilize land values and investments, and promote the general welfare by preventing establishment of uses or erection of structures having qualities which would not meet the specific intent clauses or performance standards of this Chapter or which are not properly related to their sites, surroundings, traffic circulation, or their environmental setting.[66]

People Do! proceeded to link general categories of the Richmond General Plan and Shoreline Conservation and Development Strategy with proposals for improved:

> Public Access: Focused on developing the recreation potential of Point Molate beach, improving a series of shoreline parks and scenic routes, requiring public access to regional trails and the Bay.
>
> Public Use Facilities: Focused on the need to acquire, develop, and manage trails, fishing sites, beaches, parks, viewpoints, and public recreation areas.
>
> Scenic Routes, Appearances, and Views: Focused on the Scenic Routes element of the General Plan and its policies toward maintaining rights-of-way and coordinating improvements of scenic routes, with specific proposals for the coastline near the refinery.
>
> Shoreline and Wildlife Conservation: Focused on how the enforcement of existing ordinances and conditions of approval for refinery expansion could encourage wildlife preservation, weed abatement, landscaping and vegetation to improve the appearance of the area, and hillside conservation strategies to mitigate the appearance of hillside tank farms.
>
> Transportation: Focused on recreational corridors, bikeways, trails, and the encouragement of alternative ways for the public to reach the shoreline.

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[64] RMC 15.04.140.A.39h.
[65] RMC 15.04.190.C.5.
[66] RMC 15.04.205.A.

Recreation: Focused on the above access issues as well as the establishment of shoreline sites or piers for public fishing.

In general, People Do!'s proposals were aimed at improving appearance, access, and use issues for the peninsula on which the refinery was located and surrounding areas. A pictorial account of Chevron's property and its effects on its vicinity depicts "no trespassing" signage, piping in need of concealment, enfencement problems (particularly as they related to shoreline access), overhead power lines, and other nuisances in need of abatement.

The interests expressed by CBE/WCTC and People Do!, including reduced emissions and improved appearance and access, factored heavily into two versions of a Community/Environment Improvement Package that were used to frame discussions with Chevron (Fall, 1993), presented to Richmond's Environmental Assessment Panel (December 8, 1993), and then rewritten and submitted to the Planning Commission (proposal 2).[67] Here, we find the first evidence of a push to commit Chevron to a community development fund, modeled after Crockett's settlement with C&H Sugar. The idea of a fund also came from California statutes, which permitted cities and counties to levy up to a 10% tax on gross receipts of hazardous waste facilities.[68] Below is a comparison of the proposals, which received the support of the Toxic Cloud Task Force, the Richmond Neighborhood Coordinating Council, a majority of the Chevron Community Advisory Panel, the Point Richmond Neighborhood Council, and the May Valley Neighborhood Council, in addition to the above three organizations.

[67] West County Toxics Coalition, Citizens for a Better Environment, & People Do! (1993). Media Release: Richmond Neighborhood Coordinating Council Unanimously Endorses Grassroots Effort to Clean-up Chevron Fuels Project. December 7, 1993 (proposal 1); Citizens for a Better Environment (1993). Additional Conditions of Approval, Final Draft, December 15, 1993 (proposal 2).

[68] Kirk, M.A. & Wade, C.L. (1997). A taxing problem for environmental justice: The tax money from Hazardous Waste Facilities. *Stanford Environmental Law Journal*, 16: 201-255. In California, general law cities or counties are able to levy up to a 10% tax on the gross receipts of hazardous waste facilities. The first tax, effective since 1981, allows a city or County to impose a license tax of not more than 10% on a Class I hazardous waste incinerator. The second, effective since 1986, authorizes cities and counties to levy a tax on offsite, multiuser hazardous waste facilities.

Table 6. Comparison of Proposed Conditions of Approval Submitted by Coalition.

	Proposal 1	Proposal 2
Community Development	Independently managed community development foundation; clinic to serve residents of North Richmond and to conduct long-term health assessment of fenceline communities; physical cleanup, landscaping program, and tree planting program including Point San Pablo, Castro Street Corridor, Gertrude Avenue and the tank farms; relocate telecommunications complex on Nicholl Knob Hill to Chevron	Design and fund clean-up program for open space, shoreline, and roadways surrounding refinery which will conform to applicable abatement and nuisance ordinances; fund a community foundation independently managed by residents and limited to public safety, educational, health, and economic programs; yearly contribution to equal 9% of construction cost divided by 30 years; relocate telecommunications facility from Nicholl Knob provided the city would pay market value
Accident Prevention	Ensure that all relief valves vent to containment; install sirens to notify residents and fund public education for disaster notification; eliminate the threat of phosgene formation; re-evaluate accident potential from the project to account for serious past releases	Vent all relief valves to containment to prevent releases; eliminate the threat of phosgene gas
Air Pollution Prevention	Eliminate 150 ton per year increase in VOC's by using bellows valves, hermetically sealed control valves, and other means; correct baselines used to calculate air emissions; publish a schedule of voluntary emissions reductions; eliminate routine flaring; identify clean alternative energy sources	Correct baselines used to compute air emissions; implement all available means throughout the refinery to achieve no net increase in emissions; eliminate routine flaring; commit to no net increase in air emissions if a different crude is processed in the future; study of clean alternative energy sources
Assessment and Project Monitoring	Conduct a study of cumulative impacts; establish a mitigation monitoring program in consultation with surrounding communities; install a remote sensing fenceline monitor; fund a technical advisor from the community; evaluate the impacts of different crudes on emissions; correct the EIR to address all analytical errors	Install a fenceline remote sensing monitor prior to project completion; make data available to public;
Water Pollution	Commit to no increase in selenium discharges to the Bay	Commit to no net increase in waterborne emissions if a different crude is processed

Permit Approval. A flurry of activity preceded the Richmond Planning Commission's hearing on the RFP on December 16, 1993. The coalition of environmental and civic organizations submitted proposal 2 to the Commission, which came as a surprise to the city's planning staff:

> The company had applied for a conditional use permit and they went before the Planning Commission in December 1993 and we were having a public hearing. I had been doing planning for maybe 25 years at that point. So nothing shocked me anymore. But this came out for the Commission proposed by someone in the audience, it was maybe 10-15 pages long, for a community development program that was going to cost 85 million dollars. And my jaw dropped at the time. I was speechless. So we tried to argue with the Commission, you can't adopt that because there is no nexus.[69]

[69] Interview of former Planning Director, City of Richmond, June 5, 2002, in Richmond.

In fact, no fewer than six proposals and agreements were exchanged between Chevron, the Commission, the Fire Department, and the coalition on the day of the CUP hearing. The refinery reached agreement with the Fire Department to address training and equipment that the project would require.[70] Chevron provided legal arguments to the city as to Richmond's compliance with CEQA, which had been called into question by CBE.[71] An Alliance Agreement was reached between Chevron and the city to give priority for materials purchasing for local and minority owned businesses.[72] The company responded to allegations of increased hydrocarbon emissions by citing previous emissions reductions banked with the AQMD and proposing to add a condition to the CUP offering additional voluntary reductions.[73] Most importantly, Chevron responded to proposal 1, which the coalition had presented at the Environmental Assessment Panel.

A look at Chevron's response to the coalition's demands as well as the city planning staff's report on the project and its proposed mitigations suggests that the company made numerous concessions (or reaffirmations of steps that were already underway) before the hearing. Here are a few of those concessions:

> Chevron will agree, as outlined in the City staff's proposed additional condition II.1 for the CUP, to keep abreast of progress made in the remote sensor fenceline pilot project which will be undertaken at the Shell Martinez Refinery. If something successful is developed, we will adapt it to the Richmond Refinery.
>
> Chevron is a member of the Contra Costa County Community Notification Committee. The committee has recommended, and the County Board of Supervisors has approved, a phased program for installation of a County-wide emergency notification system which includes installation of sirens. Chevron will fund its fair share of the cost of implementing the plan for community notification.
>
> [Planning] staff has recommended that we be required to landscape several different areas within the Refinery and along the refinery perimeter. The perimeter landscaping will serve to screen views of refinery equipment from public view...We agree to do this landscaping as recommended by City Staff as conditions for CUP approval.

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[70] Chevron Richmond Refinery Plant Protection (1993). Fax to John Walker, Richmond Fire Department, Re: Agreement, December 16, 1993.

[71] Buskirk, R.E. (1993). Letter to Malcolm Hunter, Esq., from R.E. Buskirk, Re: Chevron Richmond Refinery Reformulated Gasoline and FCC Plant Upgrade Project, December 16, 1993.

[72] Williams, P.S. (1993). Letter to Planning Commission, City of Richmond from P.S. Williams, Manager, Environment and Safety, Chevron, December 16, 1993.

[73] Hannan, M.D. (1993). Letter to Jim Farah, Planning Director, City of Richmond, from M.D. Hannan, General Manager, Chevron U.S.A. Products Company Richmond Refinery, December 16, 1993. Chevron's proposed efforts to reduce emissions included a commitment to take "one or more of the following actions": a. Limit FCC Unit Combustion hydrocarbon emissions to their current level by designing and operating combustion equipment in the modernized FCC Unit to provide operating conditions such as temperature and residence time to maximize thermal destruction of hydrocarbons; b. Permanently shut down and surrender the operating permits for any refinery facilities which were included in the EIR 1992 Inventory and for which the resulting emission reductions have not previously been banked with AQMD; c. Retrofit tanks built prior to 1979 with low emission fittings; and d. Reduce fugitive hydrocarbon emissions from certain tanks, valves, pumps, and/or compressors to a level below that required by current regulations. A combination of the above measures, it was claimed, would reduce the project's net hydrocarbon emission increase from 830 lbs/day to zero or less prior to project startup.

> There has been much debate about the City's authority to require mitigations from within the existing refinery. The debate has principally focused on demands to mitigate the 150 tons per year (or 830 lbs/day as stated in the EIR) hydrocarbon emissions increase due to the project. To eliminate community concern on this matter, even though we agree that mitigations outside the project are not within the City's jurisdiction for this project permit, Chevron has shown good faith to the City and community and voluntarily agreed to fully mitigate the 150 tons per year hydrocarbon emissions increase before project start-up.[74]
>
> The RFG project itself will be mitigated to the maximum extent feasible by application of best available control technology by the Bay Area Air Quality Management District and other measures (such as bellows valves) imposed on the project by the city. Staff Report, Attach. A, pp. 3-4.[75]

Some of these concessions were presented to planning staff in the form of language for changes to the Planning Department's proposed Conditions of CUP Approval and Mitigation Monitoring Program.[76] Taken collectively, Chevron's concessions and the wide-ranging mitigation measures proposed by planning staff were responsive to many of the demands made by citizens and organizations throughout the EIR process. Examples include landscaping the tank farm area and Castro Street, improvements to Point San Pablo, contributions to the city's Urban Forest Management Program, experimentation with fenceline monitoring, job creation, installation of a community alert system, use of best available control technology, traffic reductions, prohibited use of Carlson Boulevard by construction traffic, dust abatement for fugitive dust emissions, truck coverage, minimized exhaust emissions, and the reduction of hydrocarbon emissions through a variety of measures.[77] Still, the planning staff rejected important elements of the coalition's demands (found in proposal 1), on the basis of the need for a "nexus" between conditions of approval and the project's impacts. This argument was based on the case of *Nollan v. California Coastal Commission*, which established the following analysis for determining the reasonableness of a permit condition:

1. Is the purpose of the regulatory/conditioning action a "legitimate government purpose?" and
2. Do the means used to achieve the objective "substantially advance" the intended purpose?
    a. Does the type of condition imposed address the same type of impact caused by the development?
    b. Is the condition reasonable and fair relative to the burden created by the development?[78]

Regardless of whether the project contributed a disproportionate burden to the residents of North Richmond, the city argued that it was not allowed to impose conditions that would shift public benefits to those who could only "speculatively" benefit from them. Thus, conditions such as the community development fund, improvements to areas not impacted by project elements, or relocation of electronic facilities unrelated to the project

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[74] *Supra* note 72.
[75] *Supra* note 71.
[76] Boortz, M. (1993). Fax to N. Kaufman, Richmond Planning Department from M. Boortz, Chevron Richmond Refinery, December 16, 1993.
[77] Richmond Planning Department (1993). Staff Report to Richmond Planning Commission, Re: Conditional Use Permit Application CU 93-40. December 16, 1993.
[78] *Nollan v. California Coastal Commission*, 483 U.S. 825 (1987).

from Nicholl Knob were not offered by staff. In addition, it was not clear to staff how a community inspector could be chosen and the Department assured of their qualifications vis-à-vis the areas of expertise required to deal with a complex refinery. That condition was also excluded from the planning staff's recommendations.

By the time the Planning Commission hearing was held on December 16, 1993, it was clear that the planning staff had addressed a broad range of concerns for the RFP. It was also apparent that the most vocal members of the opposition, including CBE, WCTC, and People Do!, had succeeded in encouraging Chevron to make several important concessions, some of which they were in the process of making prior to the issuance of the coalition's first proposal. The hearing marked another opportunity for give and take between the applicant and the permitting body, which occurred after 19 people spoke in favor of the project and 20 spoke in favor with additional conditions. Proponents included local businesses with good relationships with Chevron, social service organizations reliant on the company for donations, equipment, and expertise, and union representatives satisfied with the mitigations or interested in jobs that the project would create. Those in favor with additional conditions, led by Henry Clark of WCTC, reiterated the ten point program (proposal 2) that had been sent to the Commission that day. They also placed the proposed community development fund in the broader context of Chevron's County-wide annual giving. More importantly, they evoked linkages between local increases in air pollution and the conditions of urban blight. These connections, in addition to case law established after *Nollan*, were used to argue for a nexus between the community development fund and the proposed project. It was also suggested that the fund would help the city avoid the appearance of adopting only mitigations that promised to add to the general fund (such as tree planting and other public works efforts). The second group of speakers had no knowledge of the new measures proposed by Chevron to reduce hydrocarbon emissions or attempt fenceline monitoring, issued that day as well.

A final exchange between planning commissioners and the applicant was used to refine the mitigations proposed in the planning staff report.[79] Commissioner Edwards asked the applicant if Chevron was willing to meet with opponents again. The refinery's environment and safety manager responded by stating that numerous meetings had led to the concessions under consideration. The commissioners proceeded to question the manager on the coalition's ten point program and the extent to which the refinery "could live with" each point. The primary point of contention concerned whether Chevron could meet its proposed emissions reductions, which Chevron staff claimed was a task for the city's mitigation verification plan as well as AQMD monitoring staff. Pete Williams, representing Chevron, explained the efforts underway for topics addressed by most of the ten points, evidencing particular opposition to the community development fund and coalition efforts to hold the refinery to "no net increases" in emissions, regardless of crude oil type used at the facility.

[79] City of Richmond (1993). Conditional Use Permit Application CU 93-40 CPC Meeting of December 16, 1993 Proceedings. Prepared by Deborah Neville, CSR No. 9703.

It was clear from commissioner responses that several disagreed with the planning staff's interpretation of the nexus between some of the coalition's proposals and the project. One commissioner argued:

> Much of the community fund decision is obviously an idea that is very dear to the citizens' hearts. And I think that to say that a project of this magnitude does not affect the community around it, I can't agree with that. I can understand the legal argument, but I can't agree with it. I can also understand and agree with the legal argument which in fact calls for a direct relationship between the two. I could suggest to my other commissioners on the board that perhaps 9 percent is an onerous figure, that it might be reduced to five percent. That would be 30 million dollars at a million dollars a year. Although I know that Chevron would – may not want to involve itself in that kind of funding, I would suggest to Chevron that perhaps it would be in their best interest to consider it for the community who has been with you and by you and supported you for the past 80 years and will do so for the next 30 to 50 years. That it might be something that you might want to acquiesce.[80]

A motion was made several minutes after public testimony ended. It called for approval of the staff report along with additional conditions, which constituted all of the coalition's demands (proposal 2) with the exception of site relocation of the telecommunications facility from Nicholl Knob. Commissioners were in agreement that it would be most difficult to establish a nexus argument for that provision. A provision relating to job training for Richmond residents taking jobs at the facility was added. While some of the commissioners believed that the community development fund and the proposed study of clean alternative energy sources also failed the nexus test, the motion passed by a vote of 6-3 and the CUP was approved.[81]

The refinery appealed the Commission's decision to the City Council. The appeal called for modification of the CUP by deleting "unlawful, arbitrary, and capricious" conditions added with "no substantial evidence" that they would mitigate elements of the RFP project[82]:

- Independent expert chosen by Chevron's community advisory panel
- CAP consents to the selection of an independent consulting firm that will prepare periodic reports of Chevron's compliance with the CUP
- $50,000 per year contribution to city's Urban Forest Program
- Use of a different baseline to compute air emissions
- Use of "all available means throughout the refinery" to achieve no net increase in emissions
- Elimination of routine flaring and utilization of the quietest flare system available to reduce noise from flaring
- Installation of fenceline remote laser or infrared monitoring system for detection of chemical releases (Chevron argued that this system was not yet in existence for application at the refinery and reiterated its intentions to pursue a system "adequately tied to the developing nature of the technology")
- Achievement of "no net increase" in air or waterborne emissions should different types of crude be used at the refinery

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[80] *Ibid*, p. 130.

[81] Kaufman, N. (1993). Memorandum to Mayor Corbin and Members of the City Council, Re: Conditional Use Permit for the Chevron Refinery Reformulated Gasoline and FCC Plant Upgrade Project, December 23, 1993.

[82] Chevron U.S.A. Products Co. (1993). Conditional Use Permit Appeal, December 27, 1993.

- All relief valves in the refinery vent to containment
- Development of a fund for cleanup of open space, shoreline, and roadways surrounding the refinery complex
- Annual contribution based on 9% of annual construction costs to a community foundation independently managed by residents for general educational, health, economic and public safety programs
- Refinery-wide study of clean alternative energy sources and a study of technical and economic feasibility of future voluntary emission reductions

Intense lobbying of the City Council ensued. The Chevron community advisory panel, which had endorsed proposal 1 by majority vote, agreed to unanimously back proposal 2 and urged Chevron and the Council to "recognize the full impact of the project on business, schools, housing, property values, health, and overall quality of life."[83] Subsequent correspondence suggests that it was at this point that the Mitigation Task Force began to operate independent of the broad array of citizen and environmental groups involved at various points of the permitting process. Below is a summary of the activities of major stakeholders prior to the City Council meeting:

> **Mitigation Task Force (People Do!, WCTC, CBE):** Reaffirmed the coalition's backing of the actions of the Planning Commission; requested a continuance of the public hearing for 45 days to allow additional study and review of Planning Commission's approval of additional conditions; requested that planning staff carry out additional research to support the additional conditions by the Commission; asked the City Council to adopt a resolution encouraging Chevron and the coalition to "enter into negotiations to find a mutually acceptable resolution which will avoid a confrontational vote by the City Council and the virtually certain prolonged litigation that would follow such a vote; prepared a detailed response to the Chevron appeal arguing for a rational nexus between the CUP conditions and the RFP;[84] mobilized residents and neighborhood council representatives in order to lobby City Council members;[85] promoted a common understanding of the links between the Commission-accepted community foundation and conditions in North Richmond;[86] and answered Chevron's legal arguments against the Commission's decision in letters to the City Attorney.[87]

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[83] Chevron Community Advisory Panel (1993). Letter to Mike Hannan, General Manager, Richmond Refinery from The Community Advisory Panel, December 30, 1993.

[84] Butt, T. (1994). Letter from Mitigation Task Force to Mayor Corbin and Members of the City Council, January 19, 1994; Butt, T. (1994). Response to Chevron Appeal of Planning Commission CUP 93-40, January 18, 1994.

[85] West County Toxics Coalition (1994). $60 Million Dollars for Improving Education, Jobs, and Health in Richmond. Flier published by the West County Toxics Coalition, January 10, 1994.

[86] Mitigation Task Force (1994). Chevron Funded Richmond Community Foundation (no date). Argues the area downwind from the refinery is characterized by "schools with the lowest test scores in the West Contra Costa Unified School District and some of the lowest test scores in California; families with some of the lowest income levels in Contra Costa County, particularly among ethnic minorities; highest crime rate in the City of Richmond; highest level of health problems in the City of Richmond, including AIDS; and some of the lowest property values in the Bay Area" (p. 1). It was argued that "the concentration of myriad social, economic, and health problems in north and west Richmond would not exist were it not for the Chevron Refinery and associated industries" (*Ibid*, emphasis in original).

[87] Drury, R.T. (1994). Letter to Malcolm Hunter, Esq., City Attorney from R.T. Drury, Staff Attorney, Citizens for a Better Environment, Re: Chevron Richmond Refinery Reformulated Gasoline and FCC Plant Upgrade Project Appeal (CUP 93-40), January 21, 1994 (Counters arguments against the "rational nexus" between the approved mitigations and the RFP project: mitigations for harms not specified as significant in an EIR can be included as long as they bear a rational relationship to a harm posed; state and federal law stands as no obstacle to creation of a community fund; city's nuisance powers allow for

Richmond Planning Staff: Prepared findings relating to the Planning Commission's vote to approve the CUP, noting inconsistencies in the Commission's approval of the project with the added conditions. The staff maintained its original recommendations. Inconsistencies were noted between the Commission's emphasis on hiring Richmond residents and the Alliance Agreement between the city and Chevron, requirements to use an appropriate emissions baseline without specification of how baselines should be corrected, requirements to install a "non-proven [fenceline monitoring] system prior to project completion" (borrowing the language of Chevron's appeal), requiring "no net increase" irrespective of crude oil type when the EIR stated that crude type is "not a factor," and requiring that relief valves be vented to containment when certain venting was viewed as illegal.[88]

Chevron: Advanced rational nexus (particularly for the proposed foundation), unlawful delegation of municipal authority (e.g, the city's requirement that Chevron fund an independent monitor of compliance with the CUP), illegal special tax (fees levied to replace revenues for general public services are suspect as disguised taxes), and other legal arguments for overturning the Planning Commission's conditions of approval;[89] advanced commitments Chevron would agree to make regarding on-going refinery operations and a five point program "responding to other concerns of the community in general";[90] and mobilized residents and organizations to lobby the City Council prior to the scheduled hearing.[91]

AQMD: Expressed concern about the delay that the planning process would have on Chevron's timely compliance with CAA and CARB requirements; commented to Planning Department on the appropriateness of the Community Inspector proposal made by the coalition; urged caution in requiring that Chevron install remote sensing technology; explained that some flaring is necessary to minimize pressure build-up in some refinery vessels; explained that AQMD regulations already required "no net increase" in facility-wide emissions in connection with refinery modification, regardless of the type of crude used; discussed comparison of the Chevron project and Shell's RFP *project in terms of scope and mitigations.*[92]

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mitigations that supplement use of broader police powers; monetary exactions are not special taxes; health, education, and safety impacts clearly supported by the factual record).

[88] Richmond City Planning Department (1994). City Council/Committee Agenda Request. Prepared by Nancy Kaufman/Jim Farah for Committee Review on January 19-20, 1994.

[89] Buskirk, R.E. (1994). Letter to Malcolm Hunter, Esq., City Attorney from Ronald E. Van Buskirk, Re: Chevron Richmond Refinery Reformulated Gasoline and FCC Plant Upgrade Project – Appeal to City Council (CUP 93-40), January 18, 1994; Buskirk, R.E. (1994). Letter to Mayor Rosemary Corbin and Members of City Council from Ronald E. Van Buskirk, Re: Chevron Richmond Refinery Reformulated *Gasoline and FCC Plant Upgrade Project – CU 93-40 – Appeal to City Council, January 24, 1994.*

[90] Hannan, M.D. (1994). Letter to Rosemary Corbin, Mayor, from M.D. Hannan, General Manager, Chevron U.S.A. Products Company Richmond Refinery, January 24, 1994.

[91] An example of Chevron's mobilization tactics can be found in Hannan, M.D. (1994). Letter to City of Richmond Festival By the Bay from M.D. Hannan, General Manager, Chevron U.S.A. Products Company Richmond Refinery, January 13, 1994 (urging members to contact the mayor or City Council in support of Chevron's appeal and providing "sample letter instructions" for a letter writing campaign); *See* also Chevron Corporation (1993). Press Release: Chevron Asks Richmond City Council to Reject Conditions for Richmond Refinery Cleaner Fuels Project, December 27, 1993 ("One condition alone would extract $54 million in cash payments unrelated to the project, putting Richmond at a competitive disadvantage with other Bay Area refineries undertaking similar work").

[92] Feldstein, M. (1994). Letter to Jim Farah, Planning Director, City of Richmond from M. Feldstein, Air Pollution Control Officer, Bay Area Air Quality Management District, January 13, 1994; Feldstein, M. (1994). Fax to James Farah, Planning Director, City of Richmond from M. Feldstein, Air Pollution Control Officer, Bay Area Air Quality Management District, January 1, 1994; Bragden, H. (1994). Memorandum to Tom Powers, Bay Area Air Quality Management District from Harvey Bragden, Contra Costa County Community Development Department, December 22, 1993.

City Manager: Presented the mayor and City Council with a summary of Chevron's resent involvement in city-related activities, including direct impact on the economy, construction assistance with the Richmond Parkway, employment by Chevron contractors, and the company's philanthropic and volunteer programs.[93]

Lawyers' Committee for Civil Rights: Urged the City Attorney to uphold the Commission's mitigation measures; presented findings in support of the measures.[94]

As the City Council hearing date approached, the deadline for compliance with federal reformulated gasoline standards drew near (January 1, 1995, less than one year away). The deadline for gasoline sold in California to meet state standards was March 1, 1996.[95] Most interesting among the pre-hearing activities listed above was Chevron's proposal for a "binding, legally enforceable agreement between the City and Chevron," to include general commitments as well as a five point plan tailored to some of the concerns raised during the EIR process (the last five bullets below constitute the five point program):

- Manage refinery operations to minimize flaring and flare noise
- Keep track of fenceline monitoring pilot program at Shell refinery and install a similar pilot system if Shell's proves successful
- Maintain emission goals should a change in crude type processed at the refinery be made in the future
- Vent all hydrocarbon relief valves to the refinery relief system as long as AQMD cost-effectiveness requirements are met
- Maintain adequate weed control and trash pick-up on all refinery properties in Richmond
- Prepare a report for the City Council on energy conservation strategies for the refinery
- Improve the existing community alert and notification system through installation of hardware and infrastructure to activate the emergency notification system through the Community Awareness Emergency Response group (Chevron contribution: $1.7 million)
- Based on recommendations of the Martin Luther King Health Center Board of Directors, a fund will be created to establish the Martin Luther King Health Center, located in Richmond as an ongoing immediate care/health maintenance facility (Chevron contribution: $2,100,000 if certain milestones are met)
- Expand the scope of the Alliance Agreement to the entire Chevron Richmond Refinery for application to ongoing operations
- Establish a mentoring program through a joint effort between the Police Activity League and West Contra Costa Unified School District aimed at youth, grades 4-12, focused on ensuring completion of each student's full educational potential (Chevron contribution: $400,000)
- Develop a comprehensive program aimed at improving communications between residential and industrial citizens in Richmond[96]

While the above proposal was being developed, Chevron, the media, and even the environmental groups focused the public's attention on what seemed to be a battle over "60 million dollars," rather than a consideration of how best to advance the interests of

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[93] Johnson, F.T. (1994). Memorandum to Mayor Corbin and Members of City Council from Floyd Johnson, City Manager, January 21, 1994.
[94] Wang, T.H. (1994). Letter to Malcolm Hunter, Esq. from Theodore Hsien Want, Staff Attorney, Lawyers' Committee for Civil Rights of the San Francisco Bay Area, Re: Conditional Use Permit Application, CU 93-40, for the Richmond Chevron Refinery Reformulated Gasoline and FCC Plan Upgrade Project, January 24, 1994.
[95] *Supra* note 79.
[96] *Supra* note 90.

numerous civic groups and organizations in greater Richmond and to ensure that the true scope of project impacts was agreed to and mitigated. The enormity of the dollar amount at issue discouraged public debate over the project and the refinery's relationship with residential communities and local businesses.

> By that time, there were newspaper articles and the whole discussion or controversy around town was about the 60 million dollars. The 60 million dollars became the focus. Word was that the WCTC was trying to extort 60 million out of Chevron, so all of the safety issues were lost in the discussion and the fund became the primary focus. Chevron appealed and we came before the City Council in January. At that time the Council had hired a new City Manager named Floyd Johnson. There was a lot of controversy around that because due to the political maneuverings this guy who was the president of the Richmond Fire Fighters' union, Darryl Reeves who had been a known lobbyist in the city of Richmond and the Fire Fighters have had considerable influence on political decisions here in the city so Darryl helped to get Floyd hired as the new manager and one of Floyd's tasks was to prove himself on his first days on the job to overthrow the Planning Commission's decision. So as the project came before the Council, Chevron was also lobbying the members. When it came before the Council there were some deals on the table and through discussions with the City Council we presented our proposals and requests and Chevron presented theirs and the Council then discussed it and made a final determination and the $60 million fund was scaled back to $4.5 million.[97]

Each side sought to garner as much support as possible for either the Commission's decision or Chevron's proposed program (for which Chevron received over 475 letters of support).[98] Despite the coalition's efforts to the contrary, the City Council voted to overturn the Planning Commission's decision by a vote of 8-0 with one abstention on January 24, 1994.[99] The meeting was attended by over 2,000 individuals and had to be moved to a nearby auditorium.[100] Each side offered various documents for the public record, but while Chevron focused on evidence of the utility of their new proposal, the coalition offered a sprawling array of documents related to everything from health effects from exposure to emissions to examples of previous development agreements (such as the good neighbor agreement between Crockett and C&H Sugar). Without considering these documents, the Council motioned to consider Chevron's proposed agreement. The Council passed the planning staff's initial recommendations as well as the Chevron program.[101]

Dispute Resolution. Interestingly, the coalition claimed victory immediately following the Council's decision, citing similarities between some of their demands and elements of the Chevron proposal. The groups released a comparison of their goals with concessions that were approved by the Council.[102] When viewed together, the recommendations of planning staff and Chevron's five point plan did appear to address many of the coalition's concerns. Still, the concessions, either encouraged through private correspondence

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[97] Interview of Member, West County Toxics Coalition, June 5, 2002, in Richmond.
[98] City of Richmond (1994). Minutes to Richmond City Council meeting, January 24, 1994.
[99] *Ibid.*
[100] Interview of former Planner, City of Richmond, June 5, 2002, in Richmond.
[101] City of Richmond (1994). CU 93-40 Conditions of Approval Per City Council Decision of January 24, 1994.
[102] Citizens for a Better Environment (1994). Comparison of Conditions Requested by People Do!, CBE, and West County Toxics Coalition and Conditions Imposed by the Richmond City Council (no date).

between the company and planning staff or offered in order to influence the City Council, did not go as far as to satisfy some of the interests underlying the coalition's ten point plan (proposal 2). The coalition itself suggested that Chevron was merely "taking credit for shutting down units and surrendering operating permits it already planned to terminate," conditioning flaring changes to AQMD approval and fenceline monitoring to the success or failure of the Shell pilot project, and using vague language such as "consistent with acceptable engineering practices."[103] In addition, some members of the coalition accused Chevron of offering projects that catered to the constituencies of certain City Council members, such as the Health Center.[104] Other components of the Council decision concerned efforts that Chevron had already begun to engage, such as development of a community alert system. These concessions clearly represented a marked improvement over the initial project as discussed in the EIR. However, the give and take of proposals and concessions that occurred incrementally throughout the EIR, Planning Commission, and City Council stages of the permitting process left much of the final conditions of approval to the dynamics of interest group pluralism. Certain groups were able to translate their needs into complex legal arguments or to rally public support for carefully worded concessions. In either case, the proposals were unilaterally developed and offered, at times in a flurry of activity before a crucial vote sifted through the proposals with competing or no objective means of establishing relevance, learning about project impacts of most concern to various groups and individuals, or optimizing impact mitigation from the perspective of those most affected (communities in North Richmond). The process highlighted both the flexibility and limits of the permitting process as it was played out.

After months of indirect negotiation and lobbying of government permitting bodies, Chevron and the three leading organizations of the Mitigation Task Force met to discuss the final conditions for project approval. The first period of face-to-face negotiation since initial meetings in the Fall of 1993 was encouraged by CBE's decision to block the project's final permit:

> Where you see most of the CEQA wins is where the company refuses to an EIR altogether and they do a negative declaration or exemption where they just don't do anything at all. That's where you see a lot of the plaintiff victories under CEQA. Here, they did an EIR and it was a decent EIR. It wasn't perfect and certainly there would have been some colorable arguments to make but we felt on balance it would have been a hard case to make in Contra Costa Superior Court which is where it would have gone. So we decided not to sue. And at that point, Chevron thought that it was all over, that they were ready to roll with the project. Instead, one of our lawyers, who used to be legal director here, he came up with the idea of appealing their air permit at the AQMD, arguing that the permit didn't require best available control technology. Obviously it's a new source, all of the new components were new sources subject to new source review under the CAA which at the time was in existence and not being undermined by the Bush administration. And the requirement was that for any new or significantly modified source you have to install best available control technology (BACT) on the whole facility. And Chevron wasn't proposing to do that or we thought that there was a technology that didn't meet the BACT requirements. We did the BACT analysis. The EPA had a BACT handbook. One of our scientists did a bunch of

[103] *Ibid.*

[104] Interviews with representatives of each of the major organizations in the Mitigation Task force suggested links between projects included and the needs of City Council member constituents.

> research and we thought that we had some pretty solid arguments that they weren't installing BACT.[105]

The AQMD hearing board is an obscure body appointed by Air District board members, established to hear variance applications. CBE believes that their appeal was the second community permit appeal heard by the hearing board in its history.

In March 1994, CBE initiated a final letter writing campaign focused on the hearing board's lack of requirements for use of leakless valves, reducing and monitoring of odors, and for the proper use of relief valves.[106] CBE focused the public's attention on the AQMD permit's allowance of additional pollution ("4,150 tons per year") in the North Richmond area.[107] The hearing process went only as far as the scheduling conference, where according to coalition members, a substantial process was to be offered (5-6 months with allowance of public testimony). Chevron contacted coalition leaders and agreed to discuss the project. The negotiating group included Henry Clark, Tom Butt from People Do!, a staff scientist from CBE, Chevron's general manager, and several other representatives of the refinery. Attorneys, while absent from the initial discussions, provided assistance in drafting language and attended subsequent meetings. The substance of the discussions was not revealed during interviews, as attorneys considered them privileged and community members did not recall the specific order of proposals made and rejected. One attorney assisting the coalition commented on his experience in dealing with Chevron as a representative of community interests.

> To some degree all of these efforts are dominated by fact-specific situations. So there have certainly been times that Chevron has been very insistent on its position and does not merely cave or compromise just to get rid of a nuisance case and I've been involved in cases where Chevron has fought very hard against positions taken by my clients but I have been involved in other situations where Chevron has shown that when it perceives a pollution problem and sees that community groups are involved, has been willing to think through and problem solve and do it on a professional basis and I think that's what happened here.[108]

As the discussions took place in the Bay Area, it was not difficult to have Chevron's national corporate representatives involved or able to agree to certain agreement elements. Some participants found the top decision makers more willing to take risks in discussing a potential agreement, although they conceded that this is not always true. The sophistication of the coalition leaders made it possible to exclude the attorneys from certain conversations, giving Chevron the opportunity to present numerous ideas, in addition to the mitigation measures developed by the coalition. The conversations also benefited from a lack of intrusion by either the AQMD or outside officials. AQMD's attorneys made it clear that they supported the talks and any mutually accepted outcome that did not contradict the District's regulations.

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[105] Interview of Attorney, Communities for a Better Environment, June 6, 2002, in Oakland.
[106] Communities for a Better Environment (1994). Action Alert, March 3, 1994.
[107] *Ibid*; San Francisco Chronicle (1994). Groups Move to Block Chevron Fuel Project. *San Francisco Chronicle*, April 6, 1994, p. A15.
[108] Interview of Attorney for Mitigation Task Force, June 12, 2002, via telephone.

Negotiators describe the coalition as having the right combination of skills and knowledge about refinery processes to engage in the discussions.

> What really was effective in this situation was you had a group like CBE which brings together lawyers, organizers, and science/technical people and having negotiations can be very time consuming and very difficult for community groups that don't have those kinds of resources. It can be unequal. If it's unequal, negotiations will likely fail, because the result will not be good for one side and either they will not accept the result or they will accept it and then hate themselves for doing it and then being discredited, so it's real important that the outcome be determined not by who has the most resources but what's the best solution for the problem for both sides. So having a group like that meant that if we were talking just theoretically, let's put in better valves in the refinery, having someone on our side saying hey, you know, there's this valve that doesn't leak, that's real helpful and to be able to say to a company you know there are these valves and in fact companies in their industry are using them and to get into at least that level of discussion. They could come back and say yeah, but there is something really weird about that facility and that's why they were able to use it or it's a brand new facility and ours is 100 years old, then you're into a real discussion, you're problem solving. Then your technical people can say well, that's not exactly true, here's this other 50 year old facility and we know how it can be engineered, then you're into problem solving and that's how you work things out together.

Problem solving took on a division of labor that mirrored the initial demands of the three environmental organizations during the EIR process. Tom Butt, who now sits on the Richmond City Council, worked on drafting "Section 1" of a Memorandum of Understanding with the refinery, which included various elements of People Do!'s initial demands.[109] There came a point where the People Do! representative had to scale back his demands, under pressure from the other coalition members. Henry Clark, working closely with CBE, focused primarily on Section 2 of the MOU, concerning job training, a health clinic, and other social services. CBE encouraged Chevron to agree to a start date for a fenceline monitoring pilot system (Section 3), so that the project would not be contingent upon the success of Shell's system. Section 4 dealt with low emission valves, a common element of CBE-initiated agreements. Chevron agreed to evaluate the success of current valves in reducing fugitive emissions and to install at least an additional 350 valves. Section 5 reiterates Chevron's commitment to the EPA's 33/50 program, for which the company had agreed to reduce company-wide emissions of 17 designated toxic chemicals by 33% by the end of 1992 and 50% by the end of 1995 compared with 1988 emissions). Chevron agreed to make information about the program available to the coalition, including future refinery reports of 33/50 chemical emissions. Below are the elements to the MOU, signed on May 31, 1994.

[109] Interview of Tom Butt, Richmond City Councilmember, June 6, 2002, in Richmond.

Table 7. Elements of Memorandum of Understanding between Refinery and Coalition.

Section 1. Environmental Quality, Open Space, and Visual Quality

1. Chevron will work with East Bay Regional Parks Division to complete feasibility study for extending the existing bike trail connecting Point Richmond to Point San Pablo (by June 1995)
2. Will remove 1,000 feet of fence along Western Drive; work to minimize illegal dumping
3. Will complete demolition of structures on the former site of Blake Brothers Quarry by end of 1995
4. Will complete removal of abandoned pipelines along Western Drive by end of 1995
5. Will spend $100,000 over 1994-1996 to remove non-native hillside vegetation and install hillside landscaping; will utilize the Mayor's Summer Youth Hiring Program where feasible
6. Will upgrade peroperty in the Office Hill Tank Field adjacent to Point Richmond through removal of all but one tank; fences will be replace with redwood and vinyl fencing without barbed wire

Section 2. Commitment to the Enterprise Community

1. Will support non-profit agencies providing services to residents within a six census tract Enterprise Community around the refinery through donations through the United Way of at least $1.5 million in 1994 and an expected total of $5,000,000 over the five year period ending in 1998 (compared to $330,000 in 1993). Five year figure dependent on corporate budget approval. Quarterly report to Chevron CAP
2. Will aggressively seek residents from community to fill open jobs at refinery; will supplement city staff with two full-time employees to assist in locating qualified residents
3. Will provide skilled job training to around 50 people each year from the community on a priority basis for at least the next two years
4. Will participate in establishing a Health Clinic in North Richmond; is investigating how the company can help with the future site.
5. Will help bring an existing County building up to code for housing a Head Start building

Section 3. Experimental Fenceline Monitoring

1. An experimental, remote sensing fenceline monitoring pilot system will be installed at the refinery and ready for a six month test by June 1, 1995
2. Will evaluate the practicality of monitoring several different materials during test period (including VOC's, odorous sulfur and nitrogen compounds, and other chemicals suggested by parties
3. Will prepare a report on the pilot study's results and will share the report with the community groups; will include monitoring data from pilot system and practicality of longer term operation

Section 4. Low Emission Valves

1. Refinery has about 500 valves packed with new low-emission valve packings. Chevron will review emission data for these valves and share results with the community groups (data available December 1, 1994)
2. Will complete a report by June 1995 outlining the effectiveness of new packing at reducing fugitive emissions
3. As existing refinery valves in hydrocarbon gas and light liquid service are replaced, will use bellows sealed valves where appropriate (200 installed by January 1, 1997)
4. An additional 200 will be installed by January 1, 1999 (if previous installations successful)
5. Chevron does not seek air pollution credits through the AQMD emissions banking program for reductions achieved by using bellows valves as part of this MOU
6. Will use bellows valves for at least 20% of all valves that are two inches or less, amounting to at least 350 valves

Section5. Emission Reductions

1. Will make available 1992 information previously reported to EPA for air emissions of 33/50 program chemicals
2. Future refinery reports of 33/50 chemical emissions submitted to EPA on Form R will be made available

Source: Memorandum of Understanding Between The Community Groups, West County Toxics Coalition, People Do!, and Citizens for a Better Environment, and Chevron Richmond Refinery, May 31, 1994.

In return for the above concessions, the coalition agreed to withdraw Appeal Number 2869 before the Hearing Board, and to release all rights to challenge the RFP, either administratively or judicially under CEQA.

Implementation. Both sides issued press releases shortly after the MOU signing. Chevron framed the MOU as confirming "certain voluntary actions the refinery was taking in the areas of environmental quality, local charitable contributions, emissions monitoring, and emissions reporting. Specific actions to assure continued progress include *confirmation of efforts already underway and added detail to requirements that were a part of previously approved permits.*"[110] When the MOU is compared to previous concessions made during the Planning Commission and City Council phases of the permitting process, these "efforts already underway" become apparent. The concessions made by Chevron suggest a willingness by the company to meet some of the coalition's demands, particularly when the mechanics of complying with the terms are left to the refinery's discretion (e.g., contributions through the refinery's existing United Way program, not a board composed of residents; installation of valves according to refinery determinations; continuation of remote sensing only if the refinery determines that it is useful). The employment offerings, which amounted to only a guarantee of 100 jobs over two years, paled in comparison to the coalition's initial demands. The health center and other concessions for the Enterprise Community were already offered, in large part, by the company prior to the City Council's decision. Community right-to-inspect, CAP technical assistance, reduced flaring, and other demands were not met. Emissions reductions were recounted more than required. Even the language for open space and visual quality items suggests that most of the concessions were already underway. More importantly, the MOU does not include any provisions envisioning a change in the direction, quality, or means of post-agreement community-corporate relationships.

While CUP reviews were carried out annually (1995 and 1996) and then once every five years (starting in 2001), provisions of the MOU were only loosely linked to the monitoring capabilities of the Chevron CAP. The Planning Commission found the refinery in compliance with its permit conditions on all three occasions. By 2001, all requirements specified by the CUP for project facilities that had been constructed were met, according to Richmond's Planning Department.[111] By contrast, members of the coalition and the broader community found Chevron's commitment to North Richmond's environmental quality lacking.

> One key provision requires Chevron to put in state-of-the-art fenceline monitoring system like they have in Rodeo. And Chevron is supposed to put that in if another company puts it in and it works. Which has happened and they haven't done anything...There's an example of where we didn't get our bottom line, which was some kind of decent, better air monitoring at Chevron, we didn't win it there, and that's still a battle that's going on.[112]

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[110] Chevron Richmond Refinery (1994). Press Release: Chevron Richmond Refinery Cleaner Fuels Project Permit Appeal Withdrawn, June 2, 1994, emphasis added.
[111] City of Richmond Community and Economic Development Agency (2001). Five-year Status Report on Reformulated Gasoline Project – Chevron Richmond Refinery, December 6, 2001.
[112] *Supra* note 59.

Item one, in my opinion, they really showed poor faith. They never really did it, they just essentially said that they didn't understand it or that they had made an offer and East Bay Park never showed up or whatever. However, now, seven years later, they are actually showing some cooperation with the study that's being done there but I'm not real excited about what they did. They did move some fencing. They did do the demolition. Maybe they were going to do this anyway, I don't know. They did move some pipelines. They said they did [the $100,000 worth of improvements], but they never provided any proof of it and I'm not sure they really did it.[113]

What we're focusing on right now is children and women being exposed to mercury from contaminated fish in the Bay. So that's sort of our main focus. And so one of the things is to identify the source, which has not been easy to do. The second thing we're doing, we have a lot of subsistence fishing along our shoreline. It's just educating folks of the risk associated with eating contaminated fish on a daily basis, especially women and children. And that's what our high school students have been really involved in, is sort of educating the public and conducting surveys. Now, we take the information we learn and we discuss it with our local elected officials, letting them know whatever efforts that you've done so far, they're not working, because people are still unaware of the risk. In our area we have the Richmond Marina, which is an EPA superfund site, and folks are fishing there every day. The entire Richmond Harbor is an EPA superfund site, and at the end of the Richmond harbor is a pier, where folks go and fish.[114]

The solution here unfortunately is to just shelter in place. We're talking about a lot of folks who are low-income living next to these facilities and in substandard housing, so you have places without windows, you have places where doors are not going to be air sealed, you have lots of places where these emissions are going to seep in, and not only in the homes, but the schools are in such poor condition. Nystrom Elementary, the school I talked about earlier, was built in the 1940's...They're close to the other facilities where whenever an accident happens, they're usually right in the line of it, and what they are told to do is shelter in place. Well, if you go into these schools, you see windows broken. And so we have been pressuring our local officials to include part of the mitigation funds or the fines that they are assessing to the folks responsible for the accidents, to put that aside, to earmark some of that for home improvement and for school improvement...We are also trying to get the school administrators to actually think about the true causes for the absenteeism in the district. What we find is that a lot of the students that we work with, you'd go into a classroom where practically 90% of the students were using inhalers. And they thought that was perfectly normal. They had a process where they would identify the inhalers and they'd put them in a bag. OK, this is not normal. [115]

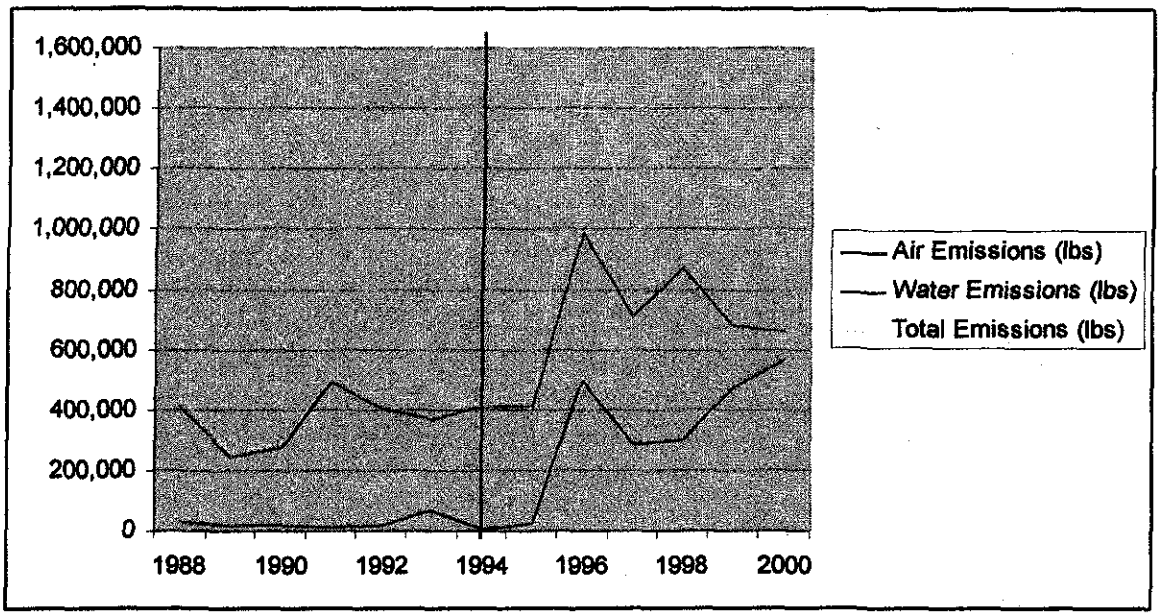
General Chemical used to be called Chevron Ortho. Then they wanted to take Chevron's name off of it, but the production at the plant has never changed, and basically what they do is produce, a lot of the product that they produce is for Chevron's refining process. General Chemical is viewed by most people as being still an arm of Chevron although it doesn't show that on paper as much. Both Chevron and General Chemical would have a series of releases from time to time...I think the whole city is kind of an uproar to clean the air up. And they know that Chevron and General Chemical are major threats to air quality. The other thing, the city has established a Safety Review Panel to look at safety culture at General Chemical.[116]

These are but a few of the concerns raised during interviews with Richmond residents, that point to linkages between refinery operations and health, education, and quality of life. As the environmental coalition had decided to focus on neighborhood councils, which several interviewees suggested represent a biased sample of resident concerns

[113] Interview of Richmond City Council representative, June 6, 2001, in Richmond.
[114] Interview of Richmond resident, October 8, 2002, via telephone.
[115] Interview of Richmond resident, October 8, 2002, via telephone.
[116] Interview of Richmond resident, October 7, 2002, via telephone.

(neighborhood councils are often formed around a single public works or social service concern), the above interests and many expressed during the public comment process were not addressed. Nor was an understanding that the refinery and other major facilities were not going to relocate converted into the kinds of discussions with Chevron and the city that could have yielded needed improvements, including reduced emissions *and* emergency planning activities (such as securing housing stock and schools against releases). It would be unfair to hold the coalition accountable for this, as they went far beyond the call of duty in winning public support and concessions. But a focus on high-tech experiments and visual and open space improvements did very little to stem the tide of refinery emissions (as suggested by Figure 3) or to improve the emergency response capabilities of local residents beyond what the company had already committed to. High-profile accidents continue to occur at the Chevron refinery, and public distrust of facility practices remains intact.[117]

Figure 3. Total Air and Water Releases of Toxic Chemicals to the Environment from Chevron Refinery, 1988-2000 (vertical line represents MOU signing).



Source: Environmental Defense's Scorecard, www.scorecard.org/env-releases/facility.tcl?tri_id=94802CHVRN841ST, accessed October 15, 2002.

[117] *See* Standen, A. (2002). Chevron's Spheres of Influence Activists accuse Richmond oil refinery of illegally thwarting environmental reviews, and a beholden city of passing the buck. *East Bay Express*, September 25, 2002; Kay, J. (2002). Refineries top polluters on EPA list in Bay Area: Discharges taint air, water and land. *San Francisco Chronicle*, May 24, 2002, p. A11; San Francisco Chronicle (2002). Lawsuit says Chevron permit violates law. *San Francisco Chronicle*, August 20, 2002, p. A19; Associated Press (2002). Chemical Leak Forces Local Residents Indoors for Several Hours. *Associated Press State and Local Wire*, February 1, 2002, BC Cycle; Koopman, J. & Kim, R. (2001). Gas leak at General Chemical in Richmond: Residents Warned Belatedly to Stay Indoors. *San Francisco Chronicle*, November 30, 2001, p. A30; Sarkar, P. (2001). Chevron Refinery Fined $300,000: 52 violations from 1998 to May. *San Francisco Chronicle*, July 10, 2001, p. A12; Kay, J. (2001). Chevron plant hit with fine: Six-digit Penalty for Richmond Refinery's Late Response to Leaks. *San Francisco Chronicle*, March 27, 2001, p. A14.

Discussion. The primary obstacle to meeting some of the community's broader interests through permitting processes was summed up by a coalition member's assessment of their litigation strategy.

> One of the problems was that even CBE acknowledged that while they agreed that you could probably make a case that there was a nexus between some of these things that the [proposed] foundation would address like poverty and education and jobs, that there was not a sufficient record of that to make a legal challenge of it and so they were not willing to front the lawsuit on the EIR based on that particular area, the nexus issue.

Because the various parties to the permitting process were not involved in direct negotiations until the AQMD hearing, they were left to craft proposals and present them to the various decision-making bodies through public comment or private correspondence. The administrative boards then had to consider complex questions relating to the appropriateness of each proposed mitigation or concession, decisions that relied on a combination of legal reasoning, technical assessment, and politics. Most of the resulting permit changes designed to mitigate the refinery's impacts on surrounding communities were established by the Planning Department's report to the Commission. These changes were found to have a clear nexus to project impacts. Most of the remaining changes agreed to by Chevron and endorsed by the City Council came in the form of the company's five point plan, which in large part reiterated certain concessions or alliances that the company had already made. These changes were designed to encourage City Council approval and to win popular support for the RFP project. It is also clear that certain provisions proposed by Chevron at this stage were initially advanced by the environmental coalition. But after this point, the dynamics shifted: the company, seeking to de-link its own proposals from the permitting process (so as to avoid nexus challenges as well as unpopular precedents for the refining industry), focused not on meeting the broader interests of the community but on securing the support of the permitting body AND the groups most likely to offer administrative or judicial challenge. After the EIR process was over and certain resident concerns were incorporated into the CUP by planning staff (approved by the Commission), the company shied away from ideas that could have more directly addressed the questions of poverty, education, employment, and long-term health that were commonly raised in North Richmond. Negotiations leading to the MOU were focused on comparatively small, incremental steps toward satisfying the well-organized demands of three groups, who had determined that broader questions at the heart of resident concerns would prove difficult to uphold in court.

It would be inaccurate to consider the CUP provisions, Chevron's five point plan, and the MOU as part of an overarching "good neighbor agreement." In fact, each of these stages increasingly constricted consideration of the broader terms of the facility's continued existence in a given locale, which is the cornerstone of a community-corporate compact. By the time the MOU was signed, commitments were linked to *existing* institutions and modes of communication. Still, the coalition should be commended for its dedication of thousands of hours to the permitting process, and for securing needed resources for the community. Each stage of the permitting process illustrated how community representatives can effectively bargain with corporate entities. But by doing so, they

have given us a window into the limits of the permitting process, even when the monetary scope of a project lies in the hundreds of millions, to include broader interests and invent means of addressing them. And the implementation phase suggests that even the results of incremental bargaining can be difficult to enforce, if the mechanisms for improved monitoring, verification, communication, enforcement, and broader relationships are not adequately addressed.

Seeking Good Neighbor Agreements in California

Part II.

"From Catacarb to Committees"

> My biggest concern was always how do we avoid another Catacarb and how do we report it, how do we notify people, and what do we do after it happens? – Douglas Tubb, Crockett resident

Background. Researchers have attempted to establish a link between industry location and high disease rates in Contra Costa County since the late 1970's. The first concern of note, lung cancer, was investigated through comparison of age-adjusted lung cancer incidence rates in industrial and non-industrial census tracts throughout the County.[118] As methodologies for epidemiological research improved, researchers began to estimate actual exposure to air emissions from petroleum and chemical plants, and to correlate these results with cancer incidence and mortality.[119] Relying on a model developed by the Bay Area Air Quality Management District (AQMD), one study found a positive relationship between estimated residential exposure to petroleum refinery and chemical plant emissions and incidence rates for several cancers between 1966 and 1977.[120] Such findings were disputed by industry and government officials. For instance, a study funded by the EPA's Health Effects Research Laboratory found that a relationship between ambient air SO_4 and lung cancer in males could be controlled for by including a "blue collar" worker variable.[121] It was also suggested that a major contribution to lung cancer in the area was cigarette smoking.[122]

> We are right in the cancer belt, with many other refineries, and I remember reading in the mid-1980's the fact that between Richmond and Pittsburg, California, people living between Richmond and Pittsburg had a 38% higher cancer rate on several different types of cancers. I was chair of the Crockett Power Plant Committee that fought the power plant in Crockett from 1984-1989. And of course the amusing thing was when we presented all of this, which was of course public data, the consultants hired by then Pacific Corps from Oregon, as their paid scientific experts, responded to this information by saying that well, the people die off along the river because they're all blue collar and they all smoke. And this is why they die off; it has nothing to do with being so close to a series of refineries. And I said to him, are you telling me that the people in Arinda, which is an upper class place far away from all of these refineries, don't smoke?[123]

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[118] State of California Department of Health Services (1981). Lung cancer in Contra Costa County, 1969-1979. Prepared by the Resource for Cancer Epidemiology Section, October 21, 1981.

[119] Kaldor, J., Harris, J.A., Glazer, E., Glaser, S., Neutra, R., Mayberry, R., Nelson, V., Robinson, L., & Reed, D. (1984). Statistical association between cancer incidence and major-cause mortality, and estimated residential exposure to air emissions from petroleum and chemical plants. *Environmental Health Perspectives*, 54: 319-322.

[120] *Ibid.*

[121] Austin, D.F. (1984). Epidemiological study of the incidence of cancer as related to industrial emissions in Contra Costa County, California. United States Environmental Protection Agency, Health Effects Research Laboratory, July 1984.

[122] *Ibid.*

[123] Interview of Crockett Resident, October 31, 2002, via telephone.

In a County so inextricably linked to heavy industry, Contra Costa residents and officials have struggled for decades to balance economic development with public health and safety. Occasionally, that balance was severely disrupted, opening a window on the roles and responsibilities of refinery management and monitoring agencies, and the unique concerns of local residents. As with the General Chemical accident that influenced residents' concerns with Chevron's reformulated fuels project (RFP), another major release shaped Unocal Corporation's Reformulated Gas Project (RGP) into one of the most complex community-corporate environmental agreements to date.

The Unocal Corporation, which operated a petroleum refinery sandwiched between the communities of Crockett and Rodeo in northern California, has disrupted the delicate balance on more than one occasion in California. Unocal is perhaps most noted for its ownership of a six-square-mile oil field 30 miles south of San Luis Obispo, in Central California. Over a period of 38 years, Unocal allowed its operations to contaminate the Guadalupe Dunes with approximately 20 million gallons of petroleum thinner (diluent). This accident remains the largest petroleum spill in United States history.[124] The Unocal organization evidenced a number of characteristics that contributed to a sense among its employees that a daily loss of up to 200 barrels of diluent was within the realm of acceptability. A strictly hierarchical seniority system, in-house hiring, and operating procedures that at times included purposeful petroleum spillage reinforced this sense over time.[125] By the mid-1980's, some workers began to report the spilled diluent to their foreman, who did not pass the information along with the exception of an immediate supervisor. After a worker on disability brought the spill to the attention of authorities, California Fish and Game wardens raided Unocal's offices and found substantial evidence of unreported spills and plume maps tracking the plume for several years. Subsequent investigations revealed an organization capable of perpetuating accidents and encouraging a "culture of silence" about their true origin and extent.[126] By the end of 1998, Unocal had spent $40 million on emergency remedial actions at Guadalupe as well as $43.8 million to settle a civil case with the state of California.[127] Cleanup, it was estimated, would continue for 20 years.

One element of the Guadalupe Dunes spill to receive less attention in the media was the inability of government agencies to identify or properly respond to the spill. Administrators failed to act until known aspects of the spill fit their criteria for what constituted an "emergency."[128] The sight and smell of petroleum on site visits by Fish and Game warden was part and parcel of their routine inspections of the operation. Spills of more than one barrel were within the company's purview for reporting responsibility. And acute spills fell under the Federal Oil Pollution and Lempert-Keene-Seastrant Acts

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[124] Beamish, T.D. (2002). *Silent Spill: The Organization of an Industrial Crisis*. Cambridge, MA: MIT Press.
[125] Beamish, T.D. (2000). Accumulating trouble: Complex organization, a culture of silence, and a secret spill. *Social Problems*, 47(4): 473-498.
[126] *Supra* note 124.
[127] Cone, M. (1998). Unocal to pay 43.8 million fine in spill. *The Los Angeles Times*, July 22, 1998, p. A3.
[128] Beamish, T.D. (2002). Waiting for crisis: Regulatory inaction and ineptitude and the Guadalupe Dunes oil spill. *Social Problems*, 49(2): 150-177.

of 1990, pieces of legislation designed to ensure response to *tanker* spills.[129] Once agencies did react to the situation at Guadalupe Dunes, other problems such as staff rotation, conflicts over jurisdiction, and fluctuation of regulatory agency involvement prolonged a lack of effective governmental response.[130]

Unocal's contribution to large-scale, high-profile accidents, and problems with agency response, neither started nor ended with the above crisis. A lawsuit filed by the Sierra Club alleged that the company committed 2,300 discharge violations at its Rodeo refinery between 1977 and 1989, bypassing its wastewater treatment plant in Contra Costa County and dumping hundreds of millions of gallons of toxic waste into San Francisco Bay.[131] While it was estimated that the company saved between $20 and $30 million through rerouting, Unocal settled the case for $4.2 million in civil penalties in 1990.[132] The lawsuit encouraged the drafting of legislation to allow for surprise inspection of companies that disposed of waste in California waters. The proposed legislation was vetoed by Governor Deukmejian, who cited similar existing authority within the Regional Water Quality Control Board.[133] As with the "silent spill" that occurred in Central California, a foreman was told by his superiors not to report the above practices.[134] Yet the United States Attorney's office in San Francisco declined to prosecute Unocal for its discharges into San Pablo Bay.[135]

It seemed a healthy balance between economic development and environmental quality was not always encouraged by regulatory enforcement of Unocal's water discharge violations. The same could be argued for the facility's air emissions, which have been most closely scrutinized for links to County public health concerns. Immediately following the Sierra Club's suit in the matter of Unocal's wastewater discharges, the AQMD released a report documenting the region's air pollution "hot spots." Unocal ranked 9th on a list of the region's air toxics emitters.[136] Yet agency records suggest that fines for air emissions violations and accidental releases, particularly on a per violation unit basis, were negligible from 1988 through 1994 (See Figure 4) for the company's refinery in Rodeo, an unincorporated town in Contra Costa County.[137]

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[129] *Ibid.*
[130] *Supra* note 124.
[131] Los Angeles Times (1987). The state. *Los Angeles Times*, April 6, 1987, p. 2; Los Angeles Times (1988). Appeals court reinstates decision that Unocal Oil violated clean water laws. *Los Angeles Times*, July 26, 1988, p. 21; Sward, S. (1990). Los Angeles Times (1989). Unocal faces possible fines in pollution case. *Los Angeles Times*, May 20, 1989, p. 28; Settlement over toxics dumped in Bay. *San Francisco Chronicle*, February 23, 1990, p. A1.
[132] Sward, S. (1990). Settlement over toxics dumped in Bay. *San Francisco Chronicle*, February 23, 1990, p. A1.
[133] Lucas, G. (1990). Deukmejian vetoes waste dump inspections. *San Francisco Chronicle*, June 2, 1990, p. A4.
[134] *Supra* note 132.
[135] Holding, R. (1993). Environmental cases get short shrift from federal prosecutors. *San Francisco Chronicle*, July 6, 1993, p. A6.
[136] Nolte, C. (1990). Bay's air-polluting "hot spots": Agency finds that most of the worst toxic offenders are refineries. *San Francisco Chronicle*, August 2, 1990, p. A5.
[137] Personal communication with Bay Area Air Quality Management District, July, 2001.

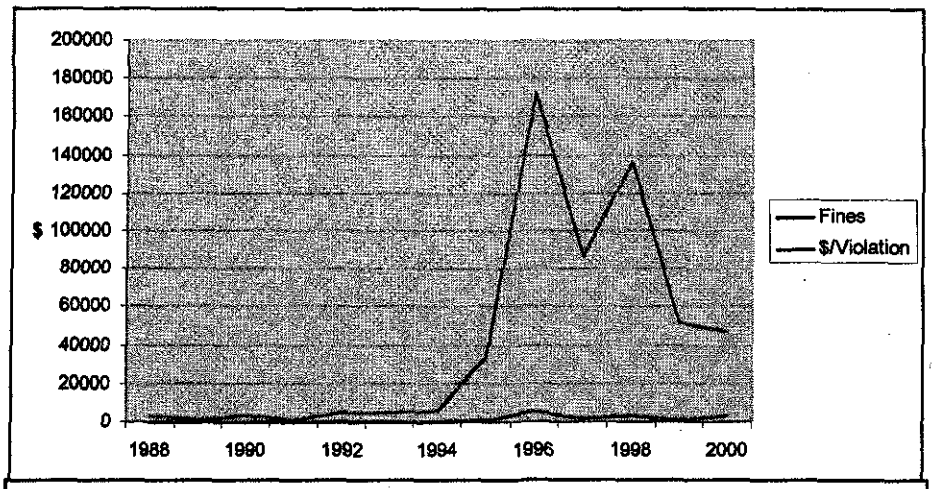


Figure 4. Fines Collected by AQMD for Unocal Refinery Violations, 1988-2000.

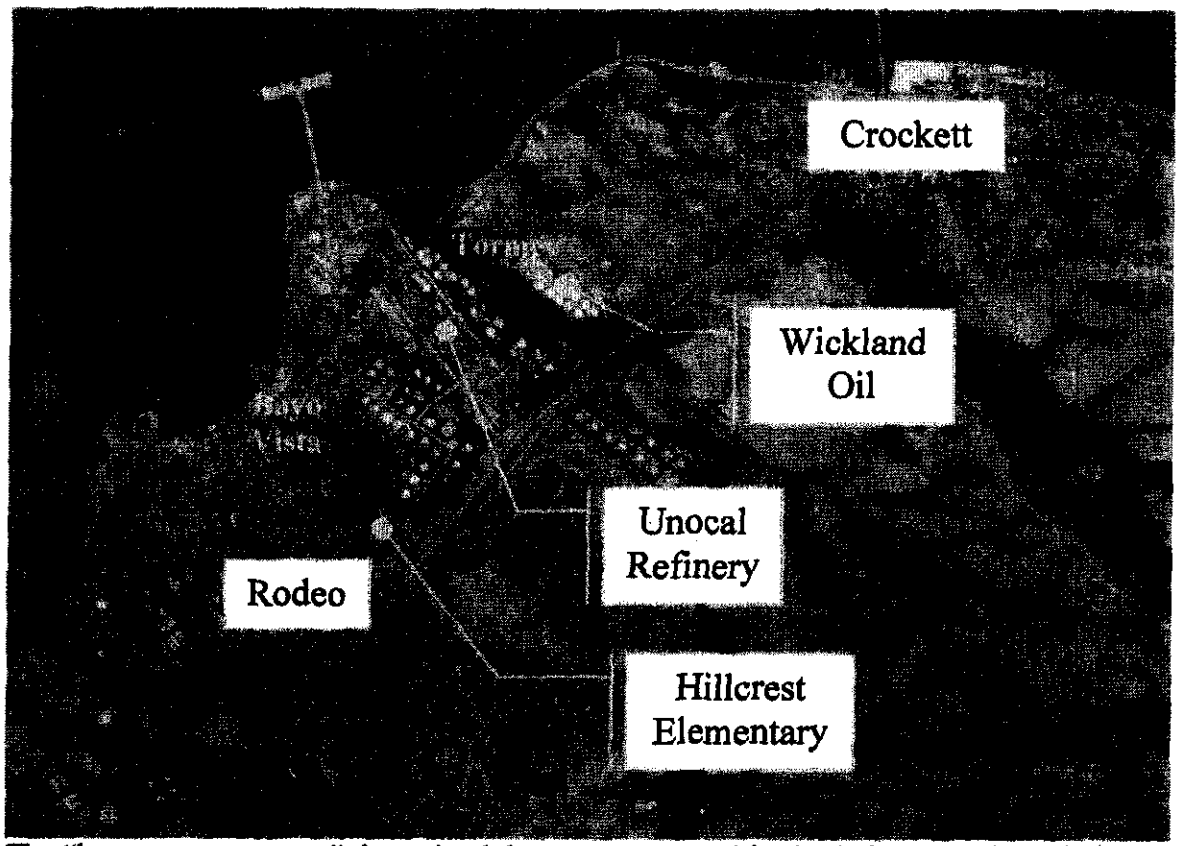
The Problem. A swift rise in agency fines against Unocal for air violations in Rodeo can be traced to a major release that occurred around Labor Day weekend in 1994. As with the spills at Guadalupe Dunes and into San Francisco Bay, this air release departed from traditional industrial accidents in a number of ways. The problem was "slow to manifest," leading to "gradual, rather than sudden disruption."[138] It was not readily identified as a serious accident by some residents of nearby Crockett, Rodeo, and the fenceline communities of Tormey and Bayo Vista (a public housing authority that borders the refinery to the south). And it set in motion a variety of internal and agency responses aimed at downplaying the seriousness of the release to employees, inspectors, and eventually the public. Residents recall the release, which took place between August 22 and September 6, 1994:

> We woke up one morning, it was Labor Day weekend, 1994, and there was, we had a house that was on a hill, it's like the poor man's San Francisco. It's kind of like a town on the Mediterranean that comes up from the sea and all the houses are built terrace-like. And our house had a commanding view of the valleys and we faced, with the back of the house with huge banks of windows faced the refinery which was west. And we woke up and I looked at the windows and they were covered with a sap-like substance like from a pinetree and I went, oh, God, what did those kids do now? And then I thought well, what is this, is this from the trees? We had a lot of acacia trees around us that exuded kind of a sticky thing after they flower but it was the wrong time of year so I was really stumped. What was going on? And then I started getting a call from a gal who I worked with on the powerplant committee. She lived farther up the hill from me, and she was a real estate agent, and she had gotten a call from one of her clients saying, there's crap all over the cars, there's stuff all over the garden, the house, everything, up and down the streets, they were trying to sell their house at the time, and they were a little upset.[139]
>
> It was a 16 day release. I was here for the first half of it and was gone the last half which was a good half to be gone from because it got steadily worse all the time as the hole got bigger in the [refinery] unit. But my wife was here during that timeframe and she became very ill from it and still suffers today from it. There's about 50 or 100 people I'm estimating who suffered physically from that, many of them, my wife included, that cannot work anymore...[I did not learn about the

[138] *Supra* note 127, p. 151.
[139] Interview of Member, Shoreline Environmental Alliance, May 31, 2002, via telephone.

release] until we read about it in the paper. Again, I was gone that timeframe but when I came back there were these brown, goopy spots all over my house, and windows that would not clean off. And so it was really the last two days that it was heavy enough, the release was heavy enough and the meteorology was just right so that it all just came over the town and dropped down in a fog bank. Coalesced in a fog drop and some dropped out. And so people started calling the health department for two days saying we've got this stuff everywhere and they said it might be pine pollen. They'd never come across anything like this before so they didn't know what it was. Finally, the company that was right next door to Unocal, at the time it was Wickland Oil, the manager called over and said we've got this crap just all over our units and people are getting sick, you've got this brown stain just trickling down the sides of the tanks. They were a little storage facility just on the East side of the refinery. You may have driven by it. If they hadn't spoken up I don't know what would have happened. It's likely it would have gone on. So they said what is this stuff? and shut it down. They could see the plume coming out horizontally out of the pipes. And the workers were trying to get the company to shut it down, too. It wouldn't happen.[140]

Figure 5. Unocal Refinery and Adjacent Communities.



The "brown, goopy spots" that rained down on communities both down- and upwind of the refinery contained a solution called Catacarb. A Unocal Material Safety Data Sheet describes Catacarb as follows:

Health hazards: Harmful if swallowed. Causes severe eye and skin irritation. Overexposure may cause damage to kidneys and liver. Avoid breathing vapor or mist. Liquid. Brown-black. Odor: None. Exposure guideline only available for diethanolamine (3 ppm OSHA, CalOSHA; .46 ppm ACGIH). Target organs include the central nervous system. Accidental release measures: Isolate

[140] *Interview of Crockett Resident, June 8, 2002, in Crockett.*

danger area, immediate cleanup of any spill recommended. In California this is a non-RCRA hazardous waste due to the vanadium content. Diethanolamine is subject to SARA 313 and 40 CFR 372 reporting requirements.[141]

Catacarb was used to strip sulfur from refined gasoline in the Unocal refinery's unicracker unit.[142] The process by which well over 100 tons of the solution were released into surrounding communities began with a slow release of a "chemical mist" from the top of a 140-foot processing tower at 6:55 a.m., August 6.[143] Media investigations uncovered an "initial flurry of concern" which led to the declaration of a refinery-wide emergency and notification of the County Health Department.[144] Unocal workers started to shut down the tower, but the order to cease operations in the unit was countermanded by the refinery's second-in-command. Hastily called meetings between supervisors and engineers (without the consultation of environmental and health and safety workers) yielded the conclusion that there was a "very slim" chance that the leaking tower would explode. Management decided to keep the unit running until its next scheduled maintenance on October 8. County health officials were told that the emergency was under control. Meanwhile, refinery workers were noticing sticky brown spots on their cars and on equipment near the unicracker. Operator Diane Wang described the leak, which by early September was noticeable from nearby roadways, as a "giant troll and it was becoming monstrous."[145] The unicracker chief repeatedly told his workers that "we can make it." General Manager Stephen Plesh left for the Labor Day weekend with orders to keep the unit running. By September 4, workers began to notice Catacarb residue on the storage tanks of neighboring Wickland Oil. Residents started to complain to the company and to health officials.[146] Workers noticed a massive loss of Catacarb as they began to run out of potassium hydroxide. Then, Wickland Oil notified the refinery that their property was covered in Catacarb and that their employees had been ordered to take shelter. The unit was finally shut down, on September 6.[147]

Evidence for why Unocal officials were so reluctant to tend to the leaking tower can be found in the plant's safety record. In 1989, the refinery posted the longest safety record in the country: 6 million hours without a serious accident to cause anyone to miss work.[148] Plant management, according to many interviewed, operated under an incentive structure that included performance bonuses, which discouraged such simple procedures as routine equipment overhauls (the hydrogen processing tower's overhaul was delayed from February to October 1994).[149] And refinery maintenance staff acknowledged that

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[141] Unocal Corporation (1995). Unocal Material Safety Data Sheet: Catacarb. February 6, 1995.
[142] Director of Enforcement, Bay Area Air Quality Management District (1994). Unocal refiery 8/22/94-9/6/94 Catacarb Release Office Memorandum to Air Pollution Control Officer, September 23, 1994.
[143] Woody, T. (1995). Sixteen long days of delay and indifference. *The Recorder*, October 4, 1995, p. 17.
[144] *Ibid.*
[145] *Ibid.*
[146] Bay Area Air Quality Management District (1994). Incident Report Number Three: Unocal Corporatino – Refinery. September 9, 1994.
[147] West County Times (1994). Anger over leak. *West County Times*, September 23, 1994, p. 1.
[148] Stein, G. (1989). Two refineries win awards for job safety. *Los Angeles Times*, April 30, 1989, p. 12.
[149] Hunt, K. (1995). Why leak went unchecked: Bay decisions, fearful employees added up to leeting release of toxic mist go on for 16 days. *San Francisco Examiner*, April 16, 1995, p. C-5.

an early shutdown would cost nearly $1 million.[150] Yet as the facility struggled to continue its operations, residents started to get sick. Health problems mentioned by residents during interviews included gastrointestinal problems, skin reactions, eye dysfunction, nerve damage (including some which led to root canals), memory loss, numbness, loss of feeling in fingers, post-traumatic stress, and chronic fatigue.[151] Indeed, a study released in March 1996 suggested that residents of Crockett suffered nearly double the rates of eye problems, memory loss, and anxiety as a control community.[152] Those who didn't manifest any symptoms simply became angry:

> I heard of a meeting being set that was going to involve a huge amount of different parties that were going to be in attendance to explain the accident, a public meeting...There was a lot of discussion throughout the panel, the company, some of the community groups speaking. Predominantly it was a presentation by the company followed up by the County's explanation and health concerns. I was angered that regardless of whether it was soapy water or exhaust or what have you, that the term "no offsite impact" was used so often and continues to be used and obviously before we woke up it was used for decades and I didn't care for that. I realized that if they would tell you that at this [event], then it's possible that other things happened that we weren't aware of. So I was angered at the fact that it seemed that someone was telling us that we were not impacted.[153]

This resident is recounting a number of community meetings that were held once the Catacarb spill was made public. The meetings featured panel discussions with representatives of the company and County officials. In addition, Unocal communicated with residents through a letter describing a "harmless" potassium carbonate solution as the culprit.[154] Residents also approached the County Health Department for an explanation shortly after the release ended. Residents recall being told that the mixture of chemicals was only a threat when airborne. Since the Department had only learned of the release after the Catacarb had settled on neighborhood homes, yards, and streets, there was no "need for alarm." A series of equally frustrating recommendations were made to residents during the community meetings. For instance, residents were instructed not to

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[150] *Supra* note 145.

[151] These ailments were mentioned in interviews with residents of Crockett, Rodeo, Tormey, and Bayo Vista. *See* also Hunt, K. (1994). Hundreds suffer after toxic gas leak. *San Francisco Examiner*, December 18, 1994, p. C-7 ("Jane Strike went blind. Vickie Wood will give birth to a stillborn child and doesn't know if the twin she also carries will be healthy. Leanna Devy has had fainting spells for two months. All three are convinced their problems began with a toxic chemical leak at a nearby Unocal refinery that went unabated for more than two weeks last summer.").

[152] Bowler, R. (1996). Health study of a community exposed to a chemical spill: Final report of the Crockett Health Study. San Francisco State University, March 29, 1996.

[153] Interview of Tormey resident, October 24, 2002, via telephone.

[154] Interview of Crockett resident, May 28, 2002, via telephone.

clean their cars or homes but to call Unocal and ask for professional assistance.[155] At the same time, they were told that garden vegetables were safe to eat.[156]

At this moment, it is instructive to consider what was about to happen: between mid-September and December 1994, a group of several dozen residents, many suffering from ailments stemming from the Catacarb release, negotiated a wide-ranging, multi-million-dollar good neighbor agreement with the refinery. The 21-page agreement between Unocal, Crockett, Rodeo, Tormey, Bayo Vista, the Shoreline Environmental Alliance, and Citizens for a Better Environment (CBE) was fashioned by 10 committees of between 2 and 10 residents operating with varying degrees of technical assistance, wide-ranging backgrounds and objectives, and uncertainty as to whether regulatory agencies would improve the emergency management, pollution monitoring, or enforcement services that they had the authority to provide. Under the circumstances, the most surprising aspect of this process is that it resulted in any agreement at all. But after numerous calls, informal gatherings, and 14 formal negotiation meetings with refinery management, an agreement was reached in principle in December 1994. It provides an unprecedented opportunity to consider the opportunities and limits to the use of negotiation to address the complexities of industrial accidents and their effects on local residents.

Long before the Catacarb accident, Unocal had begun to seek County approval for a land use permit for its reformulated fuels project. As we will see, the release heightened awareness of the project and substantially broadened the scope of resident and organizational involvement. Prior to the spill, only a few constituents expressed concerns over the project, which would be

> located on approximately 25 acres of the 1,100 acres Unocal San Francisco Refinery, in the Rodeo area. This project also includes a 3.7 acres off-site parking area on two contiguous parcels located south of and adjacent to the Unocal refinery property between San Pablo Avenue and the Southern Pacific Railroad right-of-way. If approved, the project would involve the construction of two new refinery components (a Hydrogen Plant and a Steam Boiler Plant) and the modification of three existing processing units (the Pentane Handlin/Benzene Saturation equipment, the Gasoline Blender, and the Steam/Power Plant). In addition, the project includes the construction of a maximum of 10 new storage tanks, an increase in shipping in order to transport reformulated gasoline components between Unocal's San Francisco and Los Angeles refineries, additional pipelines for transferring intermediate streams and feeds between processing units and tanks, additional drain systems needed to connect project components to the existing refinery process

[155] All interviewees who were residents of Crockett or Rodeo at the time of the incident reported receiving these instructions. In an October letter to the County Community Development Department from Unocal states that "Unocal's efforts to clean cars, windows and other personal property are still under way. Approximately 60 clean-up professionals are responding to property damage claims. We expect clean-up efforts in the community to be completed shortly. Plesh, S. (1994). Letter to Dennis Barry, Contra Costa County Community Development Department from Stephen Plesh, General Manager, Unocal San Francisco Refinery, October 12, 1994.

[156] Interview of Crockett resident, May 31, 2002, via telephone; *See* also Contra Costa County Health Services Department (1994). Letter to Contra Costa Residents from Public Health Division, County Health Services Department, October 12, 1994 ("Is food from the garden safe to eat? It is prudent to thoroughly wash and peel garden produce in the Tormey and Crockett area before eating it.").

drain system, and changes to utility systems to support project needs for water, electricity, natural gas, and hydrogen.[157]

A draft Environmental Impact Report for the Unocal Reformulated Gas Project was prepared in June 1994, following a process that included a scoping session on December 29, 1993.[158] Following a 45-day review and public comment period that was extended to July 25, 1994, a final EIR was prepared to respond to significant environmental issues of agencies and residents.[159] The final EIR was prepared by September 1994, and does not reflect concerns raised by the Catacarb incident. Figure 8 provides an overview of project impacts described in the DEIR.[160] Figures 9-12 summarize the concerns of public agencies, labor unions, citizen organizations, and individuals expressed throughout the public comment period, which included a public hearing held at Hillcrest Elementary School in July, 1994. There were few public comments on this project, which can be explained in part by resident claims of inadequate notice given to potentially impacted communities.

[157] Contra Costa County Planning Commission (1994). Agenda, Tuesdsay, October 4, 1994 – 7:30 p.m.
[158] Contra Costa County Community Development Department (1993). Notice of Preparation: Notice of Scoping Session, Environmental Impact Report for the Proposed Unocal Reformulated Gasoline Project, December 9, 1993.
[159] Contra Costa County (1994). Response to Comments Document for the Unocal Corporation Reformulated Gasoline Project, Land Use Permit 2038-93, September, 1994.
[160] Contra Costa County (1994). Draft Environmental Impact Report for the Unocal Corporation Reformulated Gasoline Project, Land Use Permit 2038-93, June 1994.

Table 8. Potential Impacts of the Unocal Reformulated Gasoline Project and Reported Significance Levels.

Issue Area	Potential Project Impacts	Significance Before and After Proposed Mitigations	
Land use	Potential physical disturbance due to construction/demolition; proposed tanks 109, 110, and 112 incompatible with residential uses	LS	LS
	Location of Tank 109 conflicts with General Plan visual buffer requirement	S	LS
Traffic	Operation of construction parking lots and access controls; construction traffic will contribute to deterioration of pavement on Parker Avenue and San Pablo Avenue	S	LS
Air Criteria Pollutants/Air Toxics	Increased emissions of criteria pollutants; carbon monoxide concentrations at four key intersections would exceed state ambient air quality standards during construction; increased emissions of VOCs, nitrogen oxides, sulfur dioxide, and particulate matter during project operation	S	S
Public Health/Safety	Increase in excess lifetime cancer risk of .3 in one million for occupational and 1.3 in one million for residential receptors; minimally increased risk of chronic noncancer health effects	LS	LS
Risk of Upset	Numerous small-scale accidents/failures could affect sensitive receptors	LS	LS
Public Services	Construction would require increased water supply of 5 gpm; operation would increase water demand by 100 gpm; no significant impacts for on- or *off-site events or public emergency response services*	LS	LS
	Construction truck traffic will contribute to deterioration of pavement on Parker and San Pablo Avenues	S	LS
Energy	Construction and operation will consume additional energy	LS	LS
Culture	Resources of prehistoric/protohistoric or historic age may be encountered during subsurface construction/earthmoving		
Geology	Potential failure of cut and fill slopes could cause damage to project; grading and excavation could create unstable slope conditions; during project lifetime, refinery is likely to have at least one moderate to severe earthquake that will cause strong groundshaking	S	LS
Hydrology	Construction activities could add to sediment load of stormwater runoff; storm runoff from or over contaminated soils could introduce hazardous materials into wastewater treatment system; additional wastewaters produced by the project; no change in selenium or cyanide discharges	LS	LS
	Likelihood of accidental spills during transfer activities is high	S	LS
Noise	Short-term noise from construction activity	LS	LS
	Construction of Tank 109 would generate short-term noise at Hillcrest School and adjoining residences; operating machinery in proposed project would substantially alter area noise environment	S	LS
Biological	Surface runoff into nearby freshwater emergent wetlands; releases during offloading and transfer could reach wetlands	S	LS
	Native grassland could be affected by rupture or leak from tank 1007	LS	LS
Visual	Construction to involve area flood lighting	S	LS
	Hydrogen Plant, Steam Boiler, Pentane Handling/Benzene Saturation Unit modifications, and several new tanks visible from a number of directions	S/LS	LS
Employment	Peak demand for 200 construction workers; increased permanent employment at refinery by 9 full-time jobs	B	B

LS = less than significant; S = significant; B = beneficial

Table 9. Primary Concerns Expressed During EIR Process by Agencies.

Agency	Concerns
Bay Area Air Quality Management District	• Best available control technology is required for any pollutant emissions exceeding the threshold limits set by the AQMD for new or modified stationary sources; the threshold for regulated pollutants is 10 pounds per day per pollutant • Emission offsets required for new or modified sources of nitrogen oxides, precursor organic compounds, particulate matter, and sulfur dioxide • Modelling is required for CO, NOx, and SO2
California Department of Transportation (Caltrans)	• A Caltrans Encroachment Permit will be required for any work done within the State rightwofway, including work due to mitigation
East Bay Municipal Utility District	• Proposes a variety of factual corrections regarding reclaimed water use for the proposed project • Unocal should continue to explore for other means to reduce potable water consumption
John Swett Unified School District	• Hillcrest Elementary School is indicated as a sensitive receptor; enrollment of approximately 1,100 students with an age range of 3-12 years of age and 70 staff members will be in close proximity to the facility and the additional tank(s) • Request an infrared fenceline monitoring system with notification/ warning of possible unsafe emissions • All tanks in proximity to the school should have pressure relief valves and should be vented to a vapor recovery system • Bellows valves need to be installed on all hydrocarbon service lines two inches and smaller • Assistance in developing an evacuation plan is needed • Need to commit to a five to ten year plan of tree planting in the buffer zone between the tanks and Hillcrest • Hope that Unocal will increase support of District programs (i.e., additional donation of $75,000 for science equipment at three schools)
West Contra Costa Unified School District	• Currently two elementary school sites southeast of the refinery (Hercules and Ohlune); an additional school is in the construction stage • Concerned about increased emissions of pollutants, increased public safety risk from fires, explosions, or accidental release of toxic gases or vapors, increased odors, noise, traffic, transfer of hazardous waste, cumulative health hazards and risk of upset
State Lands Commission	• Must modify Risk of Upset analysis to include the marine terminal facilities at Unocal and Winkland; analysis should situate a vessel at the terminal fully loaded with gasoline in the process of unloading its cargo
San Francisco Bay Conservation and Development Commission	• Any construction on or over the water or within 100 feet of the line of the highest tidal action of the Bay would require permit approval • Project must meet National Pollution Discharge Elimination System standards • Should include a risk analysis of the increased potential for oil spills as a result of the project and analysis of preventive measures • Report indicates a high likelihood of accidental spill every 12 years resulting in significant impact; should be analyzed relative to other marine terminals.

Table 10. Primary Concerns Expressed During EIR Process by Labor Organizations.

Labor Organization	Concerns
Contra Costa Building and Construction Trades Council	• Research given to socio-economic issues related to jobs, health care, etc. is inadequate • Will local workers be utilized? • What type of job skills and training will be required? • Will there be adequate safety training? • Will there be a community outreach program for the employment of local women, minorities, disadvantaged? • Will work force be provided with health care benefits? • What will impact be on 2.5 secondary jobs affected for every one construction job? • Should review the Contra Costa Board of Supervisors' study, "The Impact of Out-of-Area Workers on Non-residential construction in Contra Costa County" to determine areas of impact
Attorney for the United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry of the United States and Canada	• There will be an increase in selenium discharges • Large increases in criteria pollutants resulting from increased shipments of materials; future ship traffic appears to be four times greater than considered in DEIR • Expansion of Wickland Oil Terminal DEIR found significant impacts on air quality; project not considered in County's quantitative cumulative impact analysis for Unocal • Certain air and water quality and risk analysis documents not appended • Unocal not planning to start construction until Fall; requirements don't take effect until March 1996; extension of 15 days would not prejudice Unocal • function and impacts of new hydrogen plant should be fully described • Not clear how Unocal will comply with reduced sulfur content rules • Effects of increased steam production not taken into account • Effects of diversion of some products to diesel/jet fuel production not discussed • Information on criteria air pollutants, health risk assessment, ship emissions, and construction waste missing to various degrees • DEIR underestimates NOx and SO2 emissons, ship emissions, VOC emissions from tanks, emissions from pressure relief valves, fugitive emissions from soil excavation • DEIR failed to recommend feasible mitigation for significant air quality impacts • Best available control technologies, particularly with respect to tanks, flanges, pumps, and pressure relief valves would lower emissions • Standard closed loop sampling of process operations could reduce VOC emissions • AQMD requires best available control technology for toxics when cancer risk of a project exceeds one in a million. Project risk is as high as 1:33 in a million. Thus, lower leak detection limits, more frequent inspections, and shorter repair periods are required • Project underestimates toxic releases • Odor impacts due to increased use of oxygenates • Project could result in health impacts due to use of MTBE, which is listed as a hazardous air pollutant under the Clean Air Act • Increased selenium discharges will reduce water quality • DEIR did not evaluate impacts of handling and transporting hazardous wastes • DEIR did not evaluate impacts of the project on workers at the refinery • DEIR did not evaluate cumulative ship accidents • DEIR should be recirculated

Table 11. Primary Concerns Expressed During EIR Process by Community Organizations.

Organization	Concerns
Rodeo Citizens Association	• Haven't had the proper amount of time to review this document; Rodeo and Crockett are located in unincorporated areas where citizens cannot rely on elected officials to review DEIRs for them. • Within less than a year, we have had four EIR processes to review and comment on; ask for a 45 day extension • Request that the County provide an advisor for unincorporated citizenry impacted by the project (Rodeo, Crockett, Tormey) • Unocal is already in violation of the Clean Water Act for selenium discharges; project will produce further selenium • Unocal should restore native grasses to Bay shore similarly to what Chevron is doing in Richmond • Field survey for vegetation and wildlife insufficient; conducted on one day in December • Inventory of wildlife species, especially birds of prey, is incomplete • No heavy metal ecological risk assessment has been conducted • Should enclose flare to reduce emissions and noise • Must not be allowed to increase VOC emissions, similar to Shell EIR conditions • Emission of particulates is over the state limit; construction will add to it • A NE wind could blow nitrogen oxide and sulfur dioxide over Rodeo from the main terminal stations and contribute to acid rain • Provide the Sheriff's department with noise monitoring equipment to enforce noise ordinances • Truck traffic will increase; must compensate Rodeo for increased traffic through the main roadway or get to I-80 at the Crockett on-ramp • Comprehensive landscaping on hill tops needed to compensate for visual impacts • Should hire workers from Rodeo/West County. • Remote sensor fenceline monitoring with either infrared or pulsed laser system with results open to citizens • Use of bellows valves, double mechanical seals • Tree planting plan should be funded for at least 5 years (estimated cost between $39-46 thousand) • DEIR should include discussion of financial impact on County revenues • Community fund similar to the C&H Sugar fund in Crockett must be set up for the benefit of Rodeo
Rodeo Municipal Advisory Council	• Did not have sufficient time to review the document. Do not recognize any overriding impacts at this time.

Table 12. Primary Concerns Expressed During EIR Process by Individuals.

Individual	Concerns
Howard Adams, Crockett Improvement Association	• Crockett is surrounded by many sources of air emissions; project emissions are insignificant compared with Interstate 80; more carbon monoxide and hydrocarbons from that source than from any industry • Project will hopefully reduce pollutants on I-80 if traffic levels off • Growing problem of particulates; already out of compliance with state level many days of the year • Construction phase will generate 400 pounds of particulates per day and Crockett anticipates receiving most of that • Increasing watering down of the construction site to reduce the plume of particulates • Use reclaimed water rather than East Bay Municipal Utility District water
Lynn Cherry, Rodeo resident	• Comment period should be lengthened for 45 days because Rodeo was not adequately advised or notified of this project; no mass mailing or publicity • No discussion of Unocal plans for selling all California oil fields; would mean larger amount of ship traffic and greater sulfur dioxide emissions • Unocal should not be allowed to purchase offsite offsets • Proximity of project to Hillcrest Elementary School is troublesome; should be an infrared fenceline monitoring system installed between Unocal and the community • There should be state-of-the-art leakless valves, pumps, and compressors installed throughout the facility • This project has for some reason remained outside of the Rodeo Redevelopment Project boundaries; this needs to be rectified and any additional tax dollars need to be credited to the Rodeo Redevelopment Budget • If the above cannot be done, the tax dollars should be returned to the Rodeo Municipal Advisory Panel • Financial gains should go to Rodeo, not Central County
Norma Clerici, Crockett resident	• County should not allow this project • We have been in regular contact with AQMD regarding foul odors we are forced to breathe thanks to Unocal • Project will increase air and water pollution and cancer risk to residents • County should not add to air pollution burden of Crockett at a time when the Crockett Cogeneration Plant is being constructed • Article referring to this project was in the West County Times on Friday, July 15th • Approach to inviting public comment does not foster trust in the County or its relationships with large business interests

Comments did not reflect the sense of urgency or inherent unfairness perceived by Richmond residents during the Chevron RFP process. Agencies focused on relatively minor analytical concerns or jurisdictional questions, with the exception of the AQMD (which highlighted BACT concerns) and two impacted school districts. The districts, particularly John Swett Unified, advanced many of the ideas introduced by CBE and other activists during previous negotiations with Shell and Chevron. Fenceline monitoring, use of bellows valves, and other technologies were suggested by the districts. Labor organizations were most concerned with the accuracy of DEIR estimates and analyses, and the document's omission of socio-economic indicators pertaining to the region's workforce and project effects on employment. They shared the school districts' desire to include BACT in project implementation, particularly with respect to tanks, flanges, pumps, and valves that can contribute to fugitive emissions on-site. Community organizations, such as the Rodeo Citizens Association and the Crockett Improvement Association, included members who had been instrumental in negotiating facility siting or expansion agreements with C&H Sugar, Pacific Refinery, and other firms. Their comments focused on proposed mitigations similar to those incorporated in previous agreements, such as "no net increase" in VOC emissions, use of technological

innovations (i.e., fenceline monitoring, bellows valves), landscaping/ restoration of native vegetation, and the establishment of a community fund. The proximity of Hillcrest Elementary School was viewed as particularly troublesome. While very few representatives from Rodeo or Crockett commented on the DEIR, one can find hints of divergent perspectives on the refinery's impacts and town entitlement to mitigation or community development funds. These rifts inevitably emerged between the two unincorporated towns, which at times regarded each other in less than amiable ways.

> Rodeo is where the plant is and Crockett is just downwind of it, adjacent to it. It's about a mile away but the topography and the prevalent wind direction means that Crockett is often impacted more than the town that the plant's located in. Most of Crockett cannot even see the refinery. There's only a few houses on the hill that can even see it. But they smell it, they feel it...Rodeo and Crockett have always been rival towns, they're unincorporated, they fight over all sorts of things, money from the County coffers, and on and on. Bayo Vista being the only housing project in both areas and concentration of low-income people of color is basically an island that Rodeo and Crockett don't even recognize or want to say even exists so it was a very difficult situation.[161]

While the Catacarb spill held the potential to magnify differences between the towns, the circumstances of the ensuing negotiations encouraged residents to present a united front to Unocal management.

Dispute Resolution. Interviewees suggest that early town meetings immediately following the spill were instrumental in aligning residents' sense of what went wrong and helped them to prioritize community interests. The first such meeting was held by the Crockett Improvement Association (CIA) one week after the catalyst regeneration unit was finally shut down.[162] Approximately 80 residents attended the meeting, which also included a large group of Unocal managers, scientists, and public relations officials, a representative of Supervisor Jeff Smith's office, and members of the County Health Department and the AQMD. The September 13 meeting offered the first chance for local residents to voice their concerns about the accident, less than three weeks before a scheduled County Planning Commission hearing where the County would be asked by the Zoning Administrator to certify the FEIR and approve Unocal's land use permit. That and subsequent meetings[163] also gave Unocal and regulatory agencies a chance to explain the conditions leading to the two week release. Their answers to dozens of questions, which residents perceived as evasive or contradictory, further encouraged the towns to mobilize support for opposition to the permit and for good neighbor negotiations, again promoted by CBE.

> The key was several public meetings with the first bunch of managers and science people and technicians and PR people and Crockett to quote, "explain" that this was really nothing bad for you, that things were just fine and not to worry, and we were just mad as hell. And it snowballed. After about two or three meetings, we were about ready to lynch those guys. That's when Unocal

[161] Interview of former Organizer, Communities for a Better Environment, June 4, 2002, in Point Richmond.
[162] Crockett-Rodeo Coalition (1994). Report on Community Activities Relative to Unocal, November 13, 1994.
[163] Other early meetings included a CIA business meeting that drew 100 people, the Planning Commission's meeting at Hillcrest Elementary School attended by approximately 200 people (October 4), a County Health Department town meeting attended by approximately 100 people (October 5), a meeting between Crockett residents and State Assemblyman Bob Campbell (October 14).

sent in the smoothies. But smoothies with authority, too. They weren't, "gee, I don't know if I can do this," or "no, that's too much," or "no, we can't do that, there's no scientific proof, why do we need this?" Or "that's the County's job, why bring this up?" We had some bad answers from the first bunch.[164]

There was broad agreement among interviewees that these early meetings also shifted the response of certain County governing bodies from ambivalence or denial to strong support for residents' concerns.

The County Supervisor who had authority over Unocal, it was within his district, Jeff Smith, he calls up the president of Unocal down in southern California shortly after the incident occurs, and he says I'd like you to come up and address the Board of Supervisors, which had been the precedent that had been established by other companies in the aftermath of an incident, and if there's one thing that I have had in my career it has been associated with a number of spectacular industrial incidents, and basically the President of Unocal said to him why the hell should I come up there? You can't force me to come before the Board of Supervisors. And it was that antipathy for the community that I think was reflective of Unocal's demise within the community and ultimately their economic demise within the United States...So it wasn't that they recognized that they had done something wrong or that they were trying to assuage the problems that they had caused, it was because they said OK, we're gonna jettison these resources anyway. When they sold to Tosco, they basically sold it for the value of the refinery for pennies on the dollar.[165]

County support for resident concerns was manifest in the following actions by permitting bodies:

- The County Board of Supervisors voted on a proposal by Jeff Smith and authorized the creation of a Citizen's Advisory Panel to serve as a refinery oversight committee on September 20;[166]
- The County Planning Commission delayed action on the reformulated fuels project from October 4 to October 18;[167]
- The County Planning Commission delayed approval of the project on October 18, and requested that Unocal and community representatives work toward a settlement agreement; and
- On November 15, the County Planning Commission approved the project and staff-proposed conditions of approval, with the addition of four conditions, including:

    78. Within three months of the effective data of the land use permit and every three months thereafter, the applicant shall submit to the Zoning Administrator, for review and approval, a written report outlining the progress of negotiations of a Good Neighbor Agreement. Good faith negotiations toward a Good Neighbor Agreement, as determined by the Zoning Administrator, shall be a condition of approval of the land use permit. If the Zoning Administrator finds that the applicant has not facilitated good faith negotiations, the Zoning administrator shall notify the applicant of noncompliance with the conditions of approval and shall commence revocation proceedings for the land use permit.[168]

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[164] Interview of Crockett resident, October 31, 2002, via telephone.
[165] Interview of CAP facilitator, August 29, 2002, via telephone.
[166] Crockett-Rodeo Coalition (1994). Activities since the Catacarb release on September 6, 1994. November 13, 1994.
[167] Contra Costa County Planning Commission (1994). Agenda Item #7, Tuesday, October 18, 1994, Unocal Corporation (Applicant and Owner).
[168] Contra Costa County Planning Commission (1994). Agenda Item #6, Tuesday, November 15, 1994, Unocal Corporation (Applicant and Owner); *Supra* note 162.

Board of Supervisor actions to encourage investigation and greater scrutiny of the Rodeo refinery would continue after its approval of Unocal's land use permit.[169] Interviewees agreed that Board assistance came after initial resistance to residents' concerns. Some even suggested that it was this initial period of denial that led residents to replace Jeff Smith as their representative on the Board in the next election.

Thus, residents, who with few exceptions were absent from the early stages of the permitting process, were galvanized by the Catacarb incident, further angered by agency and corporate response, mobilized by CBE, and encouraged to some degree by the County Planning Commission to engage Unocal in settlement talks. Interviewees mentioned four other points of leverage that fueled subsequent community-corporate negotiations. First, Unocal replaced some of their refinery management, including the refinery General Manager. New management was quicker to engage Crockett and Rodeo residents in the aftermath of minor refinery incidents that followed.[170] Management also corresponded regularly with County agencies concerning their activities following the Catacarb release.[171] Residents were able to discuss the Catacarb incident more readily with the new employees, who were not complicit in the 16-day release. A ninety minute release of hydrogen sulfide near the Hillcrest Elementary School on September 15 shifted even more of the community's focus toward the school's proximity to refinery storage tanks.[172] A growing tide of litigation, though unrelated to the demands of residents negotiating directly with Unocal, crested on September 23 with the announcement of a $1 billion toxic tort claim involving over 1,000 claimants.[173] While settlement of the case for $80 million with what would become 6,000 plaintiffs did not occur until April 1997,

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[169] For example, following a tank fire at the refinery in June 1995, Supervisor Jeff Smith requested a "thorough report to the Board of Supervisors by June 27th on the recent Unocal tank fire and related non-compliance issues from the Health Services Department, County Counsel, and Community Development." The report was to include "all options to the Board of Supervisors to stop this pattern of repeated violations at Unocal, including an emergency shutdown of the plant while corrective measures are put in place." Smith, J. (1995). Recent Incidents at Unocal Refinery in Rodeo, to Board of Supervisors, June 20, 1995; Jeff Smith also joined two other supervisors in passing the "Good Neighbor Ordinance," which required refineries to meet stringent environmental standards and undergo public hearings before undertaking maintenance projects valued at more than one million dollars. Hallissy, E. (1996). Strict new rules for three Bay refineries. *San Francisco Chronicle*, December 31, 1996, p. A1.

[170] Three local managers were placed on administrative leave and new managers were brought in from Los Angeles. For example, Acting General Manager sent a letter to the general public on December 15, 1994 regarding a malfunction on a compressor at the unicracker unit that resulted in an emergency shutdown, flaring, and odor complaints. The letter outlines Unocal's steps following the accident, which occurred the day before, including notification of their Emergency Response Team, the Rodeo-Hercules Fire Department, the Crockett-Carquinez Fire Department, and members of the Community Advisory Panel.

[171] *See* Thatcher, H. (1994). Letter to Catherine Kutsuris, Contra Costa County Community Development Department from Henry Thatcher, Superintendent, Human Resources, Unocal San Francisco Refinery; Plesh, S. (1994). Letter to Dennis Barry, Contra Costa County Community Development Department from Stephen Plesh, General Manager, Unocal San Francisco Refinery, October 12, 1994; Plesh, S. (1994). Letter to Planning Commission members from Stephen Plesh, General Manager, Unocal San Francisco Refinery, November 9, 1994.

[172] Collins, J. & Lewis, D. (2000). Hydrogen Sulfide: Evaluation of Current California Air Quality Standards with Respect to Protection of Children. Prepared for California Air Resources Board, September 1, 2000.

[173] Burnson, R. (1994). Residents sue Unocal for $1 billion over leaks. *Contra Costa Times*, September 23, 1994, p. 1.

the company was encouraged to limit liability by working directly with a comparably small number of residents through direct negotiation.[174] It would also prove cost-effective to address certain concerns through a GNA, which included many long-range commitments that could be transferred along with general liability to the Tosco Corporation upon its purchase of the refinery in November 1996.[175] An early community demand to develop an alternative dispute resolution process for claims related to the Catacarb release further enhanced the benefits to negotiation perceived by Unocal. Finally, Unocal's relatively late start in pursuing permits for its reformulated fuels project meant that it could not afford the kinds of delays that protracted litigation or administrative processes would require.

Negotiations commenced after a final town meeting (convened by the County Health Department) on October 5 and the Planning Commission's refusal to grant the land use permit on October 18. By then, Crockett leaders had organized the Crockett Group, composed of Douglas Tubb, Howard Adams, Kent Peterson, Alica Anderson, Kasha Kessler, and Dave Hicks. Three Crockett leaders (Salli Spoon, President of the Chamber of Commerce, Alica Anderson, President of the Crockett Improvement Association (CIA), and Jay Gunkelman, member of the CIA) asked outgoing refinery manager, Steve Plesh, to meet with members of Crockett and Rodeo at the Commission meeting. Their offer was accepted. A town strategy meeting was then called for Crockett, Rodeo, CBE, and union representatives for October 27 at the Crockett Community Center. By October 26, members from Crockett and Rodeo (Lynn Cherry, Leonard Miglio, and Janet Callaghan) had solicited the support of Supervisor Jeff Smith and discussed their planned negotiations with Unocal with him. The strategy meeting yielded a list of community wants, which were presented to Unocal at the first GNA meeting on October 28. Community concerns included the following:

[174] Hallissy, E. (1997). Unocal will settle suits for $80 million. *San Francisco Chronicle*, April 15, 1997, p. A-1.
[175] San Francisco Examiner (1996). Off the ticker. *San Francisco Examiner*, November 19, 1996, p. C-1.

Table 13. Community Concerns Presented to Unocal.

Issue Area	Community Concerns
Response and Notification	Fenceline Monitoring; Community Advisory Panel; Independent Audits; Fire Department Training; Fire/Emergency Radio Channels; Data Base/Information Distribution Center; Community Warning System; Warning Sirens; Crockett-Carquinez Fire Department; Neighborhood Watch Network
Health	Health Risk Assessment; Bayo Vista Health Concerns; Funding for Health Services; Medical Monitoring; Health Care Provider Access; Fund for Medical Needs
Environment	Chlorine; Hydrogen Sulfide; Hydrocarbons; Wastewater Discharge and Disclosure; Emission Offsets; Worker Training; Flare/Noise Advance Warning; Tank Leak Monitoring
Financial	Long-term Financial Contributions; Fund Disbursal; Fund to Assist Community; Fund for Legal Assistance; Property Taxes
Transportation	Construction/Ongoing Traffic Mitigation; Parker Avenue; Anhydrous Ammonia; Cummings Skyway Funds; Bicycle/Pedestrian Walkway
Vegetation and Parks	Vegetation Buffer Zone; Bicycle and Walking Path; Lindsey Museum Donation
Safety	Relocate Hillcrest School; School Protection; Bayo Vista Safety
Vocational Training	John Swett High School; Apprenticeship Programs
Legal	Agreement to Negotiate; Conflict Resolution Process; Remedies for Breach of Contract; Refinery Name change; Drop Appeals of Reformulated Fuels Project Permit

Three early developments should be noted before we consider how these demands were translated into provisions of the GNA. A small number of issues were effectively declared "off the table" by Unocal after the third GNA meeting on November 7:

- funding to enhance community-wide neighborhood watch programs
- wastewater discharges and disclosure, particularly methods for reducing selenium discharges at the refinery
- establishment of a $2 million trust fund to create a Tree Management District for Rodeo and Crockett to expand landscaping plans
- replacement of Unocal's flare system with "ground-style" facilities
- relocation of Hillcrest Elementary School to an alternative site (Unocal estimated that the cost of relocation would be roughly $28 million)[176]

Changing the refinery name from the "San Francisco" to the "Rodeo" Refinery was also tabled at a later date. Some residents consider the tabling of certain issues to have been a mistake in judgment early on. For instance, several negotiators considered the location of Hillcrest Elementary to be the single most important issue at the time. Tabling this issue was interpreted as either an effort by Unocal to anchor talks around an anticipated figure below the projected cost of relocation, or to deny any proposal that either lacked a nexus to the project or amounted to even a symbolic admission of Unocal's contribution to risks to human health and safety at the school.

Tabling the above items also delayed community efforts to commit Unocal to a binding legal agreement to negotiate their concerns to conclusion. Residents suggested this agreement as a means of facilitating permit approval while the community ironed out its

[176] Plesh, S. (1994). Letter to Alica Anderson and Lynn Cherry from Stephen Plesh, General Manager, Unocal San Francisco Refinery, November 9, 1994.

disagreements with Unocal and produced a final single text agreement. A CBE representative explains the genesis of the proposed agreement:

> Very shortly on, we presented Unocal with an agreement to negotiate which was another thing that we learned from the unions which is how they start contract negotiations. Which is to sign a simple agreement saying we agree to bargain in good faith the following issues to resolution. It's not really groundrules, it's a legally binding pre-agreement, a contract which binds the company to negotiate in good faith first.[177]

Unocal reiterated its "commitment to reaching consensus with the Crockett and Rodeo communities," but did not draft the agreement to negotiate promised at the November 7 meeting.[178] Its letter of commitment included Unocal's interpretation of community concerns that the company would continue to discuss, including CAP formation, enhanced emergency response, emergency warning concerns at Hillcrest, a fenceline monitoring pilot program, reduced air emissions, evaluation of methods to reduce use of extremely hazardous chemicals, responding to Catacarb-related health concerns, making available alternative dispute resolution to manage Catacarb claims, establishing a community funding program, helping to fund Cummings Skyway, participating in vocational training programs, and implementing a program to enhance local hiring.
A final early development was the formalization of the community's negotiating capacity. On November 6, co-chairs of the newly formed Crockett-Rodeo Coalition, Alica Anderson (Crockett) and Lynn Cherry (Rodeo), were elected by community group volunteers. At a November 9 meeting at the Crockett Community Center, Crockett, Rodeo, and Bayo Vista residents developed committees and working groups and gave each tasks designed to clarify the initial negotiating list. By November 13, the committees had made considerable progress[179]:

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[177] *Supra* note 161.
[178] Cherry, L. & Gunkelman, J. (1994). Letter to Members of the Planning Commission from Lynn Cherry, Co-Chair, Rodeo and Jay Gunkelman, Assistant Co-Chair, Crockett, November 13, 1994.
[179] Taken from Crockett-Rodeo Coalition (1994). Reports from Committees in Crockett-Rodeo Coalition Negotiation Packet, November 13, 1994.

Table 14. Committees Developed by November 13, 1994 by Residents.

Committee	Issues for Negotiation	Items for Consideration
Legal Issues	Agreement to negotiate; funding for legal review of Agreement; GNA must be written for signature by representatives of Rodeo, Crockett, and Unocal; Create a conflict resolution process and panel to handle legal claims from Crockett and Rodeo	Authorization to submit invoices for legal review to Unocal for payment; Provision of funds to Crockett-Rodeo Coalition for legal review expenses
Health Risk and Medical Monitoring	Funding for independent health risk assessment study to be conducted by Montgomery Watson, using analysis methodology verified acceptable by State and County Health Departments; report to be issued in January addressing short- and long-term health effects of environmental impacts of Catacarb; address Bayo Vista's concerns regarding health risks due to proximity to refinery; fund permanent health services to communities adjacent to refinery; fund long-term medical monitoring of Rodeo/Crockett residents; provide access to independent toxicologists, occupational health and other specialists to address concerns from current and future spills and emissions; establish trust fund to underwrite medical needs of Rodeo/Crockett residents from current and future spills and emissions	Release of medical information; evaluation/possible replacement of Environmed medical group; payment for independent medical exams, testing, treatment; adequate medical-related data on refinery chemicals; health care funding for low-income residents adjacent to refinery; notification of all residents of these issues; payment of health survey; tree program proposed by Stephen Batchelder; monitoring for Bayo Vista; evaluation of lead levels in local residents; funding for Lindsay Museum animal rescue activities; information on toxicologist availability; funding for local medical facility for treatment of chemical exposure; reduction of airborne particulates; creation of emergency health care directory; continued education of area physicians on chemical treatments; trust fund for treatment
Emergency Response and Community Warning	Install remote fenceline monitoring system directly wired to community fire departments and other agencies for immediate alerting of releases; designed to ensure maximum level of public safety and air quality possible through early detection and control of the release source of any hazardous, aromatic, or odorous materials; all data to be available to the public via a phone link to computers at community libraries and schools; link sent to AQMD; on-site audits by neighbors, environmentalists, and workers; funding for fire departments to provide training for emergency response and community safety; workable evacuation plan practiced regularly; create and maintain compatible radio channels of the fire/emergency units at Unocal with such units from County, Crockett, and Rodeo, with back-up communication in the event of total power loss; create computerized database with information on the effects of known hazardous materials associated with refinery components accompanied by recommended medical treatments, public safety and health measures; ensure rapid medical provision and agency employment of procedures following detection of a release source or contents; establish and fund operation of community access public health and safety information distribution center serving Bayo Vista, Crockett, and Rodeo; contribute remainder of $250,000 previously committed to the Community Warning System; fund warning sirens; enhance neighborhood watch programs	Funding for on-site, paid professional monitors of community choice on a 24-hour basis; funding for community odor and spill patrol teams under the control of community groups; install surveillance cameras at major refinery units, flares, and fencelines operated and monitored on a 24-hour bases by community and government agencies; facilitate the presence of citizen monitors inside refinery property to participate in activation of public notification and warning systems in the event of chemical spills and releases

Committee	Issues for Negotiation	Items for Consideration
Vegetation and Parks	Mitigation for direct, local air quality impacts of project through air quality maintenance zone and implementation of long-term strategy for property acquisition and vegetation maintenance in that zone; include community representatives in discussions with agencies toward implementation; provision for safe bicycle and pedestrian access around and through Unocal property; financial commitment to fund Lindsey Museum rescue activities in the surrounding areas	Commitment to fund vegetation management district; purchase of the Hagar tract adjacent to eastern boundary of refinery for dedication to Park District; planting and maintenance of buffer of trees in zone between Unocal and Hillcrest; financial and right-of-way commitment to develop safe path for bicycle and pedestrian traffic along San Pablo Avenue through Unocal property; safe trail crossing of I-80 in the vicinity of Cummings Skyway
School Safety	Funding for relocation of Hillcrest school; environmental protections for student and faculty population at Hillcrest School, inside and outside school buildings; recognition of safety concerns of Bayo Vista for pre-school children and commitment to address those concerns	Funding to establish separate community schools (K-8) in Crockett and Rodeo ($200,000 per year for each school for 30 years); fenceline monitors at multiple locations around Hillcrest; planting and maintenance of buffer of trees in zone between Unocal and refinery; funding for pressurized, new multi-purpose room at Hillcrest; funding new ventilation system for classrooms at Hillcrest to provide level of safety when shelter in place measures advised; continual maintenance of double paned windows and weatherstripping whenever damaged; every classroom with water, radios, televisions, new exterior doors and windows, automatic window coverings, and gas masks for all students; each wing of the school with a telephone
Vocational Training	Long-term commitment of significant funding for vocational training at John Swett High School ($100,000 per year); assistance with getting John Swett students into apprenticeship programs	n/a
Transportation	Mitigation for construction traffic impacts on Crockett; recognition of on-going traffic impacts on Rodeo and financial commitment to develop and use alternative route (Cummings extension) for truck transport of coke from refinery; removal of anhydrous ammonia transport vehicles from Crockett and I-80/Carquinez Bridge ramps; commitment to fund the engineering and construction of Cummings Extension as an industrial access road designated to provide industrial traffic direct access to I-80; include community representatives in discussions; provision for safe bicycle and pedestrian access through and around Unocal property	Staggered shift times so that construction workers and employees do not depart Unocal at the same hour; traffic control personnel on Pomona at bridge ramps when needed to maintain Level of Service E conditions or better from the time of each PM shift change at Unocal to one hour later; requiring the prime contractor to negotiate the avoidance of Vista del Rio as a bypass route from Unocal to Carquinez Bridge; electronic speed monitors with digital display of vehicle speed on Vista del Rio during PM commute hours; assistance in obtaining highway patrol presence in Crockett; responsiveness to complaints of traffic impacts; commitment to scheduled phaseout of transport and use of anhydrous ammonia; safe trail crossing of I-80

Committee	Issues for Negotiation	Items for Consideration
Environmental	Reduction in risks associated with chlorine and hydrogen sulfide; reduction in emissions of hydrocarbons and hydrogen sulfide; full public disclosure of chemicals contained in wastewater discharges; offset for emission of particulate matter through tree planting; training and competence of workers; all Unocal jobs held by union workers, especially maintenance positions; advance warning when flare noise expected; underground monitoring equipment for all new tanks	Enclosed loading and unloading facilities for hazardous materials transfers; reduce quantities of acutely hazardous materials used at refinery and frequency of deliveries and transfers; increase flare gas recovery systems capacity to prevent flaring during major upsets; use cascading ground flares to reduce emissions; vent all pressure relief valves into containment; retrofit with bellows valves on all services 2 inches or less; install bellows valves on all new project services; utilize cone roof design; drop lawsuit against release of water discharge permit data; fund independent audit for pollution prevention; meet selenium discharge limits on a per barrel basis
Financial Issues	$100,000 annually to Rodeo, Crockett; 30 year term; allocation of funds should not include Unocal representatives; change name from San Francisco to Rodeo Refinery; $2,000 for clerical support; $1,000 for legal expenditures; support for return to source agreement with County to dedicate Unocal property taxes for use in Rodeo and Crockett	Permanent funding to sustain libraries; funding for Lindsay Museum project in Crockett

By this time, a small group of predominantly Crockett residents had also formed the Shoreline Environmental Alliance (SEA), which focused on environmental health and was the strongest proponent of Hillcrest school relocation. SEA members advanced their own negotiation proposal that focused on medical testing and treatment, health surveys, pollution monitoring, lead testing, additive and synergistic effects of exposure to Catacarb to those already with elevated blood lead levels, and medical staff training for treatment of chemical exposure. Interestingly, the group also focused on relieving the burdens borne by residents of Bayo Vista, the housing authority located along the refinery's fenceline in Rodeo. Elements of their negotiation proposal that encompassed the concerns of Bayo Vista included:

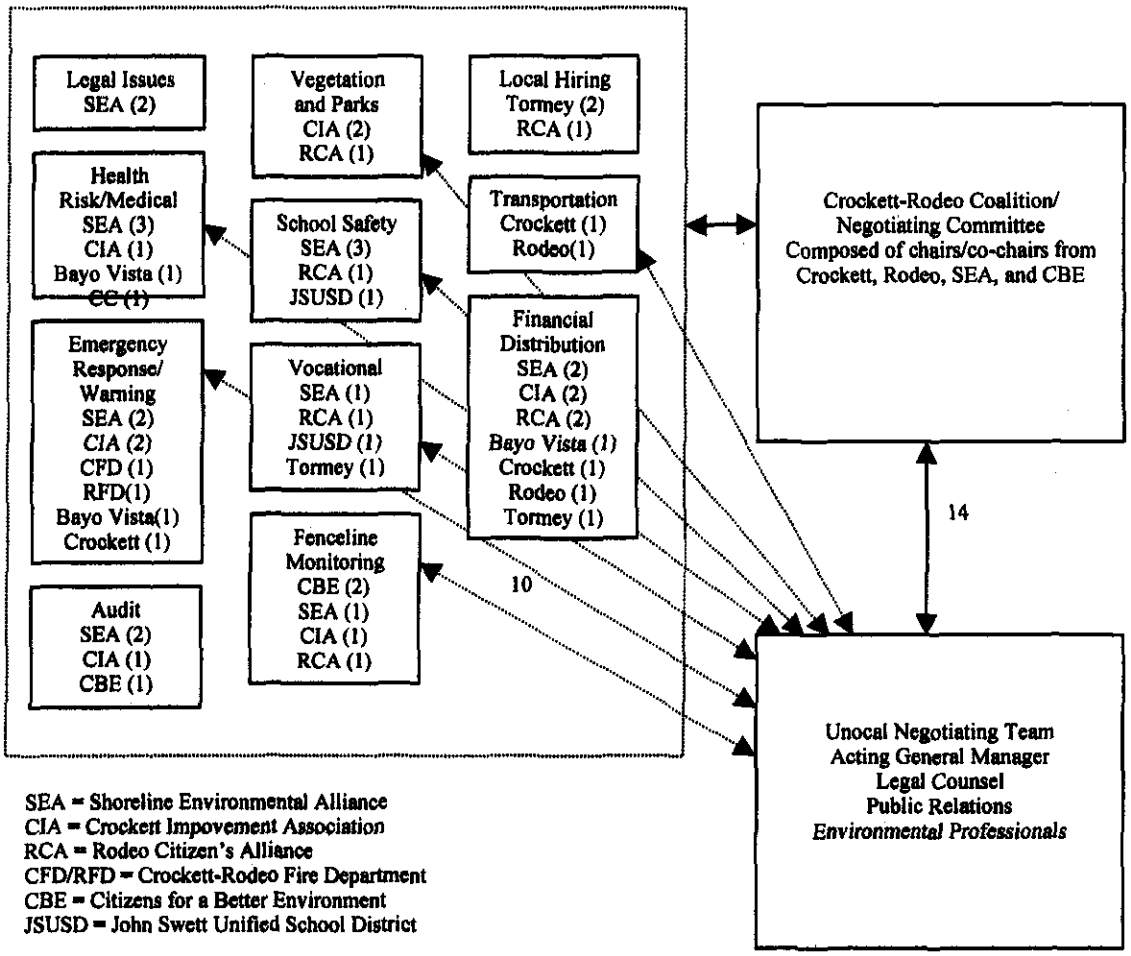
- Funding for immediate and continued local health care and concerns for low-income citizens exposed to chemical release. Bayo Vista area as defined by its physical relationship to the refinery and its shared facilities increase vulnerability to chemical exposure. The citizens living or utilizing facilities in this area generally have no or limited health care programs to respond to their health needs.
- Include Bayo Vista's Tiny Tot School in monitor installation program. Provide report and/or explanation of Federal Government participation for health, safety, testing, and other issues related to exposure to chemical releases for community residents living in or frequenting this area.
- An endorsement of Stephen Batchelder's Tree Maintenance District proposal that would absorb .03-.2 pounds of particulates per tree per day (the project would add 165 lbs/day of particulate emissions, requiring 1,650 trees to absorb particulate matter from the new project). Bayo Vista residents continue to express concerns over particulates.[180]

[180] Shoreline Environmental Alliance (1994). Health Sub-Committee Health Issues Negotiation Proposal, November 11, 1994.

The committee structure described above was viewed as helpful to residents for a number of reasons. First, they solidified a number of important issue areas that were initially presented to Unocal *en masse*. By allowing small groups of highly dedicated and qualified people (for instance, the health committee included a chemistry Ph.D.; the vegetation and parks committee included an arborist) to further explore these issues, the committee structure made it more difficult for Unocal to ignore or postpone consideration of certain proposals. Interviewees credit the committees for ensuring that most of their initial demands were accounted for in the final agreement, even though residents, who in some cases had just completed ten years' worth of negotiations with other companies, gradually dropped out of the process. Committees also met on separate occasions with Unocal, allowing for more focused discussions, and reported back to the broader negotiating committee, chaired jointly by Crockett and Rodeo residents. At the same time, the committees did provide their own set of challenges. Representation on the committees was inherently lopsided due to self-selection. This meant that after mid-November 1994, access to decision-making and the ability of certain affected areas to influence policy was limited. As shown below, the committees, by virtue of self-selection, did not encourage equal consideration of the issues by representatives of each community. Finally, the presence of committees, and their direct negotiations with Unocal, constituted an implicit concession on the part of the community: there was a limit to which any particular issue could be addressed without crowding out the interests of other committees. For example, certain committees were adamant that demands for school relocation be dropped so as not to affect other concerns. Similarly, efforts to commit Unocal to fund all or part of the Cummings Skyway road extension were viewed by some as a misuse of money that should have been appropriated for school relocation or other projects. Figure 5 provides a sketch of the committees, their membership, and the frequency with which they met with Unocal before development of an initial draft of the GNA.[181]

[181] Taken from Good Neighbor Agreement between Crockett-Rodeo Coalition, Shoreline Environmental Alliance, Citizens for a Better Environment, and the Unocal Corporation Attachment B, April 7, 1995; Crockett-Rodeo Coalition (1994). Report on Community Activities Relative to Unocal, November 13, 1994; Unocal Corporation (1994). Unocal Reformulated Gasoline Project Summary of Community Meetings, Presented to the Contra Costa County Board of Supervisors, December 20, 1994.

Figure 5. Negotiating Committee Membership/Meetings, November-December, 1994.



SEA = Shoreline Environmental Alliance
CIA = Crockett Impovement Association
RCA = Rodeo Citizen's Alliance
CFD/RFD = Crockett-Rodeo Fire Department
CBE = Citizens for a Better Environment
JSUSD = John Swett Unified School District

Does not include Unocal meetings with other individuals/agencies or informal meetings that have not been documented

The communities and Unocal made substantial progress on emergency response, health, and vegetation/parks issues within smaller meetings with committee representatives.[182] Other issues, particularly financial allotments, legal issues, audits, and school safety, were covered in the 14 broader GNA negotiations. Some of these issues were of concern to many or all committees, such as financial distribution. Others either elicited concessions early on by Unocal with little remaining bargaining room (e.g., environmental audits) or they were explored in part by Unocal through meetings with individuals that were not represented by the committees (for instance, school safety was explored through direct meetings with school officials and shelter-in-place drills run with the assistance of Unocal; the company further agreed by mid-October to contribute

[182] For example, a meeting between Unocal representatives and the Public Safety Committee of the CIA yielded proposals such as the use of a network of fax machines in critical locations in the community, to allow Unocal to disseminate information "regardless of the nature of the event or whether County systems (CAN, etc.) are activated." Habinski, H. (1994). Notes of the Meeting Between Unocal Representatives and the Public Safety Committee of the Crockett Improvement Association, November 2, 1994.

$378,000 to Hillcrest for weather stripping, door, and window improvements). It should also be noted that many elements of the GNA required a separate series of meetings after the initial agreement was reached in late December 1994. These included fenceline monitoring, medical treatment, health studies, and legal issues pertaining to the final draft of the document.

Unocal responded to community demands with a series of proposals that were either linked to some of the issues raised by committees, offered directly to the Community Development Department, or agreed to with the Rodeo Municipal Advisory Council (RMAC), a quasi-governmental body whose members were appointed by the Board of Supervisors.

September 21, 1994: Memorandum of Understanding with RMAC[183]

- Locate Tank 109 further from Hillcrest School
- Improve emergency notification plan to Hillcrest and St. Patrick's Schools and Bayo Vista
- Provide Rodeo with quarterly newsletters information community of project status
- Conduct two shelter in place workshops and distribute kits by June 1995
- Work with Rodeo licensed day care centers to request notification from Community Warning System; provide for any required access material and installation
- Continue participation in the Refinery/Petrochemical mutual aid system
- Appear before the RMAC quarterly during project construction
- Contribute $50,000 in January 1995 and $50,000 in January 1996 for community improvements in Rodeo, selected by RMAC
- Advise RMAC of future hiring plans
- Work with Contra Costa building trades to implement hiring outreach for apprentices from Crockett, Rodeo
- Work with County to develop a community advisory program
- Work with East Bay Regional Park District and State Lands Commission to develop bike and walking path along San Pablo Avenue
- Contribute $25,000 per year for three years to John Swett Unified School District for specific student programs
- Contribute $378,000 for facilities improvement project at Hillcrest Elementary School

October 12, 1994: Activities Summarized to Community Development Department[184]

- Reviewing notification procedures with regulatory agencies
- Will continue to work in conjunction with County's expanded emergency notification network
- Forming a Community Advisory Panel with representatives from Crockett, Rodeo, and Tormey
- About to begin educational program with schools, senior centers, day care facilities, and community groups on how to respond to emergency releases
- Making a contribution to Hillcrest (agreed to with RMAC)

[183] Memorandum of Understanding Between the Rodeo Municipal Advisory Council and Unocal San Francisco Refinery, September 21, 1994.

[184] Plesh, S. (1994). Letter to Dennis Barry, Contra Costa County Community Development Department from Stephen Plesh, General Manager, Unocal San Francisco Refinery, October 12, 1994.

October 28, 1994: Activities Summarized to Community Development Department[185]

- Is investigating all property damage claims; efforts to clean cars, windows, and personal property will be completed soon
- Contribution has been presented to Hillcrest (October 20)
- Will install temporary on-site monitor at Hillcrest this week to allow school to be aware of airborne release
- Working with Community Awareness and Emergency Response (CAER) organization to educate community on sheltering in place and other ways of protecting themselves in the event of a release; developing videos to be mailed to each neighboring household
- Signed contract with CAER for installation of new community warning system, scheduled for completion in December 1995; would be capable of linking directly to all major local TV, radio, and cable stations, activating sirens audible to residents within one mile of each major industrial facility in County, including Unocal, initiating the current Community Alert Network, a computerized telephone system which delivers messages to businesses and residents during an emergency, and connecting to digital highway signs planned by State Department of Transportation.

November 8, 1994[186]

- Opened a temporary medical clinic in Crockett staffed by independent medical expert specializing in toxicology and environmental medicine
- Initiated a health risk assessment working group including representatives from the community and risk assessment experts selected by the community and Unocal

November 8, 1994: Unocal presents its Response to Community Concerns[187]

- Will work to form a CAP, the function and role of which will be defined in a separate agreement
- Will provide status reports on the project to the CAP
- Will request that land use permit conditions apply to Crockett as well as Rodeo Fire Department emergency response
- Will work with Community Awareness and Emergency Response organization to implement a new Community Warning System; has committed $250,000 toward implementation of the system
- Will implement shelter-in-place education plan including two workshops and distribution of videos to 6,000 residents
- Will provide quarterly newsletters on project
- Will continue participation in Refinery/Petrochemical mutual aid system
- Will work with CAP to enhance emergency notification procedures
- Will continue to upgrade internal communications systems, including purchasing cellular phones, pagers, and other equipment
- Will develop system to provide timely notification to emergency rooms, health care providers, and pharmacies in the event of a release
- Will install experimental remote sensor fenceline monitor pilot program at refinery
- Will prepare report on pilot program and share with CAP and community groups
- Will install a set number of bellows valves on project facilities or by replacement of existing valves prior to March 1, 1996. Will replace other existing valves by 1998
- Will preferentially purchase local emission offsets
- Will install a permanent air monitoring device at Hillcrest School by end of November
- Will phase out anhydrous ammonia at refinery (replaced with aqueous ammonia)

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[185] Thatcher, H. (1994). Letter to Catherine Kutsuris, Contra Costa County Community Development Department from Henry Thatcher, Superintendent, Human Resources, Unocal San Francisco Refinery.
[186] Randle, A. (1994). Letter to Board of Supervisors from Allen Randle, Acting General Manager, Unocal Petroleum Products and Chemicals Division, December 5, 1994.
[187] Unocal Corporation (1994). Unocal's Response to Community Concerns, November 8, 1994.

- Will conduct human health risk assessment through a working group; will present results to include monitoring data and conclusions
- Will continue to have medical expert specializing in toxicology and environmental medicine available to residents to address health concerns related to recent releases
- Will agree to annual contributions to Rodeo and Crockett for general improvements
- Will work with Supervisors to develop a means of allowing Unocal to participate in partial funding of Cummings Skyway extension
- Has donated $378,000 to Hillcrest School
- Will work with East Bay Regional Park District and State Lands Commission to develop a bike and walking path along San Pablo Avenue through refinery
- Will advise CAP of future hiring programs
- Will work with building trades to implement a hiring outreach program for apprentices
- Will contribute $25,000 per year for three years to John Swett Unified School District
- Will develop an alternative dispute resolution process for claims related to Catacarb release

November 11, 1994[188]
Letter to Community Chairs regarding further proposals

- Willing to hire independent auditor selected jointly by the parties to perform an independent audit of the refinery's emergency response plan, notification procedures, and safety management program; results would be made public
- Willing to install 80 bellows valves between now and March 1, 1996; another 50 would be installed by January 1, 1997; assuming they meet performance standards, another 50 would be retro-fit by January 1, 1999
- Willing to contribute $100,000 annually to each of the communities for 15 years; allocation to be determined by committees comprised of community members and Unocal representatives

Unocal's agreement with RMAC was not the first example of residents seeking to pursue their demands prior to the establishment of a more broad-based process.

> Negotiation started before anything was organized. As usual, a few people get together, make demands on Unocal, people from the community, but not an organization, not an organized effort. Just the startup. People begin by making demands, and we even heard that Unocal had agreed to such and so before there was any real organization. And that's, it's that point I stepped in and helped organize the effort into a working entity. At which point, the key person who had jumped in at the beginning vanished, and that was important to me also. There might have been some early statement about paying money to the community. This is a person in the pocket of one of the county supervisors who did not represent us and we had to fight to get control for the community away from outside supervisors.[189]

Careful consideration of concessions that followed broader organization reveals that some of the most innovative and potentially cost-effective proposals linked to community warning and emergency response were either tabled or ignored. Recall that the Emergency Response and Community Warning Committee had produced the following proposals in order to assist the refinery in avoiding future Catacarb-type incidents:

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[188] Plesh, S. (1994). Letter to Alica Anderson and Lynn Cherry from Stephen Plesh, General Manager, Unocal San Francisco Refinery, November 11, 1994.
[189] Interview of Crockett Resident, November 11, 2002, via telephone.

- On-site, paid professional monitors of community choice at all times
- *Funding for community odor and spill patrol teams under the control of community groups*
- Surveillance cameras at major refinery units, flares, and fencelines operated and monitored at all times by community and government representatives
- Citizen monitors inside the refinery that would participate in activation of public notification and warning systems during spills and releases
- Fenceline monitors directly wired to community fire departments and other agencies for immediate alerting of releases, designed to ensure early detection and control of release source, all data available to public
- Funding for fire departments to design and provide training for emergency response
- Workable evacuation plan practiced regularly
- Create and maintain compatible radio channels of fire/emergency units at Unocal with such units from County, Crockett, and Rodeo
- Computerized database with information on effects of known hazardous materials and recommended medical treatments
- Ensure rapid medical provision and agency employment of recommended procedures following release detection
- *Fund operation of a community access public health and safety information distribution center serving communities*
- Contribute remainder of $250,000 previously committed to Community Warning System
- Fund permanent installation and maintenance of warning systems
- Funding to enhance community-wide neighborhood watch programs[190]

Such proposals, which sought to alter roles and responsibilities, transfer some of the existing monitoring discretion from Unocal and agencies to local residents, and encourage the co-production of environmental safety by residents and the state, were "chipped away" by Unocal negotiators.[191] Elements of community-corporate agreement, that appeared first in a 17-page GNA (signed on December 20 pending legal review), often represented something "close to the bottom line" for many of the negotiating committees.[192] In the case of emergency response and warning, Unocal agreed only to fund a database of health effect information, participate in a working group to develop an information and notification system, and to fund purchase of a siren as part of the existing Community Warning System. A remote sensing air monitoring testing program was agreed to, as well as one independent audit of the refinery's emergency notification procedures. The School Safety Committee offered similarly comprehensive proposals to ensure effective emergency planning at local schools and to facilitate school relocation through $400,000 per year donations to fund two new schools in Crockett and Rodeo. The December version of the GNA only promises a permanent monitoring station at Hillcrest, further education and training, access to property for a bus turnaround at Hillcrest, and a study to identify risks "attributable" to Unocal vis-à-vis Hillcrest School (and funds not to exceed $500,000 to perform mitigations should risks be found attributable). Similar examples of positional bargaining were noted in other committees as well.

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[190] Emergency Response and Community Warning Committee (1994). Emergency Response and Community Warning Issues for Negotiation, November 13, 1994.
[191] Interview of Tormey Resident, October 24, 2002, via telephone.
[192] *Interivew of former Organizer, Citizens for a Better Environment, June 4, 2002, in Point Richmond.*

The most interesting dynamic to emerge following the creation of committees and solidification of their demands concerned the source of proposals. As evidenced by Table 14, residents, many who were suffering from the effects of Catacarb exposure, spent much of their time crafting proposals and investigating alternatives:

> We met endlessly. And we designed things because of course they were clueless. We called phone companies, we called places to find out what to do about some sort of calling system and also to get information from the County. For instance, one of the things we proposed was that they would mail to every person in Crockett every six months or a year or less, a postcard and ask them if they were chemically sensitive or if they wanted notification of what would be considered kind of a "level two" incident which is not the highest but kind of a middle incident. And we did this because my wife is very chemically sensitive and she has allergies and when they have a release, if affects her more than others and many other people felt the same way so we filled out all these forms and we figured out a way that Unocal could actually call with an automated system so that the County wouldn't have to wait until doomsday, because they, literally people could be dying by the thousands and the County could say well, there doesn't seem to be scientific evidence, and we're not sure there's any cause and we don't know where the source of this is, even though of course there are now detectors all over the place, they still won't commit to all of that. So we were going to have Unocal determine if it was their release, with these new infrared detectors to notify us if it was this kind of middle-range release.[193]

While residents were clearly adept at creating options for meeting their most pressing concerns, their proposals were often rebuffed by Unocal. When this happened, community representatives sought additional resources from the company in return for their reluctance to address certain issues or proposals. A series of trades along these lines ensued. For example, Unocal was opposed to CBE's participation in annual audits that the company traditionally conducted at the facility. CBE agreed to drop its demand for inclusion in exchange for an increase in funding for the communities. Interviewees agree that there was often pressure to "take some of the environmental and safety improvements away" in exchange for more money. Unfortunately, some of the residents admit that they were not as capable of estimating dollar values for their proposals as they were of envisioning them. Thus, it proved difficult at times to gauge whether the trades were fair from the community's standpoint. But residents were able to help Unocal negotiators "sell" certain ideas to upper management, including the formation of a Good Neighbor Clinic, which was agreed to relatively early on. A final difficulty in reaching agreement concerned Unocal's propensity to replace *proposals* that directly affected problems that had been identified with *processes* for considering resident concerns. The December and final (April) versions of the GNA include outlines for studies of health risk, assessment of school risk attributability, reports on the viability of fenceline monitoring, and reports on emergency response audits. Much of the work that followed the agreement in principle served to establish protocols for carrying out these investigations. The implementation phase of the GNA is riddled with moments of impasse before, during, and following issuance of these reports.

Following the Planning Commission's approval of the land use permit, appeals were made to the Board of Supervisors by the United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry, SEA, and Unocal. Interestingly,

[193] Interview of Crockett Resident, October 31, 2002, via telephone.

the union's appeal claimed that the EIR did not take into account Unocal's management practices which could lead to further releases.[194] SEA also focused on issues of emergency response, citing inadequate protection for chemically sensitive individuals and calling for any fenceline monitoring system to offer direct and immediate public access to data.[195] An agreement in principle (the first agreed-to version of the GNA) was reached on December 20, 1994, just before the Board was to consider the appeals, which were subsequently dropped. This unprecedented agreement shocked some of the community representatives in terms of the financial resources involved:

Table 15. Good Neighbor Agreement (in Principle) Financial Commitments.[196]

Element	1994	1995	1996	1997	1998-2009
Health Risk Assessment		170,000	80,000		
Medical Clinic		120,000			
Epidemiological Study		238,000			
Health Database		50,000			
County HAZMAT Van		20,000			
Siren in Crockett		20,000			
Tree Planting		400,000	30,000	30,000	30,000/yr. until 2004
Bike Path		100,000			
Lindsay Museum		5,000			
Carquinez Strait Trust		5,000			
Hillcrest Monitor		90,000			
Hillcrest School	378,000	122,000			
Transportation		4,500,000			
Transportation Consultant		30,000			
Phase-out Anhydrous Ammonia		250,000	650,000		100,000 in 2000
Fenceline Monitoring		300,000	2,200,000		
Independent Safety Audit		50,000			
Reduce VOC Emissions		100,000	100,000	100,000	
John Swett Vocational Training		100,000	100,000	100,000	100,000/yr. until 2009
Rodeo/Bayo Vista Financial		100,000	100,000	100,000	100,000/yr. until 2009
Crockett/Tormey Financial		100,000	100,000	100,000	100,000/yr. until 2009
TOTAL	378,000	6,870,000	3,360,000	430,000	3,910,000

While monetary contributions are not the only means of gauging corporate responsiveness to community concerns, few commitments in the draft GNA were unattached to financial resources. Some interviewees expressed frustration with the proportion of Unocal's initial $14,948,000 financial commitment dedicated to certain

[194] Bragdon, H. (1994). Memorandum to Board of Supervisors from Harvey Bragdon, Director of Community Development regarding Hearing on Appeal of the Certification of the Final EIR and the Approval of Land Use Permit #2038-93 for the Unocal Corporation's Reformulated Gasoline Project, December 7, 1994.

[195] Briley, C.D. (1994). Letter to Catherine Kutsuris, Senior Planner, Community Development Department from C. David Briley, Bar Certified Student, Golden Gate University Environmental Law and Justice Clinic, School of Law regarding Land Use Permit #2038-93 Certification of FEIR, November 22, 1994.

[196] Good Neighbor Agreement, Agreement in Principle between Crockett-Rodeo Coalition, Shoreline Environmental Alliance, Citizens for a Better Environment, and the Unocal Corporation, December 20, 1994.

activities. When viewed as a percentage of total commitment, financial commitments suggest an interesting set of priorities that emerged from committee-driven proposals, Unocal acceptance or denial of each, and subsequent trades:

Transportation improvements:	$4,530,000 (30.3%)*
Financial contributions to four nearby communities:	3,000,000 (20.1%)++
Air monitoring:	2,500,000 (16.7%)*
John Swett vocational training:	1,500,000 (10.0%)++
Anhydrous ammonia phase-out:	1,000,000 (6.7%)*
Tree planting:	670,000 (4.5%)+
Hillcrest school improvements:	590,000 (3.9%)+
Health risk/epidemiological study:	488,000 (3.3%)
Reduce emissions:	300,000 (2.0%)*
Medical clinic:	120,000 (0.8%)
Bike path:	100,000 (0.7%)*
Emergency preparedness/community warning:	90,000 (0.6%)+
Safety audit:	50,000 (0.3%)
Miscellaneous:	10,000 (0.1%)

* = condition of permit approval
++ = substantial improvement over permit condition
+ = improvement over permit condition

The committee structure that negotiated the GNA, composed of members of existing citizen and civic organizations, encouraged a relatively high level of financial support to be allocated annually by the Crockett Foundation and the Rodeo Municipal Advisory Council. Some proposals, by virtue of their "lumpiness" and strong support across the community and with the County, received a disproportionate share of Unocal's allocation. Two of the Planning Commission's conditions of approval were for Unocal to provide for a fenceline monitor (condition 76), and for the company to contribute "$4,500,000 or an alternate amount determined by the Board of Supervisors for the construction of the Cummings Skyway extension" (condition 77).[197] A resident explains how these conditions were added to the Commission's permit approval:

> We shared documents, draft documents for instance. We had a draft of the GNA that we gave to the Commission and asked them to put specific language into the permit from our document, to legalize under the permit things that we were getting Unocal to agree with. In some cases they did that, took language even verbatim. In other cases, they did not. But there was a parallel process and it worked to our advantage.[198]

In lieu of school relocation, Hillcrest received 3.9% of the allotted sum for necessary improvements. Again, community representatives had been able to convince the Planning Commission to require a $378,000 contribution to Hillcrest for structural improvements (condition 75). Environmental concerns were translated into promised studies with limited consideration of how results would be interpreted or used to influence refinery operations. Emissions concerns received 2% of the total (or 6.5%

[197] Contra Costa County (1994). Community Development Department Approved Permit, Conditions of Approval for Land Use Permit #2038-93 (Unocal Corporation Reformulated Gasoline Project), December 20, 1994.
[198] Interview of Crockett resident, November 11, 1994, via telephone.

when particulate matter reductions from tree planting are factored in), predominantly for the replacement of valves to reduce fugitive emissions. Some of these valve replacements may have been required by the AQMD during its subsequent permitting process for Unocal's RGP (BACT for reformulated fuels projects included specifications for valve types).[199] They were also added to the County's conditions of approval (#79). Most disappointing to several representatives was the lack of commitment to "preventing future Catacarb's." Less than one percent of the GNA was dedicated to such efforts. The inventiveness of committee proposals, urgency of local residents, and number of meetings with Unocal management and experts were not sufficient to ensure adequate representation of emergency preparedness in the final agreement. Some argued that the two largest one-time expenditures, the Cummings Skyway extension and fenceline monitoring, shared a nexus to emergency response. Cummings Skyway would be built just in time for the destruction of Crockett's freeway ramps due to bridge construction. It therefore allowed for improved evacuation of the area. Fenceline monitoring was to contribute to these efforts through notification of offsite impacts of refinery releases. We will see that implementation severely limited its effectiveness in that regard.

Implementation. The following is an overview of primary activities that followed party approval of the initial GNA in December, 1994.

Legal Review. Both sides relied on attorneys and negotiating committee members to scrutinize the initial document and provide recommendations for changes to its language. For community representatives, this process began prior to the initial GNA and continued until a final draft was signed on April 7, 1995. Three primary issues for residents were (1) document specificity and use of "dates certain," (2) Section ten (legal issues), (3) and the status of signatories to the agreement. Examples of specificity added to the document over time included location and timing, direct recipients of certain commitments, prohibited expenditures, who should provide oversight, and enforcement mechanisms (e.g., which portions of the agreement are valid land use conditions requiring appeal through County administrative procedures). A second concern involved the GNA's breach clause in section ten, which initially entitled Unocal to damages (to be determined through either court action or disputes submitted to the Zoning Administrator).[200] Residents tried to get the section's language changed to eliminate money damages as a remedy or to assure that money damages would be deducted from Unocal's financial responsibility and not taken from their organizations. An alternative was to limit both sides to "specific performance" of the contract as a remedy.[201] The final document includes several clauses which sought to address the above concerns:

> Section X(1)e. No party shall be liable in monetary damages for any breach of this Agreement. *The sole remedy for any breach shall be an action for specific performance, and/or injunctive or* declaratory relief to enforce the Agreement. No payment of attorney's fees shall be allowed pursuant to court order.

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[199] Bay Area Air Quality Management District (1993). Best Available Control Technology Guidelines for Fugitive Emission Sources for Refinery Clean Fuels Projects, April 16, 1993.
[200] Ramo, A. (1994). *Letter to Ruth Blakeney, Shoreline Environmental Alliance and Denny Larson,* Citizens for a Better Environment from Alan Ramo, December 20, 1994.
[201] *Ibid.*

Section X(2). If a final determination is made pursuant to paragraph 1 above that funds have been expended for an improper purpose as specified in Section VIII, paragraphs 4 and 5, Unocal shall be entitled to withhold future payments to the entity which has made the improper expenditure in an amount equal to the improper expenditure.

Section X(6). If any portion of the Good Neighbor Agreement is deemed invalid, the other portions shall remain in effect; if any portion is breached or declared illegal, the other portions shall remain enforceable and legal, except as specifically described herein.[202]

These clauses limited community organizational liability while ensuring that GNA implementation would continue even in the event of a breach of one or more sections. The final version of the legal section governed disputes according to a process that included notification of all parties, "good faith" discussions, and the submittal of a dispute for mediation by a qualified person. Court actions were reserved for situations where the above means of dispute resolution were exhausted. Equally important to issues of breach was the legal status of signatory organizations for purposes of GNA enforceability. Attorneys commenting for the community suggested that legally recognized entities should be involved for purposes of enforcement. Residents were warned that should they not be part of a legally recognized entity, they "would have to rely upon the other community entity's continued viability and willingness to enforce community interests."[203] In addition, attorneys questioned whether the Rodeo/Crockett Coalition was an operational organization, and suggested that ongoing organizations such as the RCA and CIA be substituted.[204] In the end, the Coalition, SEA, CBE, and Unocal were the signatories to the GNA, even though the two local groups had yet to obtain 501(c)3 status as formal non-profit organizations.

Study Design and Results. A common difficulty emerged during implementation of studies of health status, risks associated with the Catacarb release, and school safety, attributable to errors of omission in the design of the agreement:

> We're going through various drafts and watching the language fine-tuned and checking to see if something doesn't vanish without our approval and so on and we're getting tired. We really want to get to the end of this, get the document signed. And then in a few months or a year or two, we realize that there are loopholes or that we just don't have all of the language that we needed. And it's true in the GNA where one type of language that we don't have is definitions. What does a word mean? And that was particularly bad when it came to the school issue of responsibility. We had something in the GNA about analyzing the grammar school building for its safety of the students, the defects in the building, windows, or whatever. And something about an analysis, a potential risk analysis. Something like that. We did not define this, exactly what we meant and exactly what was required in language that would allow us to stay in command of the situation. And they were able to go through the motions of offsite consequence analysis and bring something forward from some consultant and then to have Unocal say well, but we don't agree, we don't

[202] Good Neighbor Agreement between Crockett-Rodeo Coalition, Shoreline Environmental Alliance, Citizens for a Better Environment, and the Unocal Corporation, April 7, 1995, Section 10.
[203] Montandon, A. (1995). Memorandum to Shoreline Environmental Alliance from Art Montandon, December 19, 1995.
[204] Weinberger, M. (1995). Memorandum to Lynn Cherry, RCA and Denny Larson, CBE from Mark Weinberger, January 27, 1995.

> accept this, we're going to have another one done, and string it out, and in the end it went nowhere.[205]

By mid-February 1995, Unocal began to contract with researchers at San Francisco State University for the completion of an epidemiological study of residents exposed to Catacarb.[206] Residents were asked to attend a community forum in late February to hear from a panel of scientists and health professionals about the study.[207] The principle investigator, Rosemarie Bowler, as well as community representatives, were confronted with numerous obstacles in carrying out their work. First, the County Health Services Department sought to intervene early in the process, an effort which was rebuked by community negotiators.[208] Second, the County gave little assistance to the researcher or residents in terms of offering comments on study instruments or information on the makeup of Catacarb.[209] Unocal also hired a second researcher, Paul Fonteyn, to complete additional statistical analysis of the Bowler study, to determine "where there is a risk of over-interpretation, perform advanced statistical analysis of correlation structure of the data and determine if substantial internal correlation of the data is present."[210] The report was made available in draft in January 1996. Controlling for household cluster effects, gender, education, and race, the study found an increased reporting of symptoms among those exposed to Catacarb, including headaches, respiratory, visual, gastro-intestinal, and dermatologic problems. The study compared Crockett with a control community and did not consider Rodeo or Bayo Vista. The report found that adjusted odds ratios (or relative risk of developing a given condition compared to those who are not exposed to a given item) were elevated for people

> Reporting sticky brown deposits on their cars (odds ratio of 3.0 for dermatological, headache, and chemical sensitivity symptoms)
>
> Reporting sticky brown deposits on their house (significantly higher visual, cardiac, dermatological, headache, chemical sensitivity, and gasto-intestinal symptoms)
>
> Reporting having gardened during the height of the release (significantly higher dermatologic and visual symptoms, possibly related to direct contact with Catacarb, which may have produced irritation of the mucous membranes of the eyes and skin)
>
> Reporting additional time spent outdoors during Labor Day weekend (in five hour increments) (significantly higher visual, dermatological, and respiratory symptoms)[211]

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[205] Interview of Crockett resident, November 11, 2002, via telephone.
[206] Randle, A. (1995). Letter to Dr. Paul Fonteyn, Associate Vice President for Research, San Francisco State University from Allen Randle, Acting General Manager, Unocal San Francisco Refinery, February 9, 1995.
[207] Crockett Health Committee (1995). Announcement to Crockett, Rodeo, and Tormey residents regarding Community Forum, Thursday, February 23, 1995.
[208] Shoreline Environmental Alliance (1995). Letter to Wendel Brunner, M.D., Contra Costa County Health Services Department from SEA, February 2, 1995.
[209] Bowler, R. (1995). Memorandum to Dr. Wendel Brunner from Dr. Rosemary Bowler, February 9, 1995.
[210] Wilkes, J. (1995). Letter to Dr. Paul Fonteyn, Associate Vice President for Research, San Francisco State University from Jeffrey Wilkes, General Manager, Unocal San Francisco Refinery, June 12, 1995.
[211] Bowler, R. (1996). Health Study of a Community Exposed to a Chemical Spill. San Francisco State University, March 29, 1996.

These effects were found to be consistent with the effects of known constituents of Catacarb, including boron, vanadium, diethanolamine, and N-nitrosoethanolamine. Bowler's study would later be characterized by residents as "the only study that reflects injury to the community."[212]

The human health risk assessment, carried out by Montgomery Watson, was far more problematic. At first, a working group composed of representatives from the California Environmental Protection Agency, California Department of Human Services, County Department of Health, Unocal management, and community representatives and their consultant, met regularly and produced numerous suggestions for improvements of the risk assessment. A third iteration of the assessment was issued by the consulting firm in November 1995. The community's technical representative characterized the report as "poorly written, extremely difficult to understand, and makes no attempt to convey its finding in words or terms which could possibly be understood by the affected community."[213] More importantly, community representatives indicated that the report made use of air dispersion modeling that had not been approved or reviewed by the working group.[214] Residents also found that the report ignored evidence on the amount of Catacarb that had been deposited on surfaces in the community during the release.[215] Similar complaints were raised by state agencies represented on the working group. The State Department of Health Services found that changes in methodology, made without working group input, served to reduce health risks calculated for short-term exposure to Catacarb "by over an order of magnitude."[216] The agency discussed elements of uncertainty that meant that "definitive answers to the community regarding the presence or absence of health effects due to the Catacarb release cannot be inferred."[217] These included the modeling approach used to estimate how Catacarb released by the facility was dispersed through the air and deposited in various concentrations throughout the community. Further conditions of uncertainty included a lack of toxicological data for Catacarb, leading researchers to substitute related chemicals and assume that effects of constituent chemicals would be additive (rather than greater than additive, or synergistic), and the extrapolation of chemical toxicity data from laboratory animals to human beings to estimate health risks.

Community representatives spent countless hours commenting on and offering corrections to various versions of the risk assessment. In the end, the study failed to emerge from joint community-corporate investigation of modeling and statistical

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[212] Health Committee (1996). Memorandum to the Steering Committee regarding the Shoreline Environmental Alliance, February 20, 1996.
[213] Greenberg, A. (1995). Letter to Dr. Susan Mearns, Montgomery Watson from Dr. Alvin Greenberg, Community Technical Representative to the Work Group regarding Unocal Catacarb release: Final health risk assessment, December 15, 1995.
[214] Adams, H. (1996). Letter to Jeffrey Wilkes, General Manager, Unocal Corporation from Howard Adams regarding Catacarb Health Risk Assessment, February 1, 1996; Montgomery Watson (1995). Letter to Working Group Members from Montgomery Watson, November 17, 1995.
[215] Adams, H. (1995). Catacarb Health Risk Assessment Comments, November 11, 1995.
[216] Armstrong, M., McNeel, S., & Seidel, S. (1995). Letter to Dr. Susan Mearns, Montgomery Watson from Michael Armstrong, Research Scientist, Sandra McNeel, Research Scientist, and Sharon Seidel, Ph.D., IAI Toxicologist for the State Department of Health Services, December 11, 1995.
[217] *Ibid.*

methodologies, and of assumptions underlying various exposure estimates. This meant that the only study that could provide chemical analysis needed for proper symptom treatment guidance had to be disavowed by the working group and member agencies. Delays in finishing the assessment, which the GNA required to be completed by March 1995, meant that any toxicological data in the report could not be used by Good Neighbor Clinic physicians in diagnosing and treating their patients.[218]

Similarly, an assessment of school risk attributability, described below, yielded findings that were disavowed by Unocal and did not lead to recommended relocation or structural changes at area schools. Deviations from what were supposed to be iterative processes of data gathering, assumption testing, and agreement over interpretation of findings meant that little to no substantive changes were made to refinery operations or medical monitoring because of the above study findings.

Fenceline Monitoring/Emergency Preparedness. Equally important to area residents, who sought medical treatment and an understanding of the effects of Catacarb on their health, were efforts to prevent "future Catacarbs." The primary means of meeting this objective was to win Planning Commission support for a fenceline monitoring system that could keep track of toxic air pollutants as they crossed refinery property. Local proponents of this technology included Andy Mechling, a camera specialist who developed unparalleled expertise in available monitoring models and their capabilities. CBE provided a great deal of support as well for inclusion of such a system in the GNA and permit, efforts that had been less than successful in previous attempts with Shell Oil and Chevron. The original signatory organizations entered into a memorandum of understanding (MOU) in November 1996 regarding installation of a fenceline monitoring system.[219] This agreement followed numerous meetings with Unocal during which such issues as detection time (short detection time was called for so that the equipment could be sensitive to "hazardous releases of emergency nature"), best available technology, and data sharing were discussed. Community representatives claimed that Unocal was out of compliance with each of these issues during the initial pilot testing period, called for in the company's land use permit:

> By January 31, 1995, the applicant shall submit to the Zoning Administrator for review and approval a monitoring test program for a fenceline monitoring system as specified below. The system, if approved by the Zoning Administrator, shall be in place and operating by November 1, 1996, and shall fully incorporate the best available technology. Unocal will test and install an improved air pollution monitoring system that is mutually agreeable to the signatories of its Good Neighbor Agreement and the County Zoning Administrator as outlined below: Unocal...will design a monitoring test program that will include infrared or other state-of-the-art remote sensing technology by January 31, 1995. The test program will be designed to determine the effective range of the monitoring instrument, the compounds that the instrument is able to detect, the accuracy of the instrument at different ranges for detectable compounds, the reliability of the monitoring instrument at different ranges and for detectable compounds, the suitability of siting options, including the effect of localized environmental conditions (i.e., highways, fog, rain, wind,

[218] *Supra* note 213.

[219] Memorandum of Understanding between the Crockett-Rodeo Coalition, Shoreline Environmental Alliance, Communities for a Better Environment, and Union Oil Company of California dba Unocal, November 3, 1996 regarding fenceline monitoring.

etc.), identification of specialized operation and maintenance requirements, and the best means of recording the data collected.[220]

The MOU resolved some of the above issues, while implementation of the pilot program, system construction, and use of the monitors raised countless others. The most important issues resolved in the MOU included the kind and location of monitors, monitor spacing, compounds monitored by each kind of monitor, how data would be recorded, summarized, and made available to the public, system maintenance, and whether the system would be able to trigger various elements of the County's Community Warning System. While the monitoring system was still in the design stage, members of SEA began to seek grants from the EPA and other sources for studies to measure pollutant load in Crockett and to engage in epidemiologic studies using the data.[221] Such a study would have been unprecedented. Equally innovative were proposed efforts to incorporate the system into the County's existing emergency notification network. In addition, the technologies employed were relatively untested in the context of monitoring refinery emissions. They included "open path optical remote sensors," which send beams of light through the open air toward reflectors and gather "fingerprints" of the chemicals that pass by the light. Every time chemicals pass the light, a portion of the beam is absorbed, leaving a distortion in the beam of various wavelengths. These fingerprints are compared to fingerprints in the monitor's internal library to determine the chemical makeup of what has passed the beam. Three types of open path optical remote sensors were used as part of the refinery monitoring system:

> Fourier Transform InfraRed (FTIR): uses an invisible beam of infra-red light reflected off of a mirror and returned to a detector, which looks for changes in light intensity at various wavelengths; chemicals monitored can be programmed into the system, which saves raw data for further analysis; over 300 chemicals can be detected by an FTIR during post-analysis.
>
> Tunable Diode Laser System (TDLS): uses infra-red reflected off a mirror; looks for light intensity changes at specific wavelengths; can measure hydrogen sulfide and ammonia.
>
> Ultra-violet (UV): uses UV light and scans various wavelengths; can measure benzene, toluene, xylene, carbon disulfide, and sulfur dioxide.[222]

Access to data from the above systems was limited in the MOU to video output for one recipient from a camera trained on the fenceline monitoring computer screen in real time.[223] Residents were also allowed up to six requests for raw spectral data that were stored by the monitoring system.[224] By February 1997, the company reviewed means of accessing the data, including video transmission, internet, remote access and control software, and view-only supervisory software. It concluded that the latter was the only technology that could satisfy elements of the MOU pertaining to speed, image transfer,

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[220] *Supra* note 197.
[221] Mechling, A. (1996). Memorandum to Edward Masry, March 12, 1996.
[222] Communities for a Better Environment (no date). Refinery Fenceline Monitoring Using Light Beams to Detect Chemicals at the Fenceline of the Tosco, Rodeo Refinery.
[223] *Supra* note 219.
[224] *Ibid.*

and security.[225] Thus it was determined that a single resident of Crockett would receive software so that continuously updated levels of various chemicals could stream across their computer screen in real time. The usefulness of these data has depended in large part on the person receiving the data stream. Even in June 2002, Bill Concannon, who presently receives the data stream, has no means of recording the data.[226] Thus, he can only check the computer screen, showing concentrations of 36 chemicals as they cross beams of light beamed 1,000 meters across the north and south sides of the refinery.[227] Raw spectral data, received monthly by Andy Mechling, are converted by a company in Houston, TX into what is visible on the screen. The company, Petris Technology, uses an air dispersion modeling program that takes the monitoring data and real-time meteorological data in order to generate plumes and estimate concentrations downwind.[228] Unfortunately, it is difficult to compare concentrations on the screen to regulatory standards. It has also proven a challenge to link the system to existing emergency response networks.

> Normally I first call the refinery because I figure if there's a problem I want the refinery to be alerted to it so that they can deal with it. Because the people in Houston, they're just basically interested in making sure that they do their job right which is to run the equipment right. And I'm mostly interested in impacts from the refinery. So that's my goal is to top that. And a couple of times I found stuff and sure enough there's been an open tank or they've had some problems or one thing or another. We had a hydrogen sulfide release that actually showed up on the refinery monitor, which is, that would be something we'd want to see...We call AQMD and they'll send somebody out, I mean you know it's not that bad, I don't expect them to just have somebody sitting outside Crockett standing by waiting for our calls, we don't call that often. But one of the reasons why we don't call more often is that by the time they show up, if there's no odor they're kind of going, well, and we go, well, and you know.[229]

At the time, Concannon did not have the capability of recording what had passed across his screen, meaning any proof of elevated levels of toxic chemicals would have to wait until receipt of the raw data.

In April 1999, members of the fenceline committee entered their grievances with the monitoring system into the public record through the Community Development Department. Concerns expressed by the committee included:

- FTIR equipment is operated so as to only detect higher levels of chemicals, without optimizing the detection limits readily achievable by the technology (contrary to the Planning Commission's suggestion that the system be designed to enable detection of ongoing, day-to-day, lower levels of pollutants in addition to higher levels)
- Raw data is not saved for UV or TDLS equipment (meaning some of the chemicals of greatest concern to the community, including BTEX (benzene, toluene, ethylene, and xylene) chemicals, could not be subjected to post-incident analysis by the community
- FTIR will be prone to false negatives, false positives, and poor detection limits

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[225] Iverson, D. (1997). Letter to Virginia Bray from Dale Iverson, Advisor, Environmental Programs, Unocal San Francisco Refinery regarding fenceline monitoring, February 28, 1997.
[226] Interview of Crockett resident, June 7, 2002, in Crockett.
[227] *Supra* note 222.
[228] Petris Technology (1998). Saf-T-Net Innovative Data Access and Management. Houston, TX, January 31, 1998.
[229] *Supra* note 226.

- UV data are unreliable; there are repeated instances where the detector will swing from a large negative number to a large positive number; monthly reports only include positive portion of the swing, even though baseline levels of emissions are often recorded as far below zero
- TDLS data are problematic, and a quality assurance system needs to be in place for independent measurement to determine if the equipment is operating properly[230]

In an effort to further evaluate and improve the system, SEA, CBE, and the County Health Services Department formed a working group with Tosco (who by then owned the refinery), AQMD, California EPA, California Department of Health Services, and the EPA. Under an Environmental Monitoring for Public Access and Community Tracking Program (EMPACT) grant, members of SEA (and later the working group) conducted detailed analysis of the monthly raw data that had been collected.[231] Many of the same findings were noted in the working group's report, which recommended that data from the FTIR be released on a website for one compound – total hydrocarbons, reported as butane – as a pilot effort.[232] Efforts to minimize false positives and negatives were also proposed. To date, the data have not been posted in real time on a website.

The report also found that system alarm levels that were set before the monitors went online in 1997 had never been reached. It was noted that

> The absence of an alarm level may not necessarily reflect the lack of potential threat to the public during a particular incident – it may simply mean that a release has not crossed the beam path, or not crossed it in a sufficient concentration to trigger an alarm. At times releases have come from high stacks and/or at high temperatures and have gone up and over nearby areas, rather than diffusing or blowing along the ground near the monitors. In some such cases, including some refinery fires that have occurred in the County, County Health Services has called a shelter-in-place since wind conditions are unpredictable and change rapidly. Levels reported by the fenceline system are also related to and may be affected by the length of the monitor's beam path.[233]

The report concluded that "information from the open-path monitors at Tosco Rodeo cannot at this time be relied on by itself for community emergency notification." Other efforts to improve notification during industrial accidents, a primary concern expressed in negotiations, were of similar consequence. As those interviewed agreed that the County resisted efforts to monitor data from the fenceline monitors or make use of the data to improve enforcement, there is also a sense that the County was reluctant to address its community warning capabilities.

> That's why I wanted a Level Two warning. I said that if we had another Catacarb incident tomorrow, the County would not pull the plug because Catacarb was not listed as a hazardous material, and Unocal would certainly never pull its plug by itself, push the button for the alarm. Never, never, never, especially with the first bunch of administrators over there. And they had no infrastructure working. The County system wasn't working. We would never be informed. And

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[230] Fenceline Monitoring Committee (1999). Letter to Debbie Sanderson, Contra Costa County Community Development Department, April 12, 1999.
[231] Shoreline Environmental Alliance, Communities for a Better Environment, Contra Costa County Health Services, & US EPA Region IX (2001). Optical Open Path Monitors at the Tosco San Francisco Refinery at Rodeo Fenceline, May 2001.
[232] *Ibid.*
[233] *Ibid*, p. 34.

one of the things that we designed were whistles over here for the County early warning system and then of course there was this great debate, because the County said well, people don't like whistles, they don't like sounds, and we said bologna, people want to be notified. And then the question was when would they have the test and so it's tested once a month to make sure that it works. And then all they needed to do of course was to get one individual saying well, I don't want it over here, because it's next to my house. Then we have to go through all that. We had to deal with all the details. We essentially had to engineer and plan everything for Unocal and the County.[234]

We wanted the County to have [the fenceline monitoring data]. And the County said we really don't want that, after all, we rely on Unocal. Yeah, they call you three hours after an incident, that's terrific. You guys need us. Well, who's gonna watch it? Well, no one's watching. Well, maybe you could have an alarm on it, you know, there's software to put an alarm on it, so it could ring a bell, so someone over at public health, well, there's no one over there at night. Well, maybe it could ring somewhere else, like 911. On and on and on. There's always a reason not to do it. And my fear is that we are not prepared.[235]

Listen to this: When we were doing this EPA grant, we were sitting at the table. We're sitting at one of these meetings, we've got people from hazardous materials at the County there. We're talking to them about, they have a monitor themselves, and when they got this money for this grant, all of a sudden they hooked it up. They said but it doesn't work really well, it's really not reliable, that was their constant theme why they didn't use it. The County. They were hooked up to all of them, the FTIR, the UV, and the laser. Anyway, they could have been hooked up. At any time, they had the ability to be hooked up. Unocal agreed that would be fine. So they had this equipment. What did they do with it? They stuck it in a hallway being a door upstairs where nobody goes. And we didn't know this until I started questioning them in one of these meetings we were at with the EPA during this. Now this is years later. This thing's been up since 1997. And this is like 3, 4 years later. And I said well, why don't we plug it in and bring it out? Well, yeah, I guess we could do that. Then you need somebody to use it. Oh, my God, it was a nightmare.[236]

Of primary importance to residents was the fact that only "Level Three" incidents result in public alerting of any kind. Catacarb-type incidents, should they occur in the future, would be considered at most Level Two incidents, because of the lack of a major fire or explosion or the presence of an off-site impact suspected of causing health problems while the incident is ongoing.[237] Level Three incidents by definition also have to involve hazardous materials. For this reason, residents have tried to convince the County to develop an alert system that would notify sensitive receptors, or those who are most vulnerable to even low concentrations of certain chemicals, in the event of incidents that did not qualify for Level Three notification. Residents contend that such a system continues to fail to notify those in greatest need. Following a series of three incidents at the Rodeo refinery in April 1997, residents testified to the County's Hazardous Materials Commission that the existing Community Warning System *in general* could not work in the ten minutes that it took for releases to reach Crockett.[238] While the refinery had provided sirens and some technical support, notification capabilities continued to fall

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[234] Interview of Crockett resident, October 31, 2002, via telephone.
[235] *Ibid.*
[236] Interview of Rodeo resident October 30, 2002, via telephone.
[237] *Contra Costa County (2001). Community Warning System Hazardous Materials Accidental Release* Matrix, April 24, 2001.
[238] Contra Costa County Hazardous Materials Commission (1997). Draft minutes, April 24, 1997.

short of resident expectations. Community negotiators' hopes that millions of dollars worth of monitoring equipment, and a new desire to notify vulnerable populations made possible by awareness generated by the Catacarb spill, could be incorporated into an improved emergency response network had not been met.

Emissions Reductions. Unocal's approved land use permit included condition 79, which required the company to (a) begin monthly monitoring of valves and pumps subject to quarterly AQMD monitoring, (b) make results of leak testing available to the CAP and AQMD, (c) replace or upgrade repetitive leakers, and (d) continue these actions until fugitive emissions are reduced from 2,787 lbs/day to 2,000 lbs/day.[239] Unocal was also required to maintain that reduction. Specific replacements drafted during GNA negotiations were incorporated in the final permit, including:

- Replace 12 < 2 inch valves at Unit 228 with bellows valves by March 1, 1996
- Replace 40 valves at Unit 210 with bellows valves by March 1, 1996
- Replace an additional 28 < 2 inch valves leaking at 10,000 parts per million by March 1, 1996
- Install an additional 50 bellows valves (< 2 in.) by December 31, 1996
- Install an additional 50 bellows valves (< 2 in.) by December 31, 1998
- Reduce fugitive emissions on Unit 228 valves by nitrogen purging the valve stuffing boxes to vapor recovery for 25 specialized control valves by February 28, 1995
- Modify/replace seven pumps
- Do not seek emission reduction credits for any reductions in this agreement
- Unocal purchases of emission reduction credits for offsets associated with the Reformulated Gasoline Project will be from sources as close to the local area as are available.[240]

Residents are confident that these changes have been made. In early quarterly updates, Unocal indicated that it had increased its frequency of monitoring, hired a new fugitive emission contractor, and "continued an aggressive program to repair valves.[241] By February, 1996, Unocal reported that its fugitive monitoring suggested emissions of less than 2,000 lbs/day. Monthly monitoring on components with higher emissions was continued.[242] In 2000, the EPA reported that fugitive emissions at the refinery, then owned by the Tosco Corporation, totaled 67 pounds per day, suggesting that improvements encouraged by the GNA continued long after the initial installation of bellows valves.[243] However, overall releases of toxic chemicals increased substantially following the refinery's receipt of its clean fuels permit. Subsequently these releases fell by one third, between 1996 and 2000.

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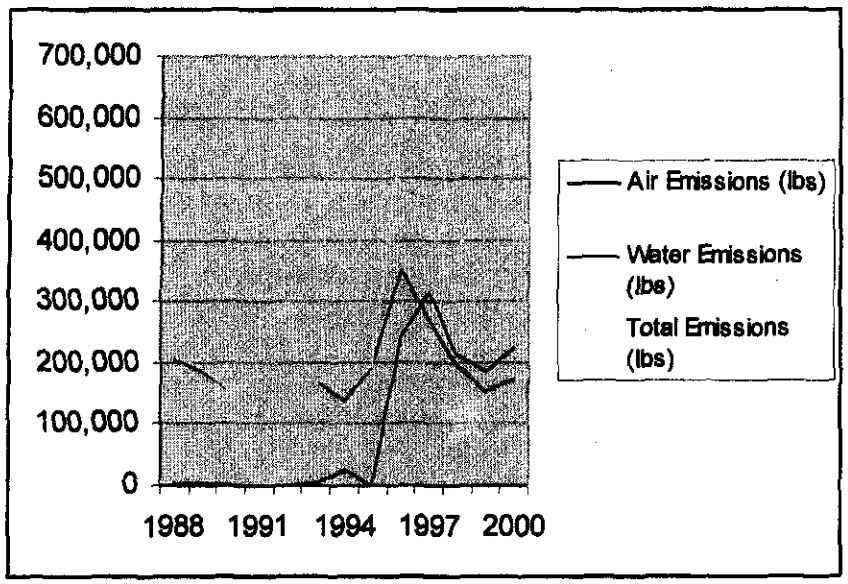
[239] *Supra* note 197.
[240] *Ibid.*
[241] Wilkes, J. (1995). Letter to Community Advisory Panel Members from Jeffrey Wilkes, General Manager, Unocal San Francisco Refinery, November 1, 1995.
[242] Wilkes, J. (1996). Letter to Community Advisory Panel members from Jeffrey Wilkes, General Manager, Unocal San Francisco Refinery, February 1, 1996.
[243] Environmental Protection Agency (2002). Envirofacts data warehouse, Tosco San Francisco Refinery, Rodeo. http://oaspub.epa.gov/enviro/multisys2.get_list?facility_uin=110000483487, accessed November 13, 2002.

Figure 6. *Total Air and Water Releases of Toxic Chemicals to the Environment from* Unocal Refinery, 1988-2000 (vertical line represents initial GNA/permit approval)



Source: Environmental Defense's Scorecard, http://www.scorecard.org/env-releases/facility.tcl?tri_id=94572NCLSNOLDHI, accessed November 13, 2002.

Changes to refinery equipment did not come without conflict. By March 1997, community representatives had not seen documentation of promised valve replacements.[244] As with many issues touched by the GNA, oversight and enforcement proved particularly taxing to residents.

School Safety. Having settled for school improvements instead of relocation assistance, members of the school safety committee sought to ensure that Unocal followed through with its commitment to fund

> An assessment of school facilities in the boundaries of the John Swett Unified School District...to identify the risks that the schools could reasonably be expected to be exposed to in the event of a chemical emergency. The assessment will be performed by an independent contractor with expertise including but not limited to industrial hygiene, mutually agreeable to the signatories to this agreement and the school district...The assessment will include a physical inspection of each school facility, the identification of potential exposures from nearby industrial facilities, and a review of current evacuation procedures in cooperation with local emergency response agencies...The contractor will recommend mitigation for identified risks. The mitigation of any risks attributed as part of this assessment at Hillcrest Scholl that are attributable to Unocal operations will be funded through the $378,000 previously contributed by Unocal. If the cost of mitigating risks at Hillcrest School that are attributable to Unocal's operations at the refinery exceeds $378,000, Unocal will provide additional funds up to $122,000, for a total not to exceed $500,000 to perform appropriate mitigation.[245]

[244] Bray, V. (1997). Letter to General Manager, Unocal-San Francisco Refinery, Wilbur McClaveill, General Counsel, Tosco Corporation, Mark Smith, Senior Counsel, Unocal Law Department, and Duane Borduick, Tosco Vice President from Virginia Bray and CBE regarding Good Neighbor Agreement, March 3, 1997.

[245] *Supra* note 202, Section Four.

In May, 1996, community signatories to the agreement met to discuss their grievances with Unocal. They reviewed the risk assessment findings, which suggested that Hillcrest should be relocated, and that the existing school should have fully pressurized shelter in place capability.[246] There were also concerns that Unocal had not provided sufficient evacuation/emergency response plans, shelter in place kits, medical staff, links to existing emergency warning systems, or heating and ventilation for local schools.[247] As with the epidemiological study, Unocal chose not to act on the school risk assessment's findings, and instead sought to hire another consultant to review the initial findings, according to residents. By 1997, the school safety committee announced that it had "reached an impasse with Unocal" with regards to compliance with school safety issues.[248] The committee noted that appropriate improvements to all assessed schools to mitigate risks identified as attributable to the refinery had not been made, and that shelter in place supplies and equipment had not been supplied to the school district or to private schools. Points of dispute were issued to Unocal after the company's manager of external affairs told the committee that Unocal was not in a position to commit to deadlines not expressly stated in the GNA.[249] The committee referenced the "intent by the negotiators at the negotiation table" to "have these studies, and risks, mitigated, and work completed, as soon as possible."[250] Work continues beyond the purview of the GNA to secure adequate funds to relocate Hillcrest Elementary.[251]

Good Neighbor Clinic. Prior to finalization of the GNA, Unocal opened and funded a Good Neighbor Clinic in Crockett. The purpose of the Clinic was to diagnose and treat people affected by the Catacarb release. Unocal agreed to pay "reasonable clinic overhead costs" for up to six months and for the assessment of "any individual who wishes to be evaluated at the clinic and believes he or she was affected by the incident."[252] The Clinic, in conjunction with proposed studies and funding of an Emergency Response Van to be run by County Health Services, was to give residents a clear sense of the extent of the damage caused by the Catacarb spill, to treat conditions and diseases caused or even "most probably related" to the spill, and to assist company and agency officials in responding to future accidents. Members of the community Health Committee who worked on the Clinic were also interested in finding out more about the Catacarb solution itself.

> The Catacarb release was a situation where they had Material Safety Data Sheets of all the individual components that went into the mixture as they mixed it into a clear water white solution that goes into the process and then after it gets recirculated in the process for many months and even years it becomes something else altogether, it becomes a black, brown viscous liquid that is full of materials that bear very little relationship to what is in the original components because of

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[246] May, J. (1996). Memorandum to Virginia Bray from Julia May, Communities for a Better Environment regarding committee concerns, May 7, 1996.
[247] *Ibid.*
[248] Shoreline Environmental Alliance (1997). School Safety Committee Points of Dispute with Unocal.
[249] *Ibid.*
[250] *Ibid.*
[251] Bell, E. (1999). Crockett school bond may move students. *San Francisco Chronicle*, September 17, 1999, p. A-18.
[252] *Supra* note 202, Section One.

> the high temperature conversion and so on. So that's what we got sprayed on us and we asked Unocal repeatedly for an analysis of the compounds that we had ingested and they in turn had to go to the vendor who supplied them with the chemicals and that vendor refused to cooperate under attorney-client privilege. So it's a case where you have the material that you're exposed to and yet you cannot find out what it is.[253]

The Clinic was run by a committee composed of a community representative, a physician representing the operator of the clinic, a university-affiliated independent physician selected by Unocal, a Unocal representative, and a local physician selected by the Crockett-Rodeo Coalition and SEA.[254] Work progressed at a feverish pace, so that by August 1995, the Clinic had served more than 600 residents of Crockett and Rodeo:

> 460 patient charts evaluated
> 20% resolved
> 50% need continued care
> 209 new patients booked for initial intake visits and evaluation
> 115 people on waiting list[255]

In addition the Clinic received an average of 10-15 calls per day from new individuals.[256] A request to extend Clinic operations was granted by Unocal, which agreed to a five-week extension. The Clinic ceased operations on November 15, 1995. Residents whose symptoms were determined to be "more likely than not related to Catacarb exposure" were promised continued treatment.[257] The health committee was disbanded, leaving communities with little ability to oversee patient treatment. By January 1997, a number of grievances were recorded by former health committee members.[258] For instance, GNA-approved patients were in some cases denied continuity of care, including retesting and further referrals to specialists. Medical protocol changes were noted, including discontinuation of vitamin supplements and certain kinds of therapy. And as the number of patients in the Clinic database reached 1,275, it was unclear whether progress was being made on identifying root causes of health problems.

> It should have been continued longer because so many people were still being treated. And a lot of it may have been just placebo because they just really didn't find any cure for it. They were able to get all kinds of neurological testing done and saw aberrations and a lot of commonality of a lot of strange symptoms but they never came up with any way to treat it other than just time, there were mega-doses of vitamins, antioxidants, that some people responded to, but maybe that was just placebo effect, too. I don't know.[259]

Indeed, at least one member of the Clinic staff, Dr. Shames, expressed interest in providing biofeedback treatment for "chemically-induced cognitive and affective

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[253] Interview of Crockett resident, June 8, 2002, in Crockett.
[254] *Supra* note 251.
[255] Health Committee (1995). Crockett/Rodeo Communities' Proposal to Unocal Corporation Regarding Extended Operation of Good Neighbor Clinic, August, 1995.
[256] *Ibid.*
[257] Wilkes, J. (1995). Letter to Medical Clinic Committee from Jeffrey Wilkes, General Manager, Unocal San Francisco Refinery, December 21, 1995.
[258] *Health Committee (1997). Health Committee Good Neighbor Agreement Noncompliance Issues,* January 28, 1997.
[259] Interview of Crockett resident, June 8, 2002, in Crockett.

problems" in July 1995.[260] Some interviewees expressed doubt that adequate treatment was possible following closure of the clinic, given the lack of community oversight and the fluid nature of physician understanding of treatment options toward the end of official Clinic operations. Further, community representatives claim they were denied assistance from the County in analyzing samples of Catacarb, one of which continues to sit at the County Department of Health Services.

Vegetation/Parks. At least one Crockett resident had been requesting that Unocal plant trees to serve as a buffer and improve air quality since 1979, when Steve Batchelder's daughter entered kindergarten at Hillcrest Elementary.[261] Requests for vegetation as mitigation for the RFG were also initially turned down, as was Batchelder's proposal during GNA negotiations for Unocal to fund a Tree Management District. Elements of his proposal did make it into both the permit and the GNA. The permit called for a landscaping plan to improve the visual appearance of the refinery and the "visual character of the area."[262] It called for the use of berms to provide greater screening, the planting of at least 350 15-gallon trees and 25 20-24 foot trees, the use of vines and shrubs, and prompt replacement of vegetation. The GNA adds that Unocal will spend an additional $30,000 per year for nine years to further vegetate areas of its property, and calls for a detailed vegetation plan to address a variety of issues.[263] Oversight of this provision of the GNA was left to the CAP, which was to provide input on the vegetation plan. Both the GNA and the permit also called for Unocal to spend $100,000 for a bike trail through the company's property. In addition, Unocal agreed to minor commitments such as a promise to work with Crockett to facilitate a trail crossing of Interstate 80 and to make a $5,000 donation to the Carquinez Strait Preservation Trust for use in developing a Tree Management District.[264] Implementation of the landscaping plan was initially problematic. The plan was presented to organizations such as the CIA (as required in the permit conditions), which approved the document. Following initial approval, significant changes were made and the altered landscape plan was kept from certain residents.[265] Questions were raised as to whether the proper species were being proposed, as well as whether Unocal would agree to prepare the soil to ensure that the trees would mature properly. Problems also emerged as new refinery management reinterpreted the portion of the GNA concerning the bike trail. In order to bring a trail through their property, pipes would have to be moved, leaving Unocal in a position to value the cost of such an effort and potentially deduct that cost from the funding commitment.[266] By January 1997, Batchelder submitted his grievances to the Board of Supervisors, claiming that the CAP had not been granted final right of inspection prior to

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[260] Ochs, L. (1995). Letter to Richard Shames, M.D. from Len Ochs, Psychologist, July 22, 1995.
[261] Interview of Crockett resident, November 7, 2002, via telephone.
[262] *Supra* note 197.
[263] *Supra* note 202, Section Three.
[264] *Ibid.*
[265] Peterson, K. (1996). Letter to Richard Belcher, RFG Project Manager, 76 Products Company from Kent Peterson, Chair, Planning Advisory Committee, Crockett Improvement Association regarding RFG Project Land Use Permit #2038-93, January 29, 1996.
[266] May, J. (1996). Memorandum to Virginia Bray from Julia May, Communities for a Better Environment regarding committee concerns, May 7, 1996.

approval and acceptance of the first round of tree planting.[267] He also claimed that Unocal refused to further discuss a Tree Management District. While residents agree that the tree planting has progressed and that certain concerns have been addressed, the staunchest supporters of the program have left the CAP and remain discouraged by the degree of difficulty that they faced in working to achieve the GNA's landscaping and parks commitments.

Transportation. Prior to the completion of the final GNA, Unocal hired a consultant and began to work with Caltrans, County staff, and community representatives to identify transportation projects and prioritize them according the local preferences.[268] It was decided that Unocal should pursue the Cummings Skyway extension, to alleviate truck traffic through Rodeo (particularly for the transportation of coke) and to provide an efficient means of entering and exiting Crockett. The extension was built just prior to the destruction of on- and off-ramps for the Carquinez Bridge project. Also prior to completion of the GNA, the refinery consolidated its deliveries of anhydrous ammonia and scheduled them to avoid peak traffic periods. Plans were in place by the end of 1995 for the phased reduction of anhydrous ammonia by December 1996 and 2001.[269] By all accounts, this project has been completed. These projects shared broad support during negotiations and were comparatively easy to verify during and following implementation.

Financial Assistance. After the parties agreed to the terms of Unocal's financial contributions, community representatives had to establish mechanisms for allocating $100,000 per year to Crockett/Tormey and Rodeo/Bayo Vista. The Crockett-Rodeo Coalition and SEA requested that initial funds be deposited with the East Bay Foundation, based in Oakland. They scheduled town workshops to gather input into the financial distribution process.[270] Crockett residents chose to channel the money through the Crockett Foundation, which had been created to receive property tax increments as a direct result of the community's negotiations with proponents of the cogeneration plant built in conjunction with C&H Sugar. Rodeo, which lacked an established foundation, chose to distribute the money through the RMAC. Some residents expressed concern that these arrangements limited access of groups such as SEA and the Bayo Vista Neighborhood Council to the funds. Records indicate that the Crockett Foundation has been amenable to funding small-scale assistance with SEA's air quality monitoring efforts.[271] The Foundation and the RMAC each developed their own criteria, within broader limits set by the GNA negotiators, for choosing among small grants applications or for pursuing their own initiatives (such as the provision of street lamps in Crockett).

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[267] Batchelder, S. (1997). COA 62 – Landscape Plan comments, January 31, 1997.
[268] Wilkes, J. (1995). Letter to Community Advisory Panel Members from Jeffrey Wilkes, General Manager, Unocal San Francisco Refinery, November 1, 1995.
[269] *Ibid.*
[270] Anderson, A., Cherry, L., & Blakeney, R. (1995). Letter to Jeff Wilkes, 76 Products Company from Alica Anderson, Lynn Cherry, and Ruth Blakeney, Crockett-Rodeo Coalition and SEA, April 19, 1995.
[271] Crockett Community Foundation (1999). Foundation News, June, 1999 ("In the past two years the Foundation Board, either by direct payments or by the grant process, has allocated $22,000 for oversight purposes. The Board has concentrated its concerns primarily in the areas of Air Quality Testing and Sampling and accurate interpretation of data from the Fenceline Monitoring System at the Tosco Rodeo Refinery.")

The Foundation went one step further and organized a committee for oversight over the entire GNA. The objective of the GNA negotiators was to write a funding agreement

> so that the coalition could hand the money over to the foundation and walk away from it and hopefully not feel concerned about how it was going to be spent. The coalition said OK, we would like to hand you this money and these are the areas where we would like to see it spent: recreation, environment, and a few others. And the foundation was somewhat reluctant because we had local people that to this day deny that there was ever any impact from Catacarb. It's those people who don't belong here that are rabble rousers and we don't think that they should have anything to say about Crockett.[272]

The RMAC was slower to develop guidelines, objectives, or criteria for its disbursement. This led to the funding of several controversial projects, such as playground equipment for a Catholic school. Funding allocation for vocational education in the John Swett School District was even more problematic. Unocal and successive owners of the Rodeo refinery allocated the funds as promised. Yet there was initially a lack of transparency that made it difficult to ensure that funds were spent appropriately. Interviewees recall such projects as the purchasing of a forklift and hiring a person to administer the funds for much of the value of the yearly allotment. At present, the refinery CAP, with the assistance of an experienced facilitator, has worked to improve the vocational education program and to develop a curriculum for students who could one day work at the refinery.

> We created an industrial survey course, since it is most closely related to the refinery and the idea that kids coming out of that could ultimately have jobs with the contractors or the refinery itself. What that has led to is a multifaceted careers academy where we're using the Philips money in conjunction with other money that we're trying to get, to develop a truly comprehensive careers academy that among other things will have an industrial survey course, a construction survey course, by industrial survey I mean exposure to the craft areas: electrical, plumbing, pipe fitting, welding, boiler making, steam fitting, sheet metal, all those different craft areas. Construction survey would be more related towards construction and their first project will be the reconstruction of the announcer's booth. Everything from blueprints and approvals to ultimately pouring forms and putting up foundations. ..The third area is a wastewater treatment component that as I mentioned earlier is potentially coming out of a NPDES enforcement action against C&H, and the final area is public safety with the possibility of a fire sciences course.[273]

Each of the funding streams from the GNA has been upheld by successive owners of the refinery, including the Tosco Corporation and Philips 66. Negotiating committee members who remain in the region share a concern that new owners will at some point claim that they are not obligated to continue to make payments. So far, refinery owners have upheld commitments to making these annual contributions to the communities.

Oversight/Enforcement. At various moments following the completion of the GNA, residents expressed concern or even formal grievances with the refinery for their lack of timely or proper completion of certain tasks. While these concerns have never led to legal action, there is always the possibility that they will. And as members of the negotiating committees move out of the area, committees disband, and initial CAP members resign, it becomes increasingly difficult to capture the original intent of the

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[272] *Supra* note 198.
[273] *Supra* note 165.

GNA and many of the unwritten understandings that were perceived prior to its signing. Residents describe current implementation as a series of attempts to link a "tenth-hand" interpretation of the GNA on the refinery's side with a "third-hand" understanding on the community side. Yet when differences of interpretation mount, project design slows down, or data are not used for purposes previously agreed to, it is unclear how the community would even initiate a dispute resolution process. CAP members, originally charged with some degree of oversight, are unsure as to whether they "even have a right to be the people to opine on implementation." Community negotiators ask, "Who from the agreement enforces the agreement?" More pointedly, residents are uncertain about how enforcement could play itself out, in the absence of resources to verify agreements or seek technical and legal assistance.

> It's been a tragedy with this one, because it was after all the hell and fire and brimstone we went through getting this thing, it was a pretty good agreement. But so what? You can't enforce it. The way they got around it was they made it unenforceable. There's nothing you can do if you don't have a dedicated staff that has some kind of financial support. If you could have someone who could sit and badger and write back and forth and do all the things you have to do to even get the refinery's attention and work with the County staff to say hey look, they're not doing this, let's see if we can get them this way. Unless you have that, somebody doing that, you just don't have anything. And that's the unfortunate tragedy of this GNA. Nobody's doing anything with it. And we can't because we have no time, money, or impetus anymore. I think that if there was another major release, all of a sudden you'd have people interested in it again and volunteers and so forth. But that's the nature of the beast. It's unfortunate but it's just human nature.[274]

Interestingly, a transition of much of the advisory and oversight capacity from negotiation committees to the CAP has led to a number of benefits for Bayo Vista, the public housing authority that borders the refinery (now owned by Philips 66) in Rodeo. Initially the CAP was appointed by the Board of Supervisors. More recently, the CAP became a self-governing body that was able to appoint or select its own membership. Several interviewees noted a shift toward issues of refinery-community relations, jobs and vocational training, and small-scale community improvement projects. While it is true that such efforts do not address the underlying causes behind the Catacarb release, they do concern many of the interests shared by Bayo Vista residents, who are predominantly low-income people of color. Residents of Bayo Vista noted that certain oversights during GNA implementation, such as failure to provide transportation to the Clinic, consider particulate matter monitoring for Rodeo, or ensure that a fair portion of the GNA's financial assistance be provided to address human services needs in the housing authority, were of far greater concern than the specifics of health study or air quality monitoring protocols (although leaders in Bayo Vista consider the location of the monitoring data hookup in Crockett a further unfair outcome of the GNA and are pursuing access to the data stream). Indeed, some residents in Bayo Vista have used a portion of their litigation settlement money to purchase air filtration systems for their homes to reduce particulate matter, which is suspected of contributing to the high rates of asthma among Bayo Vista children.[275] While they criticized the effectiveness of certain

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[274] Interview of Member, Shoreline Environmental Alliance, May 31, 2002, via telephone.

[275] A health study conducted jointly by Kids Against Environmental Pollution and Communities for a Better Environment found that asthma was reported in one or more children in 50.5% of households. Allergies were reported in one or more children in 56.9% of households. 87% of households reported

GNA elements, Bayo Vista residents most readily credited the refinery for its support of local efforts (i.e., scholarships, free lunch program) and for their willingness to work toward ensuring that remaining funds promised through the GNA are leveraged to the greatest benefit of the community possible. They also pointed out the history of the land upon which the housing units were built, to suggest that potentially greater environmental hazards have gone unaddressed:

> It used to be the old projects. And my understanding is the cows, there was a pasture with cows in it down over here, and the cows started dying. Over in Celby years ago, they tore it down in 1960. There was a great big smokestack and I'm not sure what they did there. It's between Rodeo and Crockett. Celby is on one side of the road and Tormey is on the other side of the road, and if you go down San Pablo Avenue that way it's down at the bottom of the hill. And one is on one side, one is on the other side. They used to be rather large communities, they even had a school. Now they're just a little spot on the road. The cows were dying from the stack. There were slag piles. Somebody who grew up here tells me there were slag piles around the smokestack. It would burn the tread off their tennis shoes. They tore it down in 1960. Four or five years ago they decided that the most environmentally friendly thing that they could do was to cover it with pavement. And it's all paved out there now. If you go there and look, it's all paved. You can see from the top of the hill up here that they paved out there. And that was the best that they could do for the pollution.[276]

Residents expressed concern that their homes lie over lead slag deposited by ASARCO, which operated the smelter prior to it being torn down. While such challenges are beyond the scope of resident interaction with the refinery, the CAP gives residents a chance to voice these concerns and solicit the assistance of the refinery in getting the County's attention on such matters. The CAP's facilitator acknowledges that "nowhere more clearly have [Bayo Vista's] interests been articulated than through the CAP."[277]

Discussion.

While the Unocal GNA represents a more advanced version of the MOU reached with Chevron, the two agreements share some important characteristics. First, the contours of each agreement grew out of the unique ways in which each impacted community became represented in settlement talks. Community negotiators during the Chevron RFP relied on input from resident councils and then increasingly on three environmental groups (People Do!, CBE, and West County Toxics Coalition). The resulting MOU focused on key elements of each of these organizations' proposed mitigations. Similarly, the Unocal GNA represents a crystallization of the disparate efforts of committees that in many cases held unique or even divergent interests. Entire sections of the GNA represent compromises or "something close to the bottom line" for the committees. While each approach to reaching agreement encouraged parties knowledgeable or concerned about certain issues to develop innovative mitigation packages, they also hindered broader problem solving and made it easier to table both costly (and arguably necessary) changes and discussions of root causes of environmental impacts or refinery accidents. The

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noticing smells of either sulfur or ammonia in their neighborhood. Kids Against Environmental Pollution (2001). State of the Neighborhood: Bayo Vista Youth Health Survey, December, 2001.

[276] Interview of President, Bayo Vista Resident Council, June 8, 2002, in Bayo Vista.

[277] *Supra* note 165.

agreements were reached in such fashion in large part because of the permitting processes that were leveraged to encourage negotiations in the first place. These processes begin with a call for public comments, which inform a comparatively small number of mitigations proposed by staff of permitting authorities (i.e., the Planning Commission). Parties try to make changes to these mitigations, often at the margins. The Chevron and Unocal agreements departed from past practice in that before they were reached, coalitions of resident councils or citizen committees were able to convince planning bodies to adopt (in some cases wholesale) a number of entirely new and innovative mitigation proposals. Some of these proposals had been offered for previous reformulated fuels projects. By the time Crockett and Rodeo residents sat down with Unocal management, they found themselves in a unique position to propose all of these mitigations (financial, monitoring, structural changes) at once. On one level, the Unocal GNA represents a high watermark in the evolution of community-corporate compacts, in that it incorporates much of what had been learned through previous negotiations.

It is without question that both agreements represent improvements over what would have been required by permitting bodies alone. But given the level of interaction and deal-making between the refineries and the permitting agencies prior to permit approval, it is difficult to tease out the extent to which improvements were in fact encouraged by the negotiations, political considerations, unilateral concessions, or other factors. Last-minute concessions by the companies or wording changes encouraged by community members meant that conditions of permit approval incrementally approached the language of proposed GNA's. GNA negotiations offered residents an additional forum in which to discuss issues that did not share a nexus with proposed project impacts. It would prove more difficult for such issues to be included in a land use permit and to survive legal challenges by the applicants. Still, this degree of flexibility did not yield some of the more important concessions (proposed by residents) that lacked a nexus to the clean fuels projects. These rejected proposals represented limits to which GNA negotiations could "outperform" the permitting process. They derived from both the structure of the negotiating coalitions and their demands, and the unspoken boundaries drawn by the companies in terms of precedents that they wanted to avoid or relationships that they did not want to encourage. Most readily excluded from negotiations were ideas relating to questioning "normal operating procedures" of both the refineries and their monitoring agencies and establishing new roles for local residents in plant inspection, pollution patrols and citizen monitoring, and early warning and notification. Resistance to these proposals, coupled with County readiness to push for certain projects (i.e., Cummings Skyway extension), encouraged negotiations to drift toward what in the end appeared to some to be lopsided agreements.

The timing of environmental permitting processes and their disjointed nature (one process ends as another is about to begin) pushed community organizers to seek efficient means of representing the interests of impacted communities. In both of the clean fuels processes, CBE and other organizations were quite successful in reaching out to diverse stakeholders and soliciting their ideas and approval of various proposals. Greater difficulty was experienced in trying to feed corporate response to proposals back to an equally diverse cross-section of impacted areas. And over time, requirements such as

standing (such as when three groups filed appeals to the Air Control Board in the Chevron case), organizational status (important for issues of funding and GNA oversight), and timing meant that some groups were not reached as often or lacked the same authority or mandate to comment on proposals or company actions. Hints of these excluded elements emerged during the implementation phase of each agreement.

Elements of the impacted communities that were successful in protecting their centrality until just prior to the hearing of final permit appeals by the Control Board or the Board of Supervisors faced another set of challenges. Particularly in the case of the Unocal GNA, reaching agreement can be viewed in hindsight as a comparatively straightforward process. While negotiations included a great deal of positional bargaining, implementation called for the parties to interpret and add considerable depth to each commitment, often with new faces and on several occasions new organizations. This process entailed steep learning curves and attention to excruciating detail, sometimes without the encouragement of fixed deadlines. Implementation also added a dimension of resistance by consultants and the County to certain efforts, findings, or interpretations that did not serve their interests or those of their employers. Establishing protocols for complex environmental studies or fenceline monitoring in such a context proved daunting. Enforcing side agreements or the recommendations of working groups or study authors proved nearly impossible in some cases.

But these agreements suggest that there is much that can be agreed to and achieved above and beyond the scope of traditional environmental permitting efforts. They certainly represent more inclusive and effective means of generating conditions of approval than standard notice and comment cycles. Yet the goal of environmental justice communities should not stop at merely outperforming existing administrative options. The Unocal agreement in particular points to stark limits to what an industry will be willing to consider, however constrained it is by timing, media attention, the threat of litigation, and the general knowledge that there are internal organizational changes needed to avoid similar high-profile disasters in the future. These limits, which only were suggested here by what was considered, resisted, tabled, or implemented ineffectively, point to a number of process considerations and questions for coalitions to consider before a community enters the fray over an environmental permit. They also suggest ways in which a permitting process can be augmented to enhance representation, integrative potential, and enforcement capabilities, which we will discuss in the conclusion. Bayo Vista, which in some ways has been able to meet its interests more effectively through its involvement on a CAP, hints at the diverse citizen participation needs of various elements of impacted communities.