# Chemical Contamination In Fenceline Communities

## Port Arthur, Texas: Public Housing Residents Breathe Contaminated Air From Nearby Refineries and Chemical Plants

**By Steve Lerner**

Hilton Kelley grew up on the frontlines of toxic chemical exposure in the United States. Kelley, 45, a big man with a shaved head and a brown belt in Tae Kwan Do, lived for six years in the Carver Terrace public housing complex just across the fenceline from the Motiva Enterprises refinery in the West Side neighborhood of Port Arthur, Texas. To this day, Motiva's 3,800-acre refinery remains the 800-pound gorilla on his block producing 285,000 barrels of oil a day. Refinery officials plan to expand its capacity 125 percent and produce 625,000 barrels a day making it the largest refinery in the nation.

**Playground at Carver Terrace**
*Photo: Steve Lerner*

The Motiva facility, jointly owned by Shell Oil and Saudi Aramco, is not the only oil refinery or petrochemical plant fouling the air in this largely African-American and low-income neighborhood. Heavy emissions are also released into the air by the Valero refinery, Huntsman Petrochemical, and the Chevron Phillips plant, as well as the Great Lakes Carbon Corporation's petroleum coke handling facility. The air is further burdened by massive releases from a major refinery owned by Total Petrochemicals USA (formerly Final Oil), Premcor Refining, as well as BASF Fina Petrochemicals located a few miles away in East Port Arthur. One mile to the west there is also a hazardous waste incinerator owned and operated first by Chemical Waste Management and subsequently by Onyx Environmental Services, which pumps out over 100 tons in criteria air emissions in 2004.[1]

**Carver Terrace Public Housing**
*Photo: Steve Lerner*

Living within sight of Motiva -- at Carver Terrace and for awhile in a small, shotgun house eight blocks away -- Kelley breathed air laced with elevated levels of benzene, sulfur dioxide, hydrogen sulfide, and 1-3 butadiene. The air smelled like rotten eggs from the sulfur coming from the refinery, Kelley recalls. "At nighttime we had a bright orange sky because the refineries were constantly flaring, burning off fumes and gas," he says.[2]

Despite this breath-taking pollution and the minimalist comforts of public housing, Kelley describes his early days with some fondness. There was food on the table, an orderly life, and

his mother kept him and his younger brother busy so they wouldn't get in trouble in the streets. The two boys attended karate classes, YMCA, Boy Scout meetings, football games, marching band, and church. "I was always in some kind of uniform," he recalls.

But in 1979, at the age of 18, this highly-scheduled routine ended when, on February 27, 1979, Kelley's mother was shot to death. A year later, at 19, he joined the Navy, trained to be an electrical engineer, and served on the USS Roanoke Relay, an oiler that shuttled jet fuel to aircraft carriers. Leaving the Navy in 1984, Kelley landed a series of acting jobs, first in Hollywood and then in northern California, including a part on the Nash Bridges cop show with Don Johnson.

With his Screen Actors Guild card in his pocket and a TV show to his credit, Kelley came home an accomplished graduate of West Side Port Arthur's hard streets. It was on one of his visits home that he was struck by both the impoverishment of his old neighborhood and how bad the air quality had become. As a boy, Kelley took the pollution for granted along with a constant cough and a skin rash, common in the neighborhood, which left him with little black spots all over his arms, chest and back. Both problems disappeared once he left Port Arthur. "Everyone knew when the plant did a smelly, but no one did anything about it," he recalls. His grandfather, who lived on 18th street – five blocks from the fenceline – died of cancer. "Everyone had respiratory problems, sinus problems, skin problems, and allergies but I thought that was the way life was," he says. But having joined the Navy and seen the world, Kelley now knew that air this polluted wasn't normal.

All around him people developed ways of coping with the air, which Kelley describes as periodically "so bad that it can take your breath away." Annie Edwards, a long-term resident, recounts the feeling she gets when heavy gusts of pollution engulf her: "Like I panic and can't catch enough air, and if I go outside it's worse. I have to strap on my breathing machine [oxygen supply] at night so I don't pass out," she says.[3]

**Hilton Kelley**
*Photo: Steve Lerner*

Smelling the bad air in his old neighborhood and seeing multiple families he knew with respiratory problems and other pollution-induced diseases affected Kelley deeply. "I couldn't get it out of my mind that I needed to do something for my hometown," he says. "Because of the increasing air pollution, the people of Port Arthur were too sick to help themselves. They were beat down. The town was dying, and I saw a need that I thought I could fill." [4]

**We've Been Waiting for Someone Like You**

Resident concerns about air quality in West Side Port Arthur had surfaced on and off for many years. Throughout the 1990s, Rev. Alfred Dominic, a retired water company employee, stood up in City Council meetings and talked bluntly about the health problems that residents were suffering as a result of pollution. Dominic, 78, is a well-known figure in the community. He is the father of 13 children and his living room walls are hung with photos of a number of his children who have served double tours in Iraq. A member of the Masons and Eastern Star Church, for years Dominic demanded that the City Council take action to protect public health but was ignored. The reason, he says, isn't hard to figure out: 80 percent of the city's tax base is paid by industry. "Industry is this city's bread and butter. Industry has influence in the schools, the churches, and the hospitals so no one talks about the connection between high levels of pollution

and the large numbers of kids with asthma. Most people here over 45 know someone in the petrochemical industry," Dominic observes. "It's a company town."

When Kelley returned to Port Arthur in 2000 and showed an interest in the West Side's redevelopment Dominic was relieved and was ready to pass the campaign over to him: "We've been waiting for someone like you," he said. At the time Kelley was scrambling to make a living doing plumbing and electrical work and had no car to get to work. To help him get on his feet, Dominic gave him rides to his jobs and fed him in his kitchen. "He has been like a father to me," Kelley says fondly. Over meals they would talk strategy about how best to help the community. Kelley wanted to open a new community center but Dominic questioned this approach and suggested that the area was too polluted to become a safe place for people to live. Instead he recommended fighting for funds to relocate the residents out of harms way. "He educated me about all these issues and introduced me to the City Council members," Kelley notes.

**Rev. Alfred Dominic and Hilton Kelley**
*Photo: Steve Lerner*

Sitting on his couch in his West Side front office/living room/church, surrounded by stacks of newspaper clippings and videotapes of himself testifying before the City Council, Dominic retains his passion for protecting the health of local residents but his health is clearly failing. A tank of oxygen is close at hand. Outside, a train carrying petrochemical products rumbles by shaking the small, wooden house and making conversation momentarily impossible. "We know that something is in the air and in the water that people used to drink," says Dominic, who was born on 5th Street and has lived in the neighborhood most of his life. "All this pollution affected my health. I have problems with breathing, problems with nausea, and now I have problems with forgetting," he says. "Many of my friends have died of cancer and many of them are sick at the present because of the emissions," he adds.[5]

**Help from Outside**

Grassroots campaigns protesting pollution are difficult to mount without help from the outside. Among those who gave Kelley assistance were Dr. Neil Carman at the Lone Star Chapter of the Sierra Club; Wilma Subra, the McArthur prize-winning chemist from Louisiana; Refinery Reform director, Denny Larson; Marvin Legator, the epidemiologist; and Eric Schaffer at the Environmental Integrity Project in Washington, D.C.

Kelley's introduction to the nation-wide anti-toxics movement came through Denny Larson, who now runs Global Community Monitor, a San Francisco-based non-profit that helps equip and train fenceline residents to conduct citizen-based air monitoring. In 1995 Larson trained residents in Port Arthur and Beaumont to do some rudimentary air monitoring. Then in 2000, working through the Seed Coalition based in Austin, he orchestrated what he called a "toxic two-step" refinery pollution tour along the "chemical corridor" that runs through Houston, Beaumont, Port Arthur, Mossville, and New Orleans.

Through his non-profit, the Refinery Reform Campaign, Larson had trained, equipped, and funded Rev. Roy Malveaux to do “bucket brigade” citizen air monitoring. A Baptist minister in Beaumont, Malveaux was preaching about the impact on his congregation of pollution from a large Exxon refinery located adjacent to an African-American community on the south side of the city. Malveaux made himself unpopular with oil industry executives both in Beaumont and at his previous ministry in Corpus Christi where he also preached against the perils of toxic contamination of his parish. For his troubles, he was ousted from both his churches by a dirty-tricks campaign run by the oil industry, Larson claims. “They hired the sons of deacons at his churches to work at the refinery and then threatened to fire them if they didn’t get rid of Malveaux,” Larson asserts. This infiltration tactic worked until Malveaux decided to start his own church, he adds.

Kelley went to some citizen air monitoring training sessions with Malveaux and by early 2001 Larson helped him build an air monitoring “bucket” made out of a cheap, readily available plastic bucket and a Radio Shack air pump; paid for laboratory analysis of his air samples; and showed Kelley how to file a civil complaint and put on a press conference announcing the results which showed elevated levels of butadiene and sulfur dioxide in the air. Before long Kelley started his own non-profit, Community In-power Development Association (CIDA) but he needed money to make it work. The Refinery Reform Campaign funded Kelley for three years until he had learned how to raise grant money to support CIDA. Through Larson, Kelley also met Peter Altman at the SEED Coalition who took him to the Texas Commission on Environmental Quality (TCEQ) and “showed me that he had the right to look up information about accidental releases from the neighboring refineries,” Kelley recalls.

**Odor and Symptom Logs**

Kelley’s anti-pollution campaign also built on previous work done in Port Arthur that demonstrated high levels of contaminants in the air and elevated levels of medical problems among local residents. In the early 1990s, before Kelley returned home, Wilma Subra, a chemist from Louisiana who helps residents of fenceline communities understand regulatory issues and environmental threats to health, held a series of workshops in Port Arthur. Her local contact on the West Side at the time was Luverda Batiste who headed a group of residents concerned about pollution called Mentors Outlining Definitives for Earthly Living (MODEL). Subra conducted a number of educational sessions in the community in which she taught residents how to create a log that documented the date and time that they smelled an odor, as well as any symptoms they experienced. She then collected these logs and matched them with publicly available Toxic Release Inventory information about emissions from nearby industrial facilities.

**Motiva Refinery**
*Photo: Steve Lerner*

At first Subra’s workshops were not well attended and only five residents came to the first session. “This is a company town and people were afraid of losing their jobs and having their relatives lose their jobs,” she observes. But when Subra made it clear that the odor and symptom

logs could be filled out anonymously suddenly she had 300 logs to analyze and her workshops were filling a full-sized gymnasium.

In the logs residents reported odors and symptoms that matched accidental releases of toxic chemicals from nearby industries, Subra says. “The data absolutely matched. The health impacts associated with the chemicals that were released matched the health impacts experienced by the community,” she explains. For example, she found that during two-thirds of the days in January and February, 2000, accidental releases, upset conditions, and maintenance conditions caused excess releases of chemicals into the air of Port Arthur by Clark Refinery, Motiva Refinery, and Huntsman Petrochemical. “The Motiva Refinery had releases on 32 days [during this two month period] with as many as four releases of multiple chemicals on a single day,” she adds.

Resident odor logs also indicated that they smelled rotten eggs, sulfur gas, and chemical odors. These reports matched the chemicals most frequently released by nearby facilities including hydrogen sulfide, sulfur dioxide (the rotten egg smell) hydrocarbons, benzene and ethyl benzene. Furthermore, air samples collected by both state officials and community members demonstrate that chemicals released by these facilities were crossing the fenceline into Port Arthur, Subra notes. Residents were exposed to upsets on an average of five times a week. Some 75 percent of these could have been avoided if refineries installed up-to-date pollution control equipment and new valves, she asserts.[6]

Using some of the data collected in her odor and symptom logs, Subra was able to convince federal Environmental Protection Agency officials to dispatch a mobile air-monitoring unit known as a Trace Atmospheric Gas Analyzer (TAGA) truck to test the air in residential neighborhoods. Data collected by the TAGA truck from January 27 to 31, 2003 found six airborne chemicals in residential area that exceeded the Health Effects Screening Levels. Among these were benzene (a known human cancer-causing chemical); chloroform (a possible human cancer causing chemical); vinyl chloride (a known human cancer causing chemical); 1,2-dichloroethane (a possible human cancer-causing chemical) and 1,2-dibromoethane, which exceeded the one hour, 24 hour, and annual Texas Health Effects Screening levels; and 1,1,2-tetraqchloroethane.

With self-reported data from industry, data from the TAGA truck, and information collected through the odor and symptom logs, Subra presented maps to residents that showed where chemicals were released, which way the wind was blowing, where elevated levels of toxic chemicals were detected, and where residents reported odors and symptoms. When all this information was combined on a map it made a compelling case. Community members were alarmed when they saw the maps, Subra remembers. They studied the map to see where they lived, worked and went to church and then looked at the level of pollution reported. “Suddenly they were no longer afraid to ask questions and participate in events about how the health of their community was being impacted,” she recalls.

**Playground near Motiva Refinery**
*Photo: Steve Lerner*

With these chemicals wafting across the fenceline, Subra describes the situation in Port Arthur as “dangerous” because residents are surrounded by heavily-polluting industries that emit both permitted and accidental releases. Because the community is surrounded by industry what ever

way the wind blows they are exposed to toxic chemicals, she notes. “The health of the community as well as the quality of their lives is impacted by the accidental releases,” she continues. “The most frequently reported health impacts by community members were headaches, sore throats, burning or watering eyes, dizziness, or light-headedness, difficulty breathing or coughs.” Other complaints included nausea, skin rashes and nosebleeds. Subra also discovered a correlation between the time and date of accidental chemical releases and spikes in the use of emergency services by local residents.

Texas toxicologist Dr. Marvin Legator, former professor of environmental toxicology at the University of Texas Medical Branch at Galveston, confirmed Subra’s impression that pollution from nearby plants was damaging the health of Port Arthur resident. Legator conducted a health study in Port Arthur and another nearby community (Beaumont), which is also located near chemical industrial complexes. This study compared symptoms of adverse health effects in Port Arthur and Beaumont residents with a control population of residents in Galveston. What he found confirmed what fenceline residents already suspected: their health was being compromised by exposure to high levels of pollutants. “Without question, the people in Beaumont and Port Arthur are suffering from many more health problems, especially neurological and respiratory diseases, than those in Galveston. The concentration of heavy industry there [in Port Arthur] is having an enormous impact on their lives, and this study proves that to be the case,” Legator told a reporter from the *Texas Observer*.[7]

In his study, Legator, who died in 2006, found that approximately 80 percent of those residents he interviewed in West Port Arthur reported cardiovascular and respiratory problems compared with much lower levels (approximately 30 percent for cardiovascular and 10 percent for respiratory problems) in an economically and racially similar community in Galveston. Similarly, approximately 80 percent of residents on the fenceline suffered from ear, nose, and throat problems compared with approximately 20 percent in the control group; and almost 75 percent of West Side residents had complaints such as headaches compared with approximately 30 percent of those who lived in a less polluted area. Another study found that school absences among the 21,800 children who went to school within two miles of a petrochemical plant in Jefferson County also increased following large accidental releases of toxic chemicals.

**Grassroots Campaign for Cleaner Air**

After attending one of Subra’s workshops and a “bucket brigade” citizen environmental monitoring training session hosted by Rev. Malveaux in 2001, Kelley launched his own campaign for cleaner air. “We are trying to push industry to clean up emissions and use up-to-date [pollution prevention] technology,” he says.[8] He started his campaign by standing on a corner with a sign and passing out information he had uncovered showing that local refineries were flaring off toxic chemicals illegally and the regulatory agencies were doing nothing about it. He walked the neighborhood knocking on doors and talked with residents about the pollution. In the process, he found that one in five households had a child with asthma who required medication or breathing treatments; others had a distinctive type of skin rash associated with pollution. Kelley told residents that it was not their fault that their child had asthma and that the regulatory agencies should be doing more to reduce pollution. He also argued that the refineries should pay for medication for the diseases such as asthma ($66 to $443 annually) that their emissions were either causing or aggravating. In Jefferson County, 7.14 residents per 1,000 suffer from asthma compared with 5.52 per 1,000 across the state. Similarly, Jefferson County residents on the fenceline with heavy industry had 393.6 hospital admissions for chronic obstructive pulmonary disease per 100,000 compared with a state rate of 215.4 per 100,000.[9] This data suggests that West Side resident were literally chocking on air pollution being put out by local industries.

Kelley also informed residents that the petrochemical plants are fined less than one percent of the time when there are accidental releases and upsets; that when fines are imposed the money goes into the Texas state coffers and are not returned to the impacted communities. As a result,

residents afflicted by the pollution are not compensated for the harms they suffer, he adds. His early efforts to stir up community interest in protesting the elevated levels of pollution and disease in the neighborhood met with little success. The first official meeting of his fledgling nonprofit, the Community In-power Development Association (CIDA), was attended by a total of two people: himself and the person in charge of the room he reserved to hold the meeting. Organizing West Side residents to protest pollution is not easy because most of them struggle to pay the rent and keep the lights and gas on and they don't have time to go to protest, Kelley explains.

Hush money also plays a role and is used by heavy industry to mute criticism of their practices, Kelley charges. Local churches, civic groups, and politicians depend on the largess of the big petrochemical companies, he continues. For example, the African Methodist Churches forbade Kelley to pass out CIDA flyers after church; and the local chapter of the NAACP remained silent on the pollution issue, he adds. Kelley was counseled by some local community leaders not to go up against the refineries. One community leader, who had raised corporate money for local scholarships, told him that there was very little money in the community and that Kelley risked turning off the corporate funds for local causes if he made too much noise about the pollution.

Money is also used more directly to settle pollution claims immediately for cash. Often, when there is a big release of chemicals, plant officials offer $50 in cash for residents who sign a document saying their complaint has been satisfied. Some community groups were also "bought off," Kelley claims. Even he was offered $4,000 and four computers for CIDA by refinery officials. But the offer evaporated after he made it clear that by accepting the gift he would in no way mute his protests about pollution.

Despite these obstacles to organizing, over time West Side residents began to hear Kelley's message and understand that they needed to speak up if their health complaints were to be heard. As a result, CIDA now has a membership of 120 members and a core group of 30 who can be relied upon to show up at protests and news conferences. While the numbers are still small, Kelley has effectively reached out to other environmental justice activists, academics, and foundations to make the case nationally that Port Arthur residents should not be exposed to the high level of toxic chemical releases that are routine in their neighborhood.

As he began to "crusade to empower citizens to fight for their health," Kelley started to view his neighborhood as a sacrifice zone: "Our neighborhood pays the price for the rest of the nation's 'cheap gas,'" he observes. The equation is simple: refineries minimize their investments in pollution control equipment and as a result they can raise profits and keep gas prices lower than they would be if they operated in a way that protected the health of their neighbors.

**Door-to-Door Organizing**

In early July, 2006, Kelley sat alone in his office, housed in one room of a single story, white-brick storefront next door to Cash Loans & Anything of Value Pawn Shop. He was slogging through a telephone health survey of West Side residents. "Do you or anyone in your family have cancer," he asked a local resident who answers his call. About 35 to 40 percent of households on the West Side have someone in their family who has died of cancer, Kelley reports. The incidence of women from 14 to 50 who have fibroid tumors in their uteruses is also elevated, he adds.

"We are not trying to shut down these petrochemical plants," Kelley explains. The refineries provide thousands of jobs in Port Arthur and are an important part of the local economy: "We just want them to clean up their act." Residents shouldn't have to choose between working in an unhealthy environment and putting food on the table, he adds.

The next morning, Kelley visited the stacked living units at Carver Terrace where he once lived. The public housing complex had recently been damaged by hurricane-force winds and was

patched with huge blue tarpaulins tied over the roofs. At one corner of the complex, near a heavily-polluted area where fuel storage tanks had once stood, the belongings of another evicted tenant lay on wet ground exposed to the elements. With the huge Shell/Motiva works looming behind them, a couple of people poked through the apparently abandoned personal property to see if there was anything worth salvaging.

**Evictions at Carver Terrace**
*Photo: Steve Lerner*

Dressed in a bright yellow t-shirt and cap emblazoned with CIDA's motto: "A United Voice for and by the Community," Kelley toured the complex like a mayor visiting his constituency. He talked with residents about the local pollution problems and urged them to join in news conferences and protests designed to raise awareness about the contamination. Many knew him and some came to him with their problems. When a young woman approached him who was being evicted for failure to pay her utility bill, Kelley came up with $200 to keep her from being put out on the street in return for a promise to get her life in order and plan her finances more carefully. He also urged her to attend an up-coming meeting of CIDA.

Some residents gave eye-witness accounts of recent releases. "There was some kind of green smoke that came out of the plant last week. Then the cloud turned to orange," reports Laura Paul, pointing toward the Motiva refinery that stretches out across the street from her home. For the last four years, Paul has lived in an apartment in the two-story, orange-brick buildings at Carver Terrace, a HUD-subsidized housing complex of 384 apartments, which is laid out in 16 rows of 24 identical multi-housing units. Paul has a ten-month old baby with bronchitis and her mother was recently taken to the hospital for emergency treatment of a respiratory problem. "She couldn't catch her breath," Paul says. "We are closed in by refineries and pollution here and it is affecting the whole community," she adds.

**Edward Brooks**
*Photo: Steve Lerner*

In the sweat-popping heat and humidity of a coastal Texan summer, Edward Brooks, II, 56, an unemployed heavy-equipment operator, stands next to his Carver Terrace apartment door dressed in sleeveless t-shirt, checkered pajama bottoms, and slippers. Inside Brooks' apartment it is cooler with the air conditioner and fan going but he says he has to turn off the AC when the fumes from the plant get bad otherwise the equipment sucks poisoned air into his home. "This area is not safe. We are 3-400 yards from the refinery here. I want to get my family away. We want to move so we can get a

chance to live," he says bluntly. But coming up with the money to move is a problem in a community where the official unemployment rate is 13.5 percent and the actual rate of unemployment is much higher.

"Anyone with any knowledge knows they should move on. The government is not doing anything to protect us. They tell us about the emissions but they don't do anything about it. They don't care. Half the kids here need help breathing," he claims. "A lot of them have breathing machines at home and at school. You don't have to be a rocket scientist to see that this is not normal," he adds. "You hear these kids gasping for air and someone will say: 'Why is that kid barking again,'" Brooks says shaking his head. "Some of these kids can't run half a block their lungs are so bad," he adds. Brooks' wife also has bronchitis and asthma and needs a breathing machine which is located in their bedroom.

All these toxic facilities are in minority areas where blacks, Latinos, and poor whites live, Brooks continues. "If I had any power no one would be allowed to live here. This place should be crushed to the ground" but most people can't afford to move out, he explains. They have an apartment on the fenceline in public housing complexes like Carver Terrace, Lewis Manor, or Prince Hall and they don't dare give up their apartment for fear that they will be out on the street, he adds. Kelley sits listening to Brooks nodding his head thoughtfully. "Some of the folks who breathe this air too long die of cancer. As we speak kids are being born who are being brought back to these projects to breathe in toxic air. That just isn't right. We need to clean up this place up for the new souls," he says.

**West Side Port Arthur**

Warren Kelley, Hilton's younger brother, runs the Black Tiger CIDA Karate School, located a short drive from the Carver Terrace apartments where he and his brother grew up. Frighteningly fit, Warren Kelley became a karate champion at 14, a black belt at 17, and won a title at 21.

**Warren Kelley and Linda Simpson**
*Photo: Steve Lerner*

"In this neighborhood you have fireworks when it is not the fourth of July," he observes, referring to accidents and flares that light up the sky over the refinery. The Kelley brothers are not the only ones who are struck by this eerie phenomenon. In fact, there are so many flares from heavy industry concentrated around Port Arthur, Beaumont, Port Neches and Groves that the area is known as "The Golden Triangle" because that is what it looks like from an airplane at night.

"Many of the people I knew when I was growing up, if they didn't get killed in a car or by a gun got killed by cancer," he claims. Growing up with pollution from the refinery caused a wide variety of respiratory and skin problems that were not normal as well as sinus pain and an impaired immune system, he continues. "Eight out of ten kids here have asthma," he estimates. While he was repairing his roof recently he was hit by a cloud of benzene from the plant that forced him to take shelter inside.

Warren Kelley opened the karate school to give kids a place to go after school and 25 signed up. The kids come to the dojo, show Kelley their school grades, and then begin to practice. Linda Simpson, his partner, says that many of the children have chronic asthma, bronchitis, and sinus

problems. “You eat right and still this happens to you,” she says. “It gives you the feeling that you are being violated,” she adds.

West Side Port Arthur, located across the railroad tracks from the more affluent part of the city, was never a high-rent district but it once was a lively port that sailors visited when their ships docked. It was not uncommon to hear Russian, Spanish, Arabic, and a host of other languages spoken in the streets when sailors were on leave, Kelley recalls. There were nightclubs, pool halls, bars, and brothels in one part of the neighborhood; while elsewhere there were quieter, working-class residential areas with grocery and ice cream stores amid the shotgun-style homes.

As the refineries and chemical plants expanded and more and more oil was trucked through the neighborhood, small stores began to close and the pollution became so bad that no one wanted to open a new business. Seventh Street was widened to accommodate the turning radius of 18-wheel tanker trucks. By the mid 1980s the local economy took a big hit, jobs dried up, and residents began to move out. Only those too poor to move and a few other holdouts were left behind. Sadly, the auditorium closed where jazz and blues legends such as Al Green and Ray Charles once played. “What has happened here is that industry wants to squeeze the residents out so they can have it [the neighborhood] all to themselves but they don’t want to pay to move anyone,” Kelley observes. “This neighborhood needs to get organized in order to revitalize the local economy but first we have to clean up the pollution to attract businesses and people back.”

**Some of the Dirtiest Air in the Nation**

Is there a connection between the high rates of respiratory disease, childhood asthma, cancer, and skin rashes in West Port Arthur and the large volumes of toxic chemicals that are released from petrochemical plants next door? Common sense, the sheer volume of chemical releases, and the fact that many of the emissions are known to cause respiratory problems and cancer suggests that there is.

One way to get an idea about how dirty the air is on the West Side is to examine the everyday “permitted” releases of toxic chemicals from surrounding chemical and petrochemical facilities and then add to that the amount of toxics released into the neighborhood by “accidental” upsets, flares, and start-up and shut-down releases. A remarkable accounting of these toxic emissions that rain down on the West Side was published by Eric V. Schaeffer, director of the Environmental Integrity Project (EIP). Schaeffer is the EPA official who quit his job in a protest over the inadequate enforcement of the Clean Air Act. With his colleague, Huma Ahmed, Schaeffer published two reports about chemical pollution in Port Arthur. The first, entitled “Smoking Guns,” detailed the huge volumes of chemicals released by flares; and the second, “Accidents Will Happen,” documents the releases of large volumes of toxic chemicals in a series of allegedly uncontrollable and unforeseeable accidental “upsets” which, upon closer examination appear to be remarkably similar and predictable.

The scale of some of these accidents is staggering. The EIP report calculates that in the first seven months of 2002, heavy industrial facilities surrounding Port Arthur released almost 725 tons (1,149,069 pounds) of toxics into the air of the city’s 58,000 residents.

Just to cite a few examples from this report, on January 21, 2002, BASF’s-Altofina’s ethylene plant in Port Arthur released 65 tons (130,805 pounds) of volatile organic compounds (VOCs). Included in that release were Xylene, which affects the brain and causes headaches, memory loss, dizziness, and confusion as well as skin, eye, nose, and throat irritation and difficulty breathing; Toluene, which affects the nervous system and can cause tiredness, confusion, weakness or kidney problems; and Hexane, which causes muscle weakness and numbness.[10] In May, 2002, BASF Altofina also released 28 tons of benzene, a human carcinogen that can cause leukemia.[11]

The Premcor (now Valero) refinery near Port Arthur released 208 tons (416,492 pounds) of sulfur dioxide, as well as 25 tons of VOCs and 2 tons of hydrogen sulfide in January, 2002. The Motiva refinery, adjacent to Carver Terrace, also released 4 tons of sulfur dioxide on April 7, 2002. Sulfur dioxide can cause burning in the nose and throat, breathing difficulties, changes in lung function, and asthma. It can be particularly hard on children who breathe more air for their body weight than adults, the EIP report explains.[12]

Are so many accidents that release tons of hazardous chemicals into the air adjacent to residential areas really accidental? The authors of the Environmental Integrity Project suggest that while some releases are unpredictable accidents beyond the control of facility operators most others are not and could have been predicted or avoided if proper maintenance, pollution control devices, and backup systems were in place. The problem is really systemic, the report's authors contend. "The EPA needs to investigate the pattern of 'malfunctions' in Port Arthur, and take enforcement action to require better equipment or maintenance programs to eliminate pollution from accidents," Schaeffer argues. The laws also need to be tightened so that companies cannot dump tons of toxics into the air and get away with it by claiming it was an accident, he continues. "Polluters are expected to pay when their accidents release oil or chemicals into our water. We ought to demand the same accountability when the same chemicals are released into the air, where they may even be more threatening to the public's health, and degrade the quality of life in towns like Port Arthur," he concludes.[13]

**Public Citizen Report of Pollution in Port Arthur**

Since the EIP reports were issued, pollution from industrial facilities surrounding Port Arthur has not slackened. Following up on the EIP studies, Public Citizen published a report entitled "Industrial Upset Pollution: Who Pays the Price?" [14] According to this report, the Motiva Enterprise refinery in Port Arthur, which began as Texaco's first refinery in 1903, emitted 14.9 million pounds of criteria air pollutants during routine operations in 2003 and another 648,400 pounds during emission events and maintenance, start-up and shutdown activities. In all, Motiva released over 15.5 million pounds of criteria pollutants in one year, making it rank in the top ten percent of the dirtiest plants in the U.S.[15]

Motiva reported 86 upset events in 2003 and 2004 in which toxic chemicals were dumped into the air in significant quantities. Some of these accidental releases can be substantial. For example, on April 14, 2003, Motiva emitted 274,438 pounds of air contaminants including 107,280 pounds of hexane (toxic to the nervous respiratory, and reproductive system); 24,607 pounds of butane, 29,424 pounds of heptane, 11,834 pounds of isobutene, 37,538 pounds of pentane (toxic to the central nervous system and causing fatigue, irritability and other behavioral changes); and 14,992 pounds of propylene (toxic to the respiratory system). Many of these pollutants also can create ground-level ozone pollution (smog) that causes breathing problems and aggravates asthma.[16] A day later, on April 15 the plant emitted about nine tons of particulate matter while children were waiting at bus stops on their way to school. Some 15 residents called up regulators to complain of heavy black smoke, bad odors, soot falling on cars; and others complained of health problems such as headaches and kids with asthma problems.

Similar large-scale accidental releases of toxic chemicals into the air over Port Arthur came from other neighboring facilities as well. For example, the BASF petrochemical complex, the world's largest naphtha steam cracker, emitted 1.9 million pounds of criteria pollutants into the air in 2003; and an additional 2.3 million pounds through emission events. This totals over 4.3 million pounds of pollutants in one year. The BASF facility is also one of the dirtiest plants in the nation and is in the worst percentile for cancer risk. In the first five months of 2005 the plant experienced 66 release events. Previously, on July 30, 2004 the plant released 152,215 pounds of air pollution; and less than two months later it spewed 127,011 pounds of contaminants including 15,000 pounds of pollutants recognized by the federal government as hazardous including 1,3 butadiene, benzene, and styrene -- all recognized as carcinogens.[17]

Together, these plants generate enough pollutants to make Jefferson County, in which Port Arthur is located, one of the dirtiest counties in the country. It also ranks in the worst percentile for total environmental releases for increased cancer and other non-cancer health risks, for releases of recognized carcinogen, as well as for developmental and reproductive toxicants.[18]

Not surprisingly, the added cancer risk from hazardous air pollutants (HAPs) is higher in Jefferson County (670 per million) compared with the overall rate in the state of Texas (550 per million). The added cancer risk in Jefferson County is also 670 times higher than the goal of the Clean Air Act. Death rates for respiratory cancers were also elevated.[19] The release of large volumes of benzene in the area surrounding Port Arthur is of particular concern, notes Neil Carman of the Lone Star Chapter of the Sierra Club. Toxic Release Inventory (TRI) data going back to 1997 shows that 342,850 pounds of benzene were released in Port Arthur; 115,574 pounds in Beaumont; 54,666 in East Port Arthur; and 1,829 pounds in Port Neches. These locations are all relatively close together and toxic emissions float around the area and mix, explains Carman. In all they account for 78 percent of the benzene emissions in Jefferson County, he adds.[20] The added cancer risk to Jefferson County residents from just exposure to benzene is 54 cases per million compared with the state burden of 35 additional cancers per million.[21] Benzene is also a cause of leukemia and Jefferson county males had a higher rate than the state for eight of the ten years between 1990 and 2000.

Summing up their findings, Public Citizen judged the regulation of the petrochemical industry in Jefferson County as woefully lacking in rigor: “This study shows a stunning failure of our state environmental regulatory agency, which has an obligation to the citizens of Texas to protect them from harmful air contaminants.” TCEQ allows petrochemical companies to break the law, it does not impose penalties that deter violators, it allows companies to profit from harming public health, and it does not have an adequate monitoring system,” the report states.[22]

In the face of this massive chemical exposure, residents on the ground in Port Arthur have limited options. Most of those who could afford to have moved away but many are unable to move for financial reasons. What is left to them is to organize, protest and monitor the air. Kelley has begun his own monitoring and warning efforts and sometimes, when a release is heavy, goes door-to-door telling people to either get out of the area until the cloud lifted; or to shut their doors and windows and shelter in place. “When a cloud stays over our community for hours you know it is a serious problem,” Kelley observes.[23] He also began to sample the air and captured readings 4.2 ppbv of benzene in the air which was substantially above the state long-term health screening level, the EPA regional screening level, and the Agency for Toxic Substances and Disease Registry (ATSDR) intermediate minimal risk level. He also found toluene, propane, and a host of other toxic chemicals in the sample he took. While Kelley was conducting this citizen air monitoring, officials from the Texas Commission on Environmental Quality (TCEQ) arrived to investigate resident complaints but none of them had equipment with them. “Are you here to watch?” Kelley asked. The irony of the situation was apparent: here was a local citizen monitoring the air while the officials sent to investigate were empty handed. Significantly, despite the size of the Motiva upset, which lofted 219 tons of pollutants into the air over Port Arthur, TCEQ did not issue a violation against the company.

**Long Struggle with Regulatory Agencies and Petrochemical Plants**

The struggle to improve air quality in Port Arthur and neighboring Beaumont, Texas has been a long-term campaign. In 2001, the Lone Star Chapter of the Sierra Club and other groups challenged the US EPA’s description of ground level ozone (smog) problems in the area as “moderate.” Arguing its case in the Fifth Circuit Court of Appeals, Sierra Club attorneys held that the smog problem should be reclassified as “serious.” On April 29, 2004, the Court agreed with the Sierra Club, required that the EPA elevate the air quality threat from moderate to serious, and

moved up the date by which the air had to be cleaned up to meet the agency's one-hour standard for ground-level ozone from November, 2007 to November, 2005.

"The quality of air in Beaumont and Port Arthur communities has been unhealthy for many years, and we felt a new approach was needed that would accomplish improved air quality quickly," said Dr. Neil Carman, a former state inspector of refineries who turned whistle-blower and now is director of the Lone Star Chapter of the Sierra Club's Clean Air Program. Industrial polluters in the "golden triangle" around Port Arthur and Beaumont "were supposed to make large pollution cuts by 1996, but the EPA decided to give them until 2007 to clean up their act. Folks in this area shouldn't have to wait ten years for breathable air. So we felt we had no choice but to go to court," Carman said.

"The Triangle [including Port Arthur] continues to have high ozone days each year when industrial pollution makes the air unhealthy to breathe. Ground-level ozone is a respiratory irritant, which has been shown to aggravate asthma, particularly in children. Adults with asthma and other lung conditions are also hard-hit by ozone. Breathing in too much ozone is like getting a sunburn on the lungs. It physically damages the tissue and kills lung cells," Carman explains.[24]

There was also an environmental justice issue involved in that heavy pollution in the area falls disproportionately on minority and low-income residents, the Sierra Club and other environmental groups argued to EPA officials in a lengthy letter commenting on the agency's failure to enforce the Clean Air Act. Port Arthur's population is more than 50 percent poor and minority, rising to 100 percent in areas near the fenceline with industry, the letter continues. "Recent documents indicate that federal housing for poor minorities was allowed to be built in Port Arthur directly adjacent to these large polluting facilities with little regard for the health and welfare of those citizens," the report asserts.[25] "Beaumont-Port Arthur's minority and low-income populations are at elevated risk, are more susceptible to respiratory illness, are subject to higher concentrations of air pollution due to EPA's failure to administer the [Clean Air] Act…," the letter adds.

Following the lawsuit and court decision, a deal was cut whereby five petrochemical companies agreed to voluntarily reduce their emissions; and the state of Texas agreed to expedite a plan to reduce air pollution in the area to meet one hour and eight-hour ozone standards. Polluting industries in the Port Arthur/Beaumont area agreed to install $460 million in pollution control technologies. This voluntary investment was designed to reduce nitrogen oxide emissions by 3,263 tons, sulfur oxide emissions by 15,000 tons, volatile organic compounds by 68 tons, hydrogen sulfide by 5.8 tons, carbon monoxide by 173 tons, particulate matter by 226 tons, and other various toxic gases by 75 tons per year. None of these reductions were required by any legal requirement, Carman notes.[26]

In return, environmental groups agreed to a "serious" rather than "severe" designation of the ground-level ozone air pollution problem, Carman states. The agreement also had a provision that paid for the purchase of two state of the art air quality monitors so that CIDA can monitor air quality locally. "Our community has lived under the shadows of these facilities for decades, wondering whether a release is harmless or deadly [With this equipment] we will now have the means to know, instantaneously, what is in the air and tell the community the appropriate response," Kelley said.[27]

With the two new Cerex air-quality monitoring devices, which Larson found for him, Kelley began to sample air in West Side Port Arthur and detected elevated levels of toxic chemicals. In one sample he captured readings of 79 ppb of benzene in the air and 200 ppb of sulfur dioxide. Armed with hard data on toxic releases in his neighborhood, Kelley repeatedly informed state and federal regulatory agencies of his findings and urged them to take action against the nearby plants that were violating their air permits. Often he was ignored but over time his campaign for cleaner air began to attract media attention. This, in turn, put pressure on regulatory agencies to act. Among the early victories Kelley and his colleagues won was an agreement with Valero/Premcor that the company would reduce its emissions of sulfur dioxide at its Port Arthur

plant from 225 tons to 125 tons annually. Flaring is down 20-25 percent and the regulatory agencies are issuing more citations for violations of its flaring rules. BASF and Valero/Premcor have invested in some chemical recovery/ pollution control devices. And Kelley also convinced the U.S. Environmental Protection Agency to impose a violation notice against the Motiva refinery for failure to report a number of "upsets" in which toxic chemicals were released.[28]

**New Pollution Controls Promised**

When Motiva Enterprises decided to expand their Port Arthur refinery by 125 percent, making it the largest in the nation, they were required to apply for a new air permit for these expanded operations. This gave a coalition of activists who wanted to reduce pollution from the plant new leverage.

The team that negotiated with Motiva included Hilton Kelley at CIDA; Neil Carman at the Lone Star Sierra Club; Denny Larson at Global Community Monitor; Jim Blackburn, an environmental lawyer; Alex J. Sagady, a specialist in air permit negotiations; Karla Raettig and Eric Schaffer of the Environmental Integrity Project; Layla Mansuri of Austin; and a coalition of environmental justice activists. Together, they effectively blocked the Motiva expansion application for over a year. This regulatory intervention, in addition to a vigorous media campaign, brought Motiva officials to the negotiating table on November 6, 2006, to sign a Community Enhancement Agreement.

In its application to expand its operations, Motiva also promised to install an array of sophisticated air pollution control technologies at an earlier date than previously anticipated, as well as installing more sophisticated monitoring equipment.

Giving credit where it is due, Neil Carman from the Sierra Club notes that Motiva "diligently proposed many positive refinery efforts" including expanding the sulfur recovery operation, installing another flare gas recovery system, no flaring of routine emissions, instituting a carefully controlled shut-down process to reduce emissions, improving VOC leak repair procedures, replacing equipment to lower NOx emissions, covering sludge treatment units, removing old storage tanks from service, improving controls on cyanide emissions, installing storage tanks for VOCs to keep down losses, co-generating electrical power, and a number of other innovations. With these and other initiatives Motiva "may well become the model refinery in Texas with all these positive efforts," Carman observes in a rare compliment to corporate officials.

While Motiva officials contend that their proposal to install these pollution control devices, which go beyond what is required by law, came because they made sense to corporate officials, others are convinced that pressure from environmental groups, federal regulatory actions, and lawsuits had something to do with it.

Most of the improvements in pollution controls that were put into place at the Port Arthur Motiva refinery prior to the company's expansion permit request were the result of Motiva "being busted by the U.S. EPA under a massive, industry-wide investigation that uncovered widespread illegal [refinery] expansions and lack of basic pollution controls that we pushed for," asserts Denny Larson of the Refinery Reform Campaign and Global Community Monitor. The improved pollution controls in Motiva's permit request to expand their Port Arthur facility came only after they had been "hammered upon" by activists, he adds. Another motivation for offering the pollution controls was that the Sierra Club-CIDA lawsuit referred to "non-attainment" ozone pollution problems that were bound to surface when Motiva's permit application was examined, he says. Using more temperate language, Neil Carman agrees: "I think Motiva knew we would challenge them and that may have been a strong reason for proposing the new controls," he says.

Unsurprisingly, Motiva officials see this differently. Rick Strauss, environmental manager at Motiva's Port Arthur refinery, says that the company decided on the pollution control investment

well before the environmentalists knew what they had planned. For example, Motiva decided to install a flare gas recovery system, even though it was not required by law, because it had proved to reduce flaring minutes by 90 percent at another facility. “We sold that to the company as the right thing to do,” he says. Similar decisions were made to install volatile organic chemical (VOC) and nitrogen oxide (NOX) pollution controls as a way to limit chemicals that cause smog.

**Community Enhancement Agreement**

Hilton Kelley used the leverage with Motiva over their expansion permit application to argue that the company should put some money into improving health care and conditions of life for fenceline residents who would be most directly impacted by the expansion.

“Port Arthur residents on the West Side are tired of being dumped on and left out of the benefits of these billion dollar projects. If Motiva wants to build the biggest refinery in the nation on top of us then they need to be ready to sign a Good Neighbor Agreement that builds our community and protects our health,” Kelley asserted.[29] The expansion of the Motiva refinery in Port Arthur is projected to cause major increases in the amount of pollutants coming out of the plant and drifting into adjacent neighborhoods, he adds. Chemist Wilma Subra agrees with Kelley: “When the Motiva Refinery is expanded there is the potential to increase the ambient air chemical concentrations,” she says. Whether or not the expansion causes air quality to worsen will depend on the monitoring and enforcement of the way the facility is operated, she adds.

Motiva spokesman Rick Strauss takes issue with this: “I don’t agree with Hilton where he says that our expansion is going to have a significant impact on residents. I’m going to push back on that,” he says. In fact, for two key pollutants that cause smog – VOCs and NOX – the newly expanded facility will actually reduce emissions because old equipment will be replaced with more efficient components. According to Motiva’s permit, the expanded facility will reduce VOC emissions by 7.3 tons a year and reduce NOX emissions by 322.1 tons.

But this accounting does not include the release that will go up, Kelley observes. If the expansion takes place, emissions from the Motiva refinery would increase 31 percent above 2003 levels of 7,340 tons to 9,632 tons. This would include major increases in sulfur dioxide and particulate pollutants both of which can cause respiratory harm, Kelley notes. Hydrogen sulfide emissions could also be expected to increase by 1.75 times, he continues. What this means for West Side Port Arthur residents is “that they will have to breathe more dirty air,” he warns. Motiva officials concede that the expanded facilities will increase emissions of sulfur dioxide (SO2) by 2,106 tons, carbon monoxide by 2,048 tons, and particulate matter by 479 tons among other increases.

**No Buy-Out Option**

In the face of these increased levels of pollution, a Good Neighbor Agreement should include a buy-out option so that residents can sell their homes for a fair price; a decrease in emissions, upsets, and flares; an integrated monitoring network; a community environmental education and health center; an evacuation plan; and an independent program to monitor compliance, Kelley argues.

Strauss disagrees about a buy-out option. He says that Motiva paid for a third party survey of West Port Arthur residents to see what problems they most would like Motiva to work with them to solve. Pollution problems were not high on the list, Strauss notes. Instead, jobs, housing, education, and drugs were problems listed as more pressing than pollution. Residents said they wanted help improving their community not moving out of it, Strauss continues. Only one or two residents would likely want to move, he adds. This estimate is contradicted by my own interviews with Carver Terrace residents many of whom stated to me that they wanted financial help moving to an area where the air was not so heavily polluted. Confronted with reports that many public

housing residents want to be relocated, Strauss notes that the community is divided. “The problem we have as a company is that we cannot do what everyone wants if they all want to do something different,” he adds with considerable frustration.

**Two Million Dollar Development Fund**

Despite these disagreements, Kelly was successful in convincing Motiva to launch a Community Enhancement Agreement that would create a foundation dedicated to the improvement of conditions of life in West Port Arthur. As part of that “good neighbor agreement” Motive officials committed to contribute money to a community development fund on which Kelley will have a seat on the board of directors. Initially, Motiva will contribute $2 million to the fund, and, if certain criteria are met, there will be an additional $1.5 million matching grant. The fund will pay for improvements in the quality of housing, as well as fostering new commercial development, social and economic opportunities and community programs.

“This agreement has the potential of transforming West Port Arthur. It represents the social side of sustainable development, and holds out the hope of environmental and social equity for those living adjacent to the new refinery,” Kelley said after the signing. He described the agreement as “unique in the United States.”

Jim Blackburn, the environmental attorney who represented CIDA, was similarly enthusiastic: “This agreement starts to address a pattern of community neglect and injustice that has existed for decades in West Port Arthur. Our hope is that it will be the first of many steps toward equity for the community.” Blackburn lauded the settlement agreement as “the best example of a sustainable development agreement in the United States… The inclusion of a social component makes this settlement agreement both precedent-setting and exciting.”

Beyond the good news about Motiva’s contributions to a community development fund, there remain outstanding health issues not resolved by the agreement. For example, there is nothing in the agreement that commits Motiva to pay for a buy-out option for those residents who want to move out of the community to avoid the additional pollution that the expanded facility will emit. Relocation of residents was brought up during negotiations with Motiva but left out of the final agreement.

Nor does the agreement make clear what will be the fate of the many elderly residents who already use oxygen tanks in order to survive the polluted air in their West Side apartments; and the large number of young people who need medication and treatments for pollution-induced and aggravated asthma. Whether, one day, these vulnerable populations will be relocated remains to be seen. While currently unwilling to pay to relocate these people, Motiva has offered to help pay for respiratory tests and treatments by committing to donating money to the Gulf Coast Health Center over a five year period starting with a $25,000 contribution. The money will be used to provide low-cost and no cost respiratory analysis and treatment for those residents who qualify.

While the Community Enhancement Agreement with Motiva is an important victory for Kelley and residents of West Port Arthur, CIDA, and the coalition of environmental justice activists who supported the clean air campaign, it remains to be seen how the agreement will be implemented; and whether the pollution control equipment of the expanded facility works well enough to improve the air in Carver Terrace apartments.

What the agreement does do is provide CIDA with more pollution monitoring equipment. Following the axiom, “trust but verify,” environmental activists and lawyers pushed for more monitoring of plant emissions. To this end, some of the foundation money will be used to purchase two new hand-held pollution monitors for CIDA, as well as new stationary air monitors to measure pollutants such as hydrogen sulfide, not currently monitored in Port Arthur. An advanced hydrogen sulfide odor detection device will also be purchased and installed. Funding

will also be made available for an improved disaster warning system to protect residents in the event of potentially harmful releases of toxic chemicals; as well as funding for better access to health facilities for local residents. Finally, the agreement commits Motiva officials to provide for better exchanges of information about the operation of their plant with local residents, including an annual environmental report to the community.[30]

Motiva officials emphasize that their operations are getting cleaner. There has been a significant reduction in emissions from the Port Arthur Motiva refinery since 1990, contends Motiva spokesman Stan Mays: “Millions of dollars have been invested in pollution control equipment at Port Arthur over the past decade. As a result, there has been a 75 percent reduction in emissions since 1990. In 2004 the refinery flared 70 percent less often and 90 percent fewer minutes” and there was an additional 21 percent decrease in 2005.

But many of the residents of Carver Terrace say they are still choking on the bad air from surrounding heavy industries. West Port Arthur resident Juaniki Conley, who grew up locally, says she suffers from bronchitis, elevated blood pressure, hypertension, and allergies. She also has three kids “who have to have breathing treatments.” Do these health problems have anything to do with pollution wafting across the fenceline from Motiva and other heavy industries? She thinks it does…and so do a lot of her neighbors.

*This story and others like it can be found on the Collaborative on Health and the Environment website at: www.HealthandEnvironment.org.*


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