

Big Breaks for Big Polluters 2008

Galveston-Houston Association
for Smog Prevention
(GHASP)
www.ghasp.org

Why enforcement inconsistencies
contribute to ineffective
air pollution control

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INTRODUCTION

Scorecards are kept for any number of things, from sporting events to votes cast by elected officials. Such information is useful to determine past behavior and, once a sufficient number of scorecards have been accumulated, detect trends and patterns over time. Previous attempts have been made to build a scorecard for air emissions from the petrochemical industry that is such a major part of the Houston region, economy and history. There is, however, a fundamental problem with building scorecards for industrial air emissions – what data should be used?

Other organizations such as Environmental Defense Fund (ED) and Environmental Integrity Project (EIP) use annual emissions data from the U.S. Environmental Protection Agency's Toxic Release Inventory (TRI) to compile a ranking list. There are several reasons why GHASP did not use the TRI. First, it is hard to compare emissions from a large facility like Exxon Mobil to a much smaller facility. Second, because the TRI is based on industry's self-reported emissions estimates calculations, the accuracy of these annual emissions numbers are increasingly being questioned as we learn more about actual remote air monitoring and measurement technology as EIP recently pointed out in its recent Refined Hazard Report in 2008.

Having negated annual air emissions as a source of data to build our scorecard, Galveston-Houston Association for Smog Prevention (GHASP) investigated other emissions data sets. GHASP reviewed all air enforcement actions approved by the Texas Commission on Environmental Quality (TCEQ) in 2007 for the Houston-Galveston-Brazoria (HGB) non-attainment area.¹ After analyzing the data, GHASP determined the top ten worst air violators for 2007 in the HGB area. This report discusses the components and making of our 2007 top ten list.

While analyzing the data, GHASP noticed a few areas of concern in the current penalty practices, as a stringent and evenly administered penalty policy directly relates to deterring future violations. This report gives examples of concerns in the TCEQ's penalty practice.

As always, GHASP is grateful to those agency inspectors, lawyers, and staff who work diligently to enforce the state's air laws to the best of their ability. It is no small task, and at times, their hands are constrained by regulatory restrictions or political apathy toward stringent accountability of one of the state's most important industries – the worst violators all being part of industries identified as "key to Texas' future economic growth."²

This report attempts to both identify those industrial facilities with the worst records while giving credit to those facilities that have improved their control over emissions. We acknowledge from the outset that this data set is far from perfect. Looking at the TCEQ's air enforcement actions during 2007 does not mean

that all of the original violations occurred in 2007, or even in 2006. GHASP does believe, however, that using air enforcement actions will, over time, give the best picture of which facilities are good actors committed to reducing air emissions, which facilities are recalcitrant violators, and which facilities simply had a bad year.

TEN WORST AIR VIOLATORS

In developing the top ten list, GHASP looked at administrative penalties – those handled by the TCEQ enforcement division and approved by the commission. Only those actions finalized in 2007 for facilities in the eight-county region of the HGB nonattainment area were studied. Those eight counties consist of Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller. After collecting the data, GHASP created four separate top ten lists from sorting the enforcement actions by:

- the total number of rule violations finalized in 2007,
- the number of additional pending air enforcement actions,
- the worst compliance history penalty percentage assigned to a facility in 2007, and
- the number of those violations that were deemed by the TCEQ to be "actual major" violations.

The results of those lists are published at the end of our report. From the four lists, GHASP determined the final Top Ten Worst Air Violators for 2007 in the HGB Area, with each facility in the final top ten showing up in the four top ten lists more than once. The order of the final top ten is sorted based on a weighted scale, giving equal weight to the four criteria: (25% x Number of Rule Violations) + (25% x Actual Major Violations) + (25% x Additional Pending Enforcement Actions) + (25% x Compliance History %). As a zero for any category is the most ideal, therefore a higher weighted rank equates to a poorer performance for any facility.

There are certainly valid criticisms of assigning equal weights to the four categories. Some will doubtlessly argue that facilities with more actual major events should receive a higher ranking, while others would argue that total number of violations, regardless of size, should receive the greatest weight. After looking at the four categories, GHASP determined that the fairest weighting, and the one that will establish the most valuable trends over time, would be an equal distribution of weight between the four categories. Thus, a facility that has a fair compliance history but experienced a single major event will not be unduly punished in the rankings, just as a company that has managed to avoid major events but has an otherwise atrocious history will not escape criticism.

GHASP chose the four sorting criteria based on the penalty calculation worksheets that the TCEQ uses to deduce penalty amounts for air violations. Since the analysis is based on the

TCEQ's penalty worksheets, the focus is on each facility as a separate entity. Therefore, the same company name may show up on a list more than once, reflecting performance by separate locations. The analysis does not account for any changes or improvements that have occurred at each facility since the violation was documented. The analysis reflects only those violations that were penalized by the TCEQ in 2007. Since the TCEQ does not always complete the penalty process within one year, some investigations included in this study subsequently go back as far as 2003, and violation events even further. Nevertheless, analyzing those penalty actions completed within 2007 provides a look at the most recent complete year of enforcement by the TCEQ. While it might be true that looking at events according to the year in which they occurred would give a better picture of facility performance over time, such a process would make the effort unmanageable given GHASP's resources.

Total Number of Rule Violations

Looking at the total number of rule violations a facility is penalized for can be an indicator of who is not taking compliance with the state's air laws seriously enough. To be clear, the number of rule violations finalized in 2007 may not reflect all of a facility's violations, since not all violations found by investigators are subsequently penalized by the TCEQ (see Shell Deer Park). As stated by the TCEQ in response to a public comment letter regarding violations by Gulf Chemical and Metallurgical Corporation, "The investigators documented twenty-one violations following the initial investigation. However, the Enforcement Division reduced the total to fourteen violations during the enforcement screening process. Some of the violations in the investigation report were combined while others were dropped."³ Topping this list for 2007 are Texas Petrochemicals in Houston, Valero Refining in Houston, and Lyondell - Houston Refining in Houston.

Additional Pending Enforcement Actions

Within the current enforcement action before the commission, the TCEQ lists all additional pending enforcement actions with the facility under the heading of "other significant matters," including court orders, federal government orders, or complaints made by the public. For ease of understanding, GHASP has renamed this number "Additional Pending Enforcement Actions" for the purposes of this report. Topping this list for 2007, are the Exxon Mobil Baytown Facility with ten enforcement actions pending simultaneously, Lyondell - Houston Refining in Houston with nine, and tied at third with seven each are the Exxon Mobil Chemical Baytown Olefins Plant and The Dow Chemical Company in Freeport.

Compliance History

When determining a penalty for an air violation, the TCEQ examines the facility's compliance history within the last

five years. According to the format provided in the Texas Administrative Code⁴, a set percentage increase is applied to the current penalty for repeat violations and bad conduct, and a set percentage decrease for voluntary disclosures and similar encouraged behaviors. This penalty adjustment is called the "compliance history enhancement", and does not include violations within the "additional pending enforcement actions" list; those actions are still pending with final status still unknown. Performance here provides a good representation of who is consistently failing to operate their facilities in a manner protective of the residents of the HGB area. Topping this list for 2007 are The Dow Chemical Company in Freeport, ConocoPhillips Sweeny Refinery in Old Ocean, and the Exxon Mobil Baytown Facility.

"Actual Major" Violations

Finally, and perhaps most importantly among those violations that make the docket, some are categorized as "actual major." As the TCEQ's current penalty policy explains, "for the release of pollutants to be considered major, the pollutant must be present in concentrations that exceed levels that are protective of human health or environmental receptors, and the pollutant must be in significant amounts."⁵ Lyondell - Houston Refining topped the list with seven actual major violations penalized in 2007. Some of the pollutants included in these harmful infractions were hydrogen sulfide, ammonia, nitrogen oxide, sulfur trioxide, butanes, butenes, pentanes, pentenes, propylene, carbon monoxide, and propane. Valero Refining in Texas City followed with six actual major violations, and the Exxon Mobil Baytown Facility followed with five.

Top Ten Worst Violators in the HGB Area in 2007

In the HGB area, 71 facilities were included in the 2007 TCEQ Marked Commission Agendas for air enforcement actions.⁶ The entire list can be found at the end of this article. Those not on the list did not have any violations finalized by the TCEQ in 2007. Of those that did have violations finalized by the TCEQ in 2007, table 1 shows the facilities that were found to be the top ten worst air violators for 2007 in the HGB area.

It should be noted that Dow Chemical and Exxon Mobil also showed up in the top ten for the Political Economy Research Institute's (PERI) "Toxic 100" report released in April 2008. PERI used the toxic reports inventory (TRI) and risk-screening environmental indicators (RSEI) provided by the EPA and added the data facility by facility in order to determine a corporate ranking.⁷

TABLE 1 - TOP TEN WORST AIR VIOLATORS OF 2007

| | Company Name | Type of Operation | Weighted Rank | Additional Pending Enforcement Actions | Compliance History Enhancement % | Number of Rule Violations | Actual Major |
|-----|--|-----------------------------------|---------------|--|----------------------------------|---------------------------|--------------|
| 1. | The Dow Chemical Company ID No. RN100225945 Freeport, Brazoria | Chemical manufacturing plant | 111.5 | 7 | 427 | 11 | 1 |
| 2. | ConocoPhillips Company ID No. RN101619179 Old Ocean, Brazoria | Petroleum refinery | 106 | 2 | 408 | 12 | 2 |
| 3. | Lyondell - Houston Refining LP ID No. RN100218130 Houston, Harris | Petroleum refinery | 96.25 | 9 | 353 | 16 | 7 |
| 4. | Exxon Mobil Corporation ID No. RN102579307 Baytown, Harris | Refining & supply company | 95.5 | 10 | 359 | 8 | 5 |
| 5. | BP Products North America ID No. RN1025350077 Texas City, Galveston | Refinery | 72 | 0 | 285 | 3 | 0 |
| 6. | Valero Refining-Texas, LP ID No. RN100219310 Texas City, Harris | Petroleum refinery | 69 | 1 | 252 | 17 | 6 |
| 7. | Equistar Chemicals LP Wholly-owned subsidiary of Lyondell ID No. RN100210319 La Porte, Harris | Petrochemical manufacturing plant | 66 | 5 | 251 | 8 | 0 |
| 8. | Valero Refining-Texas, LP ID No. RN100238385 Texas City, Galveston | Petroleum Refinery | 48.25 | 0 | 183 | 10 | 0 |
| 9. | Equistar Chemicals, LP (Lyondell) ID No. RN103773206 Pasadena, Harris | Chemical manufacturing | 47.75 | 1 | 180 | 10 | 0 |
| 10. | Total Petrochemicals USA, Inc ID No. RN100212109 La Porte, Harris | Petrochemical manufacturing | 42 | 2 | 160 | 6 | 0 |

One of the largest facilities in the HGB area, Shell Deer Park, does not appear on our list. It is also absent from the complete list of all actions finalized in 2007 by the TCEQ. As of August 2008, Shell has two cases outstanding with the TCEQ and has managed to keep its cases from appearing on the TCEQ Commissioner's agenda since early 2006. How Shell has managed to keep its name off of commissioner's agendas is not entirely clear.

Shell Deer Park has not, however, flown completely under the radar. In January 2008, Sierra Club and Environment Texas filed a Clean Air Act citizen enforcement suit against Shell Oil Company in federal district court in Houston. The lawsuit covers hundreds of separate instances, called "emissions events," over the past five years in which emissions from Shell's Deer Park refinery and chemical plant exceeded one or more hourly or annual emission

limits in the company's Clean Air Act permits. Approximately 45 such "emissions events," resulting in the allegedly unlawful release of more than 1.2 million pounds of air pollutants, occurred at Shell Deer Park in 2007 alone.

The TCEQ's lack of finalized actions against Shell not only means the public is losing out because a major point source is escaping timely punishment for air violations, but Shell could be enjoying a business advantage over its competitors. Some of these advantages are: a compliance history enhancement percent that does not include additional pending violations; and Shell's public image is not as regularly tarnished by having its name brought up in TCEQ violations announcements.

Penalty Policy's Deterrence Effect

In compiling the rule violations for review, GHASP repeatedly noticed three areas of concern.

- Whether the penalties are sufficiently set to deter future violations;
- Whether the current policy adequately recoups economic benefits gained by avoiding compliance; and
- Whether the \$10,000 per day per violation statutory limit has become insufficient.

Deterrence

The TCEQ penalty policy may be too lenient to promote deterrence. Many others have expressed this view for several years. The State Auditor's Office in 2003 expressed concern that the current TCEQ penalty policy has an even further reduced effectiveness as a deterrence to polluters in comparison to the TCEQ's former policies, noting that as a side-effect, this also results in a significant loss of revenue for the agency.⁸

Alliance for a Clean Texas reviewed enforcement trends of the TCEQ and found that despite statutory mandate⁹, the TCEQ penalty policy does not "require specific consideration of deterrence in setting penalty amounts."¹⁰ In 2004, the TCEQ conducted its own review of enforcement processes, eliciting comments from the public.¹¹ The commenters also expressed concern over "insufficient penalties."¹² The Final Report by the TCEQ provided recommendations for improving the deterrence factor in the penalty policy and stated that they could be adopted by July 1, 2005.¹³ However, the most recent update to the implementation of the TCEQ Enforcement Process Review Recommendations asserts, "The penalty policy rulemaking project is currently on hold until further notice from the commission. No date for future consideration by the commission has been established."¹⁴ This is of significant concern when facilities in 2007 amassed up to 22 violations (after the TCEQ screened some out and consolidated others), and had up to ten other air enforcement actions pending. Leniency in the agency's enforcement policies certainly is not protective of HGB residents and does not promote attainment in an area that has yet to meet the national minimum air standard for ozone.¹⁵

In the recommendations for improvements to the enforcement process, the TCEQ put forward, "fraud deterrence hinges on the 'perception of detection'", stating, "many experts believe that punishment is of little value in deterring crime because the possibilities of being punished are too remote in the mind of the potential perpetrator."¹⁶ Measuring the current 'perception of deception' deterrent factor, at least 80% of violators in the HGB area in 2007 were penalized for the same or similar violation as they were previously penalized, 46% of those with ten or more of a similar violation, and some with over 50 similar violations.

Much of the leniency is due to discretion afforded at the many convoluted stages of the enforcement worksheet. Put simply, the TCEQ fills out a worksheet for each violation, choosing a base penalty from the statutory range of \$0 to \$10,000.¹⁷ The TCEQ then reduces that amount by a matrix that considers the type of release (actual or potential), the severity of the harm (minor, moderate, or major), and the size of the facility (major or minor).¹⁸ A major facility with an actual release that causes major harm is penalized at 100%; every other combination receives something less, the next level dropping down to 50%, and continuing down to 5%. There are also "programmatic" violations for failure to submit required reports, maintain records, or obtain permits or authorizations. At most, these violations are penalized at 25% if a major facility violated more than 70% of the rule. The violation again depends on the size of the facility and whether it was a "major, moderate, or minor" violation. The penalty falls to 1% if they broke only 29% of the rule. It is crucial to note while failing to have a permit is considered a "programmatic" violation, all emissions without a permit are a violation, yet are not penalized. Once the violation and cost per violation is determined, the TCEQ then decides the number of violations to attribute to the facility. "The number of violation events that will be assessed a penalty depends on the number of times the violation is observed, the specific requirement violated, the duration of the violation, and other case information."¹⁹ After determining the amount of the penalty and the number of violations, the entire penalty may be adjusted. "Adjustments may be made based on compliance history, repeat violator, culpability, good-faith effort to comply, economic benefit gained through noncompliance, compliance history classification, and other factors as justice may require."²⁰ After all the adjustments, the final penalty amount is checked against the \$10,000 per violation per day statutory penalty maximum and reduced accordingly. Thus, there are many opportunities for discretion built into the system and an overall tendency toward leniency.

Following are examples from the top ten lists of this leniency built into the current penalty policy.

Equistar Chemicals, LP, a wholly owned subsidiary of Lyondell

According to the Penalty Calculation Worksheet filled out by the TCEQ, Equistar released into Harris County 38,576 pounds (19.3 tons) of Ethylene, a highly reactive volatile organic compound (HRVOC), during an avoidable emissions event that began on December 22, 2003 and lasted until April 1, 2004. Additionally, Equistar failed to report the event accurately. The TCEQ deemed this event an "actual moderate" harm, and applied a base penalty of \$5,000 from the available \$0 to \$10,000 range. While the number of violation days was 102, the current penalty policy calls for an "actual moderate" harm to be penalized for no more than a monthly infraction, instead of for each day that Equistar continued to emit harmful and avoidable emissions beyond their

legally permitted amount. Had the TCEQ assessed the penalty based on the number of days that Equistar continued to violate the emissions laws, the penalty could have been \$952,200 more than Equistar was actually charged (including, as discussed below, limiting the penalty to \$10,000 per day per violation).

| | |
|---|--|
| <p>Daily Calculation:</p> <p>\$5,000 base penalty x <u>102 daily events</u> \$510,000</p> <p>↓</p> <p>\$510,000 penalty x <u>239% enhancement</u> \$1,728,900</p> <p>or</p> <p>102 days x <u>\$10,000 limit</u> \$1,020,000</p> | <p>Monthly Calculation:</p> <p>\$5,000 base penalty x <u>4 monthly events</u> \$20,000</p> <p>↓</p> <p>\$20,000 penalty x <u>239% enhancement</u> \$67,800</p> |
| <p>Difference: \$1,020,000 - \$67,800 = \$952,200</p> | |

Exxon Mobil Corporation

One of the penalty calculation worksheets for Exxon Mobil in 2007 included 14 violations. Table 2 (pg. 8) shows a breakdown of some of the violations in the worksheet and the oddities in calculating penalties under the current policy.

The current penalty policy affords the discretion to categorize continuing air violations as less than daily violations depending on how the TCEQ has categorized the harm caused by the immediate violation. However, the two annual emissions limits violations listed in the table were calculated as a one-day, annual violation, despite their level of harm being equivalent to a monthly (for VOC) and quarterly (for PM10) level violation, and despite the fact that the facility was out of compliance for every day that it continued to emit after it already exceeded its annual limit.

All of these Exxon Mobil examples have been calculated before any enhancements or reductions within the TCEQ's discretion for good faith behavior, culpability, or past compliance. For this set of fourteen violations, Exxon Mobil's fines were enhanced by 45% for a poor compliance history. They were also enhanced 50% for hitting an economic benefit trigger (they received more than \$15,000 in economic benefits by violating the law). Nevertheless, the penalty was reduced by 10% "so that the reporting violation described in Violation No. 1 [would] not overly impact the penalty." Violation No. 1 was for failure to give the requisite advance notice of fire-fighting training.

Equistar Chemicals, LP, a wholly owned subsidiary of Lyondell

Equistar emitted 4,132 pounds of benzene and 3,783 pounds of VOC during an emissions event that began on April 7, 2006, and lasted 667 hours (or 28 days) – an "actual moderate" harm. The TCEQ penalized Equistar for one single event - a payable penalty of \$6,320 - despite the current policy claiming that discrete event violations involve situations which do not occur

HRVOC & Ozone

- Ground level ozone, one of the principal components of "smog," is a serious air pollutant that harms human health and the environment. Ground level ozone is formed in the air by chemical reactions of nitrogen oxides (NOx) and volatile organic compounds (VOCs) in the presence of heat and sunlight with light to no wind. VOCs are emitted as gases from certain solids or liquids; they are emitted by a wide array of products numbering in the thousands. Some VOCs react slowly and changes in their emissions have limited effects on local or regional ozone pollution episodes. Some VOCs form ozone more quickly, or generate more ozone, or enhance ozone formation from other VOCs. The reactivity of a compound is a measure of its potential to form ozone. In the HGB area, a comprehensive study revealed that fugitive or episodic releases of several highly reactive compounds (e.g., ethylene, propylene, 1,3-butadiene, and butenes) from petroleum refining and petrochemical facilities have contributed significantly to exceedances of the ozone national ambient air quality standards. See 40 CFR Part 51 [OAR-2003-0032; FRL-], EPA Interim Guidance on Control of Volatile Organic Compounds in Ozone State Implementation Plans, from <http://www.epa.gov/ttn/oarpg/t1/memoranda/27601interimguidvoc.pdf>.
- VOCs include a variety of chemicals, some of which may have short- and long-term adverse health effects, including eye, nose, and throat irritation; headaches, loss of coordination, nausea; damage to the liver, kidney, and central nervous system. Some can cause cancer in animals; some are suspected or known to cause cancer in humans. As with other pollutants, the extent and nature of the health effect will depend on many factors including level of exposure and length of time exposed. <http://www.epa.gov/iaq/voc.html>
- Numerous scientific studies have linked ground-level ozone exposure to airway irritation, coughing, and pain when taking a deep breath; wheezing and breathing difficulties during exercise or outdoor activities; inflammation, which is much like a sunburn on the skin; aggravation of asthma and increased susceptibility to respiratory illnesses like pneumonia and bronchitis; and, permanent lung damage with repeated exposures. It can worsen bronchitis, emphysema, and asthma. People with lung disease, children, older adults, and people who are active can be affected when ozone levels are unhealthy.
- Ground-level ozone can have detrimental effects on plants and ecosystems. These effects include: interfering with the ability of sensitive plants to produce and store food, making them more susceptible to certain diseases, insects, other pollutants, competition and harsh weather; damaging the leaves of trees and other plants, negatively impacting the appearance of urban vegetation, as well as vegetation in national parks and recreation areas; and reducing forest growth and crop yields, potentially impacting species diversity in ecosystems.

continuously, such as failure to submit an annual report.²¹ At the time of this 28-day “discrete event”, the Equistar facility had two other enforcement actions pending, one already finalized enforcement order, and 12 of the same or similar violations in the last five years.

ECONOMIC BENEFIT

Similar to the overall leniency in the TCEQ penalty policy is the leniency afforded to violators who, in breaching the air laws, gain a competitive advantage over those that comply.

The economic benefit gained and the cost of compliance thus far avoided are not recovered in the majority of penalties. In fact, any recoupment of economic benefit is never tied to the economic benefit, but rather to the amount of the base penalty.²² This does not fulfill the statutory requirement that the economic benefit derived be considered and the penalty be of “the amount necessary to deter future violations.”²³ Again, this issue has been articulated by many others for several years. The Alliance For A Clean Texas report and public commenters to the TCEQ self-audit report expressed concern that by not recouping the economic benefit, those violators gain an economic advantage over those that made the necessary expenditures.²⁴

TABLE 2 - EXXON MOBILE PENALTY CALCULATIONS WORKSHEET

| Infraction | Actual No. of Days Out of Compliance | No. of Violation Days Per TCEQ | Event Measure Per TCEQ | No. of Violation Events Per TCEQ | Violation Penalty Amount |
|---|--------------------------------------|--------------------------------|------------------------|----------------------------------|--------------------------|
| Failed to monthly monitor 37 seals for possible leaks from April 1, 2005 through July 31, 2005. | 122 | 4 | Monthly | 4 | \$4,000 |
| Failed to make an attempt to repair a leaking valve in ethylene service within five days of discovery of the leak. | ?* | 1 | Quarterly | 1 | \$2,500 |
| Operated a flare while the required analyzer was out of service from April 16, 2005 through April 19, 2005. | 3 | 3 | Single event | 1 | \$1,000 |
| Failed to limit analyzer down time to 5% of flare operating hours. Analyzer was out of service from June 12, 2005 to June 30, 2005. | 18** | 3 | Quarterly | 1 | \$2,500 |
| Exceeded the hourly MAER for VOC on January 18 and 19, March 14, May 23 and 28, July 15 and 21. | 7 | 6 | Quarterly | 3 | \$7,500 |
| Failed to install required seals to valves in a closed-vent system which potentially caused unauthorized emissions from February 1, 2005 to March 9, 2005. | 36 | 36 | Single Event | 2 | \$2,000 |
| Failed to comply with the annual maximum allowable emissions rate (MAER) for volatile organic compounds (VOC) from September 9, 2004 through September 8, 2005. Amount permitted: 2.29 tons per year (tpy); Amount emitted: 7.01 tpy. | ?*** | 1 | Annual | 1 | \$5,000 |
| Failed to comply with the MAER for particulate matter (PM10) from September 9, 2004 through September 8, 2005. Amount permitted: 0.01 tons per year (tpy); Amount emitted: 1.38 tpy. | ?*** | 1 | Annual | 1 | \$2,500 |
| Failed to obtain a permit before constructing and operating five catalyst loading stations. | ?**** | 79 | Monthly | 3 | \$7,500 |

* No dates or additional information provided in the worksheet

** According to the worksheet, the analyzer was out of service for 18 days – there is no indication how many days equates to a 5% downtime.

*** There is no indication at what point in the year the facility surpassed its annual emissions limit, resulting in an out-of-compliance status for each day thereafter.

**** TCEQ calculated the number of events beginning with the investigation date – there is no indication in the worksheet when construction or operation first began without the requisite permit.

The State Auditor's Office found that, for the period they studied, facilities were fined only 19% of the economic benefit gained from noncompliance.²⁵ In response to assertions about the inadequacy of the TCEQ penalty policy, TCEQ stated it believes the policy addresses those items the statute requires and that "the Commission is authorized to exercise discretion."²⁶

The current policy not only fails to deter, but rewards violators by allowing retention of benefits gained and costs avoided through noncompliance. By its own report, the TCEQ estimated economic benefit is actually applied "in less than 10 percent

Facts About Hydrogen Chloride

- At room temperature, hydrogen chloride is a colorless to slightly yellow, corrosive, nonflammable gas that is heavier than air and has a strong irritating odor. On exposure to air, hydrogen chloride forms dense white corrosive vapors. Hydrogen chloride can be released from volcanoes.
- Hydrogen chloride is irritating and corrosive to any tissue it contacts. Brief exposure to low levels causes throat irritation. Exposure to higher levels can result in rapid breathing, narrowing of the bronchioles, blue coloring of the skin, accumulation of fluid in the lungs, and even death. Exposure to even higher levels can cause swelling and spasm of the throat and suffocation. Some people may develop an inflammatory reaction to hydrogen chloride. This condition is called reactive airways dysfunction syndrome (RADS), a type of asthma caused by some irritating or corrosive substances.
- Depending on the concentration, hydrogen chloride can produce from mild irritation to severe burns of the eyes and skin. Long-term exposure to low levels can cause respiratory problems, eye and skin irritation, and discoloration of the teeth.
- Swallowing concentrated hydrochloric acid will cause severe corrosive injury to the lips, mouth, throat, esophagus, and stomach.
- We do not know if exposure to hydrogen chloride can result in reproductive effects.
- The Department of Health and Human Services (DHHS), the International Agency for Research on Cancer (IARC), and the EPA have not classified hydrogen chloride as to its carcinogenicity. IARC considers hydrochloric acid to be not classifiable as to its carcinogenicity to humans.
- For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology: Phone: 1-888-422-8737; Email: ATSDRIC@cdc.gov.

of all cases because the economic benefit is either negotiated out of agreed orders or the amount does not exceed the \$15,000 minimum. In cases where economic benefit does exceed the \$15,000 minimum, the recovery is usually less than \$1,000 after deducting the \$15,000 minimum."²⁷ The cost of compliance - the actual delayed and avoided costs associated with non-compliance, such as equipment, training or permit fees - is never considered in the recoupment trigger or penalty analysis. The interest saved on these delayed and avoided costs is calculated as the economic benefit gained, and is only considered for recoupment if it is at least \$15,000. In 110 of 118

worksheets evaluated by GHASP, these costs were not recouped as the \$15,000 trigger was not met. In the eight that hit the \$15,000 trigger, the TCEQ recouped only 11 percent of the economic benefit gained. Violating facilities retained \$1,812,153 in economic benefits over their competitors for failure to comply with Texas' air laws. When considering the avoided and delayed costs of compliance not recouped, violators retained a \$9,862,806 economic advantage. Disregarding the trigger, GHASP found that in 22% of the cases, the penalty assessed did not even cover the cost of compliance avoided and economic benefit gained, let alone penalize the facility for breaking Texas air laws. This does not even begin to consider the wasted costs of the agency for going through the motions of a 'penalty assessment' involving the investigations and enforcement divisions, among others, or the cost of the actual penalty the facility essentially avoided. Following are examples from the top ten lists that illustrates the seriousness of the flaw in the current policy.

Exxon Mobil

Using the same 14 violation worksheet from Exxon Mobil (from Table 2), the TCEQ estimated Exxon Mobil's economic benefit from the violations at \$200,885, and tallied the cost of compliance thus far avoided by Exxon Mobil at \$1,862,560. Since the economic benefit was at least \$15,000, it triggered an automatic enhancement to the penalty, in this case \$26,250 - just 1% of the benefits derived and costs avoided.

BP Products North America Texas City

Another example of the severity of the repercussions of such a lax penalty practice is BP Products North America Inc. in Texas City. The TCEQ estimated that the total economic benefit derived from eleven emissions violations (although one lasted 247 hours and yet was counted as a single event, and one occurred over the course of two days, yet was counted as a single event) was \$447,301 and that the estimated cost of compliance that BP had thus far avoided was \$3,345,795. As such, the penalty was increased by \$16,250, not even 0.5% for a facility whose compliance history warrants a 285% enhancement. (Of course, that is so long as the penalty still does not exceed \$10,000 per day). The following is quoted from a study conducted by the Independent BP Safety Review Panel, which was organized at the urgent recommendation of the U.S. Chemical Safety and Hazard Investigation Board:

BP is one of the world's largest companies. As of January 7, 2007, it had a market capitalization exceeding \$225 billion. BP operates in more than 100 countries across six continents and employs more than 96,000 people . . . At Texas City, many hourly workers who were interviewed in early February 2006 stated their perception that profit came before safety. Many of the Texas City management interviewees (interviewed in June

2006) acknowledged that in the past production had effectively been a priority over process safety concerns . . . When refinery personnel perceive that neither they nor others are actually held accountable for process safety, it is difficult to see how a positive safety culture can be sustained, or how process safety risks will not increase. Both the Mogford Report and the Stanley Report noted the lack of accountability (referred to as the perception of “[n]o consequences of good or bad performance” in the Mogford Report) as significant drivers of poor process safety performance at Texas City.²⁸

The same premise applies to holding the corporation responsible for continuous violations of Texas air laws: a lack of accountability is a significant driver of poor performance.

A TCEQ Interoffice Memorandum on July 24, 2007 advises, “It is appropriate to escalate the penalty through the use of “Other Factors As Justice May Require” in order to offset [an economic benefit realized].”²⁹ However, in looking at all of the enforcement actions in 2007, this policy has not yet been applied. In 2007, the “Other Factors As Justice May Require” adjustment option

Facts About Benzene

- Benzene is a chemical that is a colorless or light yellow liquid at room temperature. It has a sweet odor and is highly flammable. Benzene evaporates into the air very quickly. Its vapor is heavier than air and may sink into low-lying areas. Benzene dissolves only slightly in water and will float on top of water.
- Benzene works by causing cells not to work correctly. For example, it can cause bone marrow not to produce enough red blood cells, which can lead to anemia. In addition, it can damage the immune system by changing blood levels of antibodies and causing the loss of white blood cells.
- The seriousness of poisoning caused by benzene depends on the amount, route, and length of time of exposure, as well as the age and preexisting medical condition of the exposed person.
- The Department of Health and Human Services (DHHS) has determined that benzene causes cancer in humans. Long-term exposure to high levels of benzene in the air can cause leukemia, cancer of the blood-forming organs.
- Some women who breathed high levels of benzene for many months had irregular menstrual periods and a decrease in the size of their ovaries. It is not known whether benzene exposure affects the developing fetus in pregnant women or fertility in men.
- Animal studies have shown low birth weights, delayed bone formation, and bone marrow damage when pregnant animals breathed benzene.
- People who breathe in high levels of benzene may develop the following signs and symptoms within minutes to several hours: drowsiness, dizziness, rapid or irregular heartbeat, headaches, tremors, confusion, unconsciousness, death (at very high levels).
- For more information, go to the Centers for Disease Control and Prevention (CDC), National Institute for Occupational Safety and Health (NIOSH), Pocket Guide to Chemical Hazards

was utilized on four occasions to reduce the penalty, and on two occasions to increase the penalty due to the significant amount of contaminants released. The adjustment option was not used to offset the economic benefit realized.

STATUTORY DAILY LIMIT

Additionally troubling is a \$10,000 cap on air emissions violations that last less than 24 hours, regardless of how harmful they are or the damage they cause. This is not a cap set by the TCEQ, but it is a statutory limit that has been in place at least since the Texas Clean Air Act was consolidated into the Texas Water Code in 1997.³⁰ At that time, the legislature was concerned with the agency’s authorizing statutory authority being widely dispersed, resulting in inconsistencies and possible inequities.³¹ The current inequity is readily apparent: a competitive advantage to violators and a lack of deterrence capability by the policy at the cost of Texans’ health. The following case exemplifies the repercussions of such a restrictive and outdated statutory mandate.

Albemarle Corporation

Albemarle released 8,546 pounds of aluminum oxide and 1,529 pounds of hydrogen chloride over the course of three hours, resulting in minor burns on an employee, a precautionary shutdown of the Houston Ship Channel, a shutdown of Highway 225, and a shelter in place for the local community. For all of this avoidable harm to the community for violation of Texas’ air emissions laws, Albemarle was penalized \$10,000. Because the emissions event lasted less than 24 hours, the TCEQ is statutorily limited to penalizing Albemarle \$10,000. Based on their compliance history, Albemarle received a 47% increase in their penalty, but this enhancement exercise was a façade, as the \$4,700 could not be charged to Albemarle. Likewise, the TCEQ is afforded discretion to increase or decrease the penalty for “other factors as justice may require,” but any enhancement would not ultimately be charged to Albemarle, due to the statutory limit.

In all but one of the 33 actual major violations penalized in 2007 (those that exceed levels protective of human health or environmental receptors), the penalty determined by the TCEQ through the worksheet was a futile effort, as they were all subsequently reduced to the statutory limit of \$10,000.

RECOMMENDATIONS

After reviewing the 2007 air enforcement actions, GHASP has three recommendations for improving deterrence and enforcement.

1. The TCEQ should immediately begin to implement the recommendations made in 2003, 2004, and 2005 regarding

the insufficiency of penalties to deter future violations. Revision of the penalty policy should no longer be tabled.

2. The TCEQ should revise the penalty policy to remove the \$15,000 economic benefit trigger, and recoup all of the economic benefit realized and costs avoided, instead of a small percentage tied to the violation itself. The TCEQ should immediately be sure that agency representatives are following the policy memo regarding recovery of economic benefits realized.
3. The Texas State Legislature should revisit the \$10,000 per day per violation statutory limit. At a minimum, the \$10,000 limit does not carry the weight it carried when implemented so many years ago. Ideally, the statute should provide the TCEQ with the opportunity to recoup economic benefits retained by corporations who defy the air laws, and allow the TCEQ to deter major violations and repeat violators.

Considering again that 80% of violators were penalized for the same or a similar violation, that at least \$1,812,153 in direct economic benefits were retained by the facilities for their violations, and that there were 33 “actual major” violations in the HGB area in 2007, acting to improve the deterrence factor of the penalty policy is crucial to the health and future of Texas.

Notes

- 1 GHASP expresses its appreciation to staff at the Texas Commission on Environmental Quality (TCEQ), who answered several questions regarding penalty calculation worksheets, compliance histories, and the penalty policies, from which this report was constructed. The statements and opinions herein, however, are the sole responsibility of GHASP.
- 2 “[I]n 2003 the Texas Legislature passed SB 275 calling for the development of strategies to strengthen the competitiveness of key industry clusters” and in 2004, “Governor Rick Perry announced his vision of building the future economy of state of Texas. . . focus[ing] on building competitive advantage through six target industry clusters.” The result is the Texas Industry Cluster Initiative from <http://www.texasindustryprofiles.com/PDF/twcClusterReports/TexasPetroleumRefiningandChemicalProductsCluster.pdf>
- 3 Letter from TCEQ attorney, Alfred Oleke to GHASP Research Director, Meg Healey, on July 13, 2007, regarding Docket No. 2004-1389-AIR-E from <http://www7.tceq.state.tx.us/uploads/eagendas/Agendas/2007/9-19-2007/1389air.pdf>.
- 4 Texas Administrative Code, Title 30 Environmental Quality, Part 1 TCEQ, Chapter 60 Compliance History, § 60.1, from [http://info.sos.state.tx.us/pls/pub/readtac\\$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=30&pt=1&ch=60&rl=1](http://info.sos.state.tx.us/pls/pub/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=30&pt=1&ch=60&rl=1)
- 5 Penalty Policy of the Texas Commission on Environmental Quality, Sept. 2002, from http://www.tceq.state.tx.us/files/rg-253.pdf_4232740.pdf
- 6 This includes only administrative penalties; this also does not include air enforcement actions that may have been included within multi-media administrative actions.
- 7 Political Economy Research Institute, Corporate Toxics Information Project, Toxic 100 Press Release, April 10, 2008, from <http://www.peri.umass.edu/Corporate-Toxics.204.0.html>
- 8 GHASP only reviewed those enforcement actions finalized in 2007 and did not do a comparison to differences in any former penalty policies. For the State Audit Report’s assessment, see “An Audit Report on the Commission on Environmental Quality’s Enforcement and Permitting Functions for Selected Programs”, SAO Report No. 04-016, December 2003, pgs i, iii, 11, from <http://www.sao.state.tx.us/reports/main/04-016.html>. For a chronological list of many adjustments to the TCEQ penalty policy through the date of the State Auditor’s Report, see “Attachment A,” Texas Commission on Environmental Quality, Enforcement Chronology, January 16, 2004, from http://www.tceq.state.tx.us/files/enforc_chron.pdf_4176990.pdf.
- 9 TEX. WATER CODE § 7.053(3)(D), <http://tlo2.tlc.state.tx.us/statutes/docs/WA/content/htm/wa.002.00.000007.00.htm>. See also Mary Kelly, infra. Mary Kelly, Environmental Enforcement in Texas: A Review of Trends and Issues, Alliance For A Clean Texas, February 2003, pgs 3, 33, from http://www.edf.org/documents/2674_enforcement2.pdf.

- 10 Mary Kelly, Environmental Enforcement in Texas: A Review of Trends and Issues, Alliance For A Clean Texas, February 2003, pgs 3, 33, from http://www.edf.org/documents/2674_enforcement2.pdf.
- 11 TCEQ Enforcement Process Review Committee, Enforcement Process Review Final Report, January 2005, from http://www.tceq.state.tx.us/assets/public/comm_exec/pubs/ctf/013/ctf-013.pdf.
- 12 Response by TexPIRG, Hill Country Alliance, Texas Center for Policy Studies, Texas Campaign for the Environment, Environmental Defense, Public Citizen, Texas Environmental Justice Advocacy Services, Chapel Creek Neighborhood Association, Eco-Awareness Coalition, Texas Committee on Natural Resources, and Texas Impact to TCEQ request for input on future rulemaking for 30 Texas Administrative Code ch. 75”, November 17, 2005, pg 4, from <http://www.texascenter.org/feeproject/penaltycomments.doc>.
- 13 TCEQ Enforcement Process Review Committee, Enforcement Process Review Final Report, January 2005, pgs 95-7.
- 14 Implementation of Enforcement Process Review Recommendations, from http://www.tceq.state.tx.us/comm_exec/enf_rev/implement_recc.html.
- 15 The United States Environmental Protection Agency (EPA) “uses six “criteria pollutants” as indicators of air quality, and has established for each of them a maximum concentration above which adverse effects on human health may occur,” called the national ambient air quality standards. Nonattainment Areas are “areas of the country where air pollution levels persistently exceed the national ambient air quality standards.” The Green Book Nonattainment Areas for Criteria Air Pollutants, last updated March 14, 2008, from <http://www.epa.gov/air/oaqps/greenbk/o3co.html>.
- 16 TCEQ Enforcement Process Review Committee, Enforcement Process Review Final Report, January 2005, pg 97.
- 17 It is currently customary to choose the maximum of \$10,000. TCEQ Interoffice Memorandum, From: Glenn Shankle, Executive Director, To: John Sadler, Deputy Director, OCE and Matthew R. Baker, P.E., Director, Enforcement Division, Subject: Revisions to the Penalty Calculation Worksheet; Speciation of emission events and recovery of avoided costs of noncompliance, July 24, 2007, from http://www.tceq.state.tx.us/assets/public/comm_exec/pubs/rg/rg253/ed_memo_rg253.pdf.
- 18 Penalty Policy of the Texas Commission on Environmental Quality, Sept. 2002, pgs 2-8.
- 19 Penalty Policy of the Texas Commission on Environmental Quality, Sept. 2002, pg 9.
- 20 Penalty Policy of the Texas Commission on Environmental Quality, Sept. 2002, pg 11.
- 21 Penalty Policy of the Texas Commission on Environmental Quality, Sept. 2002, pg 9.
- 22 Penalty Policy of the Texas Commission on Environmental Quality, Sept. 2002, pgs 14-5.
- 23 TEX. WATER CODE § 7.053(3)(D) & (E). <http://tlo2.tlc.state.tx.us/statutes/docs/WA/content/htm/wa.002.00.000007.00.htm>.
- 24 Mary Kelly, Environmental Enforcement in Texas: A Review of Trends and Issues. Alliance For A Clean Texas, February 2003, pgs 4, 33-5. See also TCEQ Enforcement Process Review Committee, Enforcement Process Review Final Report, January 2005; and Response by TexPIRG, Hill Country Alliance, Texas Center for Policy Studies, Texas Campaign for the Environment, Environmental Defense, Public Citizen, Texas Environmental Justice Advocacy Services, Chapel Creek Neighborhood Association, Eco-Awareness Coalition, Texas Committee on Natural Resources, and Texas Impact to TCEQ request for input on future rulemaking for 30 Texas Administrative Code ch. 75, pgs 1-3.
- 25 An Audit Report on the Commission on Environmental Quality’s Enforcement and Permitting Functions for Selected Programs, SAO Report No. 04-016, December 2003, pg iii.
- 26 SAO Report No. 04-016, December 2003, pg 12.
- 27 SAO Report No. 04-016, December 2003, pg 91.
- 28 The Report of the BP U.S. Refineries Independent Safety Review Panel , January 2007, from http://www.safetyreviewpanel.com/cmtfiles/charter_related/Panel%20Report%20-%20January%202007.pdf.
- 29 TCEQ Interoffice Memorandum, From: Glenn Shankle, Executive Director, To: John Sadler, Deputy Director, OCE and Matthew R. Baker, P.E., Director, Enforcement Division, Subject: Revisions to the Penalty Calculation Worksheet; Speciation of emission events and recovery of avoided costs of noncompliance, July 24, 2007, from http://www.tceq.state.tx.us/assets/public/comm_exec/pubs/rg/rg253/ed_memo_rg253.pdf.
- 30 TEX. WATER CODE § 7.052(c), from <http://tlo2.tlc.state.tx.us/statutes/wa.toc.htm>.
- 31 Bill Analysis: Environmental Regulation, Senate Bill 1876, by Bivins (Chisum), 5-15-97, 75th Legislature, Committee Report, (Amended), from <http://www.legis.state.tx.us/tlodocs/75R/analysis/html/SB01876H.htm>.

ALL FIVE TOP TEN LISTS:

*some lists have more than ten facilities due to tied results

| Top Ten by Additional Pending Enforcement Actions | | Top Ten by Compliance History Enhancement % | | Top Ten by # of Violationss | | Top Ten by Actual Majors | | Top Ten by Weighted Rank | |
|--|----|--|-----|--|----|---|---|--|-------|
| Exxon Mobil Corporation RN102579307 | 10 | The Dow Chemical Company RN100225945 | 427 | Texas Petrochemicals LP RN100219526 | 22 | Houston Refining LP RN100218130 | 7 | The Dow Chemical Company RN100225945 | 111.5 |
| Houston Refining LP RN100218130 | 9 | ConocoPhillips Company RN101619179 | 408 | Valero Refining-Texas, LP RN100219310 | 17 | Valero Refining-Texas, LP RN100219310 | 6 | ConocoPhillips Company RN101619179 | 106 |
| Exxon Mobil Corporation RN102212925 | 7 | Exxon Mobil Corporation RN102579307 | 359 | Houston Refining LP RN100218130 | 16 | Exxon Mobil Corporation RN102579307 | 5 | Houston Refining LP RN100218130 | 96.25 |
| The Dow Chemical Company RN100225945 | 7 | Houston Refining LP RN100218130 | 353 | Exxon Mobil Corporation RN102501020 | 14 | Equistar Chemicals, LP RN100210574 | 3 | Exxon Mobil Corporation RN102579307 | 72 |
| BASF Corporation RN100218049 | 6 | BP Products North America RN102535077 | 285 | ConocoPhillips Company RN101619179 | 12 | ConocoPhillips Company RN101619179 | 2 | BP Products North America RN102535077 | 69 |
| Equistar Chemicals LP RN100210319 | 5 | Valero Refining-Texas, LP RN100219310 | 252 | Gulf Chemical & Metallurgical Corporation RN100210129 | 12 | Exxon Mobil Corporation RN102212925 | 2 | Valero Refining-Texas, LP RN100219310 | 66 |
| Equistar Chemicals, LP RN100210574 | 4 | Equistar Chemicals LP RN100210319 | 251 | The Dow Chemical Company RN100225945 | 11 | Texas Petrochemicals LP RN100219526 | 1 | Equistar Chemicals LP RN100210319 | 48.25 |
| Chevron Phillips Chemical Company LP RN100825249 | 3 | Valero Refining-Texas, LP RN100238385 | 183 | Solutia Inc RN100238682 | 11 | The Dow Chemical Company RN100225945 | 1 | Valero Refining-Texas, LP RN100238385 | 47.75 |
| Texas Petrochemicals LP RN100219526 | 3 | Equistar Chemicals, LP RN103773206 | 180 | Valero Refining-Texas, LP RN100238385 | 10 | Davis Petroleum Pipeline LLC RN100211739 | 1 | Equistar Chemicals, LP RN103773206 | 42 |
| ConocoPhillips Company RN101619179 | 2 | Total Petrochemicals USA, Inc RN100212109 | 160 | Equistar Chemicals, LP RN103773206 | 10 | Millennium Petrochemicals RN100224450 | 1 | Total Petrochemicals USA, Inc RN100212109 | 41 |
| Gulf Chemical & Metallurgical Corporation RN100210129 | 2 | | | Air Liquide Large Industries U.S. LP RN100233998 | 10 | Sunoco, Inc. (R&M) RN100524008 | 1 | | |
| Total Petrochemicals USA, Inc RN100212109 | 2 | | | | | Akzo Nobel Polymer Chemicals LLC RN102177391 | 1 | | |
| | | | | | | Albemarle Corporation RN100218247 | 1 | | |
| | | | | | | Channel Shipyard Company, Inc RN100218429 | | | |

Complete list of facilities with air violations finalized in 2007, ordered by weighted rank.

| Company Name | TCEQ ID No | Site | Type of Operation | Weighted Rank | Additional Pending Enforcement Actions | Compliance History Enhancement % | No of Rule Violations | Actual Major |
|--------------------------------|-------------|-----------|-----------------------------------|---------------|--|----------------------------------|-----------------------|--------------|
| The Dow Chemical Company | RN100225945 | Brazoria | Chemical manufacturing plant | 111.5 | 7 | 427 | 11 | 1 |
| ConocoPhillips Company | RN101619179 | Brazoria | Petroleum refinery | 106 | 2 | 408 | 12 | 2 |
| Houston Refining LP | RN100218130 | Harris | Petroleum Refinery | 96.25 | 9 | 353 | 16 | 7 |
| Exxon Mobil Corporation | RN102579307 | Harris | Refining & supply company | 95.5 | 10 | 359 | 8 | 5 |
| BP Products North America | RN102535077 | Galveston | Refinery | 72 | 0 | 285 | 3 | |
| Valero Refining-Texas, LP | RN100219310 | Harris | Petroleum refinery | 69 | 1 | 252 | 17 | 6 |
| Equistar Chemicals LP | RN100210319 | Harris | Petrochemical manufacturing plant | 66 | 5 | 251 | 8 | |
| Valero Refining-Texas, LP | RN100238385 | Galveston | Petroleum Refinery | 48.25 | 0 | 183 | 10 | |
| Equistar Chemicals, LP | RN103773206 | Harris | Chemical manufacturing | 47.75 | 1 | 180 | 10 | |
| Total Petrochemicals USA, Inc | RN100212109 | Harris | Petrochemical manufacturing | 42 | 2 | 160 | 6 | |
| Union Carbide Corporation | RN100219351 | Galveston | Chemical manufacturing | 36.5 | 0 | 143 | 3 | |
| Ineos USA LLC | RN100238708 | Brazoria | Petrochemical manufacturing plant | 35 | 1 | 134 | 5 | |
| Solutia Inc | RN100238682 | Brazoria | Organic Chemical Production Plant | 34.25 | 0 | 126 | 11 | |
| Marathon Petroleum Company | RN100210608 | Galveston | Petroleum Refinery | 33.75 | 0 | 132 | 3 | |
| Millennium Petrochemicals | RN100224450 | Harris | Chemical manufacturing | 32.75 | 0 | 129 | 1 | 1 |
| Equistar Chemicals, LP | RN100210574 | Brazoria | Chemical manufacturing | 32.25 | 4 | 116 | 6 | 3 |
| Pasadena Refining System, Inc. | RN100716661 | Harris | Petroleum refinery | 31.75 | 0 | 119 | 8 | |

| Company Name | TCEQ ID No | Site | Type of Operation | Weighted Rank | Additional Pending Enforcement Actions | Compliance History Enhancement % | No of Rule Violations | Actual Major |
|---|-------------|------------|---|---------------|--|----------------------------------|-----------------------|--------------|
| Vopak Logistics Services USA Inc | RN100223007 | Harris | Rail car cleaning & waste management | 14.75 | 0 | 52 | 7 | |
| Exxon Mobil Corporation | RN102501020 | Chambers | Polyethylene plant | 14.75 | 0 | 45 | 14 | |
| Crown Cork & Seal USA, Inc. | RN100711118 | Montgomery | Can manufacturing | 14.25 | 0 | 55 | 2 | |
| Albemarle Corporation | RN100218247 | Harris | Chemical manufacturing plant | 12.25 | 0 | 47 | 1 | 1 |
| Channel Shipyard Company, Inc | RN100218429 | Harris | Barge cleaning operation | 10.75 | 0 | 41 | 1 | 1 |
| Air Liquid Large Industries US LP | RN100215334 | Brazoria | Industrial gas manufacturing | 10.75 | 0 | 41 | 2 | |
| Sequa Corporation | RN100217926 | Harris | Metal coating | 10.75 | 0 | 37 | 6 | |
| KM Liquids Terminals, LP | RN100224815 | Harris | Petroleum products storage terminal | 10.5 | 1 | 39 | 2 | |
| Oxy Vinyls, LP | RN100224674 | Harris | Chemical manufacturing plant | 10 | 0 | 35 | 5 | |
| The Dow Chemical Company | RN104150123 | Harris | Chemical manufacturing plant | 9.5 | 0 | 37 | 1 | |
| Gulf Chemical & Metallurgical Corporation | RN100210129 | Brazoria | Chemicals & metal manufacturing facility | 9.25 | 2 | 23 | 12 | |
| Chambers County | RN100922392 | Chambers | Municipal solid waste/ medical waste disposal | 9.25 | 0 | 35 | 2 | |
| Crown Beverage Packaging, Inc. | RN100218072 | Fort Bend | Aluminum can manufacturing | 8.75 | 0 | 32 | 3 | |
| The Dow Chemical Company | RN102414232 | Harris | Chemical manufacturing | 8.25 | 0 | 31 | 2 | |
| US Minerals, LLC dba Stan Blast Abrasives | RN100929140 | Galveston | Coal slag crushing plant | 8 | 1 | 27 | 4 | |

| Company Name | TCEQ ID No | Site | Type of Operation | Weighted Rank | Additional Pending Enforcement Actions | Compliance History Enhancement % | No of Rule Violations | Actual Major |
|--------------------------------------|-------------|------------|--|---------------|--|----------------------------------|-----------------------|--------------|
| Lyondell Chemical Company | RN102523107 | Harris | Chemical manufacturing plant | 30.75 | 0 | 121 | 2 | |
| Penreco Partnership | RN100221282 | Galveston | Petroleum & coal products plant | 30.25 | 0 | 113 | 8 | |
| Chevron Phillips Chemical Company LP | RN100825249 | Brazoria | Chemical manufacturing plant | 29.5 | 3 | 112 | 3 | |
| Sunoco, Inc. (R&M) | RN100524008 | Harris | Chemical manufacturing plant | 26.75 | 0 | 105 | 1 | 1 |
| Exxon Mobil Corporation | RN102212925 | Harris | Chemical Plant | 26.5 | 7 | 89 | 8 | 2 |
| Albermarle Catalysts Company LP | RN100211523 | Harris | Manufacturing plant | 26 | 0 | 102 | 2 | |
| E.I. du Pont de Nemours and Company | RN100225085 | Harris | Chemical manufacturing | 25.5 | 0 | 101 | 1 | |
| Intercontinental Terminal Company | RN100210806 | Harris | Multi-prod bulk liquid storage & distribution term | 22.75 | 0 | 90 | 1 | |
| BASF Corporation | RN100218049 | Brazoria | Chemical manufacturing | 22.25 | 6 | 81 | 2 | |
| LBC Houston, LP | RN101041598 | Harris | Storage terminal | 22.25 | 1 | 86 | 2 | |
| The Goodyear Tire & Rubber Company | RN100870898 | Harris | Synthetic rubber manufacturing plant | 21 | 0 | 78 | 6 | |
| Air Liquide Large Industries U.S. LP | RN100233998 | Harris | Chemical manufacturing plant | 20.5 | 0 | 72 | 10 | |
| Chevron Phillips Chemical Company LP | RN102018322 | Harris | Chemical manufacturing | 18 | 0 | 71 | 1 | |
| Huntsman Petrochemical Corporation | RN100219740 | Montgomery | Chemical manufacturing | 16.75 | 0 | 60 | 7 | |
| Masters Resources, LLC | RN100209774 | Chambers | Pumping station for raw natural gas | 16.5 | 0 | 65 | 1 | |
| Akzo Nobel Polymer Chemicals LLC | RN102177391 | Harris | Chemical manufacturing plant | 16.25 | 0 | 63 | 1 | 1 |

| Company Name | TCEQ ID No | Site | Type of Operation | Weighted Rank | Additional Pending Enforcement Actions | Compliance History Enhancement % | No of Rule Violations | Actual Major |
|---|-------------|-----------|--|---------------|--|----------------------------------|-----------------------|--------------|
| E. R. Carpenter, LP | RN100210830 | Harris | Chemical manufacturing plant | 7.75 | 0 | 30 | 1 | |
| Arkema, Inc. | RN100209444 | Harris | Chemical manufacturing | 7.25 | 0 | 28 | 1 | |
| Houston Marine Services, Inc. | RN102074739 | Harris | Fuel terminal | 7.25 | 0 | 22 | 7 | |
| Texas Barge & Boat, Inc. | RN102037959 | Brazoria | Barge cleaning & repair terminal | 6.5 | 0 | 24 | 2 | |
| University of Texas Medical Branch at Galveston | RN101921138 | Galveston | Hospital facility w/incinerator & crematory stacks | 6.5 | 0 | 24 | 2 | |
| Dome Hydrocarbons, LC | RN100214352 | Chambers | Industrial organic chemical manufacturing plant | 5.5 | 0 | 20 | 2 | |
| Haldor Topsoe, Inc. | RN101211498 | Harris | Catalyst manufacturing | 4.75 | 0 | 16 | 3 | |
| Shintech Incorporated | RN100637909 | Brazoria | Synthetic resin plant | 3.75 | 0 | 7 | 8 | |
| Darling International Inc | RN100871995 | Harris | Rendering plant: liq grease prod from animal bypro | 3 | 1 | 10 | 1 | |
| Viewpoint Energy, Inc. | RN104614904 | Galveston | Blasting & surface coating | 3 | 1 | 10 | 1 | |
| Air Products, LP | RN100222215 | Harris | Industrial gas manufacturing | 1.25 | 0 | 4 | 1 | |
| Arkema Inc. | RN100210301 | Harris | Organic peroxide manufacturing | 1.25 | 0 | 4 | 1 | |
| The Methodist Hospital | RN102962446 | Harris | Medical facility | 1.25 | 0 | 0 | 5 | |
| The BOC Group, Inc. | RN103080487 | Harris | Industrial gas manufacturing | 1 | 0 | 2 | 2 | |
| Davis Petroleum Pipeline LLC | RN100211739 | Harris | Oil & gas production | 1 | 0 | 0 | 3 | 1 |

| Company Name | TCEQ ID No | Site | Type of Operation | Weighted Rank | Additional Pending Enforcement Actions | Compliance History Enhancement % | No of Rule Violations | Actual Major |
|--|-------------|------------|--|---------------|--|----------------------------------|-----------------------|--------------|
| Flex Tank Systems, LLC | RN100542489 | Harris | Storage & terminal facility for petroleum products | 0.75 | 0 | 2 | 1 | |
| Houston Precast, Inc. | RN104960497 | Montgomery | Specialty concrete batch plant | 0.5 | 1 | 0 | 1 | |
| Jetta Operating Company, Inc. | RN100227560 | Fort Bend | Petroleum production plant | 0.5 | 0 | 0 | 2 | |
| La Roca Ready Mix, Inc. | RN104553359 | Liberty | Concrete batch plant | 0.25 | 0 | 0 | 1 | |
| Lonestar Prestress Mfg, Inc. | RN103887824 | Harris | Concrete batch plant | 0.25 | | 0 | 1 | |
| Nalco Company | RN102895745 | Fort Bend | Specialty chemical plant | -1 | 0 | -5 | 1 | |
| Angleton Danbury Hospital District / Medical Ctr | RN100895648 | Brazoria | Hospital | -1.25 | 0 | -10 | 5 | |