

Response to Comments on the 2011 Galena Park Boundary Reevaluation

December 2011

The Texas Commission on Environmental Quality accepted public comments on its Galena Park boundary reevaluation from August 15, 2011, through September 29, 2011. In addition, the TCEQ conducted a public meeting in Galena Park on September 27, 2011, to discuss the proposed boundary revision. Air Alliance Houston; the Healthy Texas Ports Network; and the City of Houston Department of Health & Human Services, Bureau of Pollution Control & Prevention (BPCP), provided testimony at the public meeting. In addition, the Harris County Pollution Control Services Department (PCS); Stone Lions Environmental Corporation; BPCP; Environmental Defense Fund and Air Alliance Houston (AAH); Magellan Midstream Partners, L.P. (Magellan); Ash Grove Texas, L.P. (Ash Grove); and KM Liquids Terminals LLC (KM) submitted comment letters on the proposed boundary revision.

One commenter opposed the TCEQ's proposal. Four commenters expressed support of the TCEQ's proposal and also provided specific comments. Three commenters provided specific comments, but did not specifically support or oppose the proposal to expand the Galena Park boundary.

Comment 1: AAH thanked the TCEQ for conducting the meeting in Galena Park to interact with the community, raise awareness, and educate the public about the APWL and Galena Park. The Healthy Texas Ports Network also expressed its thanks for having the public meeting in Galena Park.

Response 1: The TCEQ appreciates the efforts of the individuals that attended the public meeting and submitted comments on the proposal.

Comment 2: Four commenters—BPCP, PCS, the Healthy Texas Ports Network, and AAH—expressed support for the proposal to expand the Galena Park APWL area.

BPCP wanted to go on record as strongly supporting the TCEQ proposal. BPCP further commented that, although it recognizes that there have been improvements in ambient benzene levels over portions of the region during the last five years, the ambient benzene levels are still too high in other areas and BPCP believes that expansion of the Galena Park APWL area should assist the TCEQ in its efforts to quantify and reduce ambient benzene levels further within the region.

The Healthy Texas Ports Network commented that the TCEQ's boundary proposal is definitely a step in the right direction. The Healthy Texas Ports Network also commented that the TCEQ is basically erring on the side of caution, trying to encompass as many of the industries that might be a problem to keep a close watch on them for the community.

AAH commented that it supports the evaluation process and proposal to expand the boundary and that the proposal to expand the Galena Park boundary is a much needed improvement to the APWL program to enable staff to continue to drive down toxics in areas of concern like Galena Park. AAH commented that once an APWL has been established for an area where monitored ambient air concentrations of pollutants are determined to be at levels of potential concern to human health, the TCEQ should continue to regularly and routinely monitor and evaluate the effectiveness of the APWL for that area and that it is vitally important in areas such as Galena Park, where monitored ambient air concentrations of benzene remain at levels of concern to human health. AAH also commented that it welcomes and supports efforts to regularly and routinely review, update, and/or revise APWL listings, such as Galena Park, based on a thorough evaluation of the most current data and information available. AAH noted that the reevaluation was based on monitoring results and trends over the years, an evaluation of currently available data, and information that is more extensive than in 2000 when the Galena Park area was first listed on the APWL. AAH noted that significant benzene sources located outside of the Galena Park APWL boundary have been identified that have the potential to affect the annual average benzene concentrations at the Galena Park and Pasadena North monitoring sites. AAH noted that the boundary would encompass all industrial sites included on the existing APWL map and also expand eastward to include several additional benzene sources likely contributing to the highest concentrations at the monitors. AAH further commented that the proposed boundary revision eliminates some discrepancies between the existing APWL map and the map's narrative. AAH commented that they believe that the TCEQ must alter the APWL area in order to protect public health.

Response 2: The TCEQ appreciates comments encouraging the expansion of the Galena Park boundary. The purpose of the APWL is first and foremost to ensure that ambient concentrations of air toxics are protective of human health and welfare by focusing the TCEQ's efforts in that regard. The new boundary will help the TCEQ more effectively implement the APWL program. The TCEQ agrees that some areas have shown improvement.

The TCEQ developed the original Galena Park APWL map in 2000. Since that time, the TCEQ has identified a discrepancy between the map and the map's narrative and also has new data on which to base the APWL boundary, including data from the new Pasadena North monitor. The monitoring data discussed in the boundary proposal indicates that air arriving from the direction of the new companies in the area frequently has elevated concentrations of benzene, suggesting that these new companies are contributing significantly to the elevated benzene concentrations observed at the monitors. The TCEQ has a responsibility to use the latest data to equitably implement the APWL program. Companies in the previous APWL boundary have been working

with the TCEQ to reduce benzene emissions for over ten years and the TCEQ appreciates the efforts of those companies.

Comment 3: Magellan recommended that the proposal to expand the APWL area be delayed until there is adequate data to justify expansion of the APWL area from the automated gas chromatograph monitor (auto GC) installed in Galena Park, as it will provide more complete data than 24-hour canisters sampled every six days. Magellan stated that it opposes the proposal to expand the Galena Park APWL area at this time, but welcomes the opportunity to work collaboratively with the TCEQ to continue to reduce emissions.

Response 3: The TCEQ is adopting the Galena Park APWL boundary, expanded east to include the eight companies discussed in its proposal, including Magellan. As discussed in Response 2, the TCEQ has a responsibility to continually reevaluate its efforts to ensure that ambient concentrations of air toxics are protective of human health and welfare and to implement the APWL program equitably. Because the TCEQ has information that demonstrates additional companies are contributing significantly to the benzene concentrations at the monitor, a reevaluation of the Galena Park APWL boundary is warranted at this time. The expanded Galena Park boundary is based on current data from the Galena Park and Pasadena North monitors and is more appropriate than the previous Galena Park boundary, which was based on available benzene data from the Galena Park monitor in 2000. The TCEQ will evaluate the data from the auto GC and any other available data in future APWL decisions.

Comment 4: PCS and AAH commented on the proposed boundaries for the expansion of the Galena Park APWL area. PCS recommended extending the boundary further south to include the Houston Refining Systems tank farm located south of State Highway 225 and west of Scarborough Lane. PCS commented that the TCEQ's documentation identified benzene sources at the tank farm and pointed out that there are neighborhoods in close proximity for which a potential for benzene impacts exists. PCS stated that the neighborhoods are located to the southeast and southwest of the tank farm, the nearest of which is less than a quarter of a mile from the easternmost tank in that farm. AAH recommend that the Galena Park boundary be redrawn beyond its current proposal, recommending that the northern boundary of the APWL be extended north to Market Street or Interstate Highway 10, given the level of staff change at any state agency, given the fact that the APWL program is used to highlight the concern of staff when making decisions about deployment of resources, and given that some of the readings from the Pasadena North monitor show some high concentrations from several facilities further east of the original Galena Park APWL area. AAH commented that there are several communities that would be in the direction of the plume of benzene emissions from some of those facilities.

Response 4: The TCEQ has determined that geographical landmarks are the best method available to draw APWL boundaries at this time; however, in response to these comments, the TCEQ has made a correction to the APWL map and has reconsidered the applicability of the APWL program to all of the affected companies in the Galena Park area, including the Houston Refining tanks.

The TCEQ determines APWL boundaries by identifying the companies that have most likely contributed to elevated concentrations of ambient air toxics. Identifying companies that may contribute to elevated concentrations helps the TCEQ focus its resources by identifying the associated Regulated Entity Numbers for the companies of interest and tracking any actions associated with those company identifiers. The purpose of the APWL is not to identify or add neighborhoods that may be impacted to the list. The purpose is to identify industry that may be contributing to adverse air quality and increase scrutiny to drive improvement. When companies with the potential for concern were identified, naturally, the potential for impact of those facilities on surrounding neighborhoods was considered by TCEQ staff when determining whether to list a company on the APWL. Designating an APWL by an identifiable geographical area helps the TCEQ identify any additional proposed construction in the area that may affect ambient concentrations. That is why each APWL area has a map and a narrative, which includes a list of companies and their Regulated Entity Numbers.

After identifying companies, the TCEQ identified the streets that best encompass those companies. The proposal for the Galena Park expansion was consistent with the draft APWL protocol, which includes guidelines for delineating APWL boundaries. The guidelines specify that the edges of an APWL boundary will be defined by the closest manmade (e.g. streets, highways, or structures) or geographical boundaries. In response to public comment, the TCEQ has added information in the narrative portion of the map, explaining that the TCEQ intends to use the map to focus its resources on industrial activities in the APWL area that may affect ambient concentrations of benzene.

As stated previously, the TCEQ may expand an APWL boundary based on current monitoring information indicating that additional companies may be contributing to the monitored concentrations of air toxics. The TCEQ is not expanding the Galena Park boundary north at this time because the available monitoring data does not reflect significant benzene sources north of the railway likely contributing to the elevated benzene concentrations in the area.

The TCEQ acknowledges that the portion of Houston Refining located south of Highway 225 does contain significant sources of benzene, and the average benzene concentrations specified in the boundary supplemental documentation indicate higher concentrations originating from the direction of Houston Refining as compared to some other directions. The TCEQ is not expanding the boundary south (identifiable on the map by shading) because of the absence of a clear, physical geographical boundary south of the Houston Refining tanks; however, the TCEQ determined that the mechanism best suited in implementing the APWL program in this area is, instead, to identify the Regulated Entity Numbers for the companies within the boundary and for the APWL program to apply to any equipment associated with those Regulated Entity Numbers (whether the equipment is inside or outside of the APWL boundary). This means that a facility's physical location relative to the APWL boundary line of demarcation will not result in discrete sections of regulated entities being listed on the APWL. This is consistent with other APWL areas, such as the proposed Lynchburg Ferry boundary. In the case of Houston Refining, this means that the tanks located south of Highway 225 would be subject to the APWL program, because they are associated with the Houston Refining Regulated Entity Number 100218130, and any

equipment associated with that identifier is subject to the APWL program. This policy also affects the portion of Pasadena Refining System that is non-contiguous with the larger portion of the site and located south of Highway 225. During the proposal of the Galena Park APWL boundary, the non-contiguous portion of the Pasadena Refining System facility, located south of Highway 225, was not included on the APWL map. In response to comments and in line with the APWL protocol, the TCEQ determined that all portions of Pasadena Refining System associated with Regulated Entity Number 10071661, including the non-contiguous portion south of Highway 225, will be subject to the APWL program. Agrifos Fertilizer Pasadena also contains property on both sides of the boundary. This entity does not emit benzene, but a request to authorize benzene at any part of the site would be subject to APWL scrutiny.

The TCEQ could have elected to move the boundary to include the entirety of Agrifos Fertilizer Pasadena and Pasadena Refining System. The TCEQ chose not to expand the boundary for this purpose because that change would have resulted in the inclusion of additional companies that the TCEQ determined are not adversely affecting ambient benzene concentrations. The TCEQ determined that the Houston Refining industry boundary represented on the proposed map was incorrect, as it did not include all of its tanks, such as the tanks located south of Highway 225. The final map shows all of these tanks as part of the Houston Refining site. The final map also shows the portions of Houston Refining, Pasadena Refining System, and Agrifos Fertilizer Pasadena outside of the narrative description as part of the APWL boundary and includes a description in the narrative indicating that all equipment associated with the identified companies will be subject to the APWL program.

Comment 5: The Stone Lions Environmental Corporation inquired how a copy of the written report related to the reevaluation of benzene sources in Galena Park could be obtained.

Response 5: Prior to the end of the comment period, the TCEQ provided Stone Lions Environmental Corporation with instructions on how to access the boundary evaluation document on the TCEQ's APWL Web site. This boundary document will remain on the APWL Web site as long as Galena Park remains on the APWL.

Comment 6: The Stone Lions Environmental Corporation inquired if the TCEQ changed the benzene effects screening level (ESL) as a result of a research article that was published by Phillip J. Lupo, et al. in *Environmental Health Perspectives* on October 5, 2010. The Stone Lions Environmental Corporation commented that the article associated ambient benzene concentrations in the Houston area to the incidence of spina bifida and indicated that the risk of having a baby with spina bifida more than doubled when estimated benzene exposures were greater than 3 micrograms per cubic meter, which is less than the TCEQ's long-term ESL of 4.5 micrograms per cubic meter. The Stone Lions Environmental Corporation further inquired why the TCEQ would claim that there are no expected long-term health effects associated with ambient air benzene concentrations less than 4.5 micrograms per cubic meter in light of the October 2010 study. The Stone Lions Environmental Corporation also commented that the TCEQ increased both the short-term and long-term ESLs for benzene in 2007 (stating that the short-term ESL was increased by a factor of 2.27 and the long-term ESL was

increased by a factor of 1.5) and inquired how those increases result in an improvement in public health. The Stone Lions Environmental Corporation inquired if the TCEQ is able to cite another instance in which an environmental regulatory agency in the United States raised the acceptable level of benzene exposure for the general public.

Response 6: The purpose of this document is to respond to public comment about the proposed changes to the Galena Park APWL area, not the efficacy of the TCEQ ESLs or air monitoring comparison values (AMCVs) for benzene. As the commenter noted, the TCEQ evaluated the benzene ESLs and AMCVs and finalized these changes in 2007. The TCEQ conducted a comprehensive review of the available scientific literature when it established the benzene ESLs and AMCVs. The TCEQ also made the proposed benzene ESLs and AMCVs available for public comment. The entire evaluation of the benzene ESLs and AMCVs is documented in the benzene [development support document](#), which is available on the TCEQ's Web site. The TCEQ is aware and has reviewed the Lupu et al., 2010, publication and has not determined that the benzene ESLs nor AMCVs should be reevaluated at this time.¹

Comment 7: The Stone Lions Environmental Corporation inquired if the varying benzene content of crude oil has been taken into account for the oil refineries in the Galena Park area. The Stone Lions Environmental Corporation further commented that the benzene content of various crude oils that are produced around the world may vary by a factor of 1,000, and that, as the benzene content of a crude oil varies, the fugitive air emissions from a variety of oil refinery equipment will vary (fugitive benzene emissions will increase with increasing crude oil benzene content).

Response 7: The TCEQ requires companies to report an emissions inventory each year, which requires companies to calculate the actual quantities of pollutants emitted. Companies are required to take variables such as benzene content of crude oil into account when calculating and reporting emissions. Additionally, permit authorizations require the applicant to identify the worst-case (highest) concentrations expected, and all health evaluations take the highest emission rate into consideration. The TCEQ obtained the annual emission rates that were included in the Galena Park boundary supplemental information document from the TCEQ's emissions inventory.

Comment 8: The Stone Lions Environmental Corporation commented that all of the data for the boundary evaluation was obtained from 24-hour canister samplers and inquired why one-hour canister samples were not collected and analyzed as a part of the boundary evaluation, since there is a potentially relevant short-term benzene ESL. The Stone Lions Environmental Corporation also commented that the 24-hour canister samples were collected once every six days and inquired why ambient samples are not collected more frequently in the Galena Park area, given the profound hazard associated with human exposure to benzene. The Stone Lions Environmental Corporation also

¹ These study results showing a weak association between benzene exposure and spina bifida, a neural tube defect, are inconclusive as this is only a hypothesis generating study and cannot answer questions regarding the actual cause(s) of the spina bifida cases. Unfortunately, findings of associations without being able to show cause-and-effect do not address public health concerns as the actual cause(s) are

inquired if the TCEQ has considered installing continuous ambient air monitoring in areas in which benzene represents an appreciable human health risk and inquired if the TCEQ realized that a continuous ambient air monitoring system could be implemented with the associated costs charged to the industrial entities that emit benzene.

Response 8: The primary sources of data for the Galena Park evaluation were the 24-hour canisters located at the Galena Park and Pasadena North monitoring sites. 24-hour samples are taken every six days in accordance with the United States Environmental Protection Agency's (EPA's) [monitoring protocols](#), which include a prescriptive sampling schedule calendar. The Galena Park area has historically had persistent elevated annual average concentrations of benzene, and 24-hour canister samples taken every sixth day according to the EPA monitoring protocols is an acceptable method of determining the annual average concentration.

One-hour data is generally obtained from an auto GC. No auto GC was in operation at the Galena Park and Pasadena North monitoring sites during the evaluation. The TCEQ currently has a program in which enforcement dollars can pay for a [Supplemental Environmental Project](#) (SEP), such as air monitoring. The TCEQ has engaged with Harris County to use SEP funds to put an auto GC in place in Galena Park. Any data obtained from the auto GC will be available for future evaluation of the Galena Park APWL boundary.

Comment 9: The Stone Lions Environmental Corporation commented that the 24-hour canister samples obtained from the Galena Park monitor should have revealed that ambient air also contained other toxic chemicals, such as toluene, xylene, and ethylbenzene, and inquired if the TCEQ tried to understand the possible synergistic effects of those other toxic chemicals typically found in the air over Galena Park.

Response 9: The TCEQ considers its AMCVs to be conservative. Although the commenter is correct in stating that multiple analytes are monitored and evaluated at the Galena Park monitor, the TCEQ's Toxicology Division does not expect adverse health effects if the concentrations of all contaminants are below their respective AMCVs. The Toxicology Division noted in its health effects review of the 2010 ambient air network monitoring data that annual averages for all chemicals monitored in Region 12 (including Galena Park) were below their respective long-term AMCVs.

Galena Park is listed on the APWL because of annual average concentrations of benzene that have exceeded the long-term benzene AMCV. Persistent, elevated concentrations of other pollutants have not been observed in monitoring data taken in the Galena Park area.

Comment 10: The Stone Lions Environmental Corporation expressed concern that the TCEQ is only encouraging air emission reductions when reductions could be legally mandated with mandatory prison terms for facility managers who fail to achieve timely compliance. The Stone Lions Environmental Corporation further inquired why the TCEQ enters into voluntary emission reduction agreements instead of requiring that

unknown. For more information regarding the TCEQ's review of this report, please contact the Toxicology Division of the Chief Engineer's Office at tox@tceq.texas.gov.

appropriate benzene emission reductions be made on an expedited basis subject to severe punishment, including prison sentences, for those who fail to protect public health by all available means.

Response 10: The listing of a company on the APWL does not necessarily mean that the company has violated any of the terms and conditions of its permit. When a company is found to be in violation of a permit, the TCEQ aggressively pursues remedies to resolve the issue through enforcement actions, mandatory compliance orders, and penalties. The listing on the APWL allows the TCEQ to focus its efforts and resources in areas where monitored concentrations are at a level of concern. The solution to address these higher levels may require focused investigations for companies that have the potential to contribute to elevated ambient concentrations. Regardless of whether a company is listed on the APWL or not, all facilities authorized to emit air contaminants by the TCEQ are also compelled to comply with state and federal regulations regarding those authorized emissions. Companies in violation of their permits or applicable state and federal regulations may find themselves subject to the TCEQ enforcement process, which is beyond the scope of review when determining whether to modify the boundaries of an APWL area.

The TCEQ works with companies in APWL areas to make voluntary reductions of contaminants of concern. A company may volunteer to install controls that are not required by its permit or by regulation, or a company may perform other actions to reduce emissions that are not specifically in violation of any state, federal, or permit requirement.

Comment 11: The Stone Lions Environmental Corporation inquired where individual 24-hour average benzene concentrations can be found.

Response 11: An individual may access individual 24-hour canister data by querying the [Texas Air Monitoring Information System](#), located on the TCEQ's Web site.

Comment 12: The Stone Lions Environmental Corporation inquired what specific TCEQ and industry efforts resulted in the suggested downward trend in Galena Park's benzene concentrations, which industrial facilities reduced benzene emissions, by what amount, and how did the TCEQ know this information.

Response 12: Since Galena Park was first listed on the APWL, the TCEQ's Houston Regional Office investigators have conducted routine surveillance activities in Galena Park, both from public rights-of-way on land and from the Houston Ship Channel. During these activities, investigators have used the GasFind Infra-Red camera to detect equipment leaks and possible non-compliant emissions. If an investigator observed volatile organic compound emissions with the camera, the TCEQ conducted an on-site investigation to identify the source and determine if the observed emissions were authorized. In addition to the comprehensive compliance investigations conducted at all major sources in the Houston Region, the TCEQ also conducted focused investigations at sources within the Galena Park APWL boundary looking for unreported or under-reported sources of benzene. As a result of these efforts, the Houston Regional Office staff was able to initiate investigations regarding unauthorized

emissions on Pasadena Refining System, Houston Refining, and Valero Refining Houston Refinery.

In addition to efforts discussed previously that the TCEQ has taken to reduce levels of benzene in the applicable area, several companies have voluntarily acted to reduce their benzene emissions. KM Liquids Terminals Galena Park Terminal and Enterprise Crude Pipeline Galena Park Terminal entered into voluntary agreements to reduce volatile organic compounds, including benzene. Also, KM Liquids Terminals Galena Park Terminal and Pasadena Refining System have both agreed to work cooperatively with the TCEQ to help better identify/quantify benzene sources.

The TCEQ has just completed its evaluation to determine the effectiveness of the defined APWL area for Galena Park based on the most current information available, as is contemplated by the draft APWL protocol. The TCEQ used monitoring data to determine if the boundary included the sources most likely contributing to the ambient benzene concentrations observed, but did not develop a comprehensive list of actions taken by each company and the resulting benzene reductions. The TCEQ's Galena Park APWL Work Group will research this type information in the next phase of the APWL process, which is to develop a strategic action plan to reduce emissions further.

Before the TCEQ can delist Galena Park from the APWL, the TCEQ must have two pieces of information: 1) monitoring data that indicates that benzene concentrations are trending downward (i.e. concentrations remain below the AMCV at the Galena Park and Pasadena North monitors); and 2) information supporting that the reductions will be sustained. In developing its strategic action plan, the TCEQ will conduct a detailed evaluation to better understand the actions taken to reduce emissions and determine whether the reduction in ambient concentrations is permanent. The TCEQ will, therefore, conduct a detailed evaluation of recent actions and will also work with the companies in Galena Park to gather the additional information that the TCEQ needs in order to determine that there is no longer a potential health risk. The TCEQ is finalizing the Galena Park boundary proposal in order to work with all of the companies in the newly defined boundary to assess actions taken to reduce benzene. The TCEQ will continue to encourage benzene reductions from these companies as it conducts its evaluation and collects additional ambient air monitoring data in Galena Park.

Comment 13: The Stone Lions Environmental Corporation commented that Figure 3 of the Galena Park boundary supplemental documentation, depicting the mean benzene concentrations by wind direction, was apparently created with the use of an air dispersion model and requested the input/output files for that modeling analysis.

Response 13: The TCEQ did not conduct air dispersion modeling for the Galena Park boundary reevaluation. Figure 3 depicts the average benzene concentrations that were monitored at the Galena Park and Pasadena North sites. The TCEQ developed this figure using benzene concentrations and wind directional data obtained from the monitors.

Comment 14: The Stone Lions Environmental Corporation inquired if the TCEQ compiled original emission inventories or if the emissions inventories were submitted by industrial facility operators, and, if industry operators submitted the emissions

inventories, were they critically evaluated by qualified air pollution engineers. The Stone Lions Environmental Corporation further inquired if the TCEQ developed reports describing the evaluation of the emission inventories and if copies could be obtained.

Response 14: Point source emissions inventories are annually completed and submitted by owners or operators of affected accounts per the reporting requirements of Title 30 Texas Administrative Code § 101.10, Emissions Inventory Requirements. The TCEQ performs a quality assurance review of the submitted point source inventories as stated in the Quality Assurance Project Plan for the EPA's National Emissions Inventory Emissions Reporting. The EPA reviews and approves this quality assurance project plan on an annual basis; this document is available upon request. The TCEQ documents the results of the quality assurance review for each submitted point source inventory, and copies of these documents are available upon request.

Comment 15: The Stone Lions Environmental Corporation expressed concern that the TCEQ referred to operators of industrial facilities that emit benzene in the Galena Park area as customers and that this designation implies an inappropriate relationship between the TCEQ and the entities that it regulates. The Stone Lions Environmental Corporation also commented that the TCEQ operates as an advocate for polluters at the expense of public health.

Response 15: The TCEQ respectfully disagrees that it is an advocate for polluters at the expense of public health. The Agency's use of customer number (CN) designations (and similarly its use of regulated entity or RN designations) is its mechanism by which it identifies the companies that it regulates. The naming and tracking of entities can be complex given the myriad number of company configurations utilized by businesses today. The word "customer" does not imply an untoward relationship between the TCEQ and the companies it is required to regulate. The TCEQ considers all entities that it serves to be customers, including members of the public; the EPA; various environmental groups; companies that wish to do business with the state in accordance with the TCEQ's mission statement; local air pollution control agencies; community groups; members of academia; elected officials; etc.

Comment 16: The Stone Lions Environmental Corporation expressed that TCEQ employees are indifferent and incompetent and that this has caused the death of Texas taxpayers. The Stone Lions Environmental Corporation recommends that all professional employees at the TCEQ who have a role in evaluating, controlling, or judging exposure of the public to benzene sign and swear in a publicly available statement under the penalty of perjury that the professional employee held paramount the safety, health, and welfare of the public in the course of his or her work related to any and all activity that increased public benzene exposure anywhere in the state of Texas.

Response 16: The TCEQ already conducts its operations with the utmost concern and respect for human health and the environment in accordance with all state and federal statutes and regulations.

Comment 17: AAH commented that the TCEQ is warranted in extending the APWL area given that:

- Benzene is an air toxic known to cause cancer in humans.
- The citizens who live in the Galena Park area have been at risk to increased health effects from benzene exposure due to exceedances of the benzene AMCV over several years.
- The newest monitor installed in the Galena Park area (the Pasadena North monitor) is at the AMCV.
- Since the Pasadena North monitor is a six-day canister and not an auto GC, benzene spikes may be masked since concentrations are averaged over multiple days.
- Initial reports to the Toxics Release Inventory indicate that several local sources of benzene in the Galena Park area, including Targa Downstream Galena Park Terminal, Magellan, and Pasadena Refining System, have increased benzene emissions.
- The overwhelming majority of facilities in the Galena Park area are average performers with respect to compliance history, indicating that improvements could be made in their operations that would reduce the threat that benzene poses to residents who live in the local community.

Response 17: The TCEQ appreciates the support for extending the APWL boundary. With respect to the rest of AAH's comments, canister samples are taken every sixth day and that data is averaged over a 24-hour period, not averaged over multiple days. Although they do not provide hourly concentrations, canister samplers cost less to install than an auto GC and provide data that sufficiently enables the TCEQ to determine the annual average benzene concentration of an area, which is critical in determining potential long-term health effects for citizens in Galena Park. Also, a company's compliance history rating is not directly correlated to benzene emissions or possible reductions that could be made at a site.

The Toxics Release Inventory is a publicly-accessible EPA database that provides communities with information about toxic chemical releases and waste management activities. Companies must report to the Toxics Release Inventory if they meet certain criteria, such as number of full-time employee equivalents, North American Industry Classification System code, and threshold quantity of toxics manufactured, processed, or used in a calendar year. Magellan has not reported to the Toxics Release Inventory. According to the data that Pasadena Refining System reported to the Toxics Release Inventory, its quantity of benzene has fluctuated from 2005-2010, but does not indicate a continual upward trend for the air toxic. As the commenter noted, Targa Downstream Galena Park Terminal also submits data to the Toxics Release Inventory and has reported an increase in benzene. The Toxics Release Inventory data reported by Pasadena Refining System and Targa Downstream Galena Park Terminal are contained in Table 1, *Pounds of Benzene Reported Each Year in the Toxics Release Inventory*. The TCEQ considered the Toxics Release Inventory and Emissions Inventory data in the Galena Park boundary reevaluation.

Table 1: Pounds of Benzene Reported Each Year in the Toxics Release Inventory

Regulated Entity	2005	2006	2007	2008	2009	2010
Pasadena Refining System	6,845	21,402	19,500	12,129	9,957	12,408
Targa Downstream Galena Park Terminal	538	570	162	346	966	1,580

Comment 18: AAH generally agrees with the areas and sources covered by the proposed Galena Park APWL boundary expansion; however, AAH continues to assert that, while man-made (e.g. streets, highways, railroads, or structures) or geographic boundaries may be easily identifiable by a member of the public or other interested stakeholders, such boundaries are often not reflective of any science-based determination of the real impact area of toxic air pollutant emissions. As done in the current proposal, it would be more appropriate for APWL boundaries to be determined by much more extensive ambient air monitoring and pollutant dispersion modeling, without regard to easily recognizable man-made or geographical features. With current GPS technologies now more and more common-place with the general public, easily identifiable from simply a visual standpoint is not a sound and supportable boundary criterion.

Response 18: The TCEQ makes no change to the boundary in response to this comment. The TCEQ did not develop the Galena Park, or any other APWL boundary, based on a potentially impacted area. The purpose of the APWL is not to identify the area impacted by high concentrations but to identify the sources potentially causing or contributing to high concentrations. The TCEQ uses the APWL to focus its resources. It does that by evaluating monitoring and meteorological data to determine the sources that may be contributing to elevated concentrations of an APWL contaminant and then draws a geographic boundary around those companies. The primary goal of the APWL program is to work with those companies to reduce emissions and drive down ambient concentrations below levels of concern.

Comment 19: AAH commented that the APWL program can be, and should be, strengthened towards a more robust, meaningful program, as set forth in the comments that AAH previously submitted on the proposed APWL protocol, that would also bring better air quality and health to the residents of hotspot areas. AAH reiterated its comments on the APWL protocol that it believes that the APWL program must necessarily include comprehensive remediation strategies and action plans, tailored to each APWL area and its pollutant of interest, which would allow the TCEQ to focus its resources to effectuate those strategies and plans resulting in air toxic concentrations in APWL areas to be reduced as expeditiously as practical, ensuring healthier air quality for all residents within such areas.

Response 19: The TCEQ appreciates AAH's comments and suggestions for the future of the APWL program. At this time, reevaluating the Galena Park APWL

boundary to encompass more sources of harmful air toxics is helping the TCEQ effectively implement the APWL program. As discussed previously, the next step in the APWL process is for the Galena Park Work Group to develop a strategic action plan for the companies in the area to further reduce benzene emissions.

Comment 20: AAH expressed support for the TCEQ's proactive and prudent reevaluation of the Galena Park benzene APWL area and its continued efforts to remediate the APWL areas across the state, but urges the agency to work to strengthen the APWL program even further, generally, and as applied to pollutant-specific areas. AAH further commented that a robust, meaningful APWL program will bring better air quality, and, as a result, better health to Texans who live in these pollution hotspot areas. AAH commented that history strongly indicates that simply establishing an APWL listing will not necessarily result in meaningful progress towards reduced air toxic emissions, especially in a timely manner. AAH noted that an APWL listing focuses TCEQ enforcement, permitting, pollution prevention, and monitoring resources and scrutiny on a specific air toxic and its sources in the area and that, as with Galena Park, expanding an APWL area and bringing additional facilities and sources under review will help facilitate these objectives. AAH, however, expressed its concern that the TCEQ's current APWL program and the proposed APWL protocol intended to guide it fail to provide a comprehensive approach to remediating all current or potential APWL areas. AAH commented that concerns about persistent air quality problems are also evident within the Galena Park community, noted that a group of citizens recently incorporated in the state of Texas their own non-profit group, and noted that persistent bad air quality is chief amongst the group's community concerns.

Response 20: The TCEQ is taking steps to improve the APWL program, such as developing the APWL protocol and designating an APWL coordinator to specifically address areas of concern. The TCEQ will be able to use the protocol as a guide to develop area-specific strategic action plans to reduce emissions and to more effectively engage external stakeholders, such as local citizens and community groups. The TCEQ encourages interested stakeholders to become informed and involved in the APWL process. The revised Galena Park boundary will also help the TCEQ more effectively implement the APWL program.

Comment 21: AAH cited the 2009 Annual Report on the Air Pollutant Watch List Areas in Texas, dated February 2010, and commented that almost all currently existing APWL areas have been in place a significant period of time (between 13 and 5 years, with an average of nine years). AAH noted that Galena Park has been listed for 12 years. AAH further noted that fewer than one-third of the currently existing APWL areas are listed with an improvement status, indicating that monitoring data suggests a downward trend in ambient concentrations and/or there have been a decrease in the number of odor complaints in the area. AAH further commented that the vast majority of the currently existing APWL areas show a continued watch status, indicating that there is insufficient monitoring data to determine a trend, or that monitoring data are not suggesting a decreasing trend in concentration. AAH commented that, while the Galena Park APWL is listed with an improvement status, that designation was made prior to the recent reevaluation that identified significant benzene sources outside of the

Galena Park APWL boundary that have the potential to affect the annual average benzene concentrations at the Galena Park and Pasadena North monitoring sites.

Response 21: The 2009 annual report was completed prior to the Galena Park boundary reevaluation. The current Galena Park boundary reevaluation was built on previous evaluations, including among others, the data in the 2009 annual report. The 2009 annual report indicated that the 2008 annual average benzene concentration was below the long-term benzene AMCV for the first time in several years. The boundary reevaluation indicated that the 2009 annual average benzene concentration was also below the AMCV at the Galena Park monitor. The TCEQ will delist an area from the APWL when the Toxicology Division determines that there is no longer a potential for adverse effects in the APWL area. The TCEQ acknowledges that this area has been listed on the APWL for several years, but the TCEQ retains Galena Park on the APWL because the TCEQ cannot yet make the determination that there is no longer a potential for adverse effects. Data at the Galena Park monitor does, however, appear to suggest a downward trend. The TCEQ will continue to evaluate the area and work with companies to reduce emissions. Including the benzene sources outside of the previous Galena Park boundary will enable the TCEQ to more effectively continue its efforts to address benzene in Galena Park.

Comment 22: AAH supports any on-going monitoring and evaluation efforts by the TCEQ that work effectively and meaningfully to reduce levels of air toxics around Texas and stated that it is confident that any such on-going efforts will result in much greater progress at reducing the concentrations of air toxics in the state's existing and possibly unidentified toxic hotspots. AAH further commented that the proposed boundary expansion is generally reflective of such vitally important on-going evaluation efforts.

Response 22: The TCEQ appreciates the support of its efforts to monitor and evaluate Galena Park and other APWL areas. The TCEQ will continue to conduct monitoring to better assess areas of concern and as resources are available. In the Galena Park area, the addition of the Pasadena North monitor has helped the TCEQ better assess benzene concentrations in the area, and the TCEQ will also evaluate benzene data from the new auto GC in Galena Park.

Comment 23: AAH commented that the 2009 annual average benzene concentration at Pasadena North equaled the long-term AMCV of 1.4 ppbv and commented that the Galena Park monitor may not have been sited in the best location to capture true emissions from local sources.

Response 23: The TCEQ was able to obtain a significant amount of valuable information from the Galena Park monitor and continues to collect data from this site. The monitor is sited in an appropriate location, as it is in very close proximity to homes and a middle school. The Galena Park area has many industrial sites and neighborhoods are in close proximity to several industrial property lines. It would be difficult to site one monitor to assess the impact at all of the neighborhoods around every industrial complex; however, the addition of the Pasadena North monitoring site

is enabling the TCEQ to collect more data and conduct a more complete evaluation of benzene in the area.

Comment 24: Magellan stated that it is committed to continuous improvement of environmental, health, and safety performance and partnering with the TCEQ on the common goals of the TCEQ's mission statement to protect human and natural resources consistent with sustainable economic development. Magellan stated that it supports collaboration with the TCEQ on the goals of emission reductions; however, Magellan commented that it is opposed to the proposal to expand the APWL area at this time because the goal of maintaining benzene emissions below the AMCV (the level established by the TCEQ as protective of human health and welfare) has been attained for over three years now. Magellan further commented that the air quality goals were reached by efforts from the TCEQ and Galena Park industries that have significantly reduced emissions. Magellan commented that it alone has made significant and permanent emission reductions and has ongoing reduction plans that will contribute to improved air quality in the area. Magellan commented that expanding the boundary of the APWL area will impose an unnecessary burden and is not consistent with economic sustainability.

Magellan commented that an argument could be made that the data supports consideration of delisting the Galena Park APWL area, not expanding it. Magellan stated that if this were a national ambient air quality standard (NAAQS) nonattainment issue, the TCEQ would not take the position with the EPA that the nonattainment area should be expanded and additional data collected. Magellan suggested that the TCEQ would use the three years of attainment data to demonstrate compliance and support a request to the EPA for reclassification. Magellan stated that it appears that the TCEQ is applying a different standard for an issue that is comparable to the NAAQS nonattainment standards. Magellan stated that the current proposal to expand the Galena Park boundary does not provide any justification for applying a different standard for the Galena Park benzene watch area as compared to similar state and federal air quality programs.

Response 24: The APWL program is different than the State Implementation Plan, which is the program required by each state to attain and maintain the NAAQS. When the state requests redesignation of an area from nonattainment to attainment, the area will have a ten year maintenance period (or more). The APWL program was not designed with such requirement. The State Implementation Plan is also different from the APWL in that the State Implementation Plan includes rules that mandate companies to install certain controls on equipment by a specified compliance date. For example, if one company in the area had a number of uncontrolled tanks, the TCEQ may require that all companies retrofit tanks with controls, ensuring that emission reductions are obtained. In the APWL program, the TCEQ provides more flexibility for companies to develop control strategies to reduce emissions that are in compliance with applicable regulations.

The TCEQ agrees that significant improvements in ambient benzene concentrations have been achieved at the Galena Park monitor and appreciates the efforts of all companies in the area who have contributed to these improvements; however, the TCEQ

must ensure that the reductions in ambient concentrations are sustained, and that once the area is taken off the APWL, it can be reasonably expected to stay off the APWL. The TCEQ needs further information to ensure that reductions, including those made by Magellan, are permanent. The TCEQ will delist Galena Park when the TCEQ determines that the reductions sustained are permanent and that there is no longer a potential for adverse health effects. That determination will include an analysis of the data from both the Galena Park and Pasadena North monitoring sites. The TCEQ looks forward to continuing its partnership with Magellan in identifying and implementing mutually beneficial benzene reduction strategies. Working cooperatively with the TCEQ allows companies to closely evaluate their processes and develop the most effective strategies for their individual needs. This APWL process provides the maximum amount of flexibility for companies while striving to achieve emission reductions and is consistent with the TCEQ's mission to protect human and natural resources.

Comment 25: Magellan noted that the facilities proposed for addition to the APWL area have significantly reduced benzene emissions in the same period. Magellan provided its reported benzene data, which did not include floating roof landings, the historically largest source of routine emissions. Magellan illustrated that it reported 19.8156 tons of benzene in 2006, 29.5073 tons of benzene in 2007, 33.2167 tons of benzene in 2008, 15.1029 tons of benzene in 2009, and 7.8222 tons of benzene in 2010. Magellan stated that the current benzene speciation was used to estimate the 2006 data, since benzene was not speciated at that time. Magellan stated that its reported emissions indicate a benzene reduction of greater than 70 percent from 2008 to 2010. Magellan stated that the significant reduction is primarily a result of a voluntary audit, disclosure, authorization, and reduction of roof landing emissions. The TCEQ began its Find-and-Fix initiative in 2006 that resulted in voluntary agreements for facilities to authorize and reduce previously unidentified roof landing emissions. Prior to the TCEQ's initiative, Magellan conducted an audit pursuant to the Texas Environmental, Health, and Safety Audit Privilege Act that identified and disclosed the roof landings to the TCEQ in 2003. Magellan's agreement with the TCEQ required an application to authorize and limit roof landings, which was submitted in March 2007 and issued in 2009. The new permit limits and best available control technology requirements resulted in significant reductions of volatile organic compound and benzene emissions. Magellan commented that the agreement and significant reductions is comparable to the pollution prevention efforts by companies within the APWL area described in the Galena Park boundary proposal. Magellan stated that it has made efforts to further reduce emissions to offset facility expansion and will continue to do so.

Response 25: While the TCEQ acknowledges the reductions Magellan has undertaken in previous years, future actions may still have an adverse effect on progress in the APWL area. To that end, Magellan has not committed to specifically offset actual benzene emissions in Galena Park for any facility expansions that would otherwise increase their overall benzene emissions. Further, the emissions that are reported for each year reflect only the emissions that resulted from operations over the previous year, and many companies, including Magellan, are authorized to emit much larger quantities of benzene than have been reported. Therefore, there is a potential for the ambient benzene concentrations to increase. The TCEQ must work with companies to

gather information on actions taken to reduce benzene emissions in order to better understand the APWL area and ensure that reductions in ambient concentrations are sustained before it can propose to delist Galena Park from the APWL.

The TCEQ recognizes that Magellan (and several other companies) has reported significantly reduced amounts of benzene in the emissions inventory. Additionally, the TCEQ acknowledges that some of its separate initiatives, such as the Find-and-Fix initiative, have resulted in voluntary actions that have reduced volatile organic compounds, including benzene.

The TCEQ also reminds companies that it is critical for emissions to be calculated, speciated, and reported as accurately as possible.

Comment 26: Ash Grove requested that its North Texas Cement facilities (consisting of Houston Cement Company – West Terminal and Houston Cement Company – East Terminal) not be listed on the map and be removed from further review for benzene controls and reductions. The commenter included detailed calculations of benzene emissions from its facilities and pointed out that the only potential sources of benzene emissions were a 250-gallon gasoline tank and two 500-gallon diesel tanks, resulting in 41.8 pounds of benzene per year. Ash Grove stated that the quantity of benzene that they emit is miniscule and cited a report from February 2007 entitled *Houston Regional Benzene Air Pollution Reduction, A Voluntary Plan for Major Sources*, which states that the largest emitters of benzene, as well as the largest number of benzene monitors, are located in the east Houston/east Harris County ship channel area and noted that the report identified the ten largest benzene emitters in the area, the smallest of which emitted 26.105 tons of benzene. Ash Grove noted that its annual benzene emissions is less than 0.08 percent of the smallest major source listed in the February 2007 report. Ash Grove further commented that it probably emits less benzene than a gas station with Stage I and Stage II vapor recovery.

Response 26: The TCEQ is aware that the Ash Grove terminals emit small quantities of benzene as compared to the companies that surround it; however, the TCEQ is not changing the APWL boundary for the Galena Park area in response to this comment. Data available to the TCEQ demonstrates there are major benzene sources to the southwest and southeast of the Ash Grove terminals that need to be included in the APWL area in order for the TCEQ to best focus its resources and reduce levels of benzene in the area. Including the Ash Grove terminals on the map does not indicate that benzene reductions and additional benzene controls will be mandated for Ash Grove. Inclusion of any company on the map allows the TCEQ to track any proposed benzene permit increases. All proposed increases would be examined on a case-by-case basis.

Several of the APWL areas, including Galena Park, have a list of companies that do not emit the APWL contaminant or emit small quantities of the APWL contaminant. Listing these companies on the APWL map allows the TCEQ to track requests to authorize the APWL contaminant. There have been some instances in which companies that do not emit the APWL contaminant have requested to start emitting that contaminant. Those types of requests should be subject to the scrutiny of the APWL program.

Comment 27: KM commented that, while it appreciates and approves of the TCEQ's goal of protecting human health and welfare, it believes that there are some critical concerns not addressed by the TCEQ when it sets and extends APWL areas. KM cited the TCEQ Web site, noting the TCEQ's stated purpose to heighten awareness regarding areas of concern and encourage efforts to reduce emissions, help the TCEQ focus resources, and help in review of air permit applications as outlined in the Modeling and Effects Review Applicability Technical Guidance Package (MERA). KM notes that the TCEQ does not state anywhere how the APWL is to be considered in the review of air permit applications, except in reference to the MERA guidance document. KM further noted that the draft APWL protocol does not provide additional specifics on what concerns are to be included by APWL Work Groups.

Response 27: The TCEQ acknowledges that it has not publicly provided specific requirements for companies that are located in an APWL area. The TCEQ informs potential applicants on its application forms that the location of a facility in an APWL area could result in additional restrictions on emissions of the affected air pollutants, additional permit requirements, or could require site-wide modeling. Because each APWL area is unique, it is difficult for the TCEQ to develop one set of requirements for all companies in every APWL area; however, the TCEQ acknowledges that clarity is needed to give the APWL program transparency and to give companies fair notice to the TCEQ's expectations when they first apply for air authorizations. The APWL protocol is the agency's first step in giving stakeholders a better idea of what it means to be in an APWL area. The TCEQ staff also realizes that more frequent and detailed communication with companies is necessary to more effectively implement the APWL program. The TCEQ encourages companies to contact the APWL Coordinator to discuss their specific concerns and to help the TCEQ identify strategic actions to reduce emissions and remove areas from the APWL. The TCEQ also encourages companies to contact the Air Permits Division to discuss proposed projects that would result in an increase in an APWL contaminant prior to submitting an air permit application. The TCEQ is developing application guidance for companies located in an APWL area to provide more transparency in the air permit application review process.

Comment 28: KM stated that it understands the TCEQ's intent to review air toxic emissions from existing facilities to determine whether human health or welfare is adversely affected; however, KM commented that it seems that the TCEQ gives no consideration to the impact of the APWL on economic growth in an area, specifically for Greenfield sites. KM noted that the MERA guidance document states that there must be a short-term and long-term decrease in emissions from the site of the pollutant of concern in order to approve a project proposing even a slight increase in emissions. The MERA states if there is no such decrease, full site-wide modeling/monitoring is required. KM noted that the TCEQ permit engineers take this a step further in that, if an applicant proposes an increase in benzene emissions, the permit engineer routinely directs the applicant that an overall decrease in benzene emissions must be provided.

Response 28: Because the APWL is a list of areas in the state in which air monitoring data demonstrates that ambient air concentrations are already at levels of potential concern, the TCEQ is cautious in approving additional increases of APWL

contaminants through its permitting process. The TCEQ is more easily able to approve increases of an APWL contaminant if a company is able to make an equivalent reduction. The TCEQ highly encourages companies to request a pre-application meeting to discuss air permit applications that include a request to increase or emit for the first time an APWL contaminant. As discussed previously, the TCEQ is developing additional guidance, which will be published on its Web site, providing more information about the APWL procedures than the MERA guidance document. Nevertheless, the MERA is a guideline to indicate what level of detail a modeling review for a permit application should have. The MERA does not provide the conditions that a project must meet in order for the TCEQ to issue its approval.

Comment 29: KM stated that it is impossible for a Greenfield site to provide a reduction in emissions and that, unlike the federal nonattainment programs, there is not even a mechanism in place for an applicant to purchase or use decreases in benzene emissions from another site. Further, it is unlikely that benzene reduction credits could be purchased even if the TCEQ allowed the use of such a credit. An APWL is a much smaller area than an ozone nonattainment area. For example, if someone wanted to construct a new bulk fuel terminal in the Galena Park area, they could be shut out by their competitors refusing to sell benzene reduction credits, despite the fact that the proposed terminal would comply with all state and federal rules for a bulk terminal, including maximum achievable control technology standards for major and area source bulk fuel terminals.

KM further commented that the most a project at a Greenfield site can be expected to provide to reduce emissions is best available control technology, lowest achievable emission rates, and maximum achievable control technology. By defining boundaries in an APWL area to include all land within the area, rather than the existing industrial sites, the TCEQ is, without rulemaking or authority from the state or local government, prohibiting the development of new industry and inhibiting economic growth. KM proposed that the boundary of APWLs, and specifically the Galena Park APWL area, be defined to exclude Greenfield sites and to include only those industrial sites currently located in the area.

Response 29: The TCEQ makes no change to the Galena Park boundary in response to these comments. The TCEQ must scrutinize any increase in an APWL area. Federal and state standards generally specify what controls are required for specific facilities, and installing the required controls will help mitigate emissions, but will still result in an emissions increase. Part of any permitting of a Greenfield site in an APWL area would include an assessment of whether that new source was proposing the minimum emissions possible.

KM has two major facilities that are emitting a significant portion of benzene in the Galena Park APWL area. The TCEQ's boundary reevaluation indicates that average benzene concentrations are higher when the wind comes from the direction of the KM facilities than from other directions. As such, it would be inequitable for the TCEQ to look for reductions solely from the existing companies and allow KM to construct an entirely new facility without scrutinizing its increases in benzene emissions and contribution of benzene concentrations to the APWL area.

In general, the TCEQ has not placed a moratorium on new construction in an APWL area. The TCEQ must, however, heavily scrutinize any new emissions of the APWL contaminant of concern, including emissions from a proposed Greenfield site. The TCEQ highly encourages companies to schedule pre-application meetings to discuss the details of any proposed Greenfield site.

Comment 30: AAH commented that the area north of the boundary to Market Street or Interstate Highway-10 would be ripe for full monitoring if the TCEQ could afford it or at least more mobile monitoring operations to better characterize human exposure for citizens living in those neighborhoods.

Response 30: The TCEQ will take the comment under consideration as it evaluates the need for additional monitoring in and around APWL areas.