



APWL Proposed Change Document  
Proposed June 27, 2016

# **APWL Proposed Change Document: Delisting**

**Propionaldehyde – Texas City, TX**

Prepared by  
Toxicology Division

Office of the Executive Director

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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## APWL Proposed Change Documentation - Delisting

**Table 1. Area Under Consideration**

<b>APWL</b>	1202
<b>County</b>	Galveston
<b>City</b>	Texas City
<b>TCEQ Region</b>	Region 12 – Houston
<b>Pollutant(s)</b>	Propionaldehyde
<b>Exceedance Type (Health/Odor)</b>	Odor
<b>Exceedance Duration</b>	Short-term
<b>Year Added to APWL</b>	2001

### Background

The Texas Commission on Environmental Quality (TCEQ) established the Air Pollutant Watch List (APWL) to address areas of the state where air toxics were persistently monitored at levels of potential concern. The TCEQ uses the APWL to reduce air toxic levels by properly focusing its resources on areas in the state with the greatest need. In 2001, the TCEQ added an area of Texas City to the APWL (designated APWL 1202) to address odorous concentrations of the air toxic propionaldehyde monitored by the TCEQ's mobile monitoring team (while propionaldehyde has a pleasant, sweet odor at low concentrations, it has a strong, pungent odor at high concentrations). During 2000 and 2001 mobile monitoring projects, concentrations of propionaldehyde above the historical (i.e., prior to September 2015) odor-based air monitoring comparison value (AMCV) of 9 ppb<sub>v</sub> were detected downwind of Dow Chemical (formerly Union Carbide). Several additional odorous compounds were also measured above their respective odor-based comparison values, including hydrogen sulfide, acrolein, butraldehyde, and valeraldehyde. These odor exceedances led to the inclusion of propionaldehyde as a pollutant on the APWL in 2001. Although no exceedances of the historical odor AMCV were measured in a 2004 mobile monitoring project, odor exceedances were again measured during a 2008 mobile monitoring project. Since the area's inclusion on the APWL, the area's primary emitter of propionaldehyde (i.e., Dow Chemical, formerly Union Carbide) has implemented improvements to reduce propionaldehyde emissions.

Ambient propionaldehyde concentrations are compared to the TCEQ-derived AMCVs to determine their potential to cause adverse health and welfare effects. AMCVs are set to provide a margin of safety and are set well below levels at which adverse health effects are reported in the scientific literature. Therefore, exceedance of a health-based AMCV does not necessarily indicate that adverse health effects would be expected. The historical (i.e., prior to September 2015) health-based short-term (1-hour) and long-term (i.e., lifetime) AMCVs for propionaldehyde were 200 ppb<sub>v</sub> and 20 ppb<sub>v</sub>, respectively. The historical odor-based AMCV for propionaldehyde was 9 ppb<sub>v</sub>. At the time APWL 1202 was established, the TCEQ evaluated air

concentrations monitored by the TCEQ's mobile monitoring team against the short-term odor-based AMCV of 9 ppb<sub>v</sub>.

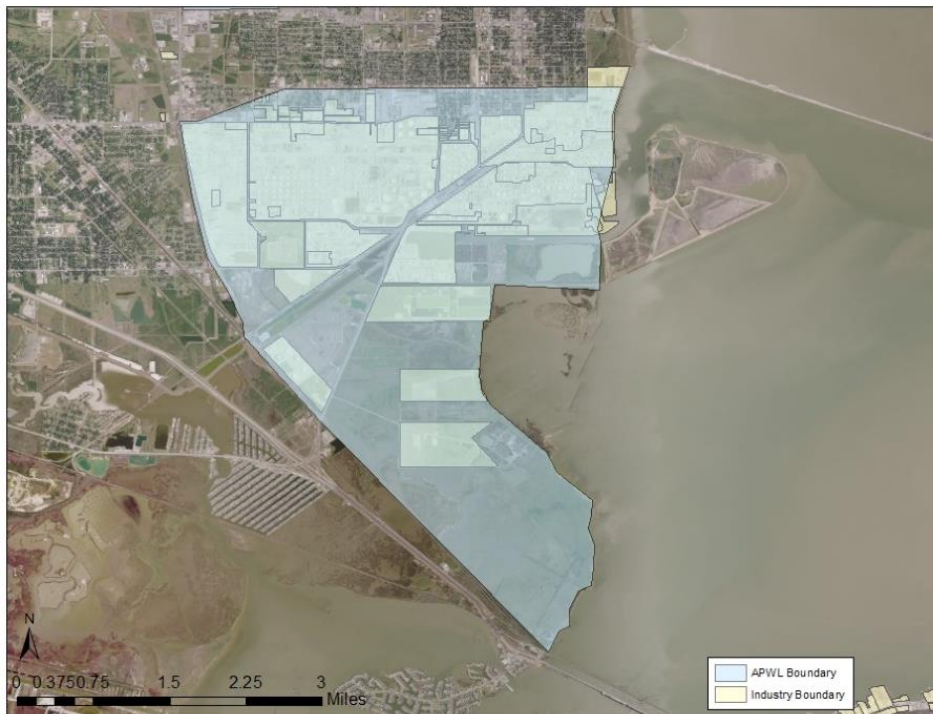
In September 2015, the TCEQ Toxicology Division (TD) finalized a Development Support Document (DSD) for propionaldehyde. The current health-based short-term (1-hour) and long-term (i.e., lifetime) AMCVs are 740 ppb<sub>v</sub> and 52 ppb<sub>v</sub>, respectively, and the odor-based AMCV is 40 ppb<sub>v</sub>. For more information on the current AMCVs, please refer to the [propionaldehyde DSD](#).

It is important to note that it is not appropriate to compare 24-hour canister samples to the long-term AMCV, because the AMCV is based on a lifetime of exposure. It is only appropriate to compare short-term canister samples to the short-term AMCV and long-term sampling data (at least one year, but most appropriately the lifetime average) to the long-term AMCV. These updated health- and odor-based AMCVs are the most appropriate values for evaluation of ambient air concentrations of propionaldehyde.

## APWL Information

### *Boundary Designation*

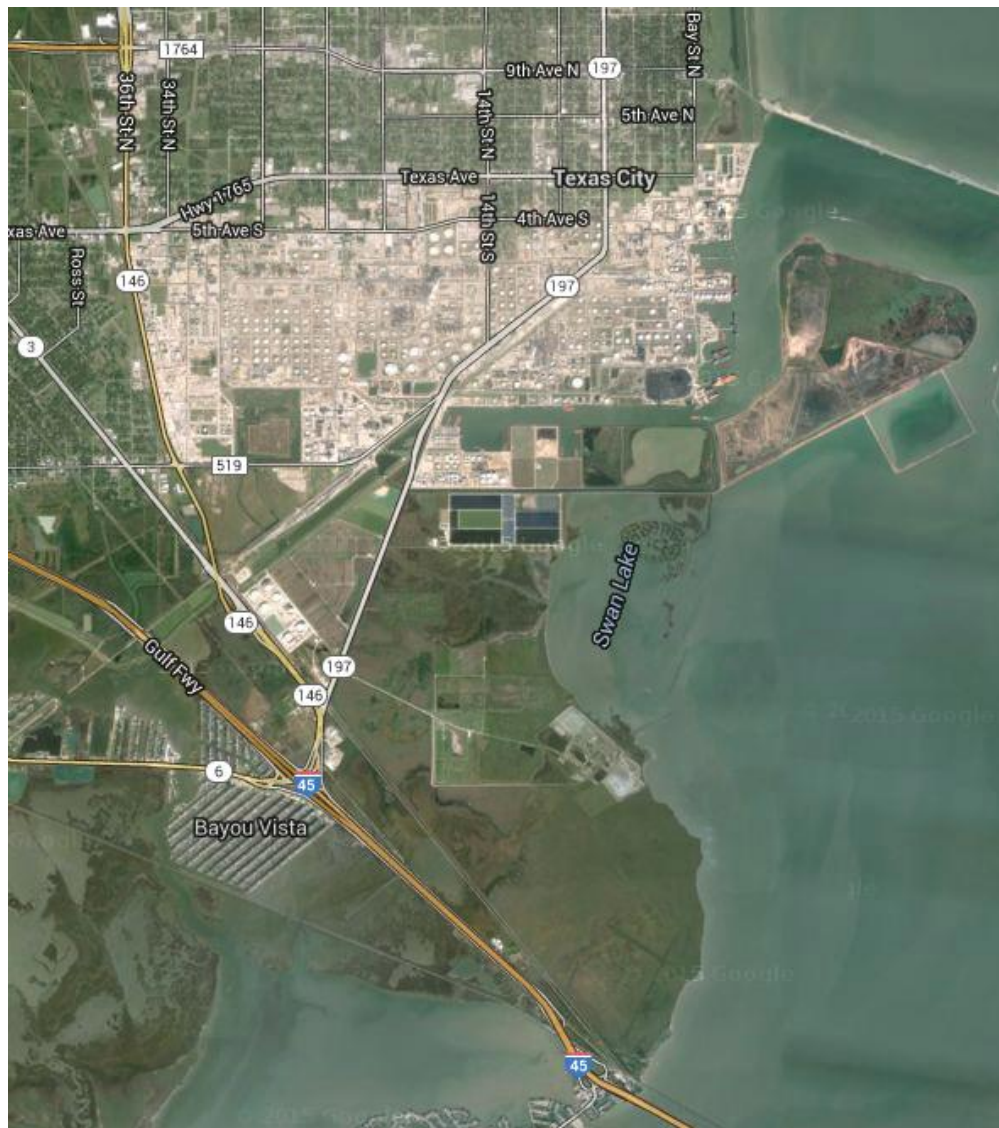
The Texas City APWL boundary encompasses the geographical area south of Texas Avenue/State Highway (SH) 348/Farm-to-Market Road (FM) 1765, east of Highway 146, and west of Galveston Bay (Figure 1). The Texas City APWL 1202 area was originally designated for pollutants other than propionaldehyde, but these pollutants have since been removed from the APWL. Currently there are 19 companies listed in this watch list area.



**Figure 1. Boundary designation of the Texas City APWL 1202 area**

### ***Designated Land Use and Proximity to Residential Areas and High-Traffic Roadways***

The majority of the area included in the APWL is industrial; however, there are some residences located within the APWL boundary designation for the area (Figure 2). Some of these homes are also located in close proximity to industrial areas. Most of the population density in the area is located north of SH 348 (approximately a quarter-mile north of the industrial complexes) and west of Highway 146 (where, in some places, homes are within one-tenth of a mile of industrial equipment). The streets that make up the APWL boundary are high-traffic roadways. Highway 197 is also a high traffic roadway, running between some of the industrial complexes in the APWL area. In addition, the area around Swan Lake is located within the APWL boundary and is designated as a waterfront conservation and recreational area.



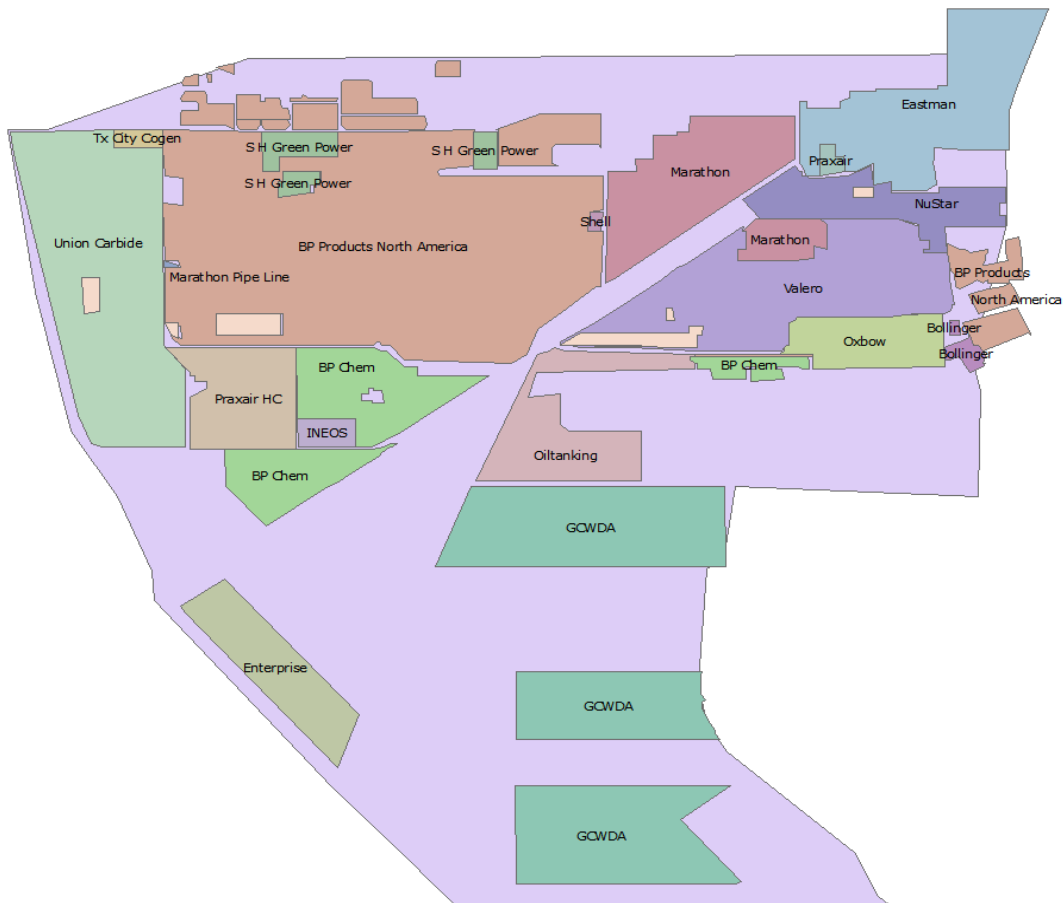
**Figure 2. Satellite imagery showing the location of residential and industrial areas in Texas City.**

***Companies Located in the Texas City APWL Area***

There are 19 industrial complexes located within the highly industrialized APWL 1202 Boundary (Table 2). The APWL area contains three petroleum refineries (BP, Marathon, and Valero), six chemical plants (two Praxair sites, UC, BP Chem, Eastman, and INEOS), three petroleum and chemical terminals (Oiltanking, NuStar, and Enterprise), two power generation plants (TX City Cogen and SH Green Power), two oil and gas support facilities (Shell and Marathon Pipe Line), a wastewater treatment facility (GCWDA), a barge manufacturing and repair facility (Bollinger), and a petroleum coke and coal material handling facility (Oxbow). Figure 3 shows the relative locations of the industrial complexes within the APWL boundary. Only three companies report having propionaldehyde emissions: Gulf Coast Waste Disposal Authority, Oiltanking Texas City Terminal, and Union Carbide (UC) Texas City, a wholly-owned subsidiary of the Dow Chemical Company (Dow). Dow has by far the greatest emissions of propionaldehyde and thus is the focus of this APWL area.

**Table 2. Facilities located in the Texas City APWL 1202 Area**

<b>Company Name</b>	<b>Regulated Entity No. (RN)</b>
BP Products North America (BP)	RN102535077
Marathon Petroleum – Texas City Refinery (Marathon)	RN100210608
Valero Refining Texas City Refinery (Valero)	RN100238385
Praxair Texas City (Praxair)	RN100220599
Praxair Texas City Hydrogen Complex (Praxair HC)	RN104095435
Union Carbide Texas City (Union Carbide)	RN100219351
BP Texas City Chemical Plant B (BP Chem)	RN102536307
Eastman Chemical Texas City (Eastman)	RN100212620
INEOS Texas City Chemical Plant (INEOS)	RN104579487
Oiltanking Texas City Terminal (Oiltanking)	RN100217231
NuStar Texas City Terminal (NuStar)	RN100218767
Texas City Cogeneration (TX City Cogen)	RN100224245
South Houston Green Power (SH Green Power)	RN103934493
Enterprise Crude Pipeline, Seaway Texas City Station (Enterprise)	RN102560182
Shell BP Texas City Compression Dehydration Facility (Shell)	RN105644223
Marathon Pipe Line Texas City Pump Station (Marathon Pipe Line)	RN104574918
Gulf Coast Waste Disposal Authority (GCWDA)	RN100212463
Bollinger Texas City (Bollinger)	RN100218627
Oxbow Marine Terminal Texas City (Oxbow)	RN102707049



**Figure 3. Industrial complexes located within the Texas City APWL 1202 boundary**

## **Evaluation**

### ***Ambient Air Monitoring Data***

#### **Stationary Monitoring**

The TCEQ has two stationary ambient air monitors in the Houston area that measure carbonyls, including propionaldehyde; however, neither monitor is located near APWL 1202.

In an effort to provide data to support a future delisting of propionaldehyde, Dow designed and implemented an ambient monitoring study. Dow coordinated with their consultant (URS) and the TCEQ APWL work group to develop a Quality Assurance Project Plan (QAPP) for the study that specified the project management, data acquisition, assessment and oversight, and data validation and usability requirements and limitations.

On July 1, 2014, Dow began an ambient monitoring study for propionaldehyde. The study goal was to collect thirty 1-hour samples, consisting of five 1-hour samples collected every 2-months over the planned 12-month study duration. A limiting factor in the QAPP was requiring the use of a random number generator to select the five sampling days during each 2-month period. The study was further restricted by the additional use of a random number generator to identify the 1-

hour sample time (start-end) for sample collection on the sampling day. For a sample to be considered valid, 75% of the five-minute values that comprise the hourly sampling period had to be within two constraining meteorological requirements. The two limiting meteorological requirements were (1) that the 5-minute average wind speed must exceed 2 mph, and (2) the 5-minute wind direction average must remain within the wind directional sector of 155 to 195 degrees. The combination of the random generation of days and start times, together with the meteorological constraints, limited the amount of valid data the company was able to collect over the 12-month period.

The company was able to collect 25 samples, of which 17 samples met the meteorological constraints and were considered valid. While 4 of the 17 samples exceeded the historical odor-based AMCV (9 ppb<sub>v</sub>), none exceeded the current health-based AMCV or the current odor-based AMCV of 40 ppb<sub>v</sub>. The highest sample measured was 29.81 ppb<sub>v</sub>.

### **Mobile Monitoring**

All TCEQ data on propionaldehyde in APWL 1202 has been collected during deployment of the TCEQ's mobile monitoring team. The TCEQ conducted mobile monitoring trips in Texas City in 2000 and 2001. The TCEQ measured propionaldehyde concentrations above the historical (i.e., prior to September 2015) odor-based AMCV of 9 ppb<sub>v</sub> downwind of the former UC site, now Dow located at 3301 5th Avenue South. The TCEQ subsequently listed propionaldehyde on the APWL in 2001.

Concentrations were not measured above the historical odor-based AMCV during the TCEQ's 2004 mobile monitoring trip. However, the TCEQ conducted a mobile monitoring trip in 2008 that measured concentrations above the historical odor-based AMCV. The maximum propionaldehyde concentration measured was 27 ppb<sub>v</sub>, which was above the historical odor-based AMCV of 9 ppb<sub>v</sub>, but below the current odor-based AMCV of 40 ppb<sub>v</sub>.

### ***Actions to Reduce Propionaldehyde Emissions***

Dow has reported various strategies and efforts designed to reduce propionaldehyde emissions. The company began implementing improvements to reduce propionaldehyde emissions in 2005 by controlling vent emissions and installing a flare. Permit #49023 Amendment issued 12/21/2005 included permanent shutdown of several fixed roof tanks and routing several other previously uncontrolled fixed roof tank vents and an uncontrolled distillation column to one of two existing flares at the site. The company reported that this project has reduced propionaldehyde emissions by 31.6 tons per year. Although not specifically included in the permit, these reported reductions seem reasonable after reviewing the total volatile organic compound (VOC) reduction and typical concentrations of propionaldehyde handled. Flare destruction effectiveness of at least 98% has been demonstrated and has been commonly accepted since the "Flare Efficiency Study" by the USEPA (EPA 600/2-83-052, July 1983).

Additionally, in 2005, the company began to re-route emissions from a flare 150 feet from the company's fence line to the site's flare located 1,300 feet from the fence line. This process change allowed the emissions to be controlled in a flare with a higher stack further from the fence line, allowing for greater dispersion of the emissions. Permit #49023 Amendment issued 12/21/2005 included re-routing of production unit from Syn Gas Flare (150' from fenceline, 117'



height) to Site Flare (1300' from fenceline, 243' height). Once relocated, the dispersion of released emissions after control would change and ultimately decrease off-property impacts. No modeling or other specific impacts review was performed as a part of this project evaluation and therefore these reductions not quantified.

Dow reported additional strategies that were implemented in 2009, 2010, and 2012. In 2009, the company reduced the concentration of propionaldehyde residue that is loaded into barges; this did not trigger a permitting action, actual emission reductions would be proportional to the reduction in concentration. In June 2010, the company began routing emissions from Tank 2853 to the site's flare. A Pollution Control Standard Permit Registration 92793 authorized previously uncontrolled Tank 2853 to be routed to a flare (achieving 98% destruction/reduction). The specific reduction of propionaldehyde was not represented or quantified for this project, but the reported reductions are reasonable based on previous authorization for this tank.

In 2012, Dow removed Tank 9213 from propionaldehyde service and began controlling degassing activities from propionaldehyde tanks. The company reported that the controls reduced propionaldehyde emissions by 99.9 percent, resulting in average emission reductions of approximately 452 pounds per hour. Dow also began controlling propionaldehyde emissions from water wash lines to reduce line clingage and clearing in 2012, and began controlling initial filling emissions with a control device with at least 90 percent control efficiency for internal floating roof tanks that contain propionaldehyde, reducing emissions by approximately 9 pounds per hour. These reductions were not represented in a permitting action, although it would not necessarily require a permit authorization.

### ***Supplemental Data***

#### **Odor-based Screening Value**

The intended use of an odor-based AMCV value is to prevent odor nuisance conditions, rather than prevent odor detection. Odor nuisance generally occurs when short-term pollutant concentrations are of character, duration, intensity, and frequency to constitute a nuisance condition as described in TCEQ guidance (Odor Complaint Investigation Procedures). At the time APWL 1202 was established, the TD evaluated monitored air concentrations against the historical odor-based short term ESL of 9 ppb<sub>v</sub>.

In September 2015, the TD finalized a new guidance document, "Approaches to Derive Odor-Based Values." As described in this guidance document, if available data indicate the chemical of interest actually has a pleasing odor at low concentrations but an offensive odor at higher concentrations, a higher odor threshold value may be used for the odor-based AMCV. Propionaldehyde has a broad range of odor threshold values. It has a strong odor at high concentrations but a pleasing scent at very low concentrations. As a result of the new odor guidance document, a revised odor-based AMCV was established for propionaldehyde at a higher odor threshold value, i.e., a 50% odor recognition threshold value of 40 ppb<sub>v</sub> (92 µg/m<sup>3</sup>). The lowest AMCV currently used for the comparison of monitoring data is the odor-based AMCV of 40 ppb<sub>v</sub>, as the health-based short-term (1-hour) AMCV is significantly higher (740 ppb<sub>v</sub>).

### Point Source Emissions Inventory (EI) Data

Owners or operators of certain stationary sources are required by 30 TAC §101.10, Emissions Inventory Requirements, to submit an annual emissions inventory to the TCEQ. A company is required to report all of its actual air emissions each year, including all authorized and unauthorized emissions. Unauthorized emissions may include those emissions released as a result of emissions events or unauthorized maintenance, startup, and shutdown activities. Companies located in APWL areas are subject to this requirement. Reviewing the emissions inventory information can be useful to identify the companies that report the contaminant of concern. For more information, please refer to the [point source EI webpage](#).

Table 3 lists the facilities located in the Texas City APWL 1202 area that reported propionaldehyde emissions to the point source emissions inventory in 2014. The remaining facilities either do not specifically report propionaldehyde or are not required to report to the point source emissions inventory. Only four facilities reported propionaldehyde emissions in 2014, and Dow (formerly UC) had the highest emissions (i.e., about 43 times higher than the next highest emitter).

**Table 3. 2014 EI data from the facilities located within the Texas City APWL 1202 area.**

Owner/ Operator	RN	2014 EI (tpy)	% 2014 Texas Emissions
Valero Refining Texas City Refinery	100238385	0.0002	0
UC Texas City (Dow)	100219351	11.9176	19.2%
Oiltanking Texas City Terminal	100217231	0	0
Gulf Coast Waste Disposal Authority	100212463	0.2794	0.44%

\*Data are reported in tons per year (tpy)

According to the reported EI data, two facilities in the Texas City APWL area have reported propionaldehyde emissions over 1 tpy in the last ten years, with Dow contributing the most emissions both currently and historically (Table 4). Although the UC facility has had significant decreases in propionaldehyde emissions since 2005 (from 29.30 tpy in 2005 to 11.92 tpy in 2014), reported emissions have remained relatively consistent since 2006.

**Table 4. EI data for two facilities with reported propionaldehyde emissions from 2005 - 2014.**

Site	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
UC Texas City (Dow)	29.30	12.37	15.60	13.16	11.10	10.40	11.22	9.25	9.62	11.92
Gulf Coast Waste Disposal Authority	0.254	7.904	0.238	1.617	0.330	0.173	0.831	0.028	0.018	0.279

\*Data are reported in tons per year (tpy)

## **Air Permits**

In 2015, the TCEQ Air Permit Division (APD) received applications to renew and amend New Source Review (NSR) Permit No. 49023 from UC, a wholly owned subsidiary of Dow, to:

- Acknowledge that 27 formerly emitting units (tanks and process vents) have been routed to either the Site Flare (emission point number (EPN) E09A032) or the Syn Gas Flare (EPN E10C060) based on a previously established permit deadline/applicant decision.
- Require that 14 additional tanks be routed to either the Site Flare (EPN E09A032) or the Syn Gas Flare (EPN E10C060) no later than January 1, 2017.
- Establish an annual emission cap for the Site Flare (EPN E09A032) and the Syn Gas Flare (EPN E10C060).
- Authorize changes in chemical stream representations.
- Delete numerous EPNs previously removed from service.
- Incorporate (by consolidation) 46 permits by rule (PBRs).

The applicant represented a short-term increase of 1.59 lb/hr in propionaldehyde emissions, with a reduction of 0.48 lb/hr, yielding a net increase of 1.11 lb/hr. The applicant represented an annual increase of 0.06 tpy in propionaldehyde emissions, with a reduction of 2.10 tpy, yielding a net decrease of 2.04 tpy.

Additional permits pertaining to propionaldehyde emissions were also submitted by Dow. In 2013, a certified PBR 109893 authorized changes (control by incinerator at 99.9% DRE) at the West Rail Car Rack (previously not controlled) and associated fugitive components. The overall reduction for this project was 0.32 tpy propionaldehyde. In January 2015, Certified PBR Registration 125519 requested an increase (0.21 tpy) after they conservatively estimated 5% propionaldehyde content in the propanol to account for possible oxidation in tanks due to increased production of crude propanol in the 8/9 reaction systems. This project relied on a portion of the reduction from PBR 109893. In April 2015, certified PBR Registration 131096 requested an increase of 0.91 tpy propionaldehyde due to an increase in loading at the aldehyde rack at the West Rail Car Rack (control by vapor combustor with 99.9%). This project also relied on a portion of the reduction from PBR 109893. These projects resulted in a net decrease of 0.02 tpy propionaldehyde.

## **Compliance History**

30 TAC Chapter 60 requires the TCEQ calculate a rating of the compliance history of every owner and/or operator of a facility that is regulated under the following state environmental laws: the water quality laws of Texas Water Code Chapter 26, laws for the installation and operation of injection wells, the Texas Solid Waste Disposal Act (Texas Health & Safety Code (THSC) Chapter 361), the Texas Clean Air Act (THSC Chapter 382), and the Texas Radiation Control Act (THSC Chapter 401). For the purposes of the compliance history report, owners and operators are referred to as “customers,” and the facility is referred to as the “regulated entity.”

Table 5 summarizes the compliance history reports for the facilities located in the Texas City APWL 1202 area. The compliance history entails both positive and negative factors related to the customer's environmental performance at a site over the past five years. The customer's history is used to calculate a numerical rating. A rating of zero indicates perfect compliance, and

a customer's rating increases with each failure to comply. If no information is available on which to base a rating, the customer is assigned a rating of 3.01 and the classification is designated as "average by default." More information about compliance histories and ratings is available on the [compliance history webpage](#).

**Table 5. Summary of compliance history for the facilities in the Texas City APWL 1202.**

Owner/ Operator	RN	Site	Site Rating	Classification	Date Rated	Date Posted
BP Products North America	102535077	Blanchard Refining Galveston Bay Refinery	172.65	Unsatisfactory	09/01/2008	02/22/2016
Marathon Petroleum	100210608	Marathon Petroleum Texas City Refinery	3.71	Satisfactory	09/01/2008	11/15/2015
Valero Refining Texas LP	100238385	Valero Refining Texas City Refinery	5.71	Satisfactory	09/01/2008	02/16/2016
Praxair INC	100220599	Praxair Texas City	0.25	Satisfactory	09/01/2008	11/15/2015
Praxair INC	104095435	Praxair Texas City Hydrogen Complex	0	High	09/01/2008	02/16/2016
Union Carbide Corp.*	100219351	Union Carbide Texas City	1.17	Satisfactory	09/01/2008	11/15/2015
BP Amoco Chemical Co.	102536307	BP Amoco Texas City Chemical	2.37	Satisfactory	09/01/2008	11/15/2015
Sterling Chemicals INC.	100212620	Eastman Chemical Texas City	0.02	High	09/01/2008	11/15/2015
INEOS USA LLC	104579487	Texas City Chemical Plant	0	High	09/01/2008	11/15/2015
Union Carbide Corp.*	100217231	Oiltanking Texas City Terminal	0	High	09/01/2008	11/15/2015
NuStar Terminals Partners TX LP	100218767	Texas City Terminal	1.13	Satisfactory	09/01/2008	11/15/2015
Texas City Cogeneration	100224245	Texas City Cogeneration	1.66	Satisfactory	09/01/2011	11/15/2015
South Houston Green Power	103934493	South Houston Green Power	2.00	Satisfactory	09/01/2008	11/15/2015
Enterprise Crude Pipeline	102560182	Seaway Texas City Station	0	High	09/01/2009	11/15/2015
Shell Pipeline Co. LP	105644223	Shell BP Texas City Compression Dehydration Facility	0	Unclassified	09/01/2011	11/15/2015
Marathon Pipe Line LLC	104574918	Texas City Pump Station	0	Unclassified	09/01/2014	11/15/2015
Gulf Coast Waste Disposal Authority	100212463	40-Acre Facility	5.26	Satisfactory	09/01/2008	11/15/2015
Bollinger Texas City LP	100218627	Bollinger Texas City	7.84	Satisfactory	09/01/2008	11/15/2015
Oxbow Energy Solutions LLC	102707049	Oxbow Marine Terminal Texas City	0	High	09/01/2015	11/15/2015

\*RN100217231 and RN100219351, formerly UC, have not yet been rated for compliance under Dow.

## Complaint History

The TCEQ places a high priority on collecting and responding to citizen complaints of environmental issues, including visible pollution in air or water, odors, or problems with individuals or companies licensed by the TCEQ. Information on submitting and checking the status of submitted complaints can be found on the [environmental complaints webpage](#).

Table 5 lists the number of complaints received between January 1, 2010, and December 31, 2015, for each of the facilities located within the Texas City APWL 1202. Complaints are typically not related to a particular chemical, so all complaints are provided for completeness. Although BP has by far the largest number of complaints, this facility does not report propionaldehyde emissions.

**Table 6. Complaint history for the facilities located in the Texas City APWL 1202, 2010-2015.**

Owner/ Operator	RN	Site	# Complaints 2010 - 2015
BP Products North America	102535077	Blanchard Refining Galveston Bay Refinery	18
Marathon Petroleum	100210608	Marathon Petroleum Texas City Refinery	1
Valero Refining Texas LP	100238385	Valero Refining Texas City Refinery	3
Praxair INC	100220599	Praxair Texas City	1
Praxair INC	104095435	Praxair Texas City Hydrogen Complex	0
Union Carbide Corp.	100219351	Union Carbide Texas City	0
BP Amoco Chemical Co.	102536307	BP Amoco Texas City Chemical	0
Sterling Chemicals INC.	100212620	Eastman Chemical Texas City	0
INEOS USA LLC	104579487	Texas City Chemical Plant	0
Union Carbide Corp.	100217231	Oil Tanking Texas City Terminal	0
NuStar Terminals Partners TX LP	100218767	Texas City Terminal	0
Texas City Cogeneration	100224245	Texas City Cogeneration	0
South Houston Green Power	103934493	South Houston Green Power	0
Enterprise Crude Pipeline	102560182	Seaway Texas City Station	2
Shell Pipeline Co. LP	105644223	Shell BP Texas City Compression Dehydration Facility	0
Marathon Pipe Line LLC	104574918	Texas City Pump Station	0
Gulf Coast Waste Disposal Authority	100212463	40-Acre Facility	0
Bollinger Texas City LP	100218627	Bollinger Texas City	0
Oxbow Energy Solutions LLC	102707049	Oxbow Marine Terminal Texas City	0

## **APWL Proposed Change Recommendation**

Several factors support the delisting of propionaldehyde and the Texas City area:

- This APWL area was listed based on mobile monitoring, where concentrations of propionaldehyde were detected above the historical (i.e., prior to September 2015) odor-based AMCV (then 9 ppb<sub>v</sub>) downwind of UC/Dow.
- The AMCVs for many odorous pollutants, including propionaldehyde, have been recently updated to more appropriately assess odor nuisance conditions rather than mere detection of a pollutant. The odor-based AMCV for propionaldehyde was updated from 9 ppb<sub>v</sub> to 40 ppb<sub>v</sub>.
- As noted above, Dow has made significant changes to its facility to reduce propionaldehyde emissions and reduce the potential for odor nuisance conditions from existing propionaldehyde sources
- Dow's ambient monitoring study did not measure any concentrations at or above the current odor-based AMCV.
- There were no complaint incidents or complaint investigations related to Dow/UC in Texas City from 2010 through 2015.

Based on the available monitoring data, the updated AMCVs (e.g., odor-based AMCV), and other information (e.g., reductions by Dow, complaint history), the TD recommends the delisting of propionaldehyde and the Texas City area from the APWL.

## **Appendix**

### ***Public Comment Period***

The TCEQ will accept comments on the proposed delisting of Texas City from the APWL, which is currently listed for the air toxic propionaldehyde. Interested persons may send comments to [APWL@tceq.texas.gov](mailto:APWL@tceq.texas.gov) or to the APWL coordinator at the following mailing address:

Jessica Myers, Ph.D.  
Air Pollutant Watch List Coordinator  
Texas Commission on Environmental Quality  
MC 168  
P.O. Box 13087  
Austin, TX 78711

The comment period will begin on June 27, 2016, and the TCEQ will accept comments through July 29, 2016. Any questions regarding the proposed delisting or the APWL process may be forwarded to Dr. Myers by email at [APWL@tceq.texas.gov](mailto:APWL@tceq.texas.gov) or by telephone at (512) 239-1795 or (877) 992-8370.