

# MEETING NOTES

## PASADENA CITIZENS' ADVISORY COUNCIL

[www.pasadenacac.org](http://www.pasadenacac.org)

Tuesday, September 24, 2024

### RYSS STEM Academy – Log Cabin

The 309<sup>th</sup> meeting of the Pasadena Citizens' Advisory Council (PCAC) was held on Tuesday, Sept. 24, 2024, in the Log Cabin at the RYSS STEM Academy (formerly Revive! Church). The meeting notes from Aug. 27, 2024, were approved without change. Facilitator Diane Sheridan reviewed the agenda, which was accepted without change, and the PCAC meeting groundrules.

#### ATTENDEES *italicized*

##### PCAC Members

Andrew Aleman, City of Pasadena OEM  
Jed Aplaca, City of Pasadena Parks and Rec.  
*Diane Barnes, CTHS*  
*Hal Burke, City of Pasadena Neighborhood Network*  
*Raul Camarillo, Harris Co. Pct. 2*  
Emilio Carmona  
Azell Carter, City of Pasadena OEM  
Yesenia Cervantes, RYSS STEM Academy  
Monica De La Portilla  
*Tammy Delossantos, City of Pasadena Parks and Rec.*  
Tish Eubanks, City of Pasadena  
*Ramiro Fonseca, RYSS STEM Academy/Tejano Center*  
Albert Gonzales  
Rick Guerrero, Pasadena Economic Development Corp.  
*M.P. Jackson*  
Ellis Orozco  
Margie Peña, Baker Ripley  
Dominick Rezza  
Christian Rocha, Chamber of Commerce  
Erin Webb, Pasadena Chamber of Commerce

Cristina Womack, Pasadena Chamber of Commerce

##### Support

*Diane Sheridan, Facilitator*  
*Emily Morris, Facilitator-in-training*

##### Observers or Resources

*Ruth Askin, former member*  
*Vanessa Ayala-Medina*  
*Chris Baecke, Harris Co. Pollution Control*  
*Thomas Brinsko, BIC Alliance*  
*Bianca Carrizal, office of Rep.*  
*Mary Ann Perez*  
*John Collins*  
*Bubba Coxie, Harris County OHSEM*  
*Brandy Deason, Air Alliance Houston*  
*Mandy Gosch, Pinnacle Reliability*  
*Ninfa Herrera*  
*Anita Jones*  
*Jerry Jones*  
*Holly Kurth, EHCA*  
*Shawn McNair*

*Shannon McNair*  
Kenya Melendez, office of Rep.  
Mary Ann Perez  
*Mike Murphey, Crown Hill Cemetery*  
*Pam Murphey*  
Nina Palacios, Pinnacle Reliability  
*Diamond Pham, Air Alliance Houston*  
*Bill Pittman, Mt. Vernon HOA*  
La Tonya Ross  
*Amy Shuff, Asbury United Methodist Church*  
*Bailey Simpson, BIC Alliance*  
Savanna Rosales, UHCL  
*Sharlissa Truett-Willis, TCEQ*  
David Wade, HCOHSEM  
*Tim Weber, speaker, Chevron Technical Center*  
*Natasha Zarnstorff, Galveston Bay Foundation*

##### CAC Plant Members

*Afton Chemical: Hari Sundaram, rep by Paul Cook, Maryam Shekari*  
*Air Products: Brian Farhadi, Maggie Doan*  
BASF: Abe Ahmed, Darrin Cobb

*Chevron Pasadena Refinery: Tifanie Steele rep by Joe Ebert, Jennifer Silva, Angela Fall, Steph Seewald*  
*Chevron Phillips: Andy Woods*  
Enterprise Products: Karla Arriaga  
*Ethyl: Hari Sundaram rep by Paul Cook, Maryam Shekari*  
Evonik: Nathan Boye, Donovan Phelan  
*Gulf Coast Authority: Denise Ehrlich, John Mletzko*  
*INEOS Phenol: Mike Meyer, David Pastalaniec*  
*Intercontinental Terminals Co.: Robert Surguy rep by Jesus Davila, Carlos Gracia*  
*KM Export Terminal: Chris Dale*  
*Kinder Morgan Pasadena Terminal: Robert Hammons, Scott Eady*  
*Ketjen (was Albemarle): Lisa Frugé rep by Kevin Paul, Alyssa Linares*  
*LyondellBasell Refinery: Mark Staes, Susan Scott*  
*Next Wave Energy: Shane Presley rep by David Muscat*  
*OxyChem: Eric Delgado, Brandon Pearson*  
*Sekisui: Jeff Thompson*

## Flaring 101: An Overview

From the history of the first flares being ignited by flying arrows to today's depressuring systems, Tim Weber, from Chevron's Technical Center, gave the PCAC a deeper understanding of these pollution-control safety systems that are used in some PCAC plants. Weber, who shares his expertise on flares with the American Petroleum Institute, has 25 years of experience in the petrochemical field and 15 years of experience in leak system and flare design.

Weber told the PCAC that flares are in place for a purpose and are not intended for use all the time.

Flares are primarily safety systems that are used to relieve pressure in an upset, for example. They are used when you take pressurized equipment out of service to clear out the contents before maintenance or during startup until the product meets specifications. They are most common in facilities processing hydrocarbons. The gases come from various sources in a plant. They go into the purge-gas system and to a knock-out drum where any liquids in the purge gas are collected in the drum so that only the gases are sent up the flare stack to be combusted.

Weber went on to explain that there will always be a flame on a flare, similar to the pilot light on your stove or water heater. When sensors detect a vapor traveling through the flare stack, the pilot light will ignite the vapor to combust it and thus prevent all of the release from venting to the atmosphere. Typically, 98% of the vapors are destroyed. The PCAC also learned:

- Flares date back to the 1920s, a time when flares did not have pilot lights, and “flare lighters” would shoot arrows at the tip to light the flame. Flare guns also have been used to light them.
- In addition to prompting the flare to operate as needed, the pilot light will also destroy small amounts of gas that escape.
- Flares can be assisted or non-assisted. Assisted flares use a catalyst, such as steam, oxygen, or pressure to improve the efficiency of the combustion.
- The size, intensity, and color of the flame is determined by how much and what kind of gas is flowing into the flare stack – more gas, the bigger and brighter the flame will be.
- It’s very difficult to achieve 100% efficiency with flares, although, some will perform better than 98%. Destruction efficiency is the percentage of the gas that is sent to the flare that is combusted into carbon dioxide and water, primarily.
- Flares are used when taking equipment out of service to safely dispose of gas from a pressurized system.
- Ground flares are like a field of Bunson burners – a lot of smaller flames – and can be the size of football fields. They are hidden by fences, so the flames are not usually visible from ground level. The reflection of the flame might be seen.
- The flow and composition of vapors is measured as it moves through the piping and to the tip of the flare. Temperature sensors also monitor flare activity.
- Video cameras are used to determine whether the mixture in an assisted flare is properly balanced. Artificial Intelligence (AI) can be programmed to recognize and interpret the appearance of the flame from the video feed and take smoke readings. AI can monitor 24/7 whereas a person might not be able to monitor the video feed as efficiently.
- Drones can be used to inspect flare tips and can show if equipment is melted or broken. Drones produce high-resolution pictures that yield more accurate information.
- Billowing white steam from a flare may cause concern because it may indicate that too much steam has been mixed in, and it could snuff out the flame, which defeats the purpose of the flare.
- A flare gas-recovery system will divert the gas from the flare to be used somewhere else in the facility or be sold. Recovery systems minimize flares but are designed to handle a small flow and would not be used in an emergency situation.
- Flare design takes into consideration thermal radiation, or the heat radiating from a flare. Plants don’t want to expose employees or the community to the heat.
- Dispersion models, which simulate atmospheric conditions, are used to help determine where a gas would go during an upset release.

- Plants don't build redundant flare systems – if the flare is down, the plant is down, and it can't run.
- Some plants use thermal oxidizers as an alternative to flares, but they are low-capacity and not appropriate for refineries. "There's not really a better way than a flare to destroy hydrocarbons," Weber said.
- The length of time a flare burns depends on the process. If a gas has nowhere to go, it could burn for days. Process flaring might be several days. Flaring is not cheap, and plants try to avoid a lot of flaring because it's burning profit.
- When a flare shows a little smoke, it's better than smoke-free. Tinges of black smoke in a flare indicate that the flare is probably operating at peak efficiency. A long plume of smoke from a flare shows it is not operating at peak efficiency.
- Temporary flares – as seen along NASA Parkway recently – are used to control pressurization in pipelines. You will usually see people there monitoring. If a plant needs to do maintenance on a line, it must first be depressurized, which can take hours, days, or weeks, depending on the size of the pipe. Depressurizing prevents too much gas going to the flare, which might destroy the tip.

## **Flaring Discussion Input**

### **1. Does your plant have flares? Why or why not?**

- Yes – backup flare. Normal route for waste gas boiler.
- Next Wave – No – thermal oxidizer and a flare. Flare is for emergency only – thermal oxidizer has better environmental footprint.
- KM Export – No – storage only.
- Ketjen has 2 flares onsite. One flare is dedicated to dry service (AI based). One conventional flare for less reactive products.
- Yes – all plants [at table] answered

### **2. Anything you were glad to hear?**

- Very efficient
- 98% destruction
- Safety
- That it's a safety device
- Working to correct false perceptions. Plants don't want flaring – it's wasting money.

### **3. Anything that concerned you?**

- Bit concerning that white smoke/flares aren't necessarily good.
- No concerns.
- 0

### **4. Any information that was new?**

- Lighting flares with arrows.
- 160 years flares have been around, and the bow and arrow.
- Nitrogen flaring – purging line with fuel gas.

- Process of flaring.

## 5. Any more questions about flares?

- What's the biggest technology change expected for flares in the future?
- 0

## HOST PLANT INTRO: Ketjen

*Slide posted at [www.pasadenacac.org](http://www.pasadenacac.org).*

If you wear glasses, drive a vehicle with a truck-bed liner, or use herbicides, you've probably benefited from the organometallic compounds that Ketjen Pasadena produces. Kevin Paul, Technology Resources Supervisor at Ketjen Pasadena, explained that the Pasadena plant produces tailored, advanced catalyst solutions for the petrochemical, refining, and specialty chemicals industries. Ketjen's organometallic compounds – organic compounds that contain carbon-metal bonds – are used by other industries to make plastics, rubbers, synthetic rubbers, polyethylene foams, and other specialty chemicals. Ketjen is a wholly owned subsidiary of Albemarle with its global headquarters in Houston, TX. Its Pasadena plant employs 350 fulltime staff and contractors.

## UPDATES

### Plant Updates

The Plant Update Summary was mailed to attendees shortly before the meeting and mailed to all members the day after. Direct questions to Diane Sheridan, [dbsfacilitator@gmail.com](mailto:dbsfacilitator@gmail.com), 281-326-5253, or Emily Morris, [pcac.secretary@gmail.com](mailto:pcac.secretary@gmail.com), 832-443-3617.

#### In a Nutshell:

- Updates were received from 18 of 18 plants
- **1 of 18** had an environmental event
- **2 of 18** had OSHA recordable injuries, with **3** injuries reported
- **15** had neither environmental nor safety incidents

#### 17 plants had no environmental incidents:

- |                              |                                |                                   |
|------------------------------|--------------------------------|-----------------------------------|
| 1. Afton Chemicals           | 7. Ethyl                       | 13. Kinder Morgan Export Terminal |
| 2. Air Products              | 8. Evonik                      | 14. Kinder Morgan Pasadena        |
| 3. BASF                      | 9. Gulf Coast Authority        | 15. Next Wave Energy Partners     |
| 4. Chevron Pasadena Refinery | 10. INEOS                      | 16. OxyChem                       |
| 5. Chevron Phillips          | 11. Intercontinental Terminals | 17. Sekisui                       |
| 6. Enterprise Products       | 12. Ketjen                     |                                   |

#### 16 plants had no safety incidents:

- |                     |                         |                                   |
|---------------------|-------------------------|-----------------------------------|
| 1. Afton Chemicals  | 5. Enterprise Products  | 9. INEOS Phenol                   |
| 2. Air Products     | 6. Ethyl                | 10. Ketjen (was Albemarle)        |
| 3. BASF             | 7. Evonik               | 11. Kinder Morgan Export Terminal |
| 4. Chevron Phillips | 8. Gulf Coast Authority |                                   |

12. Kinder Morgan Pasadena  
Terminal

13. LyondellBasell Refinery  
14. Next Wave Energy Partners

15. OxyChem  
16. Sekisui

## Community Updates

- **Membership recommendations:** Facilitator Diane Sheridan announced that PCAC community and plant members were polled before the meeting and support inviting the following frequent attendees to become active PCAC members. They will be listed as members in PCAC documents once they have accepted their invitations.
  - Vanessa Ayala-Medina
  - Mandy Gosch
  - Ninfa Herrera
  - Shawn McNair
  - La Tonya Ross
- **Carbon Management Workshop:** Sheridan shared information about a free, in-person Carbon Management Workshop to be held 4:00-9:00 p.m. Oct. 9, 2024, at the Health and Safety Council, 5213 Center Street, Pasadena, TX 77505. Sponsored by the US Department of Energy and organized by Climate Now, this event offers an open house and presentations to learn more about potential impacts of carbon management projects proposed in and near the Houston Ship Channel. For more information and to register for the workshop, [click or scan the QR code](#).



## PLANS FOR FUTURE PCAC MEETINGS

**Dinner available at 5:30 pm.** Meetings are from 6:00 – 7:30 p.m. unless otherwise indicated.

- **Adopt program plan for 2025:** The Program Plan proposed by the Program Planning Committee, based on input from the August meeting, was adopted. It will be posted on the Members Only section of [www.pasadenacac.org](http://www.pasadenacac.org).
- **Oct. 22:** Annual Report on Emissions in PCAC Plants
- **Dec. 3:** Diane's last meeting as facilitator as she retires at the end of December. Details about a special meeting will be sent soon.

## DATES FOR 2024 ----- All 4<sup>th</sup> Tuesdays!

Unless otherwise noted, all are 4<sup>th</sup> Tuesdays. 5:30 dinner – 6:00 call to order – 7:30 adjourn

Tues., Jan. 23  
Tues., Feb. 27  
Tues., Mar. 26  
Tues., Apr. 23

Tues., May 28  
No June or July meetings  
Tues., Aug. 27  
Tues., Sept. 24

Tues., Oct. 22  
No November meeting  
**Tues., Dec. 3 – Sheridan's last  
meeting as facilitator**  
No late December meeting