

CBE 2013 SoCal Refinery Flare Data Update

What do flares do? Flares burn gases when the pressure gets too high inside oil refinery processing vessels, or when refineries have to shut down units and gases have no place to go. Flaring occurs for planned or unplanned reasons. In true emergencies, flares are necessary to avoid dumping gases such as VOCs and deadly hydrogen sulfide directly into the air, but even after burning these gases, flares can still put out tons of pollution that is especially harmful to those with asthma. Pollutants released by flares include sulfur oxides, nitrogen oxides, particulate matter, some remaining VOCs, and greenhouse gases. →**Most flaring is preventable.**



Flares were routinely abused to burn off “waste” gas in the past, despite availability of equipment to recycle gases, resulting in emissions of many tons per day.

Together, community pressure won greatly reduced flaring: It took many years of step by step fighting, but CBE and other community members pressured government agencies to require strong regulations minimizing flaring. We provided technical assistance on emissions, monitoring, and rule language, and we sued to force adoption. Most importantly, neighbors testified to win regulations, and in 2004-2006 we won requirements for flare monitoring and minimization. This shows what People-Power can do! The South Coast and Bay Area Air Quality Management Districts (SCAQMD and BAAQMD) deserve credit for these rules, as they are the best in the nation, but more still needs to be done!

Flaring prevention means avoiding breakdowns, which increases safety: Because of regulations, large compressors were added to refineries to reduce the volumes of gases, and these gases were recovered as fuel inside the refinery instead of routinely burning in flares. But when compressors (and other equipment) break down, flaring still occurs. Making sure refineries are well-maintained to avoid breakdowns (especially repeat ones that cause unplanned shutdowns) can prevent most flaring. Refineries are required to do this, but don’t always succeed. Requiring a rigorous Flare Minimization Plan for avoiding breakdowns can prevent both flaring AND increase all-around refinery safety. (However, complete shutdowns for planned maintenance every few years still causes flaring.)

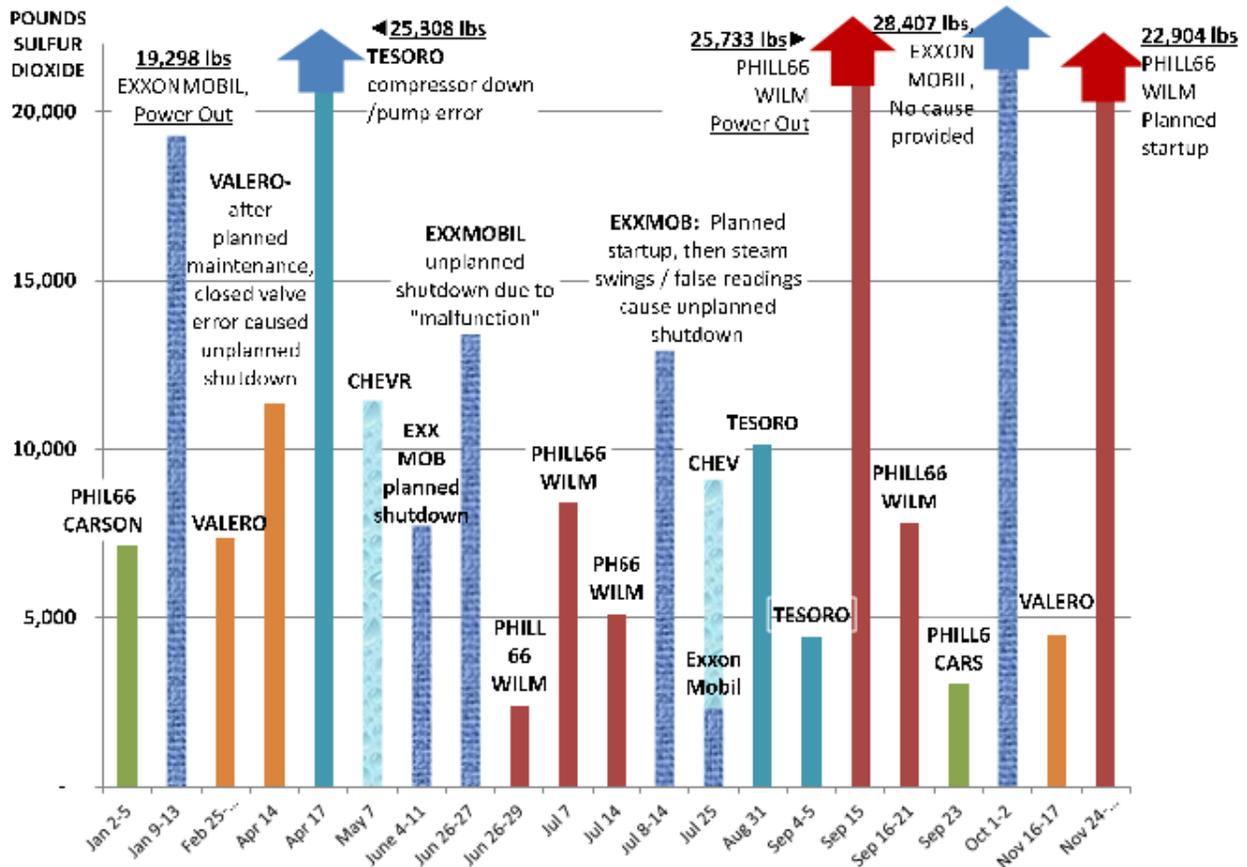
Because we still see major unnecessary flaring in our communities (see reverse), we need an update of regulations: Southern California oil refineries are still allowed to flare a certain amount every year, and only have to do a flare minimization plan if they go over this amount, with some loopholes for power outages. A rigorous Flare Minimization Plan (FMP) can do a lot, and all refineries should be required to do one. Bay Area refineries are required to, South Coast refineries are not, but not all Bay Area FMPs are done well. And worse, oil refineries are switching to dirtier crude oil with more sulfur contamination, which means more hazardous sulfur compounds are inside the refinery and can be emitted when flaring or other releases occur.

- ▶ **Every refinery should be required to do a Flare Minimization Plan** to prevent repeated breakdowns and increase refinery safety!
- ▶ **Be a watchdog when you see large flares, smoking flares, or odorous flaring**
Call: [1-800-CUT-SMOG](tel:1-800-CUT-SMOG) or [1-800-288-7664](tel:1-800-288-7664) (avail. 24 hours at the SCAQMD). Leave a message if you don’t reach anybody. An inspector will call you back. Take pictures. You can also call refinery numbers (but still report flaring to the Air District): [Phillips66 Wilmington](#) -- English: (310) 834-5264, Spanish: (310) 543-7431; [Phillips66 Carson](#) -- English: (310) 834-5264, Spanish: (310) 543-7431; BP Carson: (800) 377-2726; Tesoro Wilm: (310) 261-8055; Valero Wilm: (866) 428-6537; ExxonMobil Torrance: (310) 505-3158; Chevron El Segundo: (310) 615-5342
- ▶ **Anyone can sign up at the Air District website for email notices of flaring** (but notices still give too little information): <http://www.aqmd.gov/comply/1118/faqs.htm>



We charted the largest 2012 flaring events we found in dozens of spreadsheets from Public Records requests we made to the South Coast Air District

(We only charted flaring with emissions more than 2,000 lbs of SO_x, but many smaller flaring events occurred.)




Phillips66 Wilmington	Tesoro Wilmington	ExxonMobil Torrance
Jun 26-29: 2,410 lbs	Apr 17: 25,308 lbs	Jan 9-13: 19,298 lbs
July 7: 8,413 lbs	Aug 31: 10,157 lbs	Jun 4-11: 7,733 lbs
July 14: 5,124 lbs	Sep 4-5: 4,453 lbs	Jun 26-27: 13,519 lbs
Sep 15: 25,733 lbs		Jul 8-14: 15,557 lbs
Sep 16-22: 7,820 lbs	Valero Wilmington	Jul 25: 2,313 lbs
Nov 24-Dec 1: 22,904 lbs	Feb25 - Mar1: 7,381 lbs	Oct 1-2: 28,407 lbs
Phillips66 Carson	Apr 14: 11,364 lbs	Chevron El Segundo
Jan2-5: 7,137 lbs	Nov 16-17: 4,472 lbs	May 7: 11,445 lbs
Sep 23: 3,033 lbs		Jul 25: 9,141 lbs

- Note that BP in Carson is missing from the chart, because it has no SO_x flaring in 2012 greater than 2000lbs, and all SO_x emissions for the year were 3,584 lbs; still substantial, but far lower than the other refineries. However, flaring can greatly fluctuate year to year.
- To pull out this data, we had to search through dozens of separate spreadsheets of flare data, since refineries report on a quarterly basis and have multiple flares. In addition to the events with large sulfur oxides above, many additional flaring events occurred, and other pollutants are also emitted (VOCs, PM₁₀, CO₂, CO, NO_x, and other pollutants).
- We believe flare events should always be available on the Air District website, so everybody can easily get this. Currently, only quarterly totals are available, so people can't see separate days.

