

Pasadena Citizens' Advisory Council

Annual Report of Air Emissions from PCAC Plants

October 27, 2020

Ana Partin of INEOS Phenol presented the annual report on Pasadena Citizens' Advisory Council (PCAC) plant air emissions. (PCAC plants rotate serving as the presenter annually.) The annual report derives its data from two yearly inventories: the Air Emissions Inventory (EI), which plants submit to the Texas Commission on Environmental Quality (TCEQ), and the Toxics Release Inventory (TRI), which plants submit to the US Environmental Protection Agency (EPA).

The report also compares pounds of Nitrogen Oxide (NOx) and Volatile Organic Compound (VOC) emissions from 16 PCAC plants that file a TCEQ Emissions Inventory to the totals from 1,947 facilities that do so in Texas and 273 that do so in Harris County. For this comparison, data from 2018 are the most current. In 2018, 0.7% of the state's NOx emissions came from PCAC plants; and 10% of the county's NOx emissions did so. In 2018, 3% of the state's VOC emissions came from PCAC plants, and 18% of the county's VOC emissions inventory did so. PCAC tracks NOx and VOC emissions because they contribute to formation of ozone under certain weather conditions.

Overall, PCAC plant emissions declined when 2019 data were compared to 2018. The primary reason was a reduction in the number of operating hours at one facility. A major emission event at one plant in 2018 was not repeated in 2019. The increase in carbon monoxide emissions results from burning more natural gas in the flare in order to comply with the EPA Refinery Sector Rule.

Highlights of the 2019 report may be found on page 2. Questions may be sent to info@pasadenacac.org.

HIGHLIGHTS OF 2019 DATA ON EMISSIONS

Full Emissions Inventory by Cause	Pounds in 2019	Compared to 2018
Routine Permitted Emissions	14,364,968	-8%
Maintenance Emissions	18,314	-48%
Upset Emissions	475,691	-53%
Emissions Inventory of Selected Criteria Air Pollutants	Pounds in 2019	Compared to 2018
NOx – nitrogen oxides	3,042,629	-8%
All VOCs – volatile organic compounds	5,132,394	-16%
— Portion of pounds that are highly reactive (HRVOCs)	242,049	-14%
SOx – sulfur oxides	3,150,280	-19%
CO – carbon monoxide	2,313,034	13%
TSP – total suspended particulates	883,188	-6%
PM 2.5- TSPs less than 2.5 micrometers in diameter	702,971	-8%
Toxics Release Inventory (TRI)		
Total releases to the air	747,677	-50%
Portion from fugitive air sources	258,563	-14%
Portion from point air sources	489,114	-59%
TRI total air releases from 1995 – 2019	4,732,013 in 1995	747,677 lbs. in 2019 down 84%
	In 2019	The year before...
Number of Pasadena CAC Plants *	18	18
Plants reporting TRI	14	14
Plants reporting air emissions inventory	17	17
Plants reporting Highly Reactive VOCs	8	8
*PCAC has 18 plant members in October 2020.		

Green = decreased from 2018 to 2019 - Red = increased from 2018 to 2019