

# Pasadena Citizens' Advisory Council

## Annual Report on Air Emissions from PCAC Plants

November 28, 2023

Celina O'Connor of Chevron Pasadena Refinery presented the annual report on PCAC plant air emissions. (PCAC plants rotate serving as the presenter.) The annual report derives its data from two annual inventories: the Air Emissions Inventory (EI), which most plants submit annually to the TCEQ, and the Toxics Release Inventory (TRI), which many plants submit to the EPA. Highlights of the 2022 data on emissions follow this summary.

Overall, emissions were down from the previous year, with a 10% decrease in total TCEQ Air Emissions Inventory (EI) and a 7% decrease in total EPA Toxics Release Inventory (TRI) releases to air, but there was a slight increase in NOx emissions. Chevron's Pasadena Refinery showed the greatest emissions reductions in 2022 because the fluidized catalytic cracking (FCC) unit and sulfur recovery unit (SRU) are no longer operating, and also reduced flaring. The effects of Winter Storm Uri are still being reflected in some data. In the year after a major storm, some emissions increase when production returns to typical rates after shutdowns related to the storm. Some emissions decrease because there are fewer upsets and less need for repairs.

The report compared nitrogen oxide (NOx) and volatile organic compound (VOC) emissions at PCAC plants to those reported in the Air Emissions Inventory by facilities in Harris County and in Texas overall. For this comparison, data from 2021 are the most current. In 2021, 0.6% of the state's NOx emissions came from PCAC plants; and 8% of the county's NOx emissions did so. In 2021, 3% of the state's VOC emissions came from PCAC plants, and 17% of the county's VOC emissions inventory did so.

As an advisory council to industry, PCAC schedules this annual report so its community members know which emissions are coming from member plants. Emissions come from many sources in addition to industry, including power plants, small businesses, vehicles, and some natural sources. In separate meetings, PCAC periodically schedules presentations on air quality and on health effects.

### PASADENA CITIZENS' ADVISORY COUNCIL

#### HIGHLIGHTS OF 2022 DATA in November 2023 EMISSIONS REPORT

Full Emissions Inventory by Cause	Pounds in 2022	Compared to 2021
Routine Permitted Emissions	11,088,919	-9%
Maintenance Emissions	141,062	-52%
Upset Emissions	142,491	-53%

<b>Emissions Inventory of Selected Criteria Air Pollutants</b>	<b>Pounds in 2022</b>	<b>Compared to 2021</b>
NOx – nitrogen oxides	2,568,836	<b>3%</b>
All VOCs – volatile organic compounds	4,814,381	<b>-9%</b>
— Portion of pounds that are highly reactive (HRVOCs)	241,112	<b>-6%</b>
SOx – sulfur oxides	918,062	<b>-43%</b>
CO – carbon monoxide	2,393,229	<b>-4%</b>
TSP – total suspended particulates	668,932	<b>-6%</b>
PM 2.5 - TSPs less than 2.5 micrometers in diameter	583,964	<b>-7%</b>
<b>Toxics Release Inventory (TRI)</b>	<b>Pounds in 2022</b>	<b>Compared to 2021</b>
Total releases to the air	680,218	<b>-7%</b>
Portion from fugitive air sources	248,632	<b>-22%</b>
Portion from point air sources	431,586	<b>4%</b>
TRI total air releases from 1995 – 2022	4,732,013 in 1995	680,218 lbs. in 2022 <b>-86%</b>
	<b>In 2022</b>	<b>The year before...</b>
<b>Number of Pasadena CAC Plants *</b>	18	18
Plants reporting TRI	13	13
Plants reporting air emissions inventory	15	15
Plants reporting Highly Reactive VOCs	9	9
<p><i>*PCAC has 18 plant members in November 2023. Next Wave Energy Partners is under construction so has no data to report.</i></p>		

Green = decreased from 2021 to 2022 - Red = increased from 2021 to 2022