CBE UPDATE: INHERENTLY RISKY: Why so many alarming Refinery & Oil Industry fires, explosions, & hazards?

A year ago, Phillips 66 Carson had multiple fires and repeated flaring, followed by a gasoline tanker exploding in south Los Angeles, causing widespread alarm. **Community protested lack of good information.**

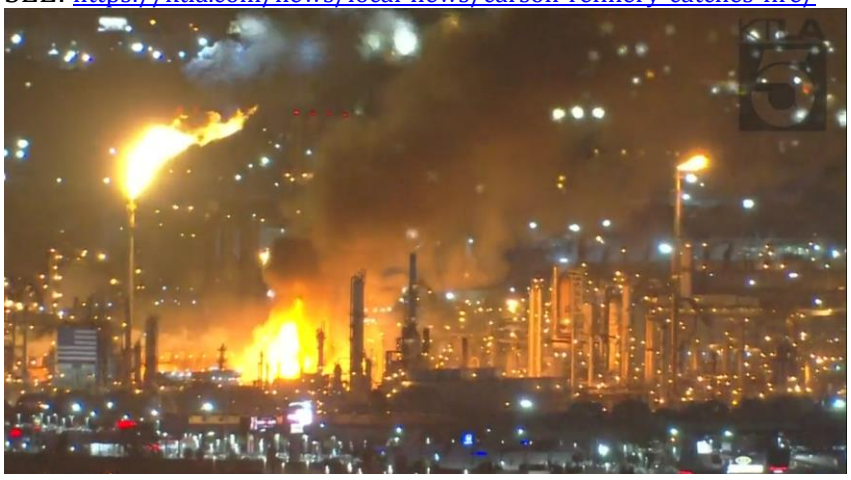
Last night, Feb. 25, 2020, the Marathon/Tesoro Los Angeles Refinery in Carson / Wilmington erupted into a major fire after multiple explosions and a giant fireball:

- The major fire was seen shooting into the sky, with black smoke that could even be seen at night. (A reduced fire was still seen burning this morning, Feb. 26th.) The original explosion was seen as far away as Fullerton (about 25 miles). **This is the largest refinery on the West Coast, and its major expansion was protested by thousands, and contested in court.**
- Officials reported fire suppression efforts included water to keep nearby equipment cooled to prevent a runaway refinery fire. **The 405 Freeway was temporarily shut down in both directions.**
- Major flaring occurred, in order to burn gases during the refinery shutdown.

But officials like the LA County Fire Department continue to misinform the public about the emissions from oil refinery fires and flaring, stating on the news that the flaring was standard practice during normal refinery processing, and that all the dangerous gases are burned off. This is well-established as false. Flaring during a major fire is not normal refinery processing – such flaring occurs during accidents (and planned shutdowns). While emergency flaring is needed to avoid further explosions and direct dumping of gases to the air, flares are well established by authorities including the Air Quality Management District, to emit SOx, NOx, VOCs, and PM. CBE's earlier fact sheet based on AQMD public records showed major flaring emissions (2013 and 2017). Further, refinery fires involve uncontrolled combustion of hydrocarbons emitting harmful pollutants to the air (see back). Public exposure depends on weather and if gases reach the ground.

Oil refinery fires contain particulate matter, PAHs (Polycyclic Aromatic Hydrocarbons), hydrogen sulfide, sulfur dioxide, VOCs (Volatile Organic Compounds), metals, much more. Short term exposure may potentially cause nausea, breathing problems, asthma attacks, skin impacts, more. Chronic exposure may contribute to cancer, nervous system, heart, reproductive, and other hazards.

SEE: https://ktla.com/news/local-news/carson-refinery-catches-fire/



Oil refinery fires are not well-studied, but the chemicals known to be emitted are established to cause health harms if people are exposed. One study looked at specific effects of exposure after refinery fires in Northern California:

The Environmental Health Journal *(Hospital, health, and community burden after oil refinery fires, Richmond, California 2007 and 2012)* **found, regarding oil refinery and other industrial fires, that smoke can contain uncombusted hydrocarbons, ultrafine particulate matter, and carcinogens. If people are exposed to this smoke, it found:** "The first acute effects of inhalation are irritation to the eyes, nose, and throat. Toxicities are principally respiratory, for example, acute asthma in children [25, 26]. Respiratory effects are rapid and occur with only a one-hour exposure [27], with the lungs usually bearing the most serious impact. The cardiovascular system is also involved, either secondary to pulmonary damage or directly [28]. For example, during the brief time cleaning up after a fire without breathing protection, firefighters have a significant decrease in pulmonary function with evidence of increased alveolar capillary membrane permeability [29]. Smoke inhalation produces long term pathology that includes worsening of asthma and cardiovascular effects such as stroke and cardiac disease [21, 30, 31]. People with existing heart or lung disease, people with diabetes, older adults, children, and people of lower socio-economic status have greater risk of particle pollution health effects [8, 9, 32].

WHAT ABOUT LAST YEAR? (2019) – NOT MUCH PROGRESS – Public still poorly informed – South Coast AQMD promised to provide better information, but so far – nothing is available on its website.

3/15/2019 - Phillips 66 Carson Refinery Friday Night Fire ABC7: *Fire Burns Out of Control at Carson Oil Refinery*

- The fire dept. reported multiple high pressure crude oil pumps on fire, 7:30 - ~10:30 pm.
- **Black smoke was obvious, but invisible pollution emitted too –** Refinery fires require shut down. Volumes of gases are sent to flares and may be released directly through Relief Valves.
- It is almost impossible to tell what levels of pollutants people may have been exposed to. Pollutants may release high over a community or at ground level depending on weather, accident conditions, and pollutants.

3/17/19 Sunday morning South LA blast - Daily Breeze: Gasoline tanker leak, explosion and fire…(below) and KNBC4: Gas Tank Explosion in South LA Creates Giant Smoke Cloud, Panic (right) Tanker parked at Slauson near S Broadway leaked, later exploded. One woman cut by glass, another burned at house next door. No information provided on smoke health impacts.

Time for Clean Energy!

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