Chevron’s Crude Unit Fire on August 6, 2012: What we know now (two weeks later)

BEFORE THE INCIDENT

1998: Chevron begins a switch to higher-sulfur crude oils at its Richmond refinery. (See Chart.) Among other problems, this worsens inherent hazards by increasing the potential for corrosion.

January 2007: A corroded pipe fails causing a huge fire and flaring at the Richmond refinery crude unit. (Chevron reports.)

November 2011: Chevron replaces another pipe in the crude unit due to corrosion but does not replace the pipe that—nine months later—fails in the current incident. Report by Chemical Safety Board (CSB).

THE INCIDENT

August 6, 2012; ~4:15 pm: A leak is found in a pipe carrying hot gas oil from the Richmond refinery crude unit, according to worker, CSB, and Chevron reports. (See Diagram.)

August 6, 2012; 4:15–6:15 pm: Instead of shutting down the leaking unit Chevron keeps it running while removing the insulation from the leaking pipe in the unit. (Worker, CSB reports.)

continued next page
Some pollutants the fire probably emitted (based on uncontrolled gas oil burning)

**Particulate matter** can cause breathing problems and increase death rates.

**Hydrocarbon gases** can form smog and cause breathing problems. Some are very toxic, such as leukemia-causing **benzene**.

**Sulfur compounds** ($\text{H}_2\text{S}$, $\text{SO}_2$, sulfuric acid and others) can cause odors, breathing and eye irritation, asthma attacks, headaches, and at higher levels are acutely hazardous.

**Nitrogen oxides** can cause smog and breathing irritation and also react in the air to form toxic **particulate matter** (see above).

**PAHs** (polycyclic aromatic hydrocarbons) may cause cancer, reproductive harm, and adverse impacts on ability to fight disease.