



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

Compliance and Enforcement Division

INCIDENT REPORT

**General Chemical Corporation (Site #A0023)
Richmond, CA
June 23, 2006**

On Friday, June 23, 2006, at approximately 10:10 am, General Chemical in Richmond released a sulfur dioxide (SO₂) and sulfur trioxide (SO₃) plume while in the final stages of start-up. General Chemical manufactures sulfuric acid from waste or "spent" acid and elemental sulfur. A Level-3 (off site impact is expected) was reported by company personnel. Preliminary analysis of this incident by General Chemical indicates a valve malfunction during start-up caused the negative pressure fan on the decomposition unit to trip offline. When this occurred, the positive air blower on the unit did not shut down, causing the unit to go into positive pressure. The positive pressure resulted in the emission of a blue SO₂/ SO₃ plume from the sides and gaskets of the unit. When operators attempted to restart the negative pressure fan, it tripped offline again. At 10:17, company personnel put the entire unit into hot-standby mode. The unit will remain in hot-standby mode until the air blower tripping problem can be remedied.

During the release, the wind was blowing 10-15 mph at approximately 150 degrees. As a result of the release, the gas plume reached the Chevron Richmond Refinery 91 gate and affected at least four individuals, three of which were sent to the hospital for respiratory and eye irritation.

Chevron Refinery Fire Department staff were first on the scene, and surveyed air quality upon arrival. Contra Costa County Hazardous Materials Department Staff responded and an "all clear" determination was made at 12:44.

No elevated levels of pollutants were recorded on the facility CEM or the local GLM stations. Due to the short duration of the event (7 minutes), the community warning sirens were not sounded. The facility will be submitting a 72-hour report and will follow-up with additional reports pending a root cause analysis. District staff will continue to investigate this incident to further determine the root cause of the upset and to determine if any air quality regulations were violated.

UPDATE:

The District has issued Notice of Violation (NOV) A47620 to General Chemical for an alleged violation of Regulation 1, Section 301: public nuisance.

General Chemical calculated that the following emissions resulted from the incident:

- Sulfur Dioxide (SO_2) = 25 lbs.
- Oleum (SO_3) = 1 lb.

Additionally, District dispersion modeling indicates the off-site ground level concentrations of SO_2 exceeded 0.3 parts per million (ppm). The Emergency Response Planning Guideline (ERPG) Level 1 threshold for SO_2 is 0.3 ppm. The ERPG scale was developed by the American Industrial Hygiene Association. An ERPG Level 1 definition corresponds to nearly all individuals experiencing mild adverse health effects and clearly objectionable odors. The off-site ground level concentrations of SO_2 during this incident are not believed to have exceeded the ERPG Level 2 concentration of 3 ppm. The off-site ground level concentrations of SO_3 did not reach ERPG Level 1 based on dispersion modeling.