

**For CCHS Use Only:**

**Received By:**

**Date Received:**

**Incident Number:**

**Copied To:**

**Event Classification Level:**

**ATTENTION:** Matthew Kaufmann  
Hazardous Materials Program Director  
Contra Costa Health Services Department  
4585 Pacheco Boulevard  
Martinez, CA 94553

**INCIDENT DATE:** October 24, 2021

**INCIDENT TIME:** 8:25 am

**FACILITY:** Chevron Richmond Refinery

**PERSON TO CONTACT FOR ADDITIONAL INFORMATION:** Laura Leeds  
(510) 242-3887 (office)

## I. SUMMARY OF EVENT

On the morning of 10/24/21 loss of operating plants that generate power and steam resulted in steam production loss and the subsequent shutdown of multiple process units. Flaring occurred during the shutdown of the units. A fire was also reported and quickly extinguished at one of units affected by the steam loss. An investigation has been initiated to better understand the root cause of the event.

## II. AGENCIES NOTIFIED, INCLUDING TIME OF NOTIFICATION

After making a determination of potential off-site consequences from flaring, in accordance with the Contra Costa County Health Services (CCHS) incident notification policy, a CWS Level 1 notification was sent.

Primary: Community Warning System (CWS):

- 0832 Level 1 CWS for flaring activated
- 0857, 0916, 0937, 1006 Updates provided for intermittent flaring
- 2007 Update provided for intermittent flaring and small process fire extinguished quickly by operations
- 0900 on 10/25, 0512 on 10/26 Updates for intermittent flaring on subsequent days

Secondary: Subsequent notifications via telephone to the agencies below

Agency	Person Reached	Phone Number	Time
Richmond Fire/ Police Central Dispatch	Jenna (1797)	510-620-6933	0837 / 1027
Contra Costa County Health Services Department	Daniel Vasquez	925-677-6700	0839
BAAQMD	Left message	415-749-4979	0849
BAAQMD for Flow >500,000 SCF	Left Message	415-749-4775	1000 / 1344 / 1626
SOES	Peter	800-852-7550	0915
National Response Center	Mr. Archibald	800-424-8802	0924
City of Richmond Planning Division	Message for L. Velasco	510-620-6841	1142

The list above does not include all representatives from all agencies

### III. AGENCIES RESPONDING, INCLUDING CONTACT NAMES AND PHONE NUMBERS:

At this time, we are aware of the following agencies that have responded.

Cal-OSHA	Corey Saxton and Clement Hsieh	On site 10/25 at 11:30
Bay Area Air Quality Management District	Roger Pharn and Linda Duca	On site 10/25 at 11:30
Contra Costa Health Services Department	Daniel Vazquez, Seth Heller, Nicole Heath and Miguel Rizo	On site 10/25 at 11:30
Richmond Fire Department	Eric Govan and Dante Wiley	On site 10/25 at 11:30

### IV. EMERGENCY RESPONSE ACTION:

No emergency response was needed for the loss of operating plants that generate power and steam.

Subsequently, Chevron Fire Department was notified of a small fire in a process plant and responded. Fire was extinguished by in-plant fire monitor initially activated by process area operator within 10 minutes of initial notification. Fire department apparatus was never put into service. Area was inspected and secured.

Air quality monitoring was conducted multiple times per day both in the refinery and in the outside community by Chevron Fire Department throughout the flaring event to ensure no impact to public health. Additionally, throughout this timeframe various regulatory agencies took numerous air quality measurements. All readings were under key detection limits and well below health standard limits in our adjacent neighborhoods.

### V. IDENTITY OF MATERIAL RELEASED AND ESTIMATED OR KNOWN QUANTITIES:

Emissions from flaring associated with the event are summarized below.

Vent gases were combusted with at least 98% combustion efficiency.

	Flare emissions
Vent Gas Volume (SCF)	18,597,376
SO <sub>2</sub> (lbs)	33,975

\* Flare emissions data presented herein is as of 10/26/2021 at 12am. Estimates herein are based on currently available data. Upon further investigation and analyses, an update will be provided should a significant change of the data occur.

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**VI. METEOROLOGICAL CONDITIONS AT TIME OF EVENT:**

Wind Speed (mph)	27
Wind Direction (degree)	197
Precipitation (inches) 10/24 midnight through 10/25 midnight	4.28
Temperature (F)	64

Information based on data received from the Refinery's meteorological station which is located near Gertrude Street.

**VII. DESCRIPTION OF INJURIES:**

There were no injuries associated with the flaring or the process unit fire.

**VIII. COMMUNITY IMPACT:**

There were no regulatory exceedances for either Hydrogen Sulfide or Sulfur Dioxide based on Ground Level Monitoring data. There are no detections above known health limits based on air monitoring data.

**Ground Level Monitoring Data Summary**

	Background Prior to and Maximum Concentration Readings During the Flaring		
	Castro Street	Office Hill (Golden gate)	Gertrude Street
H <sub>2</sub> S (ppb) Background @ 07:25-08:24am	2.32	3.92	1.73
H <sub>2</sub> S (ppb) Max.	4.99	4.97	2.58
SO <sub>2</sub> (ppb) Background @ 07:25-08:24am	3.91	3.99	1.90
SO <sub>2</sub> (ppb) Max.	6.49	3.99	6.19

Note: The Cal/OSHA PEL for SO<sub>2</sub> is 2,000 ppb (2 ppm) averaged over an 8-hour period. The Cal/OSHA PEL for H<sub>2</sub>S is 10,000 ppb (10 ppm) averaged over an 8-hour period.

**Fence Line Air Monitoring Summary**

During the time period of flaring, no obvious detections were seen at fence line air monitoring stations.

**Community Air Monitoring Summary**

During the time period of flaring, no obvious detections were seen at community air monitoring stations.

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**IX. INCIDENT INVESTIGATION RESULTS:**

An incident investigation will be conducted to determine the cause of the flaring and the process unit fire.

**X. SUMMARIZE INVESTIGATION RESULTS BELOW OR ATTACH COPY OF REPORT:**

Results will be determined by the investigation.

**XI. SUMMARIZE PREVENTABLE MEASURES TO BE TAKEN TO PREVENT RECURRENCE INCLUDING MILESTONE AND COMPLETION DATES FOR IMPLEMENTATION**

Preventable measures will be determined by the investigation.