

For CCHSHMP Use Only:

Received By: 

Date Received: 11/30/23

Incident Number: 23112702

Copied To: _____

Event Classification Level: 1

ATTENTION: Nicole Heath
Hazardous Materials Programs Director
Contra Costa Health Services Hazardous Materials Programs
4585 Pacheco Boulevard Suite 100
Martinez, CA 94553

INCIDENT DATE: 11/27/2023
INCIDENT TIME: 3:30pm
FACILITY: Chevron Richmond Refinery

PERSON TO CONTACT FOR ADDITIONAL INFORMATION:
Laura Leeds / Phone Number: (510) 242-3887

I. SUMMARY OF EVENT

The facility's electrical system, like many other critical equipment systems within the facility, are designed with redundancies that help ensure continual operation in the event of a malfunction or routine maintenance. On 11/27/2023, at approximately 11:30am, an electrical line feeding a portion of the facility tripped open, eliminating the designed electrical redundancy, or backup power, to a segment of the facility. Personnel were dispatched to identify the root cause of the electrical line failure so that power could be restored to the redundant system. During this time, facility operations were not impacted as the secondary electrical line feeding the same systems was still operational.

At 3:25pm, during the inspection of the electrical line failure, the secondary power line experienced a failure. Power was unexpectedly lost, impacting a portion of the facility, including a steam generating system. The loss of power and reduced steam availability resulted in the activation of the facility's safety systems and significant visible flaring. Operations personnel worked quickly to stabilize the impacted operating equipment and redirect and preserve available steam to minimize and eventually stop the flaring event.

No injuries or loss of containment occurred as a result 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 (CCCHS) incident notification policy, a Community Warning System (CWS) Level 1 notification was initiated. The CWS Level 1 was maintained by CCCHS throughout the event, informed by community air monitoring data.

Primary: Community Warning System (CWS):

- Level 1 CWS activated at approximately 3:43pm

Secondary: Subsequent notifications via telephone to the agencies below

Agency	Person Reached	Phone Number	Time
Richmond Fire/ Police Central Dispatch	Dispatcher Badge #1816	242-2296	15:46
Contra Costa County Health Services Department	Ian	242-2296	15:50
BAAQMD	Joe #907	242-2296	15:52
BAAQMD for Flow >500,000 SCF	Email - Flares @baaqmd.gov		18:37
SOES	Nick (23-7299)	242-2296	15:54

The list above does not include all representatives from all agencies.

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

Currently, we are aware of the following agencies that have responded.

Contra Costa County Health Services Department	Several calls and Cal ARP Engineer onsite received updates on status of flare activity; Requested 72-hour report
BAAQMD	Several calls requesting updates on status of flare activity
US Coast Guard	Requested update on status of flare activity

IV. EMERGENCY RESPONSE ACTION:

Chevron Fire Department (CFD) conducted downwind and community monitoring, as well as fence line monitoring throughout the event. CFD had initiated the Incident Command System as a precaution and determined it was not required. No Fire Brigade or mutual aid was required for this flaring event.

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

The materials released are Sulfur Dioxide, Methane, Non-methane Hydrocarbons, and Hydrogen Sulfide as quantified below. Vent gases were combusted with at least 98% combustion efficiency.

Flare Emissions	
Vent Gas Volume (SCF)	3,622,532
SO ₂ (lbs)	9,767.68
Methane (lbs)	501.1
Non-Methane Hydrocarbon(lbs)	4593.5
H ₂ S (lbs)	51.8

* Flare emissions data presented herein is for the date of the flaring (11/27/2023 – 11/28/2023). 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.

VI. METEOROLOGICAL CONDITIONS AT TIME OF EVENT:

Wind Speed (mph)	9
Wind Direction (degree)	46
Precipitation (inches)	0
Temperature (F)	61

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 this event.

VIII. COMMUNITY IMPACT:

Throughout the event, Chevron and responding agencies performed numerous air quality measurements near the refinery fence line and within the community. These measurements, and those of the established facility and community air monitoring systems, remained under regulatory limits and well below California health standard limits.

Ground Level Monitoring Data Summary

Background Prior to and Maximum Concentration Readings During the Flaring			
	Castro Street	Office Hill	Gertrude Street
H ₂ S (ppb) Background – 1hr avg. from 14:25-15:25	1.041	4.497	2.484
H ₂ S (ppb) Maximum	7.189	8.175	2.982
SO ₂ (ppb) Background – 1hr avg. from 14:25-15:25	2.383	6.866	2.459
SO ₂ (ppb) Maximum	6.762	7.500	2.986

Note: The Cal/OSHA Permissible Exposure Limit (PEL) for SO₂ is 2,000 ppb (2 ppm) averaged over an 8-hour period. The Cal/OSHA PEL for H₂S 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.

IX. INCIDENT INVESTIGATION RESULTS:

Is the investigation of the incident complete at this time? No

An incident investigation will be conducted to determine the cause of the sudden loss of power, including the initial loss of redundant or backup power.

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.