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September 5, 2012

Randall L. Sawyer
Hazardous Materials Program Director
Contra Costa Health Services Department
4333 Pacheco Boulevard
Martinez, CA 94553-2229

RE: 30-Day Report for the CWS Level 3 Event of August 6, 2012

Dear Mr. Sawyer,

In accordance with the December 14, 2004 Contra Costa Health Services (CCHS) Department Hazardous Materials Incident Notification Policy, Chevron is providing a 30 day written report for the Community Warning System Level 3 event that occurred at the Richmond Refinery on August 6, 2012.

The purpose of the attached report is to provide (1) additional information that was not included in the 72-hour report submitted on August 8, 2012 and (2) update on the status of the incident investigation.

If you have any questions or comments, please feel free to contact Karen Draper of my staff at (510) 242-1547 or me.

Steve Wildman

A handwritten signature in blue ink that reads "Steve Wildman".

Attachment: Richmond 30 Day Report

For CCHS Use Only:
Received By: _____
Date Received: _____
Incident Number: _____
Copied To: _____
Event Classification Level: _____

ATTENTION: Randall L. Sawyer
Hazardous Materials Program Director
Contra Costa Health Services Department
4333 Pacheco Boulevard
Martinez, CA 94553

INCIDENT DATE: August 6, 2012
INCIDENT TIME: 6:30 PM
FACILITY: Chevron U.S.A. Inc. Richmond Refinery

PERSON TO CONTACT FOR ADDITIONAL INFORMATION: Karen Draper
Phone Number: (510) 242-1547

PROVIDE ANY ADDITIONAL INFORMATION THAT WAS NOT INCLUDED IN THE 72-HOUR REPORT WHEN THE 72-HOUR REPORT WAS SUBMITTED, INCLUDING MATERIAL RELEASED AND ESTIMATED OR KNOWN QUANTITIES, COMMUNITY IMPACT, INJURIES, ETC.:

I. SUMMARY OF EVENT

On August 6, 2012, a release of hydrocarbons and a subsequent fire occurred at the Chevron U.S.A. Inc. Richmond Refinery. The incident occurred when a small hydrocarbon leak in a line from the Atmospheric Distillation Column grew in size and found an unknown ignition source. The cause of the leak and the potential ignition source are subjects of the ongoing investigation.

The primary location of the fire was near P-1149 (C-1100 Atmospheric Column No. 4 Sidecut pump). At the time of the fire, Operations personnel were in the process of evaluating a reported leak with the assistance of Chevron Fire Department personnel.

The #4 Crude Unit distills crude oil into various fractions of different boiling ranges, each of which are then processed further in the other refinery processing units. The #4 Crude Unit at Richmond Refinery has both an

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Atmospheric Distillation column and a Vacuum Distillation column. This incident involved equipment associated with the Atmospheric Distillation column.

The company's investigation into this incident is on-going. Some of the information in this 30-day report is preliminary.

II. AGENCIES NOTIFIED, INCLUDING TIME OF NOTIFICATION

Primary: Community Warning System (CWS):

- Level 3 CWS (shelter in place) activated at approximately 6:35 PM (which served as the initial notification to most of the agencies below)
- The shelter in place was lifted by Contra Costa County Hazardous Materials Programs (CCHMP) at 11:30 PM

Secondary: Subsequent notifications via telephone to the agencies below:

Richmond Fire/ Police Central Dispatch	Dispatch	510-620-6933	7:40 PM
Contra Costa Hazardous Materials Program (CCHMP)	Melissa Hagen	925-335-3200	7:28 PM
Bay Area Air Quality Management District (BAAQMD)	Mr. Scott	415-749-4979	7:33 PM
State of Emergency Services	Bob McRae	800-852-7550 or 916-845-8911	6:53 PM
National Response Center (NRC)	Garther	800-424-8802	6:59 PM
California Division of Occupational Safety and Health (Cal/OSHA)	Clyde Trombettas	925-602-6517	10:09 PM

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

The list below does not include all representatives from the respective agencies

Cal/OSHA	Clyde Trombettas	925-602-2665
CCHMP	Trisha Asuncion	925-335-3200
BAAQMD	Jackie Huynh	415-749-4979
OSPR-- Dept. Fish & Game	Bob Chedsey	707-864-4975
U.S. EPA	Scott Adair	415-947-4549
Richmond Police Department	Responding Officers	510-233-1214
U. S. Chemical Safety and Hazard Investigation Board (CSB)	Dan Tillema	303-236-8703

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IV. EMERGENCY RESPONSE ACTION:

At or around 3:48 PM on August 6, 2012, an operator noticed a small leak from insulated piping on the C-1100 Atmospheric Distillation Column of the 4 Crude Unit. The operator immediately notified the Head Operator and Supervisor for the unit and initiated a dialogue regarding next steps and how to isolate the leak.

The standard practice of the Chevron Fire Department (CFD) is to respond to leaks, spills, and releases. In this instance, the CFD was notified at 4:02 PM that a leak had been discovered at the 4 Crude Unit. The CFD was asked to deploy a crew to the location as a precaution. The CFD arrived at the location between 4:07 PM and 4:09 PM and initiated air monitoring and assessment.

From 4:09 PM to 4:19 PM the rate of feed to the unit was reduced. Then, from 4:20 PM to 6:24 PM, Operations personnel, in conjunction with the CFD, investigated and assessed options to isolate the leak, including bypassing or shutting off the line in question or shutting down the unit. While the leak was being assessed, the CFD set up an engine and had two hose teams in place, one directed at the potential source of the leak and one directed at the personnel assessing the leak. At approximately 6:22PM, a small flash fire occurred on the insulated piping going to P-1149/A. The CFD and Plant Operators activated water spray and extinguished the small flash fire. At some point shortly before 6:25 PM, the size of the release abruptly increased. Between 6:25 PM and 6:28 PM, the order was given to shut down the unit. Around this time a white cloud was visible. A significant amount of water was being applied on scene and considerable steam was created. Because the white cloud did not ignite we have questions about its composition. Expert analysis is on-going. At or around 6:32 PM, the fire that is the subject of this report and ongoing investigation ignited.

At 6:35 PM, a Community Warning System Level 3 alert was initiated by Chevron U.S.A. Inc. and a CWS alarm was activated by Contra Costa Health Services. At or around this timeframe, both Petro-Chem Mutual Aid and Municipal Mutual Aid were called in for support. This included: Richmond Fire, El Cerrito Fire, Berkeley Fire, Contra Costa County Fire, Moraga/Orinda Fire, Hercules/Rodeo Fire, Phillips 66, Valero, Shell, Tesoro and Dow Fire. Also at or around this timeframe, a shelter-in-place order was issued for Richmond, San Pablo, and North Richmond, California and other neighboring communities. The shelter-in-place order advised residents to remain indoors until the fire was controlled. At 11:30 PM, the shelter-in-place order was lifted by Contra Costa Health Services.

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

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Emergency Planning and Community Right-To-Know Act (EPCRA) require reporting when a facility releases more than a "reportable quantity" of a hazardous substance. The reportable release thresholds are based upon EPCRA & CERCLA reporting requirements. There was a reportable quantity of sulfur dioxide from the fire and the flaring associated with the fire.

Emissions from flaring associated with the event are summarized below.

Flare emissions (8/6 – 8/10)*	
Material Release	Quantity Released
Vent Gas Volume	9,120,000 SCF
Sulfur Dioxide (SO ₂)	9,100 pounds
Methane	1,700 pounds
Non-Methane Hydrocarbon	3,300 pounds

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Hydrogen Sulfide (H2S)	48 pounds
Nitric Oxides (NOx)	860 pounds

* Flare emission data includes emissions from the initial release and from depressuring the unit through August 10, 2012.

Emissions from the fire that were in excess of a reportable quantity are summarized below:

Material Released	Quantity Released	Reportable Release Thresholds
Sulfur Dioxide (SO ₂)	570 pounds	500 pounds

Emission estimates herein are based on currently available data and are subject to change based on further investigation and analysis.

VI. METEROLOGICAL CONDITIONS AT TIME OF EVENT:

Wind Speed	11.5 MPH
Wind Direction	134° (SE)
Precipitation	None
Temperature (F)	75°

VII. DESCRIPTION OF INJURIES:

The following employee injuries were associated with this incident (all were part of the emergency response):

- 1) Employee received minor burn to small area of the left ear
- 2) Employee received minor burn to left wrist
- 3) Employee suffered abdominal discomfort
- 4) Employee suffered respiratory irritation
- 5) Employee suffered blister to lower leg from boot wear
- 6) Employee suffered bruise to a finger

All employees received first aid onsite by the Chevron Fire Department and/or the onsite clinic. All employees returned to work on the same shift. There were no injuries to contractor personnel associated with this incident.

VIII. COMMUNITY IMPACT:

A shelter-in-place order was issued for Richmond, San Pablo, and North Richmond and other neighboring communities which advised residents to remain indoors until the fire was controlled. According to the Contra Costa Health Services website, a large number of people sought medical attention at local emergency rooms (three individuals were admitted to the hospital). Most cases have been minor complaints of nose, throat or eye irritation or respiratory issues.

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a) Chevron U.S.A. Inc. has established a claims process to compensate community members for medical and property expenses incurred as a result of the incident. As of August 28, 2012, 21,200 claims have been initiated, and Chevron U.S.A. Inc. intends to compensate the affected community members with valid claims.

b) On August 6, 2012, seventeen (17) direct-reading samples were taken using an Industrial Scientific MX6 iBrid multi-gas monitor. The data from these samples confirms that concentrations for Hydrogen Sulfide (H₂S), Sulfur Dioxide (SO₂) and Carbon Monoxide (CO) were below detectable limits (<0.1ppm, <0.1ppm, and <1ppm respectively). Additionally, nineteen (19) grab samples were collected in Tedlar bags in various downwind locations in Richmond, California, El Sobrante, California, and El Cerrito, California. These samples were sent for analysis of sulfur compounds and hydrocarbons to Air Toxics Ltd., a laboratory specializing in the analysis of air using a wide variety of methods. All results from these samples were well below both the California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (OEHHA) Reference Exposure Levels and California Occupational Safety and Health Administration (Cal/OSHA) Permissible Exposure Limits.

Follow-up community monitoring was conducted by Chevron U.S.A. Inc. at various locations throughout Richmond, California on August 7-8, 2012. Twenty (20) direct-reading air samples were taken during this timeframe using an Industrial Scientific MX6 iBrid multi-gas monitor. The data from these samples also confirms that concentrations of Hydrogen Sulfide (H₂S), Sulfur Dioxide (SO₂) and Carbon Monoxide (CO) were below detection limits (<0.1ppm, <0.1ppm, and <1ppm respectively). In addition, six (6) grab samples were collected in Tedlar bags during this timeframe at various locations in Richmond, California and were sent to Air Toxics Ltd Laboratory for analysis of sulfur compounds and hydrocarbons. Consistent with the above-referenced findings, all results from these samples were well below the OEHHA Reference Exposure Levels and Cal/OSHA Permissible Exposure Limits. Please note, however, that the laboratory detection limit for Acrolein is higher than the OEHHA Reference Exposure Limit.

c) Fence-line monitoring: Continuous monitoring data is gathered around the clock from instrumentation located at Chevron's Office Hill, Castro Street and Gertrude Street monitoring stations. A data point, close to or prior to the incident, is employed as a reference. The following maximum readings were recorded between the times the fire ignited and the time all-clear was called by CCHMP (between 18:30 and 23:31 on August 6, 2012). As reflected in the table below, none of the maximum readings exceeded Cal/OSHA's Permissible Exposure Limits (PELs).

Exposure Limits (PELs). Maximum Concentration Readings

	Cal/OSHA PEL	Castro Street	Office Hill	Gertrude Street
H ₂ S (ppb) Background @ 15:00	10,000 ppb	3.04 ppb	3.99 ppb	2.09 ppb
H ₂ S (ppb) Max.	10,000 ppb	3.27 ppb	5.41 ppb	2.51 ppb
SO ₂ (ppm) Background @ 15:00	2 ppm	0.006 ppm	0.003 ppm	0.002 ppm
SO ₂ (ppm) Max.	2 ppm	0.007 ppm	0.006 ppm	0.002 ppm

Note: The Cal/OSHA PEL are concentrations averaged over an 8-hour period.

IX. INCIDENT INVESTIGATION RESULTS:

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Chevron U.S.A. Inc. promptly initiated an investigation of the incident using the TapRoot® methodology. The investigation team is composed of Subject Matter Experts (SMEs) as well as operations personnel, management personnel and representatives of the United Steel Workers. The investigation Team Leader and the investigation Facilitator are Chevron U.S.A. Inc. personnel external to the Richmond Refinery. The investigation is on-going.

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

The investigation is not complete. Chevron U.S.A. Inc. is working with multiple governmental agencies, including the CSB and Cal/OSHA with respect to evidence identification and collection. CSB and Cal/OSHA will then develop protocols for the testing of relevant evidence. The results of this testing are among the information necessary for the investigation team to complete its work. The Refinery will provide updates to Contra Costa Health Services as required until the investigation is concluded.

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

Until the company's investigation is complete, the company is unable to summarize measures to prevent a recurrence.

XII. ADDITIONAL INFORMATION. DETAILED EVENT TIMELINE, CORRESPONDENCE, RELEVANT HISTORY OF INCIDENTS WITH SIMILAR EQUIPMENT OR PROCEDURES:

The detailed event timeline is still under development as part of the incident investigation. All required information will be provided upon completion and submittal of the investigation report.