



Martinez Refinery
P.O. Box 711
Martinez, CA 94553-0071

August 15, 2018

Via electronic copy to CCC Health Services

Randall L. Sawyer
Chief Environmental Health and Hazardous Materials Officer
Contra Costa Hazardous Materials Programs
4585 Pacheco Boulevard, Suite 100
Martinez, CA 94553

Re: 30 day Report for 07/06/18 Incident

Dear Mr. Sawyer,

As requested by Contra Costa County Health Services, attached is the revised 30-day report regarding the incident which occurred at Shell Martinez Refinery on July 6, 2018. The final RCA report will be submitted within 30-days.

If you have any questions, please contact Ha Nguyen at 925-313-3079 or via email at ha.nguyen@shell.com or Nicola Maher at 925-229-6175 or via email at nicola.maher@shell.com

Sincerely,

Ha Nguyen and Nicola Maher
Process Safety Manager and transitioning Process Safety Manager

Attachment: 30-Day Follow-up Notification Report Form

CC: ChoNai Cheung, CCCHSD
Michael Dossey, CCCHSD

ATTACHMENT C

30-DAY FOLLOW-UP NOTIFICATION REPORT FORM CONTRA COSTA HEALTH SERVICES

For CCHS Use Only:

Received By: _____
Date Received: _____
Incident Number: _____
Copied To: _____
Event Classification Level: _____

INSTRUCTIONS: A hardcopy and an electronic copy of this report is to be submitted for all Level 2 and 3 incidents or when requested by CCHS. See Attachment C-1 for suggestions regarding the type of information to be included in the report. Attach additional sheets as necessary. This form is to be used for update reports after the initial 30-day report has been submitted. Forward the completed form to:

ATTENTION: Randall L. Sawyer
Chief Environmental Health and Hazardous Materials Officer
Contra Costa Hazardous Materials Programs
4585 Pacheco Boulevard, Suite 100
Martinez, CA 94553

INCIDENT DATE: July 6, 2018
INCIDENT TIME: 03:11 AM (approximately)
FACILITY: Shell Oil Products US's Martinez, California Refinery

PERSON TO CONTACT FOR ADDITIONAL INFORMATION

Nicola Maher Phone number – 925-229-6175

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.:

In addition to the 72 hour report the material released from the LOP flare consisted of an estimated:

Material	Flaring at 3:10am	Flaring at 1:03am	TOTAL
H2S	257 lbs	0 lbs	257 lbs
H2	859 lbs	1 lbs	860 lbs
Methane	925 lbs	556 lbs	1481 lbs
Non-Methane Hydrocarbon	5619 lbs	37 lbs	5656 lbs

INCIDENT INVESTIGATION RESULTS

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

If the answer is no, when do you expect completion of the Investigation? _____

If the answer is yes, complete the following:

SUMMARIZE INVESTIGATION RESULTS BELOW OR ATTACH COPY OF REPORT:

At approximately 01:03 AM the LOP flare pilots were extinguished by the carryover of water from the flare lines to the flare tip during a flaring event. At approximately 03:10 AM a second flaring event caused a release of unburned flare gas from the LOP Flare.

Two flaring events contributed to the event. The initial flaring event at approximately 01:03 AM, which extinguished the pilots, was created by a loss of pressure in the instrument air header that caused a de-pressuring valve on a separator vessel to open. A mechanical failure on an air drier caused the loss of pressure on the instrument air header.

30-DAY REPORT, PAGE 2**INCIDENT DATE:** July 6, 2018**FACILITY:** Shell Oil Products US's Martinez, California Refinery

The second flaring event at approximately 03:10 AM was caused by an automatic trip of the second stage Hydrocracker Unit (HCU) due to a high rate of rise of reactor temperatures. This occurred because feed flow was lost to the second stage due to a trip of the HCU first stage, which in turn was caused by a small lubrication oil fire on the first stage recycle gas compressor. Most likely the fire was caused by a leak of lubrication oil from one of the bearings. The fire was caused by the release of lubrication oil from the bearing when it came into contact with the hot surface of the case of the turbine or the 650 psig steam piping located below the compressor deck.

SUMMARIZE PREVENTATIVE MEASURES TO BE TAKEN TO PREVENT RECURRENCE INCLUDING MILESTONE AND COMPLETION DATES FOR IMPLEMENTATION:

Recommendation	Due date
1. Interim mitigation: Block in the nitrogen to the 8" and 10" lines as well as the valves from the 8" and 10" lines to the collection header to mitigate the potential of vapor entering the system via that route. Increase the draining frequency to two times per week.	Completed
2. Evaluate the current functioning of the flare line drain pot (Sarco pot, which is a water drain pot with internals). If the drain pot is not functioning as expected, troubleshoot the issue and ensure the drain pot is repaired.	January 6 2019
3. Evaluate the draining of the flare liquid collection system, including both the flare line drain pot (Sarco pot, which is a water drain pot with internals) and the pumps used in routine draining of the collection header. Develop a path forward. If a project is required, develop an engineering request for the mitigation of the risk of water accumulation in the flare line downstream of the seal pot.	January 6 2019
4. Determine clear ownership for technical assurance of Sarco drain pots (water drain pot with internals) at site	January 6 2019
5. Update flare pilot relighting procedure SRU-3390: - Add instructions on how and when the flame front generator lines need to be blown out. - Update the time required to purge the lines prior to igniting the mixture.	January 6 2019
6. Evaluate the carbon steel portions of the flame front generator lines, that are not part of ongoing project to upgrade portions of flame front generator lines to stainless steel, and determine whether these also require upgrades to stainless steel.	January 6 2019
7. Identify flare pilot system and pilot ignition system for all flare systems as Safety Critical Equipment (HEMP). Ensure the critical activities to maintain the equipment in good condition are identified and implemented.	January 6 2019
8. Pull the CFH (Cat Feed Hydrotreater) LPLT (Low Pressure Low Temperature) separator de-pressuring valve (6HV-326) to inspect and verify the condition of the actuator. Repair if necessary.	January 6 2019
9. Install jam nuts on all set screws for valve linkages on instrument air driers.	Completed
10. Replace any keys that are not a good fit for the valve stem or valve collar on instrument air driers.	Completed
11. Update the LOP (Light Oil Processing) flare PHA during the next revalidation cycle to include the scenario of liquid accumulation in the flare line causing the flare pilots to be extinguished	January 6 2020
12. Conduct a PHA for the scenario of liquid accumulation in the flare line causing the flare pilots to be extinguished and determine if safeguards are adequate. If necessary, develop recommendations to ensure adequate safeguards are present.	January 6 2019

30-DAY REPORT, PAGE 3

INCIDENT DATE: July 6, 2018

FACILITY: Shell Oil Products US's Martinez, California Refinery

Recommendation (con't)	Due date
13. Investigate the causes of the fire at the HCU (HydroCracker Unit) first stage hydrogen recycle gas compressor, J-97, that occurred on July 6 2018. When the causes are determined, develop recommendations.	January 6 2019

STATE AND DESCRIBE THE ROOT-CAUSE(S) OF THE INCIDENT:

The first root cause was identified as an ineffective drain system on the flare line which caused significant accumulation of water in the flare line. The source of the water was primarily steam condensing at the flare tip and flowing back into the flare line towards the drain manifold. The water in the line was carried out of the flare tip during a flaring event causing the extinguishment of the LOP flare pilot flames.

The second root cause was identified as plugging of the flame front generator lines with corrosion product which caused a delay in the relighting of the pilot flames. This caused the pilots to remain unlit during the second flaring event even though operations had started trying to relight the pilots quickly after the loss of pilots.