



August 16, 2012

Mr. Jim Ferris
Superintendent Health and Safety
Phillips 66 Rodeo Refinery
1380 San Pablo Avenue
Rodeo, CA 94572

Dear Mr. Ferris:

Subject: Comments on 30-Day Incident Report and RCA – Tank 294 Over-Pressure #061512-1

Contra Costa Hazardous Materials Programs (CCHMP) received the 30-day incident report for the Sour Water Tank 294 over-pressure on July 20, 2012. This incident was classified as a Level 2 incident in the County's Community Warning System requiring a Root Cause Analysis (RCA) type of investigation. After reviewing the 30-day report and RCA, CCHMP has several comments. Some of these comments reflect the fact that these reports should be written with the public in mind.

1. Section I of the 72-hour report incorrectly identifies the event started at 7:20 AM.
2. Section I of the 72-hour report identified that ammonia was present in the sour water although no explanation was provided why estimates of ammonia being released were absent from the report or measured in the field.
3. Section VIII of the 72-hour report identifies average Ground Level Monitoring values detected, but the chemical detected was not listed. There was no mention of the time these values were detected.
4. The investigation report does not identify the high H₂S readings detected by the fence line monitoring system, nor the time these readings were first detected. If the refinery does not believe these readings to be valid, the rationale should also be listed.
5. The report should expand on the discussion of the fence line monitoring system and the agreed to requirement to declare a Level 2 event when the H₂S readings exceeded 30 ppb. The report should also identify how this requirement was met or the recommendations needed to assist with future compliance.
6. Terms used should be defined (e.g., light hydrocarbons, residual naphtha, sulfur compounds).
7. The discussion of the flow reversal between Tanks 294 and Tank 269 is difficult to understand and could be better explained (e.g., if material was pumped how did vapors reverse through the pump).
8. The report should include the reason why the flow rate increased from F202 to D206.
 - a. If this increase was partially due to operator action or inaction, the report should identify whether this action/inaction was appropriate.



- b. If operator action/inaction was inappropriate, the report should identify what should have been done and what management systems failed (e.g., training, procedures, communication) and what recommendations need to be developed.
- 9. The report should identify what caused flow controller F202 to fail.
 - a. The report should identify whether the preventive and routine maintenance for the controller was adequate.
 - b. The report should identify whether the controller used is common in industry and other Phillip 66 refineries.
 - c. Did the investigation evaluate whether other types or technologies might work better?
- 10. A schematic or sketch showing equipment, valves and pumps would be beneficial to better follow the “Descriptions of Actions Before the Event” section of the RCA report.
- 11. CCHMP is unclear why there is no discussion of the atmospheric release from Tank 269 relief valves. All that is mentioned is there was a high pressure alarm from the tank. The release from Tank 269 should be part of the investigation and discussed in the report.
- 12. The report identifies that the tank rupture was confirmed by 7:20am, but the report does not discuss why it took another 20 minutes before it was reported as a Community Warning System (CWS) event.
 - a. The report also does not discuss why the incident was reported as a Level 1 instead of a Level 2, nor why it took another 20 minutes to raise the event to a Level 2.
 - b. The report does not list any recommendations to improve their CWS notification process.
- 13. Why are tanks managed by one group and alarms managed by another group? Did the investigation look into the communication between the two process units?
- 14. For all relief valves involved, what pressures did the relief valves lift and what times did they lift?
- 15. Did the investigation look into other options for controlling vapors from sour water systems (e.g., diesel layer in tanks, nitrogen blanket, using equipment that can handle higher pressure)?
- 16. Provide justification for page 2 of the RCA report that F202 had false level indication in the past and why there was no mention that this issue was a contributing cause or more likely a root cause.
 - a. What management systems failed for these failure situations to not be corrected and allowed to repeat into a catastrophic failure?
 - b. Were appropriate personnel/management made aware of these issues?
- 17. CCHMP is unclear on the third causal factor on page 6 of the RCA in stating the Tank 294 pressure relief system did not protect the tank. It is our understanding that the relief system was designed to first lift two pressure relief devices at certain set points and then as a last resort a weld between the roof and shell is designed to split to prevent uncontrolled catastrophic failure of the vessel. If this is the design as described then it did protect the tank. If Phillips 66 believes that the system did not protect the tank, why is there no recommendation to replace the system?

18. Recommendation 2 only identifies to conduct reviews and does not identify that issues found will be addressed. Clarify that issues found as a result of the reviews will be addressed.
19. CCHMP does not understand Recommendation 3. How can the incident investigation be considered complete before proper operation of the pressure relief system components on Tank 294 was evaluated? CCHMP is unaccustomed to seeing incident investigations from the refinery rushed to this degree and expects a supplemental report be submitted summarizing the results of this analysis.
20. Similar to the previous item, CCHMP does not understand Recommendation 4. Recommendations from an incident investigation should not be used in place of completing the investigation. A supplemental report is expected.
21. Recommendation 5 was identified as a response to Root Cause 3a, which is associated with the hazard review needing improvement. PHAs evaluate more than just reviewing past incidents. Why is there no mention of reviewing the adequacy of safeguards in the PHA?

CCHMP expects that responses to the above questions and comments will be submitted within the next couple of weeks or on or before August 31, 2012. Please contact me at 925-335-3237 if you have any questions.

Sincerely,

Original signed by

Michael Dossey
Accidental Release Prevention Engineer

Cc: Randy Sawyer, CCHMP
Cho Nai Cheung, CCHMP
Michael Kent, CCHS