



U. S. Chemical Safety and Hazard Investigation Board RECOMMENDATIONS STATUS CHANGE SUMMARY

Report:	Honeywell Chemical Incidents
Recommendation Number:	2003-13-I-LA-R3 and R4
Date Issued:	August 8, 2005
Recipient:	Honeywell International, Inc. Baton Rouge Facility
New Status:	Closed- Acceptable Action
Date of Status Change:	February 14, 2013

Recommendation Text:

To address ongoing issues regarding layers of protection and leaks in heat exchangers, revise procedures for performing process hazard analyses for equipment that contains hazardous materials such as chlorine to, at a minimum:

- *Require an evaluation of the effects of leaks in heat exchangers. (R3)*
- *Consider the layers of protection necessary to prevent a catastrophic incident and require recommendations to be implemented when existing protection is incomplete. (R4)*

Board Status Change Decision:

A. Rationale for Recommendation

The recommendation was issued pursuant to the CSB's investigation of the July 20, 2003 chlorine release incident at the Honeywell Baton Rouge facility which injured seven workers and resulted in a shelter-in-place advisory for nearby residents. The release began when chlorine piping leading from a chlorine railcar to a refrigeration process unit began leaking inside a heat exchanger, which subsequently failed. The CSB concluded that the severity of the leak could have been lessened if the facility more carefully considered and implemented sufficient layers of protection to stop a catastrophic release. The facility did not employ chlorine monitors tied to automatic shutdown system(s); moreover, the process unit and the feed from the chlorine railcar had to be shutdown separately.

B. Response to the Recommendation

Honeywell reported to the CSB that it no longer employs the problematic heat exchangers in use at the time of the incident; it also uses a more effective Nondestructive testing (NDT) method to detect pipe thinning and holes. Honeywell also reports installing alarmed chlorine sensors. All sensors may be read in the control room, where an operator can initiate a shutdown sequence if required. If two sensors simultaneously reach their set points, the chlorine feed from the railcar is automatically shutdown, which in turn triggers shutdown of the entire process unit.

C. Board Analysis and Decision

Because Honeywell reports having redesigned its chlorine cooling system and installed chlorine sensors capable of triggering an automatic shutdown of both the chlorine feed from the railcar and the process unit, the Board voted to designate these recommendations with the status "Closed- Acceptable Action."