



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

<b>Report:</b>	Optima Belle Explosion and Fire
<b>Recommendation Numbers:</b>	2021-02-I-WV-R9
<b>Date Issued:</b>	July 6, 2023
<b>Recipient:</b>	Clearon Corporation
<b>New Statuses:</b>	Closed – Acceptable Action
<b>Date of Status Changes:</b>	June 9, 2026

### Recommendation Text:

*Develop and implement a process safety management system consistent with industry guidance publications such as is contained in the Center for Chemical Process Safety's Guidelines for Risk Based Process Safety. At a minimum, the process safety management system should address hazard identification, risk analysis, and management of risk.*

### Board Status Change Decision:

#### A. Rationale for Recommendation

On December 8, 2020, a metal rotary cone double dryer containing a chlorinated isocyanurate compound (trade name CDB-56®) exploded following a decomposition reaction that resulted in a fire and toxic chlorine release at the Optima Belle LLC (Optima Belle) facility in Belle, West Virginia. The explosion occurred while Optima Belle, a toll manufacturer, was dehydrating CDB-56® on behalf of Clearon Corporation through a contractual agreement with Richman Chemical Inc.

One Optima Belle employee was fatally injured in the explosion, two others were evaluated for respiratory irritation, and one member of the public reported a minor leg injury. Debris from the explosion was found almost a half-mile from the incident. Local authorities issued a shelter-in-place order for a two-mile radius for over four hours. The facility experienced an estimated \$33.1 million in property damage.

The U.S. Chemical Safety and Hazard Investigation Board (CSB) investigated the incident and found several safety issues including ineffective process knowledge management, a lack of thermal hazard assessment, ineffective selection of process equipment, shortcomings in industry practices related to tolling hazardous materials, and a lack of regulatory coverage of reactive hazards under the Occupational Safety and Health Administration's (OSHA's) Process Safety Management standard (PSM) and the Environmental Protection Agency's (EPA's) Risk Management Program rule (RMP). As a result of these findings, the CSB issued five recommendations to Clearon Corporation. This status change summary addresses CSB Recommendation No. 2021-02-I-WV-R9.

B. Response to the Recommendation

Solenis LLC<sup>1</sup> notified the CSB that they developed and implemented process safety standards and a global program which addresses all 20 elements of CCPS's Risk Based Process Safety. Upon review of the relevant documentation and procedures provided, the CSB concluded that Solenis LLC's actions satisfy all elements of the recommendation.

C. Board Analysis and Decision

Based upon the information above, the Board voted to change CSB Recommendation No. 2021-02-I-WV-R9 to: "Closed – Acceptable Action."

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<sup>1</sup> Solenis LLC acquired Clearon Corporation during September of 2022. The acquisition includes all Clearon Corporation assets, including their production facility in South Charleston, WV and an associated tableting and packaging facility.