



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

Report:	Yenkin-Majestic Paint and OPC Polymers Corporation
Recommendation Number:	2021-04-I-OH-R2
Date Issued:	November 30, 2023
Recipient:	Yenkin-Majestic
New Status:	Open – Awaiting Response or Evaluation/Approval of Response
Date of Status Change:	Not Applicable – Initial Status

Recommendation Text:

Assess and document applicable design, construction, and alteration standards for all pressure vessels in highly hazardous chemicals service in new resin plant designs, including pressure vessels not exceeding 15 psig. At a minimum, adopt PIP VESLP001 Low-Pressure, Welded Vessel Specification as design and construction guidance for pressure vessels not exceeding 15 psig. Implement a program to assess the pressure vessels against updated applicable recognized and generally accepted good engineering practices, such as those published by API, ASME, PIP, and other organizations, at least once every five years, and address the gaps identified. Develop and implement written procedures to document and maintain records of (i) all inspections of, (ii) all alterations to, and (iii) all maintenance and repairs on all pressure vessels in highly hazardous chemicals service.

Board Status Change Decision:

A. Rationale for Recommendation

On April 8, 2021, a flammable liquid mixture and its vapors became pressurized and then released through the seal of a closed manway of an operating kettle at the Yenkin-Majestic Paint Corporation (Yenkin-Majestic) OPC Polymers resin plant in Columbus, OH. The vapor spread throughout the facility, forming a flammable cloud which found an ignition source and exploded resulting in a fire.

One Yenkin-Majestic employee was fatally injured due to burns and smoke inhalation. This employee was found partially covered by rubble inside the second floor of the resin plant. Eight other employees were transported to area hospitals for treatment of their injuries, which included third-degree burns and limb fractures. One employee required a leg amputation after being crushed under debris.

As a result of the incident the severely damaged facility was demolished. Yenkin-Majestic estimated the total property damage from the incident to be over \$90 million. In addition to the demolished facility, firefighting water runoff contaminated the nearby Alum Creek, and the Ohio Environmental Protection Agency reported observations of offsite impact through at least April 11, 2021.

The U.S. Chemical Safety and Hazard Investigation Board (CSB) investigated the incident and found several safety issues including ineffective guidance on mechanical integrity of low-pressure vessels, ineffective safeguard selection, and a lack of emergency preparedness. As a result of these findings, the CSB issued five recommendations to Yenkin-Majestic. This status change summary addresses **CSB Recommendation No. 2021-04-I-OH-R2**.