



PROJECT PERFORMANCE GROUP LLC

July 28, 2020

City of Chicago
Department of Law

General Iron May 18, 2020 Explosion Review of Exponent Report and RMG's Corrective Actions

My assignment was to comment on the report generated by RMG's consultant, Exponent, and provide my own conclusions as to whether RMG's proposed course of action will prevent a similar occurrence.

As part of that effort:

- On May 29, 2020, I inspected the site of the explosion prior to repair
- On June 12, 2020, I inspected components removed to Exponent's Naperville warehouse
- On June 19, 2020, I witnessed testing of components at Exponent's Naperville warehouse
- On June 24, 2020, I witnessed testing of the RTO flame detectors at RMG's site
- On July 10, 2020, I visited the site to determine what administrative controls were in place at the time of the incident, and to work with Exponent and RMG on improvements
- On July 22, 2020, I inspected the engineering and administrative controls put in place by RMG to prevent a similar occurrence.

I also discussed the incident with representatives of the Department of Public Health, Chicago Fire Department, Peoples Gas Company, the RTO manufacturer Catalytic Products, and their independent investigator ESI.

Throughout the process, I was in frequent communication with RMG and Exponent, reviewing the work in progress and providing suggestions to improve their responses. Both RMG and Exponent were receptive to all my suggestions, and all were incorporated in the report and/or implemented by RMG.

With regard to Exponent's report, "GII, LLC Explosion" dated July 16, 2020, I find it complete and correct. I have one comment: While Exponent refuted all hypotheses except release of a flammable gas in the shredder as the cause of the explosion, their strict interpretation of NFPA 921 required them to state the cause of the explosion is undetermined. My conclusion is that the cause of the explosion was indeed the release of a flammable gas in the shredder.

Exponent recommended engineering and administrative controls to prevent a reoccurrence. Engineering controls were installation of a combustible gas monitor near the shredder and a

diverter valve near the RTO. This system would detect combustible gas and divert it before it reached the source of ignition in the RTO. Administrative controls were additional signage and written reminders to suppliers, both emphasizing the need to segregate flammable materials. My opinion is these are the appropriate recommendations to prevent reoccurrence.

On July 22, 2020, I inspected the combustibles detector, the new diverter valve, new signs and notification flyers. I also witnessed a test of the combustibles sensor and diverter valve. The diverter valve opens within one second of receiving a signal from the combustibles detector. I also interviewed the manufacturer's technician commissioning the sensor, who reported its response time to be less than one second. The combined system response time of two seconds is fast enough to react before the process stream reaches the RTO. That has been measured to take 13 seconds.



Figure 1 - New Combustibles Sensor



Figure 2 - New Diverter Valve

I also observed new signage at the scale and in the two payout rooms.

I also saw the new flyers prepared for distribution and obtained samples.



Figure 3 - New Sign at Scale

In my opinion, RMG has implemented the appropriate controls intended to prevent a reoccurrence, and there is no reason to object to resumption of shredding operations.

Sincerely,

PROJECT PERFORMANCE GROUP, LLC.

Joseph J. Jaskulski, P.E.
President