U.S. Chemical Safety and Hazard Investigation Board

OFFICE OF GENERAL COUNSEL

Memorandum

To: Board Members

From: Steven Messer
Acting General Counsel

Cc: Charles Barbee
Amanda Johnson
Adam Henson
Leadership Team

Subject: Board Action Report – Notation Item 2025-29

Date: March 5, 2025

On March 4, 2025, the Board approved Notation Item 2025-29, thereby designating Recommendations 2017-07-I-WI-R1 through 2017-07-I-WI-R9, to Didion Milling, Inc., from the Didion Milling Company Explosion and Fire investigation (2017-07-I-WI), with the status of Open – Unacceptable Response/No Response Received.

Voting Summary – Notation Item 2025-29

Disposition: APPROVED

Disposition date: March 4, 2025

	Approve	Disapprove	Calendar	Not Participating	Date
S. Johnson	**X**				03/3/2025
S. Owens	**X**				03/3/2025
C. Sandoval	**X**				03/4/2025

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

Report:	Didion Milling Company Explosion and Fire
Recommendation Numbers:	2017-07-I-WI-R1 (R1) 2017-07-I-WI-R2 (R2) 2017-07-I-WI-R3 (R3) 2017-07-I-WI-R4 (R4) 2017-07-I-WI-R5 (R5) 2017-07-I-WI-R6 (R6) 2017-07-I-WI-R7 (R7) 2017-07-I-WI-R8 (R8) 2017-07-I-WI-R9 (R9)
Date Issued:	December 6, 2023
Recipient:	Didion Milling, Inc.
New Statuses:	R1: Open – Unacceptable Response/No Response Received R2: Open – Unacceptable Response/No Response Received R3: Open – Unacceptable Response/No Response Received R4: Open – Unacceptable Response/No Response Received R5: Open – Unacceptable Response/No Response Received R6: Open – Unacceptable Response/No Response Received R7: Open – Unacceptable Response/No Response Received R8: Open – Unacceptable Response/No Response Received R9: Open – Unacceptable Response/No Response Received
Date of Status Changes:	March 4, 2025

Recommendation Text:

CSB Recommendation No. 2017-07-I-WI-R1:

Contract a competent third party to develop a comprehensive combustible dust process safety management system, such as OSHA's Process Safety Management standard or the requirements in the 2019 edition of NFPA 652, Standard on the Fundamentals of Combustible Dust, Chapter 8, which includes, at a minimum, the following elements:

a. Management of Change for combustible dust;
b. Process Safety Information Management;
c. Management of Audits and Inspections;
d. Fugitive Dust Management;
e. Incident Investigation;
f. Dust Hazard Analyses;
g. Management of Engineering Controls for combustible dust
h. Personal Protective Equipment; and
i. Emergency Preparedness.

CSB Recommendation No. 2017-07-I-WI-R2:

Contract a competent third party to develop and implement modifications to the pneumatic conveying and dust collector ductwork systems in accordance with guidance such as NFPA 61, Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities, NFPA 652, Standard on the Fundamentals of Combustible Dust, and NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, to include, at a minimum:

a. *Ensure minimum required transport velocity is maintained throughout the system.*
b. *Implement a periodic inspection and testing program for pneumatic conveying and dust collector ductwork systems, following industry guidance such as NFPA 91, Standard for Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Particulate Solids, and FM Global guidance. The program should include cleaning on a set frequency and measuring transport velocities on a routine basis to ensure proper system function.*

CSB Recommendation No. 2017-07-I-WI-R3:

Contract a competent third party to perform dust hazard analyses (DHAs) on all buildings and units that process combustible dust. Ensure that the DHAs are revalidated at least every five years. Implement pre-deflagration detection, deflagration venting, deflagration suppression, deflagration isolation, and deflagration pressure containment engineering controls identified in the initial and revalidation DHA in accordance with NFPA 61, Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities, NFPA 68, Standard on Explosion Protection by Deflagration Venting, NFPA 69, Standard on Explosion Prevention Systems, and NFPA 652, Standard on the Fundamentals of Combustible Dust.

CSB Recommendation No. 2017-07-I-WI-R4:

Contract a competent third party to assess and implement engineering controls for the structural design and venting requirements of the reconstructed facility to ensure they meet the requirements and guidance in NFPA 68, Standard on Explosion Protection by Deflagration Venting, for adequacy of venting capacity.

CSB Recommendation No. 2017-07-I-WI-R5:

Incorporate recording any paper-based process safety information into Didion's existing electronic records management system so that the information can be reliably retained, retrieved, and analyzed in the event of a catastrophic incident.

CSB Recommendation No. 2017-07-I-WI-R6:

Contract a competent third party to perform personal protective equipment hazard analyses, such as those prescribed by NFPA 2113, Standard on Selection, Care, Use, and Maintenance of Flame-Resistant Garments for Protection of Industrial Personnel Against Short-Duration Thermal Exposures from Fire, and require appropriate flame-resistant garments for all operations that handle combustible dusts during normal and upset conditions.

CSB Recommendation No. 2017-07-I-WI-R7:

Contract a competent third party to update the facility emergency response plan and train all employees on updated emergency response plan. The update should include the guidance in NFPA 61, Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities, and NFPA 652, Standard on the Fundamentals of Combustible Dust, Chapter 8 and Section A.8.10.1, which includes, at a minimum, the following elements:

a. A signal or alarm system;
b. Emergency shutdown procedures;
c. Provide instructions for when and how to trigger emergency evacuations;
d. Provide instructions for when to notify emergency responders for need of assistance;
e. Response to potential fire scenarios, such as smoldering fires inside equipment; and
f. Prevent firefighting of process fires inside equipment.

CSB Recommendation No. 2017-07-I-WI-R8:

Contract a competent third party to assess and update the pre-deflagration detection and suppression engineering controls, such as those discussed in Chapter 9 of the 2019 edition of NFPA 69, Standard on Explosion Prevention Systems, for adequacy to detect and alarm employees of an emergency situation, such as a smoldering fire, and trigger an evacuation.

CSB Recommendation No. 2017-07-I-WI-R9:

Contract a competent third party to develop and implement a process safety leadership and culture program, based on the guidance of the CCPS's Guidelines for Auditing Process Safety Management Systems and Process Safety: Leadership from the Boardroom to the Frontline. The program should include, at a minimum, the following elements:

a. A process safety policy;
b. A process safety leadership and culture committee;
c. Appropriate goals for process safety;
d. A commitment to process safety culture;
e. Leading and lagging process safety metrics;
f. Process Safety Culture Assessments; and,
g. Engagement with external process safety leadership and culture experts.

Board Status Change Decision:

A. Rationale for Recommendation

On May 31, 2017, an explosion and fire occurred at the Didion Milling, Inc. (Didion) facility in Cambria, Wisconsin. The fire spread throughout the facility resulting in multiple combustible dust explosions both within and external to the production equipment.

Five employees of Didion were fatally injured as the result of the incident. An additional 14 employees were injured. Several of the fatalities and injuries were caused by exposure to the flames generated by the combustible dust explosions and flash fires, while others can be

attributed to the collapse of the buildings. The incident resulted in an estimated $15.37 million in property damage.

The U.S. Chemical Safety and Hazard Investigation Board (CSB) investigated the incident and found several safety issues including ineffective combustible dust safety management, ineffective process safety leadership, and a lack of regulatory coverage for combustible dusts. As a result of these findings, the CSB issued nine recommendations to Didion Milling, Inc. (Didion). This status change summary addresses CSB Recommendation Nos. 2017-07-I-WI-R1 through 2017-07-I-WI-R9.

B. Response to the Recommendation

Didion provided an initial response in September of 2024. The response relied exclusively upon the "enhanced abatement measures" contained within their settlement agreement[1] with the Occupational Safety and Health Administration (OSHA) with no specific information addressing the CSB recommendations. The Didion response did not provide information as to Didion's intent to implement each recommendation or an approximate timeline as to when their implementation might occur. The CSB communicated this to Didion in a letter dated September 11, 2024. To date Didion has not provided the requested information. The Board hopes that further communication and advocacy will persuade Didion to respond and act on these recommendations.

C. Board Analysis and Decision

Based upon the information above, the Board voted to change CSB Recommendation Nos. 2017-07-I-WI-R1 through 2017-07-I-WI-R9 to: "Open – Unacceptable Response/No Response Received."

[1] OSHA and Didion resolved the enforcement inspection that was opened in response to the May 31, 2017 incident by entering into a settlement agreement. This was announced in an OSHA News Release dated December 14, 2023. The news release can viewed at: https://www.osha.gov/news/newsreleases/region5/12142023.