



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

Reports:	Combustible Dust Hazard Investigation Study / Imperial Sugar Company Dust Explosions and Fire / Hoeganaes Corporation Fatal Flash Fires
Recommendation Numbers:	2006-1-H-R1 2009-05-I-GA-R11 2011-4-I-TN-R1 and R2
Dates Issued:	November 9, 2006 / September 24, 2009 / December 16, 2011
Recipient:	Occupational Safety and Health Administration (OSHA)
New Status:	Open- Unacceptable Response (4) (See text of recommendations below)
Date of Status Change:	July 25, 2013

Recommendation Texts:

Recommendation No. 2006-1-H-R1 (from the Combustible Dust Hazard Investigation Study):

Issue a standard designed to prevent combustible dust fires and explosions in general industry. Base the standard on current National Fire Protection Association (NFPA) dust explosion standards (including NFPA 654 and NFPA 484), and include at least - hazard assessment, - engineering controls, - housekeeping, - building design, - explosion protection, - operating procedures, and - worker training.

Recommendation No. 2008-5-I-GA-R11 (from the Imperial Sugar report):

Proceed expeditiously, consistent with the Chemical Safety Board's November 2006 recommendation and OSHA's announced intention to conduct rulemaking, to promulgate a comprehensive standard to reduce or eliminate hazards from fire and explosion from combustible powders and dust.

Recommendation No. 2011-4-I-TN-R1 (from the Hoeganaes case study):

Ensure that the forthcoming OSHA Combustible Dust Standard includes coverage for combustible metal dusts including iron and steel powders.

Recommendation No. 2011-4-I-TN-R2 (from the Hoeganaes case study):

Develop and publish a proposed combustible dust standard for general industry within one year of the approval of this case study.

Board Status Change Decision:

A. Rationale for Recommendations

After investigating three deadly combustible dust accidents that claimed the lives of fourteen workers in 2003, the CSB conducted a comprehensive combustible dust hazard investigation study. Released in late 2006, the study concluded that voluntary consensus standards and enhanced regulatory enforcement efforts are insufficient to prevent dust fires and explosions that occur across a broad range of industries. The CSB therefore recommended that OSHA issue a combustible dust general industry standard. In 2009, after investigating the catastrophic sugar dust explosions at the Imperial Sugar Refinery in Port Wentworth, Georgia that killed 14 workers, the CSB issued a second recommendation calling on OSHA to "proceed expeditiously" with the rulemaking. In 2011, following its investigation of three iron dust-related incidents at the Hoeganaes Corporation facility in Gallatin, Tennessee, that killed five workers, the CSB issued two more recommendations to OSHA regarding the dust rulemaking: one calling for the inclusion

of metal dusts in the scope of the standard, and a second calling for issuance of a proposed rule within one year.

B. Response to the Recommendations

November 9, 2006: The CSB votes to approve the Combustible Dust Study, which contains five recommendations to OSHA, including one calling for a general industry standard for combustible dust.

February 9, 2007: OSHA's then-administrator, Ed Foulke, writes an "interim response" to the CSB. The letter makes no mention of a possible dust standard, but reports that OSHA will soon be finalizing and conducting a "Special Emphasis Program" on the issue of combustible dust.

October 18, 2007: OSHA launches a Combustible Dust National Emphasis Program "for inspecting workplaces that handle combustible dusts and that may have the potential for a dust explosion."¹

February 7, 2008: Devastating explosions and fire break out at the Imperial Sugar Refinery in Port Wentworth, Georgia. CSB commences investigation.

March 11, 2008: OSHA revises the Combustible Dust NEP to "increase [OSHA's] enforcement activities and focus on specific industry groups that have experienced frequent combustible dust accidents." The revised NEP also requires each OSHA Area Office to inspect at least four facilities each fiscal year, whereas they had previously been required to inspect only one.²

Also this month, OSHA sends a letter³ and a copy of its Safety and Health Information Bulletin (SHIB), *Combustible Dust in Industry, Preventing and Mitigating the Effects of Fires and Explosions*⁴ to approximately 30,000 workplaces within industries with potential combustible dust hazards.

March 27, 2008: The CSB receives a second response from OSHA's then-administrator Ed Foulke. This letter describes OSHA's efforts to address combustible dust hazards through its National Emphasis Program, and via training for OSHA inspectors through the OSHA Training Institute. Regarding a possible dust rule, Mr. Foulke writes that OSHA "continues to consider [the CSB's] recommendation" since

"There are many technical and policy issues involved in addressing combustible dust hazards though a standard, not the least of which are developing and determining sound definitions to ensure that the standard targets the specific workplaces where it is needed. We would need to evaluate many types of combustible materials, which have varying properties, that are being used in many different processing actions across numerous industries. This could make developing a stand-alone standard among the most complex ever undertaken by OSHA."

¹ "OSHA Issues New Combustible Dust Instruction." Trade News Release: October 19, 2007. Available at:

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=NEWS_RELEASES&p_id=14597.

² "OSHA Reissues its Combustible Dust National Emphasis Program: Agency enhances its Enforcement Activities at Facilities Handling Combustible Dusts." Trade News Release: March 12, 2008. Available at: http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=NEWS_RELEASES&p_id=15032.

³ See <http://www.osha.gov/as/opa/foia/march08.html>.

⁴ SHIB No. 07-31-2005. Available at: <http://www.osha.gov/dts/shib/shib073105.html>.

April 29, 2009: The U.S. Department of Labor announces that OSHA is “initiating a comprehensive rulemaking on combustible dust.”⁵

September 24, 2009: The CSB issues its final report on the February 2008 fire and explosions at the Imperial Sugar Refinery and issues a recommendation that OSHA “proceed expeditiously”, to promulgate a combustible dust standard.

October 21, 2009: OSHA publishes an Advanced Notice of Proposed Rulemaking (ANPRM) in the Federal Register and requests information from affected stakeholders.⁶

November 5, 2009: Then Acting OSHA Administrator Jordan Barab informs the CSB via written letter that the agency has issued the ANPRM and will conduct stakeholder meetings by the end of December 2009.

December 14, 2009: OSHA holds stakeholder meetings on the dust rule in Washington, DC.⁷

January 6, 2010: OSHA Administrator David Michaels informs the CSB via written letter that OSHA rulemaking is underway and notes that in the interim, the agency continues to use the Combustible Dust NEP to promote awareness and abatement of combustible dust hazards. He emphasizes that OSHA has already conducted 1000 inspections at facilities handling combustible dusts, and issued numerous citations. He also indicates that OSHA “analyzed the results of its NEP to better understand where combustible dust hazards exist, and where improvements may be needed to ensure that workers are protected from combustible dust hazards” and references OSHA’s October 2009 “Status Report on Combustible Dust National Emphasis Program.”⁸

January 8, 2010: Because OSHA commenced rulemaking on a combustible dust general industry standard, the Board votes to designate Recommendation No. 2006-1-H-R1 (from the Combustible Dust Study) with the status “Open- Acceptable Response.”

February 17, 2010: OSHA holds a second set of stakeholder meetings on the dust rule in Atlanta, Georgia.⁹

April 21, 2010: OSHA holds a third set of stakeholder meetings on the dust rule in Chicago, Illinois.¹⁰

April 26, 2010: The Department of Labor issues its Spring 2010 Semiannual Regulatory Agenda. OSHA designates the issuance of a dust standard as a “Long-Term Action” and estimates that the next step in the promulgation process, the Small Business Regulatory Enforcement Fairness Act (SBREFA) Panel Review, will take place in April 2011.^{11,12}

⁵ “U.S. Department of Labor’s OSHA announces rulemaking on combustible dust hazards.” National Press Release: April 29, 2009. Available at: http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=NEWS_RELEASES&p_id=17828.

⁶ Combustible dust: Advanced Notice of Proposed Rulemaking. *Federal Register*, vol. 74, no. 202, p. 54333-347. Available at: <http://www.gpo.gov/fdsys/pkg/FR-2009-10-21/html/E9-25075.htm>.

⁷ Summary notes on the DC meetings are available at: <http://www.osha.gov/dsg/combustibledust/dust-meeting-summary.html>.

⁸ See http://www.osha.gov/dep/combustible_dust/combustible_dust_nep_rpt_102009.html.

⁹ Summary notes on the Atlanta meetings are available at: <http://www.osha.gov/dsg/combustibledust/dust-meeting-notes.html>.

¹⁰ Summary notes on the Chicago meetings are available at: <http://www.osha.gov/dsg/combustibledust/dust-meeting-summary-report.html>.

¹¹ *Federal Register*, vol. 75, no. 79, p. 46. Available at: <http://www.dol.gov/osha/regs/unifiedagenda/spring2010/1218-AC41.htm>.

December 20, 2010: The Department of Labor (DOL)'s Fall 2010 Semiannual Regulatory Agenda again estimates that the SBREFA Panel Review will take place in April 2011.¹³ The Panel does not take place.

January 31, 2011: An iron dust flash fire engulfs two employees at the Hoeganaes facility in Gallatin, Tennessee. Both employees die from their burn injuries.

March 29, 2011: A second incident occurs at the Hoeganaes facility in Gallatin. One employee is injured after being engulfed in a flash fire.

May 13, 2011: OSHA holds a Combustible Dust Expert Forum in Washington, DC.¹⁴ (Though conducting such a forum was not a requirement of the federal rulemaking process, OSHA convened the meeting "in preparation for convening a Small Business Regulatory Enforcement Fairness Act Panel"¹⁵... "to examine in depth all possible approaches the Agency can take to formulate a comprehensive combustible [sic] standard."¹⁶)

May 27, 2011: A third metal dust-related accident occurs at the Hoeganaes facility in Gallatin, TN. Three workers are killed and two are injured.

July 7, 2011: DOL's Spring 2011 Semiannual Regulatory Agenda estimates that the SBREFA Panel Review will take place in December 2011.¹⁷ The Panel does not take place.

December 16, 2011: The CSB votes to approve Hoeganaes Case study, which includes three recommendations to OSHA, two of which deal with the combustible dust standard. R1 and R3 call for the addition of metal dusts in the forthcoming standard and the NEP respectively; R2 calls upon OSHA to issue the proposed rule within one year of the CSB's issuance of the case study.

January 5, 2012: The CSB publicly releases the Hoeganaes case study during a press conference in Gallatin, Tennessee.

January 20, 2012: DOL's Fall 2011 Semiannual Regulatory Agenda states that development of the dust standard is a "Long Term Action." An estimated date for the next step in the rulemaking process is "undetermined."¹⁸

June 14, 2012: OSHA Administrator Dr. David Michaels responds to the CSB's recommendations from the Hoeganaes investigation. The letter states:

"OSHA's staff continues to work diligently to move combustible dust to the draft rule stage, but the scope and complexity of the rule requires completion of significant up front work.... While CSB's impatience to see a proposed rule is understandable, the problem is complex and

¹² The SBREFA panel process is required when a proposed rule is expected to have a significant impact on a substantial number of small businesses. OSHA provides more detailed information about SBREFA on its website at <http://www.osha.gov/dcsp/smallbusiness/sbrefa.html>.

¹³ See <http://www.dol.gov/osha/regs/unifiedagenda/fall2010/1218-AC41.htm>.

¹⁴ The Combustible Dust Expert Forum Meeting Summary report is available at: http://www.osha.gov/dsg/combustibledust/expert_forum_summary_report.pdf.

¹⁵ "OSHA will hold expert forum to identify regulatory options for protecting workers from combustible dust hazards." OSHA Trade News Release: April 28, 2011. Available at: http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=NEWS_RELEASES&p_id=19710.

¹⁶ DOL Regulations: Live Q&A Session with OSHA. July 11, 2011. Transcript available at: <http://www.dol.gov/regulations/chat-osha-static-201107.htm>.

¹⁷ See <http://www.reginfo.gov/public/do/eAgendaViewRule?pubId=201104&RIN=1218-AC41>.

¹⁸ See <http://www.reginfo.gov/public/do/eAgendaViewRule?pubId=201110&RIN=1218-AC41>.

OSHA must satisfy a number of evidentiary and analytical burdens before it can issue a proposal. Though OSHA cannot commit to a date for the proposal, it remains a top priority for the agency.”

November 6, 2012: This date marked the 6th anniversary of the release of the CSB’s Combustible Dust Hazard Study and the CSB’s initial recommendation that OSHA issue a combustible dust rule.

December 16, 2012: This date marked the one year anniversary of the issuance of the Hoeganaes case study and the one-year deadline in the CSB’s recommendation for OSHA’s issuance of a proposed rule.

January 5, 2013: This date marked the first anniversary of the public release of the Hoeganaes case study.

January 8, 2013: DOL’s Semiannual Regulatory Agenda estimates that the SBREFA Panel will be held in October 2013.¹⁹

January 29, 2013: This date marked the tenth anniversary of the polyethylene dust explosion and fire at the West Pharmaceutical Services facility in Kinston, NC which killed 6 workers and injured 38.

January 31, 2013: This date marked the second anniversary of the first iron dust flash fire at the Hoeganaes facility in Gallatin, TN which killed two workers.

February 7, 2013: This date marked the fifth anniversary of the sugar dust explosion and fires at the Imperial Sugar refinery which killed 14 workers and injured 38.

February 15, 2013: This date marked the tenth anniversary of the phenolic resin dust explosion and fire at the CTA Acoustics manufacturing facility in Corbin, Kentucky, which killed seven workers and injured 37.

March 29, 2013: This date marked the second anniversary of the second iron dust flash fire at the Hoeganaes facility in Gallatin, TN which injured one worker.

July 2013: DOL’s Semiannual Regulatory Agenda estimates that the SBREFA Panel will be held in November 2013.²⁰

C. Board Analysis and Decision

OSHA has initiated a rulemaking to issue a combustible dust standard and continues to undertake noteworthy and important regulatory enforcement and educational efforts to prevent and control combustible dust hazards in the workplace. The Board recognizes the complexity of the federal rulemaking process; however, a combustible dust general industry standard is urgently needed to prevent future fires and explosions from claiming the lives of American workers. In addition, more than six years have passed since the CSB first issued a recommendation for this standard. Therefore, the Board voted to designate all four recommendations with the status: “Open- Unacceptable Response.”

¹⁹ See <http://www.reginfo.gov/public/do/eAgendaViewRule?pubId=201210&RIN=1218-AC41>.

²⁰ See <http://www.reginfo.gov/public/do/eAgendaViewRule?pubId=201304&RIN=1218-AC41>.