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PRE-FIRST DRAFT AGENDA

NFPA Technical Committee on Hazardous Chemicals (HCS-AAA) NFPA 400/40 First Draft Meeting (A2027)

September 19, 2025
1:00 p.m. – 3:00 p.m. (ET)

Web/ Teleconference
To join the meeting, please contact ysmith@nfpa.org.

1. **Call to order.** Lynne Kilpatrick.
2. **Introductions.** See committee roster attached.
3. **Chair report.** Lynne Kilpatrick.
4. **Staff liaison report.** Sarah Frey.
5. **Previous meeting minutes.** August 17, 22nd and 23rd, 2023 via web/ teleconference. See attached.
6. **NFPA 400/40 Pre First Draft.**
 - a. **Presentation(s).**
 - i. **Task Group on Hazardous Materials Separation Table.** Update on status and solicitation of feedback.
 - ii. **Adam Henson (CSB).** Recommendation from Wacker Polysilicon Chemical Release Investigation. See attached summary.
7. **Other Business.**
8. **Future meetings.**
9. **Adjournment.**

Address List No Phone

09/02/2025

Sarah Frey

HCS-AAA

Hazardous Chemicals

Lynne M. Kilpatrick Chair LMK Associates LLC 1101 McKenzie Avenue, Unit 203 Bellingham, WA 98225	SE 7/28/2006 HCS-AAA	Mohamed Talal Al-Marri Principal Qatar Civil Defence MOI Civil Defence - Wadi Al Sai Doha, QA 92889 Qatar	E 08/10/2022 HCS-AAA
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Timothy Burchett Principal Starr Technical Risks Agency, Inc. 4950 San Diego Court Sparks, NV 89436-0687	I 03/20/2023 HCS-AAA	Michael Carolan Principal Dekra Process Safety - Chilworth Technology 113 Campus Drive Princeton, NJ 08540 Alternate: Jeffrey J. Foisel	RT 04/03/2019 HCS-AAA
Edwin D. Cope Principal Cope Engineering 8922 Croes Drive Houston, TX 77055 Alternate: David S. Shatzer	SE 1/16/2003 HCS-AAA	William V. F. Cosey Principal Savannah River Nuclear Solutions, LLC 152 Sweetbay Drive Aiken, SC 29803	U 12/07/2021 HCS-AAA
Robert deLeyos Principal Lawrence Livermore National Laboratory 7000 East Avenue L-388 Livermore, CA 94550	U 03/20/2023 HCS-AAA	Dirk Der Kinderen Principal US Department of Transportation Pipeline & Hazardous Materials Safety Administration 1200 New Jersey Avenue, SE East Building, 2nd Floor Washington, DC 20590-0001	E 8/9/2011 HCS-AAA
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Joshua Hoffman Principal Institute of Makers of Explosives (IME) 1212 New York Avenue NW, Suite 650 Washington, DC 20005	U 08/17/2018 HCS-AAA	Peter Paul Howell Principal Mark V, Inc. 23 Edgewood Drive Hurricane, WV 25526	SE 7/29/2005 HCS-AAA

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Howard G. Lagomarsino, Jr. Principal Albemarle County Fire Rescue Albemarle County Fire Marshal 24 Jennings Drive Palmyra, VA 22963-3337 Virginia Fire Prevention Association	E 08/23/2023 HCS-AAA	R. Kenneth Lee Principal Axiall LLC 531 McNear Drive Coppell, TX 75019	M 10/10/1998 HCS-AAA
Michael Mennella Principal Nassau County Fire Marshal's Office 1194 Prospect Avenue Westbury, NY 11590	E 08/19/2025 HCS-AAA	Joyce Miles Principal ExxonMobil Research & Engineering 22777 Springwoods Village Pkwy Science 2, 2A.328 Spring, TX 77389-1425 American Chemistry Council	U 7/29/2013 HCS-AAA

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Katie A. Mulligan Alternate The Dow Chemical Company 230 Abner Jackson Parkway ECB 4B104 Lake Jackson, TX 77566 Principal: Pranav Bagaria	U 08/19/2025 HCS-AAA	Milton L. Norsworthy Alternate Fire and Materials Research Laboratories LLC.(F&MRL) 431 Kyle Lane, NW Cleveland, TN 37312 Principal: Elizabeth C. Buc	RT 12/06/2017 HCS-AAA
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NATIONAL FIRE PROTECTION ASSOCIATION

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SECOND DRAFT MEETING MINUTES

NFPA Technical Committee on Hazardous Chemicals (HCS-AAA) NFPA 40/400 Second Draft Meeting (A2024)

August 17th, 22nd, and 23rd, 2023
11:00 AM – 4:00 PM (ET)

Web/Teleconference – Microsoft Teams

1. **Call to order.** Bob James, chair, called the meeting to order at 11:00 on August 17th, 2023.
2. **Introductions.** Attendees introduced themselves and identified their affiliation. NFPA staff took attendance.
3. **Chair report.** Bob James welcomed attendees and provided an overview of the meeting.
4. **Staff liaison report.** Matt Barker provided an overview of the standards development process and the revision cycle schedule.
5. **Previous meeting minutes.** The minutes from October 4th and 5th, 2022 (Tampa, FL and Web/Teleconference) were approved without revision.
6. **NFPA 40 Second Draft.**
 - a. **Review of Public Comments and Committee Inputs.** There were no Public Comments or Committee Inputs to review.
 - b. **Task group reports.** There were no active task groups.
 - c. **New task groups.** The following task groups were appointed to work subsequent to the meeting:
 - i. **Task Group on Storage of Nitrate Film.** TG Chair: Milt Shefter. Members: Bob James. Task group was created to review the fire protection requirements for the storage of nitrate film.
7. **NFPA 400 Second Draft.**
 - a. **Review of Public Comments and Committee Inputs.** The Technical Committee reviewed the Public Comments and Committee Inputs and developed Second Revisions as necessary. These will be available in the Second Draft Report at www.nfpa.org/400.
 - b. **Task group report(s).** The following task groups provided their reports and recommendations.

- i. **Task Group on Chapter 15 Tanks and Bulk Storage.** Tony Ordile (Chair). The task group provided a report, no updates were made. The task group was reconstituted to continue work.
 - ii. **Task Group on Tanks.** Jerry Wallace (Chair). The task group did not have any updates, no revisions were made. The task group was reconstituted to continue work.
 - iii. **Task Group on Overview of NFPA 400.** Bob James (Chair). The task group provided a report, no revisions were made but public inputs will be submitted for the next revision cycle. The task group was reconstituted to continue work.
 - iv. **Task Group on Annex G Updates.** Mike Carolan (Chair). The task group provided a report, a second revision was made to update references in Annex G. The task group was discharged with thanks.
 - v. **Task Group on Table (Section 15.3.2.4.13(B) and Chapter 14 and 15) Alignment with NFPA 30.** John LeBlanc (Chair). The task group provided a report, no revisions were made. The task group was reconstituted to continue work.
 - vi. **Task Group on Chapter 21 Review.** Marty Gresho (Chair). The task group did not have any updates, no revisions were made. The task group was reconstituted to continue work.
 - vii. **Task Group on Ammonium Nitrate Emulsions.** Josh Hoffman (Chair). The task group provided a report, several second revisions were made within the code. The task group was discharged with thanks.
 - viii. **Task Group on Section 5.2.1.1.3 MAQ Requirements.** Lynne Kilpatrick (Chair). The task group did not have any updates, no revisions were made. The task group was reconstituted to continue work.
 - ix. **Task Group on Bulk Storage.** Josh Hoffman (Chair). The task group did not have any updates, no revisions were made. The task group was reconstituted to continue work.
 - x. **Task Group on Nitrous Oxide Manufacturing.** Kirk Mitchell (Chair). The task group provided a report, no revisions were recommended in the code. The task group was discharged with thanks.
 - xi. **Task Group on Chapter 19 Review for Protection Features for Unstable Materials.** Paul Iacobucci (Chair), Alwin Kelly (Chair). The task group did not have any updates, no revisions were made. The task group was reconstituted to continue work.
- c. **New task groups.** The following task groups were appointed to work subsequent to the meeting:
- i. **Task Group on Hazardous Materials Separation Table.** TG Chair: Mohamed Al-Marri. Members: Lynne Kilpatrick, Bob James, Tim Burchett, Jim Vigerust. Task group was created to develop a hazardous material separation table and relevant requirements within the code to reference that table at the next revision cycle.

ii. **Task Group on Chapter 15 Oxidizer General Requirements for Storage.** TG Chair: David Chicca. Members: Tony Ordile, Jim Vigerust, Kirk Mitchell, Amy Gay. Task Group was created to review oxidizer storage requirements and make recommendations for future revisions.

8. **Other Business.** Staff liaison provided an update on a joint task group between NFPA 55, NFPA 101, and NFPA 400, which was created following a report from the Chemical Safety Board, that will review current egress requirements on elevated platforms and make necessary recommendations.

9. **Future meetings.** This was the final meeting of this committee for the revision cycle. A meeting notification will be posted at www.nfpa.org/40next and www.nfpa.org/400next when the next meeting is scheduled.

10. **Adjournment.** The meeting was adjourned at 11:37 AM on August 23rd, 2023.

Attendees:

Committee Members:43

✓	James, Robert	Chair	Ione Rose Consulting, LLC
✓	Al-Marri, Mohamed	Principal	Qatar Civil Defence MOI
	Buc, Elizabeth	Principal	Fire & Materials Research Laboratory, LLC
✓	Burchett, Timothy	Principal	Starr Technical Risks Agency, Inc.
✓	Carolan, Michael	Principal	Dekra Process Safety - Chilworth
✓	Cope, Edwin	Principal	Cope Engineering
	Cosey, William	Principal	Savannah River Nuclear Solutions, LLC
✓	deLeyos, Robert	Principal	Lawrence Livermore National Laboratory
✓	Der Kinderen, Dirk	Principal	US Department of Transportation
✓	Foisel, Jeffrey	Principal	Dow
	Gresho, Martin	Principal	FP2Fire, Inc.
✓	Hawthorne, Edward	Principal	American Petroleum Institute
✓	Hoffman, Joshua	Principal	Institute of Makers of Explosives (IME)
✓	Howell, Peter	Principal	Mark V, Inc.
✓	Hsu, Noel	Principal	The Fertilizer Institute
✓	Iacobucci, Paul	Principal	SPI/Organic Peroxide Producers Safety
	Kelly, Alwin	Principal	JENSEN HUGHES
✓	Koffel, William	Principal	Compressed Gas Association
	Kreitman, Kevin	Principal	Albany Fire Department
✓	LaBerge, Todd	Principal	TLB Fire Protection Engineering, Inc.

	Lee, R. Kenneth	Principal	Axiall LLC
✓	Miles, Joyce	Principal	American Chemistry Council
✓	Mitchell, Kirk	Principal	Isocyanurates Industry Adhoc Committee
✓	Ordile, Anthony	Principal	Haines Fire & Risk Consulting Corporation
✓	Ramo, Leonard	Principal	Telgian Corporation
✓	Schumacher, John	Principal	Advanced Engineering Investigations
✓	Shefter, Milton	Principal	Miljoy Ent. Incorporated
	Shriner, Jonathan	Principal	US Architect of the Capitol
✓	Uriarte-Villanueva, Irene	Principal	FM Global
✓	Vigerust, James	Principal	NFPA Industrial Fire Protection Section
	Wallace, Jerry	Principal	Safety Engineering Laboratories, Inc.
	Ferrara, Steve	Voting Alternate	Agricultural Retailers Association
✓	Kilpatrick, Lynne	Voting Alternate	LMK Associates LLC
✓	Suarez, Robert	Voting Alternate	International Association of Fire Fighters
	Chew, Joseph	Alternate	Haines Fire And Risk Consulting, Corp.
✓	Dluzneski, Peter	Alternate	SPI/Organic Peroxide Producers Safety
✓	Drullinger, Benjamin	Alternate	Safety Engineering Laboratories. Inc.
	Early, Rob	Alternate	Compressed Gas Association
	Gay, Amy	Alternate	Isocyanurates Industry Adhoc Committee
	Jason, Zachary	Alternate	Advanced Engineering Investigations
✓	LeBlanc, John	Alternate	FM Global
	Norsworthy, Milton	Alternate	Fire and Materials Research Laboratories
✓	Oliver, Todd	Alternate	JENSEN HUGHES
✓	Shatzer, David	Alternate	Shatzer & Associates Consulting
✓	Chicca, David	Nonvoting Member	Occupational Safety & Health
✓	Barker, Matthew	Staff Liaison	National Fire Protection Association

Guests:

Pranav Bagaria – Dow

Total in Attendance: 33

Respectfully submitted by:

Robert James – Chair

Matt Barker – NFPA Staff Liaison

Wacker Polysilicon Chemical Release (Summary for R10)

Incident Description:

On November 13, 2020, a graphite heat exchanger cracked during maintenance releasing hydrogen chloride gas (Toxic and Corrosive) at the Wacker Polysilicon facility in Charleston, TN. The incident occurred on the fifth level of an open structure which was occupied by a total of seven people from two different contractors. Three of the workers were equipped with full body chemical protective suits, the other four were wearing FR clothing. When the release occurred, it cut the workers off from the single means of egress available from that level of the open structure. Three of the workers who were not wearing chemical protective suits climbed over the side of the open structure to attempt to escape the release. It was approximately 70 feet to the ground. All three of these individuals fell. One was fatally injured and the other two were seriously injured.



Recommendation Text:

Revise NFPA 101 Life Safety Code, NFPA 55 Compressed Gases and Cryogenic Fluids Code, or NFPA 400 Hazardous Materials Code to address conditions which may require multiple means of egress from elevated industrial structures containing hazardous materials posing physical and health hazards, regardless of their combustibility, burn rate, or likelihood of explosion. The guidance should address egress situations for workers on unwallled, elevated structures in the presence of materials posing physical and health hazards. Specify the minimum number of egress points to increase the likelihood of worker escape in the event of a hazardous material release.

Recommendation Rationale:

Open structures, such as the one involved in the Wacker incident are common throughout industrial facilities, chemical plants, and refineries. As part of its investigation, the CSB identified several gaps and opportunities for improvement for the codes and standards applicable to open structures. The current NFPA Codes do not provide sufficient requirements and/or guidance regarding means of egress from open structures servicing equipment containing hazardous materials which pose physical and/or toxic hazards, but not flammability/explosive hazards. Had the open structure involved in the incident had at least two means of egress the consequences of the incident could have been mitigated or eliminated.

The full CSB investigation report on the incident can be found at:

<https://www.csb.gov/wacker-polysilicon-chemical-release/>

The discussion of egress requirements is contained within Section 4.4 Means of Egress which begins on page 43 of the investigation report.

For Consideration:

The following Public Inputs have been submitted to NFPA 400 in furtherance of implementation of the CSB's recommendation.

Public Input No. 23 – A Definition for Open Structure (New Section after 3.3.74.12)

Public Input No. 24 – Annex Material for Open Platform Definition (New Section after A.3.3.24.13.1)

Public Input No. 25 – Egress Requirements for Open Structures – Storage (New Section after 6.2.7.3.3)

Public Input No. 26 – Egress Requirements for Open Structures – Use/Handling (New Section after 6.3.3.3.2.2)

Public Input No. 27 – An Update to Emergency Action Plan Procedures (7.2.3.2 (12))

To view these public inputs please visit:

<https://submittals.nfpa.org/TerraViewWeb/ViewerPage.jsp?id=400-2025.ditamap&draft=true&toc=false>

If anyone has any questions or concerns, please contact Adam Henson, Recommendations Specialist, CSB, adam.henson@csb.gov or (202) 815-5645.