National Fire Protection Association

1 Batterymarch Park, Quincy, MA 02169-7471
Phone: 617-770-3000 • Fax: 617-770-0700 • www.nfpa.org

TECHNICAL COMMITTEE ON HANDLING AND CONVEYING OF DUSTS, VAPORS, AND GASES

NFPA 654 CMD-HAP (A2016)
Second Draft Meeting
July 21 – 23, 2015
Hilton Salt Lake City Center
255 S. West Temple
Salt Lake City, UT 84101

1. Meeting is called to order at 8 AM each day.

2. Welcome and Self-Introduction of Committee Members and Guests

3. Chair and Staff Liaison Remarks

4. Approve Minutes from the last meeting (attached)

5. Task Group Reports

6. Fike presentation (experimental data for 7.1.6.2)

5. Review of Correlating Committee Notes

6. NFPA 654 Second Draft Comments

- **a. Public Comments**
- **b. Committee Comments – develop and action as required**

7. Other Business

9. Adjournment – Meeting will adjourn at 5 pm each day.

Address List No Phone

06/23/2015
Susan Bershad
CMD-HAP

Handling and Conveying of Dusts, Vapors, and Gases

Combustible Dusts

Mark L. Runyon — **I** 1/10/2008
Chair — **CMD-HAP**
Marsh Risk Consulting
111 SW Columbia, Suite 500
Portland, OR 97201

Brice Chastain — **U** 10/28/2008
Principal — **CMD-HAP**
Georgia-Pacific LLC
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John M. Cholin — **SE** 1/1/1992
Principal — **CMD-HAP**
J. M. Cholin Consultants Inc.
101 Roosevelt Drive
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Ashok Ghose Dastidar — **SE** 10/28/2014
Principal — **CMD-HAP**
Fauske & Associates, LLC
16W070 83rd Street
Burr Ridge, IL 60527-5802
Alternate: Martin P. Clouthier

Burke Desautels — **M** 03/07/2013
Principal — **CMD-HAP**
Fenwal/IEP Technologies
400 Main Street
Ashland, MA 01721-2150
Alternate: Randal R. Davis

Tony DiLucido — **I** 8/5/2009
Principal — **CMD-HAP**
Zurich Risk Engineering Services
720 Ash Avenue
Collingdale, PA 19023
Alternate: Robert D. Shafto

Vahid Ebadat — **SE** 7/1/1996
Principal — **CMD-HAP**
Chilworth Technology Inc.
113 Campus Drive
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Alternate: C. James Dahn

Henry L. Febo, Jr. — **I** 4/1/1996
Principal — **CMD-HAP**
FM Global
Engineering Standards
1151 Boston-Providence Turnpike
PO Box 9102
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Larry D. Floyd — **U** 8/5/2009
Principal — **CMD-HAP**
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1379 Ciba Road
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Walter L. Frank — **SE** 7/1/1994
Principal — **CMD-HAP**
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Principal — **CMD-HAP**
HSB Professional Loss Control
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Mark L. Holcomb — **U** 7/23/2008
Principal — **CMD-HAP**
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2001 Marathon Avenue
Neenah, WI 54956

Jerry J. Jennett — **U** 1/15/1999
Principal — **CMD-HAP**
Georgia Gulf Sulfur Corporation
PO Box 1165
Valdosta, GA 31603-1165
Alternate: Randall Dunlap

David C. Kirby — **SE** 1/1/1983
Principal — **CMD-HAP**
Baker Engineering & Risk Consultants, Inc.
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Charleston, WV 25312
Alternate: Philip J. Parsons

Address List No Phone

06/23/2015
Susan Bershad
CMD-HAP

Handling and Conveying of Dusts, Vapors, and Gases

James F. Koch **U** 10/28/2008
Principal **CMD-HAP**
The Dow Chemical Company
1400 Building
Midland, MI 48667
American Chemistry Council
Alternate: Glenn W. Baldwin

Bruce McLelland **M** 3/2/2010
Principal **CMD-HAP**
Fike Corporation
704 SW 10th Street
Blue Springs, MO 64015-4263
Alternate: Jérôme R. Taveau

Jack E. Osborn **M** 1/10/2008
Principal **CMD-HAP**
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Richard Pehrson **E** 3/1/2011
Principal **CMD-HAP**
Pehrson Fire PC
7455 France Avenue South, Suite 271
Edina, MN 55435
International Fire Marshals Association

Jason P. Reason **SE** 3/2/2010
Principal **CMD-HAP**
Lewellyn Technology
2518 Thorium Drive, Apt 3
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Alternate: Kevin N. Jeffries

Ali Reza **SE** 03/05/2012
Principal **CMD-HAP**
Exponent, Inc.
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Alternate: David B. Clayton

James L. Roberts **SE** 1/1/1989
Principal **CMD-HAP**
Fluor Enterprises, Inc.
100 Fluor Daniel Drive
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Samuel A. Rodgers **U** 7/20/2000
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15801 Woods Edge Road
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Thomas C. Scherpa **U** 3/21/2006
Principal **CMD-HAP**
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71 Valley Road
Sullivan, NH 03445

Bill Stevenson **M** 1/15/1999
Principal **CMD-HAP**
CV Technology, Inc.
15852 Mercantile Court
Jupiter, FL 33478
Alternate: Jason Krbec

Jeffery W. Sutton **SE** 3/4/2008
Principal **CMD-HAP**
Global Risk Consultants Corporation
350 Highway 7, Suite 220
Excelsior, MN 55331-3170

Robert D. Taylor **U** 8/9/2011
Principal **CMD-HAP**
PRB Coal Users Group
4377 Sandra Kay Lane
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Tony L. Thomas **M** 10/27/2009
Principal **CMD-HAP**
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Greensboro, NC 27313

Erdem A. Ural **SE** 7/23/2008
Principal **CMD-HAP**
Loss Prevention Science & Technologies, Inc.
2 Canton Street, Suite A2
Stoughton, MA 02072

Address List No Phone

06/23/2015
Susan Bershad
CMD-HAP

Handling and Conveying of Dusts, Vapors, and Gases

Combustible Dusts

Michael Walters — **M** 10/27/2009
Principal — **CMD-HAP**
Camfil Farr Air Pollution Control
3501 South Airport Road
Jonesboro, AR 72401-4480

Harold H. Weber, Jr. — **U** 1/1/1986
Principal — **CMD-HAP**
The Sulphur Institute
1020 19th Street, NW, Suite 520
Washington, DC 20036

VL to Document: 655

Glenn W. Baldwin — **U** 03/07/2013
Alternate — **CMD-HAP**
The Dow Chemical Company
PO Box 8361
South Charleston, WV 25303
American Chemistry Council
Principal: James F. Koch

David B. Clayton — **SE** 10/29/2012
Alternate — **CMD-HAP**
Exponent, Inc.
5401 McConnell Avenue
Los Angeles, CA 90066-7027
Principal: Ali Reza

Martin P. Clouthier — **SE** 04/08/2015
Alternate — **CMD-HAP**
Clouthier Risk Engineering
6178 Cedar Street
Halifax, NS B3H 2J7 Canada
Principal: Ashok Ghose Dastidar

C. James Dahn — **SE** 1/1/1989
Alternate — **CMD-HAP**
Safety Consulting Engineers Inc.
2131 Hammond Drive
Schaumburg, IL 60173
Principal: Vahid Ebadat

Randal R. Davis — **M** 10/29/2012
Alternate — **CMD-HAP**
IEP Technologies
417-1 South Street
Marlborough, MA 01752-3149
Principal: Burke Desautels

Randall Dunlap — **U** 3/2/2010
Alternate — **CMD-HAP**
Georgia Gulf Sulfur Corporation
PO Box 67
Bainbridge, GA 39818
Principal: Jerry J. Jennett

Kevin N. Jeffries — **SE** 04/08/2015
Alternate — **CMD-HAP**
Lewellyn Technology
5478 Heathrow Avenue
Kalamazoo, MI 49009-7721
Principal: Jason P. Reason

Jason Krbec — **M** 3/1/2011
Alternate — **CMD-HAP**
CV Technology, Inc.
15852 Mercantile Court
Jupiter, FL 33478
Principal: Bill Stevenson

Philip J. Parsons — **SE** 8/9/2011
Alternate — **CMD-HAP**
Baker Engineering & Risk Consultants, Inc.
319 Stieren Street
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Principal: David C. Kirby

Robert D. Shafto — **I** 8/5/2009
Alternate — **CMD-HAP**
Zurich Insurance
1093 Tall Pines Trail
Highland, MI 48356
Principal: Tony DiLucido

Jérôme R. Taveau — **M** 03/07/2013
Alternate — **CMD-HAP**
Fike Corporation
704 SW 10th Street
Blue Springs, MO 64015-4263
Principal: Bruce McLelland

Matthew I. Chibbaro — **E** 3/4/2009
Nonvoting Member — **CMD-HAP**
US Department of Labor
Occupational Safety & Health Administration
200 Constitution Ave. NW, Room N3609
Washington, DC 20210
Alternate: William R. Hamilton

Address List No Phone

06/23/2015
Susan Bershad
CMD-HAP

Handling and Conveying of Dusts, Vapors, and Gases

William R. Hamilton	**E** 3/4/2009	**Susan Bershad**	04/16/2014
Alt. to Nonvoting Member	**CMD-HAP**	**Staff Liaison**	**CMD-HAP**
US Department of Labor Occupational Safety & Health Administration 200 Constitution Ave. NW, Room N3609 Washington, DC 20210 **Principal: Matthew I. Chibbaro**		National Fire Protection Association 1 Batterymarch Park Quincy, MA 02169-7471	

TECHNICAL COMMITTEE ON HANDLING AND CONVEYING OF DUSTS, VAPORS, AND GASES

Minutes of Meeting – NFPA 654 First Draft Meeting - Continuation
Web Meeting
August 15, 2014, 10 AM – 1 PM ET

Member	Attending	
Mark Runyon – chair	Yes	Principal
Brice Chastain	Yes	Principal
John Cholin	Yes	Principal
Burke Desautels	Yes	Principal
Tony DiLucido	Yes	Principal
Vahid Ebadat	No	Principal
Henry Febo	Yes	Principal
Larry Floyd	No	Principal
Walter Frank	No	Principal
Stephen Greeson	Yes	Principal
Mark Holcomb	No	Principal
Jerry Jennett	No	Principal
David Kirby	No	Principal
James Koch	No	Principal
Bruce McLelland	No	Principal
Jack Osborn	No	Principal
Richard Pehrson	Yes	Principal
Jason Reason	Yes	Principal
Ali Reza	No	Principal
James Roberts	No	Principal
Samuel Rodgers	Yes	Principal
Thomas Scherpa	No	Principal
Bill Stevenson	Yes	Principal
Jeffrey Sutton	No	Principal
Robert Taylor	No	Principal
Tony Thomas	Yes	Principal
Erdem Ural	Yes	Principal
Harold Weber	No	Principal
Glenn Baldwin	Yes	Alternate

Amy Brown	No	Alternate
David Clayton	Yes	Alternate
James Dahn	No	Alternate
Randal Davis	No	Alternate
Randall Dunlap	No	Alternate
Robert Gravell	No	Alternate
William Hilton	No	Alternate
Jason Krbec	No	Alternate
Philip Parson	Yes	Alternate
Robert Shafto	No	Alternate
Jerome Taveau	No	Alternate
Matthew Chibbaro	No	Alternate
Harry Verakis	No	Alternate
William Hamilton	No	Alternate
Niels Pedersen	Yes	Guest
Susan Bershad	Yes	NFPA
Tony Supine	Yes	Guest
Mike Walters	Yes	Guest
Guy Colonna	Yes	NFPA

1.0 The meeting was called to order at 10 am by Mark Runyon, chair. Staff did a roll call and noted attendance.

2.0 Prior to consideration of the remaining three public input from the Atlanta meeting, Niels Pedersen made a presentation providing background information for the three public input, which he submitted to the technical committee. This presentation is a rather large file, and the link to it was forwarded to the committee via e-mail subsequent to the meeting.

3.0 The committee considered the three remaining public input for 654, all of which were for annex material. These were PI-43, 44, and 45.

4.0 Camfil made a presentation on its position on PI-42. PI-42 was considered at the meeting in Atlanta. The committee response to PI -42 is FR-44. The committee did not vote to reconsider its response to PI-42 and invites Camfil and any other interested parties to submit public comment on the material. A copy of this presentation was transmitted to the committee via e-mail after the meeting.

5.0 The committee reviewed the membership and scope of task groups going forward. These are as listed below. If there are any committee members that would like to join one of the task groups, please let the chair or the staff know. Note that the task group leaders are designated in bold:

- Task group to develop public comment on FR-44.
    - **Bill Stevenson**, Erdem Ural
- Task group to review PI 101 – compare housekeeping requirements to 652.
    - Tom Scherpa, Sam Rodgers**,** Bill Stevenson, Erdem Ural

- Task group to develop annex material for material in 10.2
    - Tony Thomas and **John Cholin**, Sam Rodgers.

  Scope of task group work – Develop annex material to explain the material in 10.2 and to develop public comment on the first revisions in 10.2 that are consistent with the annex material. This will be presented to the TC at the second draft.
- Task group to develop public comment for FR-37 – reach out to the 69 TC for participation
    - **Erdem Ural**, Sam Rodgers, Bill Stevenson, John Cholin, and Henry Febo.
- Task group to develop public comment to annex material on abort gates (committee input response to PI- 43, 44, and 45.
    - **Bill Stevenson**, Erdem Ural, Tony Thomas, Niels Pedersen, and John Cholin

6.0 The meeting was adjourned at 1 PM ET. The next meeting of the committee will be the second draft meeting currently scheduled for July 7, 8, and 9, 2015 in Seattle, WA.

Correlating Committee Note No. 12-NFPA 654-2015 [Global Input]

Supplemental Information

File Name	Description
Draft_Objectives_for_CC_review.docx	

Submitter Information Verification

Submitter Full Name: Susan Bershad
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 07 16:55:15 EST 2015

Committee Statement

Committee Statement: The 654 committee should consider aligning their objectives with those presented in attached document developed by the correlating committee task group on objectives. The correlating committee would like to work towards having all of the dust documents have similar objectives. This document is a product of a task group with representation from all of the combustible dust committees and represents the direction the correlating committee would like to head in. This recommendation is also being made to the 61 and the 664 technical committees, and will be made to the 484, 655, and 652 technical committees as they enter the next revision cycle.

Ballot Results

✔ **This item has passed ballot**

13 Eligible Voters
1 Not Returned
12 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned
Hayden, Donald

Affirmative All
Aiken, Chris
Bujewski, Matthew J.
Cholin, John M.
Davis, Scott G.
Febo, Jr., Henry L.
Frank, Walter L.
Kreitman, Kevin
LaPine, Edward R.

McAlister, Steve
Osborn, Jack E.
Stevenson, Bill
Taveau, Jérôme R.

Correlating Committee Note No. 13-NFPA 654-2015 [Global Input]

Submitter Information Verification

Submitter Full Name: Susan Bershad
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 07 17:09:33 EST 2015

Committee Statement

Committee Statement: The correlating committee recommends that the 654 technical committee review and update if necessary, Annex B and C of the document. Both are extracted into 664 and neither has been updated over the past several revision cycles. They may be more recent material that could be incorporated into both annexes. It is understood that this may not take place until the next revision cycle for 654.

Ballot Results

✔ **This item has passed ballot**

13 Eligible Voters
1 Not Returned
12 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned
Hayden, Donald

Affirmative All
Aiken, Chris
Bujewski, Matthew J.
Cholin, John M.
Davis, Scott G.
Febo, Jr., Henry L.
Frank, Walter L.
Kreitman, Kevin
LaPine, Edward R.
McAlister, Steve
Osborn, Jack E.
Stevenson, Bill
Taveau, Jérôme R.

Correlating Committee Note No. 15-NFPA 654-2015 [Global Input]

Submitter Information Verification

Submitter Full Name: Susan Bershad
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Thu Jan 08 19:35:42 EST 2015

Committee Statement

Committee Statement: The 654 technical committee should consider adding the language in the first draft of NFPA 61 on conflicts, section 1.4.1 and section 1.4.2.

1.4.1

Where a requirement specified in this industry-specific standard differs from a requirement specified in NFPA 652, the requirement in this standard shall be permitted to be used instead.

1.4.2

Where a requirement specified in this standard specifically prohibits a requirement specified in NFPA 652, the prohibition in this standard shall be permitted.

The Correlating Committee believes that adding this to 654 would provide clarity to the user of the document. This recommendation is also being made to the 664 technical committee and will be made to the 484 and the 655 technical committees as they enter their revisions cycles.

Ballot Results

This item has passed ballot

13 Eligible Voters
1 Not Returned
11 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned
Hayden, Donald

Affirmative All
Aiken, Chris
Bujewski, Matthew J.
Cholin, John M.
Davis, Scott G.
Febo, Jr., Henry L.

Kreitman, Kevin
LaPine, Edward R.
McAlister, Steve
Osborn, Jack E.
Stevenson, Bill
Taveau, Jérôme R.

Affirmative with Comment

Frank, Walter L.

I remain uncomfortable with the approach used in NFPA-652 to handle differences in requirements between 652 and the commodity-specific standards. This CN, which would make 654 consistent with 652, provides a tool for nullifying virtually any content in 652... even though 652 is intended to provide the requirements common to all types of dusts. The wording proposed in this CN will shoulder the CC with the responsibility of ensuring that future revisions to 654 do not seek to provide inappropriate waivers of 652 requirements. This challenge will exist for all combustible dust standards as similar wording is integrated into them. I am voting affirmative only because the CC will be the authority that can apply checks and balances.

Correlating Committee Note No. 16-NFPA 654-2015 [Global Input]

Submitter Information Verification

Submitter Full Name: Susan Bershad
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 12 10:20:15 EST 2015

Committee Statement

Committee Statement: The correlating committee recommends that the 654 technical committee revise the scope of the document to be consistent with the structure of the scope statement in NFPA 61. This scope states the "standard provides requirements...". The correlating committee is working towards aligning the scope statements in all of the dust document to be consistent. This recommendation is also being made to the 664 TC and the 484 and 655 technical committees as they enter their revision cycles.

Ballot Results

✔ **This item has passed ballot**

13 Eligible Voters
1 Not Returned
12 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned
Hayden, Donald

Affirmative All
Aiken, Chris
Bujewski, Matthew J.
Cholin, John M.
Davis, Scott G.
Febo, Jr., Henry L.
Frank, Walter L.
Kreitman, Kevin
LaPine, Edward R.
McAlister, Steve
Osborn, Jack E.
Stevenson, Bill
Taveau, Jérôme R.

Correlating Committee Note No. 2-NFPA 654-2015 [Global Input]

Submitter Information Verification

Submitter Full Name: Susan Bershad
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 06 18:28:34 EST 2015

Committee Statement

Committee Statement: The 654 technical committee should review the responses to PI - 72, 73, 74, 75, 78, and 81. The terms defined in some of these public inputs are used in 654. Even if the terms are defined in 652, the 654 technical committee should reconsider whether or not these definitions should be included in 654. It may be easier for the user if the terms are also defined in 654.

Ballot Results

This item has passed ballot

13 Eligible Voters
1 Not Returned
12 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned
Hayden, Donald

Affirmative All
Aiken, Chris
Bujewski, Matthew J.
Cholin, John M.
Davis, Scott G.
Febo, Jr., Henry L.
Frank, Walter L.
Kreitman, Kevin
LaPine, Edward R.
McAlister, Steve
Osborn, Jack E.
Stevenson, Bill
Taveau, Jérôme R.

Correlating Committee Note No. 3-NFPA 654-2015 [Global Input]

Submitter Information Verification

Submitter Full Name: Susan Bershad
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 06 18:33:04 EST 2015

Committee Statement

Committee Statement: The 654 technical committee should review the definitions in Chapter 3 for consistency with 652. The definitions in Chapter 3 of 652 should be considered a baseline for those in the other dust documents. In some cases, the occupancy specific document may elect to define a term differently. In those cases, the rationale for the differences should be documented. Note that this comment is also being made to the 61 and the 664 technical committees, and will be made to the 655 and 484 committees as they go through their next revision cycle.

Ballot Results

This item has passed ballot

13 Eligible Voters
1 Not Returned
12 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned
Hayden, Donald

Affirmative All
Aiken, Chris
Bujewski, Matthew J.
Cholin, John M.
Davis, Scott G.
Febo, Jr., Henry L.
Frank, Walter L.
Kreitman, Kevin
LaPine, Edward R.
McAlister, Steve
Osborn, Jack E.
Stevenson, Bill
Taveau, Jérôme R.

Correlating Committee Note No. 4-NFPA 654-2015 [Global Input]

Supplemental Information

File Name	Description
652_outline_CC_meeting.docx	

Submitter Information Verification

Submitter Full Name: Susan Bershad
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 06 18:39:04 EST 2015

Committee Statement

Committee Statement: The 654 technical committee should review the layout of the document for consistency with NFPA 652. The chapter layout for the commodity specific standards should align with the layout of NFPA 652 in order to facilitate their use with NFPA 652 in accordance with section 1.4.2 of NFPA 652. This comment is also being made to the 61 and 664 technical committees, and will be made to the 655 and 484 technical committees as they go through the next revision cycle.

The Correlating Committee is providing an outline taken from 652 to assist the commodity specific committees with their expected alignment to 652 over the next revision cycles. In addition the outline includes the level of subsection that a user would use to compare 652 to an industry specific standard. This is the minimum level of alignment expected, the committee is free to go beyond this level. Note that the highlighted sections are those that should be used. It is expected that this may not be able to be completed in the current revision cycle, but this a goal that committees should work toward.

Ballot Results

✔ **This item has passed ballot**

13 Eligible Voters
1 Not Returned
12 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned
Hayden, Donald

Affirmative All
Aiken, Chris
Bujewski, Matthew J.

Cholin, John M.
Davis, Scott G.
Febo, Jr., Henry L.
Frank, Walter L.
Kreitman, Kevin
LaPine, Edward R.
McAlister, Steve
Osborn, Jack E.
Stevenson, Bill
Taveau, Jérôme R.

Correlating Committee Note No. 5-NFPA 654-2015 [Global Input]

Submitter Information Verification

Submitter Full Name: Susan Bershad
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 06 18:44:59 EST 2015

Committee Statement

Committee Statement: The 654 technical committee should consider referring to Chapter 5 of 652 for testing requirements for combustible dusts. This could be done by a reference to 652 or by extracting the material in Chapter 5 of 652 into 654.

Ballot Results

This item has passed ballot

13 Eligible Voters
1 Not Returned
12 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned
Hayden, Donald

Affirmative All
Aiken, Chris
Bujewski, Matthew J.
Cholin, John M.
Davis, Scott G.
Febo, Jr., Henry L.
Frank, Walter L.
Kreitman, Kevin
LaPine, Edward R.
McAlister, Steve
Osborn, Jack E.
Stevenson, Bill
Taveau, Jérôme R.

Correlating Committee Note No. 8-NFPA 654-2015 [Global Input]

Submitter Information Verification

Submitter Full Name: Susan Bershad
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 06 19:15:20 EST 2015

Committee Statement

Committee Statement: The 654 technical committee should review the document to ensure that retroactivity is handled consistently. Those sections that are to be applied retroactively should be explicitly designated in the document section. Typically, management system elements that do not require capital improvements, such as training and housekeeping, are retroactive. This comment is also being made to the 61 and 664 technical committees and will be made to the 655 and the 484 technical committees as they go through their next revision cycle.

Ballot Results

This item has passed ballot

13 Eligible Voters
1 Not Returned
12 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned
Hayden, Donald

Affirmative All
Aiken, Chris
Bujewski, Matthew J.
Cholin, John M.
Davis, Scott G.
Febo, Jr., Henry L.
Frank, Walter L.
Kreitman, Kevin
LaPine, Edward R.
McAlister, Steve
Osborn, Jack E.
Stevenson, Bill
Taveau, Jérôme R.

Correlating Committee Note No. 7-NFPA 654-2015 [Section No. 1.1.1]

Submitter Information Verification

Submitter Full Name: Susan Bershad
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 06 19:04:00 EST 2015

Committee Statement

Committee Statement: The 654 technical committee should consider adding the term "flash fire" to fire and explosion hazard in this section. This would make the scope, section 1.1.1, consistent with the purpose, section 1.1.2. The 654 technical committee should also review the rest of the document to ensure that these terms are used consistently.

Ballot Results

This item has passed ballot

13 Eligible Voters
1 Not Returned
12 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned
Hayden, Donald

Affirmative All
Aiken, Chris
Bujewski, Matthew J.
Cholin, John M.
Davis, Scott G.
Febo, Jr., Henry L.
Frank, Walter L.
Kreitman, Kevin
LaPine, Edward R.
McAlister, Steve
Osborn, Jack E.
Stevenson, Bill
Taveau, Jérôme R.

Correlating Committee Note No. 11-NFPA 654-2015 [Section No. 1.4]

Submitter Information Verification

Submitter Full Name: Susan Bershad
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 06 19:31:30 EST 2015

Committee Statement

Committee Statement: The 654 technical committee should consider whether or not the annex material that was added as part of FR-2 is relevant to this section. It appears to be more appropriate to 652.

Ballot Results

This item has passed ballot

13 Eligible Voters
1 Not Returned
11 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
1 Abstention

Not Returned
Hayden, Donald

Affirmative All
Aiken, Chris
Bujewski, Matthew J.
Cholin, John M.
Davis, Scott G.
Frank, Walter L.
Kreitman, Kevin
LaPine, Edward R.
McAlister, Steve
Osborn, Jack E.
Stevenson, Bill
Taveau, Jérôme R.

Abstention
Febo, Jr., Henry L.
I can't understand what is being asked

Correlating Committee Note No. 9-NFPA 654-2015 [Sections 4.3, 4.4]

Submitter Information Verification

Submitter Full Name: Susan Bershad
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 06 19:21:10 EST 2015

Committee Statement

Committee Statement: The 654 technical committee should compare Sections 4.3 and 4.4, Management of Change and Incident Investigation, to the analogous sections in 652. The committee should determine if any additions or omissions between the two documents are intentional or an oversight. An effort should be made to more closely align the two documents.

Ballot Results

This item has passed ballot

13 Eligible Voters
1 Not Returned
11 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
1 Abstention

Not Returned
Hayden, Donald

Affirmative All
Aiken, Chris
Bujewski, Matthew J.
Cholin, John M.
Davis, Scott G.
Frank, Walter L.
Kreitman, Kevin
LaPine, Edward R.
McAlister, Steve
Osborn, Jack E.
Stevenson, Bill
Taveau, Jérôme R.

Abstention
Febo, Jr., Henry L.
I can't understand what is being asked

Correlating Committee Note No. 6-NFPA 654-2015 [Section No. 6.3.6.1]

Submitter Information Verification

Submitter Full Name: Susan Bershad
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 06 18:56:50 EST 2015

Committee Statement

Committee Statement: The 654 committee should review FR-27 as to whether or not other additional test methods should be included as part of this requirement. As a minimum, ASTM E 152, Standard Method of Fire Tests For Door Assemblies and FM Approvals Class 4100, Approval Standard for Fire Doors, as noted in the negative comments on the ballot, should be considered.

Ballot Results

This item has passed ballot

13 Eligible Voters
1 Not Returned
12 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned
Hayden, Donald

Affirmative All
Aiken, Chris
Bujewski, Matthew J.
Cholin, John M.
Davis, Scott G.
Febo, Jr., Henry L.
Frank, Walter L.
Kreitman, Kevin
LaPine, Edward R.
McAlister, Steve
Osborn, Jack E.
Stevenson, Bill
Taveau, Jérôme R.

Correlating Committee Note No. 10-NFPA 654-2015 [Section No. 7.1.6]

Submitter Information Verification

Submitter Full Name: Susan Bershad
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 06 19:25:41 EST 2015

Committee Statement

Committee Statement: The 654 technical committee should consider revising 7.1.6.2 (5) in FR-37 to include enforceable language as per the NFPA manual of style. Note that this comment was made by several committee members on the ballot.

Ballot Results

This item has passed ballot

13 Eligible Voters
1 Not Returned
12 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned
Hayden, Donald

Affirmative All
Aiken, Chris
Bujewski, Matthew J.
Cholin, John M.
Davis, Scott G.
Febo, Jr., Henry L.
Frank, Walter L.
Kreitman, Kevin
LaPine, Edward R.
McAlister, Steve
Osborn, Jack E.
Stevenson, Bill
Taveau, Jérôme R.

Correlating Committee Note No. 14-NFPA 654-2015 [Section No. 9.1.4]

Submitter Information Verification

Submitter Full Name: Susan Bershad
Organization: National Fire Protection Assoc
Street Address:
City:
State:
Zip:
Submittal Date: Thu Jan 08 19:10:10 EST 2015

Committee Statement

Committee Statement: The 654 technical committee should review this section in light of the response by the NFPA technical committee to PI-52 submitted to NFPA 61. PI-52 proposed to extract this requirement from 654 into 61. The NFPA 61 committee stated that: "The committee is not sure that a design that meets this requirement exists. The committee does not want to leave this as a potential requirement without additional information."

Ballot Results

This item has passed ballot

13 Eligible Voters
1 Not Returned
11 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
1 Abstention

Not Returned
Hayden, Donald

Affirmative All
Aiken, Chris
Bujewski, Matthew J.
Cholin, John M.
Davis, Scott G.
Frank, Walter L.
Kreitman, Kevin
LaPine, Edward R.
McAlister, Steve
Osborn, Jack E.
Stevenson, Bill
Taveau, Jérôme R.

Abstention
Febo, Jr., Henry L.
I can't follow the 'paper trail' to PI-52 to understand what is being requested.

Public Comment No. 2-NFPA 654-2015 [Chapter 2]

Chapter 2 Referenced Publications

2.1 General.

The documents or portions thereof listed in this chapter are referenced within this standard and shall be considered part of the requirements of this document.

2.2 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 10, *Standard for Portable Fire Extinguishers,* 2013 edition.

NFPA 11, *Standard for Low-, Medium-, and High-Expansion Foam,* 2016 edition.

NFPA 12, *Standard on Carbon Dioxide Extinguishing Systems,* 2015 edition.

NFPA 12A, *Standard on Halon 1301 Fire Extinguishing Systems,* 2015 edition.

NFPA 13, *Standard for the Installation of Sprinkler Systems,* 2016 edition.

NFPA 14, *Standard for the Installation of Standpipe and Hose Systems,* 2016 edition.

NFPA 15, *Standard for Water Spray Fixed Systems for Fire Protection,* 2017 edition.

NFPA 16, *Standard for the Installation of Foam-Water Sprinkler and Foam-Water Spray Systems,* 2015 edition.

NFPA 17, *Standard for Dry Chemical Extinguishing Systems,* 2013 edition.

NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems,* 2017 edition.

NFPA 30B, *Code for the Manufacture and Storage of Aerosol Products,* 2015 edition.

NFPA 33, *Standard for Spray Application Using Flammable or Combustible Materials,* 2016 edition.

NFPA 51B, *Standard for Fire Prevention During Welding, Cutting, and Other Hot Work,* 2014 edition.

NFPA 61, *Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities,* 2017 edition.

NFPA 68, *Standard on Explosion Protection by Deflagration Venting,* 2013 edition.

NFPA 69, *Standard on Explosion Prevention Systems,* 2014 edition.

NFPA 70® , *National Electrical Code*®*,* 2017 edition.

NFPA 72® , *National Fire Alarm and Signaling Code,* 2016 edition.

NFPA 80, *Standard for Fire Doors and Other Opening Protectives,* 2016 edition.

NFPA 85, *Boiler and Combustion Systems Hazards Code,* 2015 edition.

NFPA 86, *Standard for Ovens and Furnaces,* 2015 edition.

NFPA 91, *Standard for Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Particulate Solids,* 2015 edition.

NFPA *101*® , *Life Safety Code*®*,* 2015 edition.

NFPA 120, *Standard for Fire Prevention and Control in Coal Mines,* 2015 edition.

NFPA 220, *Standard on Types of Building Construction,* 2015 edition.

NFPA 221, *Standard for High Challenge Fire Walls, Fire Walls, and Fire Barrier Walls,* 2015 edition.

NFPA 252, *Standard Methods of Fire Tests of Door Assemblies,* 2012 edition.

NFPA 400, *Hazardous Materials Code,* 2016 edition.

NFPA 484, *Standard for Combustible Metals,* 2015 edition.

NFPA 495, *Explosive Materials Code,* 2013 edition.

NFPA 505, *Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Conversions, Maintenance, and Operations,* 2013 edition.

NFPA 655, *Standard for Prevention of Sulfur Fires and Explosions,* 2012 edition.

NFPA 664, *Standard for the Prevention of Fires and Explosions in Wood Processing and Woodworking Facilities,* 2017 edition.

NFPA 750, *Standard on Water Mist Fire Protection Systems,* 2015 edition.

NFPA 780, *Standard for the Installation of Lightning Protection Systems,* 2017 edition.

NFPA 1124, *Code for the Manufacture, Transportation, Storage, and Retail Sales of Fireworks and*

Pyrotechnic Articles, 2013 edition.

NFPA 1125, *Code for the Manufacture of Model Rocket and High Power Rocket Motors,* 2017 edition.

NFPA 2001, *Standard on Clean Agent Fire Extinguishing Systems,* 2015 edition.

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,* 2015 edition.

2.3 Other Publications.

2.3.1 AMCA Publications.

Air Movement and Control Association International, Inc., 30 West University Drive, Arlington Heights, IL 60004-1893.

AMCA 99, *Standards Handbook*, 2010.

2.3.2 ASME Publications.

~~American Society of Mechanical Engineers~~ **ASME International** , Two Park Avenue, New York, NY 10016-5990.

ASME B31.3, *Process Piping*, ~~2012~~ **2014** .

Boiler and Pressure Vessel Code, ~~2013~~ **2015** .

2.3.3 ASTM Publications.

ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.

ASTM E2019, *Standard Test Method for Minimum Ignition Energy of a Dust Cloud in Air,* 2003 , reapproved 2013.

ASTM E1226, *Standard Test Method for Explosibility of Dust Clouds*, 2012a.

2.3.4 IEC Publications.

International Electrotechnical Commission, 3, rue de Varembé, P.O. Box 131, CH-1211 Geneva 20, Switzerland.

IEC 61340-4-4, *Electrostatics — Part 4-4: Standard Test Methods for Specific Applications — Electrostatic Classification of Flexible Intermediate Bulk Containers (FIBC),* 2012.

2.3.5 ISA Publications.

International Society of Automation, ~~67 Alexander~~ 67 **T.W.** Alexander Drive, Research Triangle Park, NC 27709.

ISA 84.00.01, *Functional Safety: Application of Safety Instrumented Systems for the Process Industry Sector — Part 1: Framework, Definitions, System, Hardware and Software Requirements*, 2004.

2.3.6 NEMA Publications.

National Electrical Manufacturers Association, 1300 North 17th Street, Suite ~~1847~~ **900** , ~~Rosslyn~~ **Arlington** , VA 22209.

NEMA 250, *Enclosures for Electrical Equipment*, ~~2008~~ **2014** .

2.3.7 U.S. Government Publications.

U.S. Government Printing Office, Washington, DC 20402.

Title 29 CFR Part 1910.242(b), “Hand and Portable Powered Tools and Equipment, General.”

2.3.8 Other Publications.

Merriam-Webster's Collegiate Dictionary, 11th edition, Merriam-Webster, Inc., Springfield, MA, 2003.

2.4 References for Extracts in Mandatory Sections.

NFPA 68, *Standard on Explosion Protection by Deflagration Venting,* 2013 edition.

NFPA 221, *Standard for High Challenge Fire Walls, Fire Walls, and Fire Barrier Walls,* 2015 edition.

NFPA 484, *Standard for Combustible Metals,* 2015 edition.

NFPA 921, *Guide for Fire and Explosion Investigations,* 2014 edition.

NFPA 1250, *Recommended Practice in Fire and Emergency Services Organization Risk Management,* 2015 edition.

Statement of Problem and Substantiation for Public Comment

Updated ASME name and standard edition years.
Fixed ISA address.
Updated NEMA's address and standard edition year.

Related Public Comments for This Document

Related Comment	Relationship
Public Comment No. 3-NFPA 654-2015 [Chapter G]	

Related Item

First Revision No. 7-NFPA 654-2014 [Chapter 2]

Submitter Information Verification

Submitter Full Name: Aaron Adamczyk
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Sat Mar 07 21:03:24 EST 2015

Public Comment No. 10-NFPA 654-2015 [Section No. 6.1.1.3]

6.1.1.3 *

Dust flash-fire or dust explosion hazard areas shall additionally be determined in accordance with

~~any one of~~

the

~~following four methods: Layer depth criterion method~~

Layer Depth Citerion Method in 6.1.3 .

6.1.1.4

It shall be permitted to use

(1) Mass method A in 6.1.4

(2) Mass method B in 6.1.5

(3) Risk assessment method in 6.1.6

in accordance with Chapter 5 to determine the layer depth criterion

(renumber subsequent pargraphs)

Statement of Problem and Substantiation for Public Comment

The area limitations of this section were added as a TIA to the 2006 edition without any experimental or loss-history validation. Indeed, the historical loss record suggests that accumulated dust layer depths far greater than permitted by the standard are necessary to propagate a deflagration through a building compartment. The equations used as the basis for this section are at this time an hypothesis - not a proven scientific fact. It is inappropriate to make an hypothesis an enforceable criterion in a minimum-compliance standard. After more than 6 years of searching I have been unable to identify a single loss incident where the dust layers were anywhere near the maximum permissible layer depth established by this standard even without the area limitations.

There is a substantial incremental cost of operations and facility design to operate some facilities at the dust layer criteria established by this section, without any demonstrable benefit in terms of life-safety or property and mission continuity. This whole section should be edited with the equations and recommendations derived from them relocated to the Annex so that the thought process is available to those who need to develop a performance-equivalent alternative layer depth criterion in accordance with Chapter 5.

Related Item

Public Input No. 84-NFPA 654-2014 [Section No. 6.1.3.2]

Submitter Information Verification

Submitter Full Name: JOHN CHOLIN
Organization: J M CHOLIN CONSULTANTS INC
Street Address:
City:
State:
Zip:
Submittal Date: Wed May 13 16:09:41 EDT 2015

Public Comment No. 11-NFPA 654-2015 [Section No. 6.1.3 [Excluding any Sub-Sections]]

A dust flash-fire or dust explosion hazard area exists when the average dust layer thickness measured external to process equipment over the compartment area exceeds the quantity determined in 6.1.3.1 or 6.1.3.2.

Statement of Problem and Substantiation for Public Comment

The area limitations of this section were added as a TIA to the 2006 edition without any experimental or loss-history validation. Indeed, the historical loss record suggests that accumulated dust layer depths far greater than permitted by the standard are necessary to propagate a deflagration through a building compartment. The equations used as the basis for this section are at this time an hypothesis - not a proven scientific fact. It is inappropriate to make an hypothesis an enforceable criterion in a minimum-compliance standard. After more than 6 years of searching I have been unable to identify a single loss incident where the dust layers were anywhere near the maximum permissible layer depth established by this standard even without the area limitations.

There is a substantial incremental cost of operations and facility design to operate some facilities at the dust layer criteria established by this section, without any demonstrable benefit in terms of life-safety or property and mission continuity. This whole section should be edited with the equations and recommendations derived from them relocated to the Annex so that the thought process is available to those who need to develop a performance-equivalent alternative layer depth criterion in accordance with Chapter 5.

Related Item

Public Input No. 85-NFPA 654-2014 [Section No. 6.1.3.2]

Submitter Information Verification

Submitter Full Name: JOHN CHOLIN
Organization: J M CHOLIN CONSULTANTS INC
Street Address:
City:
State:
Zip:
Submittal Date: Wed May 13 16:17:48 EDT 2015

Public Comment No. 12-NFPA 654-2015 [Section No. 6.1.3.2]

~~6.1.3.2 * - –~~

~~A dust explosion hazard and dust flash-fire hazard shall be deemed to exist in any building or room where any of the following conditions exists:~~

(1) ~~- The total area of nonseparated dust accumulations exceeding the layer depth criterion is greater than 5 percent of the footprint area~~

(2) ~~- The area of any single nonseparated dust accumulation exceeding the layer depth criterion is greater than 1000 ft~~ ^{2} ~~(92.9 m~~ ^{2} ~~)~~

(3) ~~- The total volume of nonseparated dust accumulations is greater than the layer depth criterion multiplied by 5 percent of the footprint area~~

(4) ~~- The total volume of any single nonseparated dust accumulation is greater than the layer depth criterion multiplied by 1000 ft~~ ^{2} ~~(92.9 m~~ ^{2} ~~)~~

(1)

Statement of Problem and Substantiation for Public Comment

The area limitations of this section were added as a TIA to the 2006 edition without any experimental or loss-history validation. Indeed, the historical loss record suggests that accumulated dust layer depths far greater than permitted by the standard are necessary to propagate a deflagration through a building compartment. The equations used as the basis for this section are at this time an hypothesis - not a proven scientific fact. It is inappropriate to make an hypothesis an enforceable criterion in a minimum-compliance standard. After more than 6 years of searching I have been unable to identify a single loss incident where the dust layers were anywhere near the maximum permissible layer depth established by this standard even without the area limitations.

There is a substantial incremental cost of operations and facility design to operate some facilities at the dust layer criteria established by this section, without any demonstrable benefit in terms of life-safety or property and mission continuity. This whole section should be edited with the equations and recommendations derived from them relocated to the Annex so that the thought process is available to those who need to develop a performance-equivalent alternative layer depth criterion in accordance with Chapter 5.

Related Item

Public Input No. 85-NFPA 654-2014 [Section No. 6.1.3.2]

Submitter Information Verification

Submitter Full Name: JOHN CHOLIN
Organization: J M CHOLIN CONSULTANTS INC
Street Address:
City:
State:
Zip:
Submittal Date: Wed May 13 16:19:44 EDT 2015

Public Comment No. 6-NFPA 654-2015 [Section No. 7.14]

7.14* Abort Gates/Abort Dampers.

7.14.1 Construction.

7.14.1.1

Abort gates and abort dampers shall be constructed of noncombustible materials.

7.14.1.2

Abort gates shall be actuated by spark detection in the duct or pipe upstream of the device.

7.14.1.3*

The detection system and abort gate shall respond to prevent sparks, glowing embers, or burning materials from passing beyond the abort gate.

7.14.2 Operation.

7.14.2.1

The abort gate or abort damper shall be installed so that it diverts airflow to a restricted area to safely discharge combustion gases, flames, burning solids, or process gases or fumes.

7.14.2.2 Manual Reset.

7.14.2.2.1*

An abort gate or abort damper shall be provided with a manually activated reset located proximate to the device such that, subsequent to operation, it can be returned to the normal operating position only at the damper (gate).

7.14.2.2.2

Automatic or remote reset provisions shall not be permitted.

Additional Proposed Changes

File Name	Description	Approved
brochure_diverter_-_america.pdf		
DEVEX_Pneumatico_America.pdf		
request_to_submit_public_comments.pdf		

Statement of Problem and Substantiation for Public Comment

Our suggest is to add on NFPA 654 at paragraph C.1.1.1 the possibility to use the ABORT GATE thet close WITHOUT ELECTRICAL SIGNAL from spark or flame detector

Related Item

Public Input No. 45-NFPA 654-2014 [Section No. A.7.14]

Submitter Information Verification

Submitter Full Name: FORTE BRUNO
Organization: AIRCOM SRL
Street Address:
City:
State:
Zip:
Submittal Date: Wed Mar 11 09:27:37 EDT 2015

Public Comment No. 8-NFPA 654-2015 [Section No. 7.14]

7.14 * ~~Abort Gates/Abort Dampers.~~

~~7~~

.

~~14.1 Construction.~~

~~7.14.1.1~~

~~Abort gates and abort dampers shall be constructed of noncombustible materials.~~

~~7.14.1.2~~

~~Abort gates shall be actuated by spark detection in the duct or pipe upstream of the device.~~

~~7.14.1.3~~ *

~~The detection system and abort gate shall respond to prevent sparks, glowing embers, or burning materials from passing beyond the abort gate.~~

~~7.14.2 Operation.~~

~~7.14.2.1~~

~~The abort gate or abort damper shall be installed so that it diverts airflow to a restricted area to safely discharge combustion gases, flames, burning solids, or process gases or fumes.~~

~~7.14.2.2 Manual Reset.~~

~~7.14.2.2.1~~ *

~~An abort gate or abort damper shall be provided with a manually activated reset located proximate to the device such that, subsequent to operation, it can be returned to the normal operating position only at the damper (gate).~~

~~7.14.2.2.2~~

~~Automatic or remote reset provisions shall not be permitted.~~

Statement of Problem and Substantiation for Public Comment

Move this text and related annex text to Section 10.2.10 to make it clear that Abort Gates are fire protection devices, NOT deflagration isolation devices. A related comment will be submitted to revise annex text.

Related Item

Public Input No. 43-NFPA 654-2014 [Section No. A.7.1.8]

Submitter Information Verification

Submitter Full Name: John Cholin
Organization: J. M. Cholin Consultants Inc.
Street Address:
City:
State:
Zip:
Submittal Date: Thu Apr 09 10:10:21 EDT 2015

Public Comment No. 9-NFPA 654-2015 [New Section after 10.2.10]

TITLE OF NEW CONTENT

Type your content here ...

10.2.10.1 **Construction.** Abort gates and abort dampers shall be constructed of noncombustible materials.

10.2.10.2 Abort gates shall be actuated by spark detection in the duct or pipe upstream of the device.

10.2.10.3* The detection system and abort gate shall respond to prevent sparks, glowing embers, or burning materials from passing beyond the abort gate.

10.2.10.2 Operation.

10.2.10.2.1 The abort gate or abort damper shall be installed so that it diverts airflow to a restricted area to safely discharge combustion gases, flames, burning solids, or process gases or fumes.

10.2.10.2.2 Manual Reset.

10.2.10.2.2.1* An abort gate or abort damper shall be provided with a manually activated reset located proximate to the device such that, subsequent to operation, it can be returned to the normal operating position only at the damper (gate).

10.2.10.2.2.2 Automatic or remote reset provisions shall not be permitted.

10.2.10.3 Control Connections

10.2.10.3.1 All fire protection abort gates or abort dampers shall be connected to the fire detection control panel via Class A or Class Dcircuits as described in NFPA 72, National Fire Alarm and Signaling Code.

10.2.10.3.2 The monitoring for integrity of the actuation circuits controling abort gates shall include the continuity of the abort gate or abort damper releasing device, whether that device is a solenoid coil, detonator (explosive device) filament or other such device.

Statement of Problem and Substantiation for Public Comment

This new text is the result of the Task Group meeting held to address the issue of clearly delineating the role of abort gates as opposed to deflagration isolation devices. The text from Section 7.14 of the 2013 edition on abort gates was moved to Section 10.2.10 Abort Gates and Abort Dampers to make clear that the role of abort gates and dampers was to mitigate fire extension, NOT deflagration isolation. The existing text in Section 10.2.10 was retained. The annex material associated with the moved text should be moved accordingly.

Related Item

Public Input No. 43-NFPA 654-2014 [Section No. A.7.1.8]

Submitter Information Verification

Submitter Full Name: John Cholin
Organization: J. M. Cholin Consultants Inc.
Street Address:
City:
State:

Zip:

Submittal Date: Thu Apr 09 10:19:49 EDT 2015

Public Comment No. 3-NFPA 654-2015 [Chapter G]

Annex G Informational References

G.1 Referenced Publications.

The documents or portions thereof listed in this annex are referenced within the informational sections of this standard and are not part of the requirements of this document unless also listed in Chapter 2 for other reasons.

G.1.1 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 15, *Standard for Water Spray Fixed Systems for Fire Protection*, 2017 edition.

NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*, 2017 edition.

NFPA 68, *Standard on Explosion Protection by Deflagration Venting*, 2013 edition.

NFPA 69, *Standard on Explosion Prevention Systems*, 2014 edition.

NFPA 70 ®, *National Electrical Code* ®, 2017 edition.

NFPA 72 ®, *National Fire Alarm and Signaling Code*, 2016 edition.

NFPA 77, *Recommended Practice on Static Electricity*, 2014 edition.

NFPA 91, *Standard for Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Particulate Solids*, 2015 edition.

NFPA *101* ®, *Life Safety Code* ®, 2015 edition.

NFPA 252, *Standard Methods of Fire Tests of Door Assemblies*, 2012 edition.

NFPA 484, *Standard for Combustible Metals*, 2015 edition.

NFPA 499, *Recommended Practice for the Classification of Combustible Dusts and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas*, 2017 edition.

NFPA 2113, *Standard on Selection, Care, Use, and Maintenance of Flame-Resistant Garments for Protection of Industrial Personnel Against Short-Duration Thermal Exposure from Fire*, 2015 edition.

NFPA 5000 ®, *Building Construction and Safety Code* ®, 2015 edition.

SFPE Engineering Guide to Performance-Based Fire Protection Analysis and Design of Buildings, 2nd edition 2007.

G.1.2 Other Publications.

G.1.2.1 ACGIH Publications.

American Conference of Governmental Industrial Hygienists, 1330 Kemper Meadow Drive, Cincinnati, OH 45240-1634.

Industrial Ventilation: A Manual of Recommended Practice for Design, 28th edition, 2013.

G.1.2.2 AIChE Publications.

American Institute of Chemical Engineers, 120 Wall Street, FL 23, ,New York, NY 10005-4020.

AIChE G-18, *Guidelines for Hazard Evaluation Procedures*, 3rd edition, 2008.

AIChE Center for Chemical Process Safety, *Guidelines for Safe Automation of Chemical Processes*, 1993.

G.1.2.3 ASME Publications.

~~American Society of Mechanical Engineers~~ **ASME International** , Two Park Avenue, New York, NY 10016-5990.

Boiler and Pressure Vessel Code, Section VIII, Division 1, ~~2013~~ **2015** .

ASME B ~~31~~ 31.3, *Process Piping*, ~~2012~~ **2014** .

G.1.2.4 ASTM Publications.

ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.

ASTM E136, *Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C*, 2012.

ASTM E119, *Standard Test Methods for Fire Tests of Building Construction and Materials*, 2012a.

ASTM E582, *Standard Test Method for Minimum Ignition Energy and Quenching Distance in Gaseous Mixtures*, 2013e1.

ASTM E1226, *Standard Test Method for Explosibility of Dust Clouds*, 2012A.

ASTM E1491, *Test Method for Minimum Autoignition Temperature of Dust Clouds*, 2006, reapproved 2012.

ASTM E1515, *Standard Test Method for Minimum Explosible Concentration of Combustible Dusts*, 2007.

ASTM E2012, *Standard Guide for the Preparation of a Binary Chemical Compatibility Chart*, 2006, reapproved 2012.

ASTM E2019, *Standard Test Method for Minimum Ignition Energy of a Dust Cloud in Air*, 2003, reapproved 2013.

ASTM E2021, *Standard Test Method for Hot-Surface Ignition of Dust Layers*, 2009, reapproved 2013.

G.1.2.5 IEC Publications.

International Electrotechnical Commission, 3, rue de Varembé, P.O. Box 131, CH-1211 Geneva 20, Switzerland.

IEC 61340-4-4, *Electrostatics — Part 4-4: Standard Test Methods for Specific Applications — Electrostatic Classification of Flexible Intermediate Bulk Containers (FIBC)*, 2012.

G.1.2.6 ISO Publications.

International Organization, for Standardization, 1, ch. de la Voie-Creuse, Case postale 56, CH-1211 Geneva 20, Switzerland.

ISO 6184-1, *Explosion Protection Systems — Part 1: Determination of Explosion Indices of Combustible Dusts in Air*, 1985.

ISO 6184-4, *Explosion Protection Systems — Part 4: Determination of Efficiency of Explosion Suppression Systems*, 1985.

G.1.2.7 USBM Publications.

U.S. Department of the Interior, Bureau of Mines Publications, National Technical Information Service (NTIS), ~~5285 Port Royal~~ **5301 Shawnee Road,** ~~Springfield~~ **Alexandria , VA** ~~22161~~ **22312** .

Conti, R. S., K. L. Cashdollar, M. Hertzberg, and I. Liebman. 1983. “Thermal and Electrical Ignitability of Dusts.” U.S. Bureau of Mines, Report of Investigations, RI 8798.

G.1.2.8 U.S. Government Publications.

U.S. Government Printing Office, Washington, DC 20402.

Occupational Safety and Health Administration Act of 1970.

Title 29, Code of Federal Regulations, Part 1910.146, “Permit-Required Confined Space.”

Title 30, Code of Federal Regulations, Part 36, “Approved Requirements for Permissible Mobile Diesel-Powered Transportation Equipment.”

G.1.2.9 Other Publications.

FPRF, *Report Towards Estimating Entrainment Fraction for Dust Layers*, 2011.

Eckhoff, R., *Dust Explosions in the Process Industries*, 3rd Edition, 2003.

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G.2 Informational References.

The following documents or portions thereof are listed here as informational references only. They are not a part of the requirements of this document.

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G.3 References for Extracts in Informational Sections.

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Statement of Problem and Substantiation for Public Comment

Updated ASME name and edition years.
Updated National Technical Information Service address.

Related Public Comments for This Document

Related Comment	Relationship
Public Comment No. 2-NFPA 654-2015 [Chapter 2]	Referenced current or updated addresses, and standard editions.

Related Item

First Revision No. 56-NFPA 654-2014 [Chapter G]

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