MEMORANDUM
(Amendment 61-9, Log #1034)

TO: Technical Committee on Agricultural Dusts
FROM: Martha Curtis, Staff Liaison
DATE: June 18, 2012

At the June 2012 Technical Session, held June 13-14, 2012, NFPA 61 was amended by the acceptance of the following:

Amendment: 61-9

In accordance with Section 4.7 of the Regulations Governing Committee Projects, the committee must now be balloted on the Association meeting action. Should the ballot not pass, the wording of that portion of the Report affected by the amendment would return to the text of the previous edition, if any. If there is no previous edition text, the text is simply deleted.

Please review this item, complete the attached ballot, and return it to NFPA as soon as possible, but no later than Thursday, June 28, 2012. If you disagree or abstain on an amendment please indicate your reason(s) for doing so.

The transcripts from the Annual 2012 Association Technical Meeting (June 13 and June 14) will be available within two weeks at: http://www.nfpa.org/itemDetail.asp?categoryID=1424&itemID=33784

Note: Please remember that the return of ballots and attendance at Committee Meetings is required in accordance with Section 3.1.3.1 of the Regulations Governing Committee Projects.
Committee Statement:
Committee Meeting Action: Reject
design habits, which are known to be unsafe, into new buildings.
older unsafe facilities. Current text is irresponsible because it perpetuates bad
techniques make it impractical to protect them against deflagration by
tests to protect a silo. The committee might say that desired silo construction
survived. Therefore it can not be said that it is physically impossible to design
large L/D data extends to as large as 236 m3 silos. The committee should
right to application of NFPA68 to silos. This is particularly so since 110
data including those from silo shaped enclosures of up to 500 m3 volume.
NFPA 68 permits the use of the vent sizing methodology for enclosures of up
to 10,000 m3 volume. (i.e. by a factor of 2.7 extrapolation in linear dimension).
NGFA tests focused on 500 m3 and 236 m3 silo shaped enclosures to simulate
more research into the implications of trying to vent slip-formed concrete silos
per NFPA 68. Venting is obviously beneficial, but my understanding was that
venting the entire roof area would be inadequate per the NFPA 68 guidelines.
additional test data in hand, these sections of the code can be revised during the
next revision cycle.
URAL, E.: Large scale test data NFPA 68 methodology is based upon test
data including those from silo shaped enclosures of up to 500 m3 volume.
NFPA 68 does not prohibit the use of explosion venting, and where it
is used, it is required to be in accordance with NFPA 68. The data presented
did not support the requirement for all silos to be provided with explosion
venting in accordance with NFPA 68. Additional data would be required to
show applications on a larger scale that are more common in the industries
using NFPA 61.

(See 61-13_Log#19_Chart for Silo_below)

Number Eligible to Vote: 28
Ballot Results: Affirmative: 21 Negative: 5 Abstain: 1
Ballot Not Returned: 1 Nitsch, K.

Explanation of Negative:
MCLELLAND, B.: Explosion protection measures identified by NFPA 68
and NFPA 69 are applicable to many silos, bins and tanks. This statement
excludes all such enclosures, small or large, inside or outside, from requiring
the proven protection measure even though it is clear an explosion protection
hazard exists. Leaving this statement in its present condition continues to place
both life and property at risk, when it often could be protected.
MYERS, T.: If the committee’s reason for rejecting the proposal is that there
is not sufficient evidence that explosion venting is feasible for large silos,
the committee could have required venting (or other explosion protection)
on smaller vessels where it believes data indicates vessels can be adequately
protected. Alternatively, if the committee believes that only some vessels
require explosion protection, they could have provided additional guidance to
users on how to determine which vessels should be protected.
SHAFTO, R.: While I agree that it may not be possible to provide venting
for every silo, the existing text for 4.5.2, coupled with the venting exception
for silos and bins in 6.2.1.2, provides a loophole that could lead to unsafe
situations. Toward the end of the ROC meeting, the committee later then
supported a code funding request for silo vent testing. I am hopeful that with
additional test data in hand, these sections of the code can be revised during the
next revision cycle.
URAL, E.: A large scale test data NFPA 68 methodology is based upon test
data including those from silo shaped enclosures of up to 500 m3 volume.
NFPA 68 permits the use of the vent sizing methodology for enclosures of up
to 10,000 m3 volume. (i.e. by a factor of 2.7 extrapolation in linear dimension).
NGFA tests focused on 500 m3 and 236 m3 silo shaped enclosures to simulate
the silos. Now saying additional data would be required to show applications
on a larger scale that are more common in the industries using NFPA 61 is
preposterous. If the Committee concern is genuine, why not require venting for
bins, tanks and silos smaller than 10,000 m3 volume.
WEES, S.: I would have preferred to put this agenda item on hold pending
more research into the implications of trying to vent slip-formed concrete silos
per NFPA 68. Venting is obviously beneficial, but my understanding was that
venting the entire roof area would be inadequate per the NFPA 68 guidelines.

Explanation of Abstention:
GUARICCI, D.: See my Explanation of Abstention on Comment 61-1 (Log
#12).

Comment on Affirmative:
OSBORN, J.: The very large diameter silos used in the grain industry do
present a unique situation that should be studied and applied to the 68 vent
requirements. This may lead to the need for additional investigation and/or
experimentation.
SUTTON, J.: While I believe some form of protection should be provided,
this comment would require all silos to be equipped with explosion vents
and does not allow the option of other protection measures such as: damage
limiting construction, containment, explosion suppression, remote location, etc.
Backup Proposal 61-21

61-21 Log #58  Final Action: Reject
(4.5.2)

Recommendation: Revise text to read as follows:
4.5.2* Explosion relief vents designed in accordance with NFPA 68 shall be provided on silos, bins, and tanks.
Substantiation: Proposed text clarifies the requirements and makes the document result in safer applications.
Committee Meeting Action: Reject
Committee Statement: The Committee rejected the submitter’s recommendation because they believe that it is physically impossible to design explosion vents for most silos in accordance with NFPA 68, Standard on Explosion Protection by Deflagration Venting.
Number Eligible to Vote: 28
Ballot Results: Affirmative: 24 Negative: 3
Ballot Not Returned: 1 Schoeff, R.
Explanation of Negative:
MCLELLAND, B.: Proposal 61-21 (Log #58) should be accepted as it represents proper safe practice of over-pressure from deflagration. Bins, tanks and many silo’s are and can be protected by NFPA 68 Venting.
SUTTON, J.: NFPA 68 is very appropriate for designing explosion vents for silos, bins and tanks and should be used.
URAL, E.: It is hard to understand the rationale behind the committee statement in regard to application of NFPA68 to silos. This is particularly so since 110 directly applicable test data points (L/D greater than or equal to 6) are included in the 350+ data points supporting the current NFPA68 dust equation. The large L/D data extends to as large as 236 m3 silos. The committee should understand that the silo tests were not destructive tests and the test vessels survived. Therefore it can not be said that it is physically impossible to design vents to protect a silo. The committee might say that desired silo construction techniques make it impractical to protect them against deflagration by explosion venting.
Comment on Affirmative:
GUARICCI, D.: The submitters request is logical. The rejection is based on an improbability of providing vents. We have provided suppression and venting on Silos. NFPA 68 discusses the needs of silo protection so that document does not accept the committees reasoning. In point the Performance Based section of 68 would allow an analysis the acceptability of a given vent area based on mountable area. It also would allow consideration of the explosion hazard for new installations. Eliminating any reference eliminates the need of protection review.
YOUNT, J.: Agree with Committee Meeting Action and/or Committee Statement.
Amendment: Accept Comment 61-13

☐ Agree If you agree with this amendment, the result will be to modify Section 4.5.2 to read as follows:

4.5.2* Explosion relief vents designed in accordance with NFPA 68 shall be provided on silos, bins, and tanks.

☐ Do Not Agree* If you do not agree with this amendment, the recommendation is to return to previous edition text which reads as follows:

4.5.2* Where explosion relief vents are provided on silos, bins, and tanks, they shall operate due to overpressure before the container walls fail.

☐ Abstain*

*Please give reasons for voting “Do Not Agree” or “Abstain”:

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Please return as soon as possible, but no later than Thursday, June 28, 2012 to:

Joanne Goyette, Administrator, Technical Projects
National Fire Protection Association
1 Batterymarch Park, Quincy, MA 02169  FAX: 617-984-7110

Signature: ____________________________________________

Name - Please Print: ____________________________________

Date: _____________________