1. Call to Order:

   Call meeting to order by Chair, Jack Poole, at 11:00 a.m. EDT on Friday, April 11, 2014 via web/teleconference.

2. Self-introduction of Committee Members and Guests:

   A current committee roster is attached. (Page 2)

3. Approval of Previous Meeting Minutes:

   Approve the May 13, 2013 meeting minutes. (Page 3)

4. Staff Liaison Report:

   The New Process. See handouts from PowerPoint presentation, (Page 5)

5. Chair’s report:

6. NFPA 520 Second Draft (formerly ROC) Preparation:

   Review of seven (7) Public Comments (Page 11)

7. Other Business:

8. Adjournment: The web/teleconference is expected to adjourn at approximately Noon (EDT)
<table>
<thead>
<tr>
<th>Name</th>
<th>Relationship</th>
<th>Phone</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jack Poole</td>
<td>Chair</td>
<td>SE</td>
<td>Poole Fire Protection, Inc. 19910 West 161st Street Olathe, KS 66062-2700</td>
</tr>
<tr>
<td>Michael Earl Dillon</td>
<td>Principal</td>
<td>SE</td>
<td>Dillon Consulting Engineers, Inc. 671 Quincy Avenue Long Beach, CA 90814-1818</td>
</tr>
<tr>
<td>William A. Eppich</td>
<td>Principal</td>
<td>M</td>
<td>The Protectowire Company, Inc. 2 Washington Street Pembroke, MA 02359</td>
</tr>
<tr>
<td>Lisa J. Krause</td>
<td>Principal</td>
<td>U</td>
<td>Hunt Midwest Real Estate Development, Inc. 8300 NE Underground Drive Kansas City, MO 64161 Alternate: Kristen Zane</td>
</tr>
<tr>
<td>David A. Melzer</td>
<td>Principal</td>
<td>U</td>
<td>Dean Realty Company PO Box 412117 Kansas City, MO 64141-2117</td>
</tr>
<tr>
<td>John L. Kubicek</td>
<td>Alternate</td>
<td>U</td>
<td>US Department of Energy National Security Technologies (NSTEC) 2970 Aqualine Court Las Vegas, NV 89117 Principal: James Priest</td>
</tr>
<tr>
<td>Allan Fraser</td>
<td>Staff Liaison</td>
<td></td>
<td>National Fire Protection Association 1 Batterymarch Park Quincy, MA 02169-7471</td>
</tr>
<tr>
<td>Joseph A. Cappuccio</td>
<td>Principal</td>
<td>SE</td>
<td>The RJA Group, Inc. Rolf Jensen &amp; Associates, Inc. 12150 Monument Drive, Suite 815 Fairfax, VA 22033</td>
</tr>
<tr>
<td>Charles J. Doughty</td>
<td>Principal</td>
<td>M</td>
<td>Iron Mountain/National Underground Storage, Inc. 1137 Branchton Road Boyers, PA 16020</td>
</tr>
<tr>
<td>John H. Hastings</td>
<td>Principal</td>
<td>E</td>
<td>Kansas City Fire Department 635 Woodland, Suite 2103 Kansas City, MO 64106</td>
</tr>
<tr>
<td>Francis A. McGarry</td>
<td>Principal</td>
<td>SE</td>
<td>Frank McGarry Associates, Inc. PO Box 8778 Albany, NY 12208</td>
</tr>
<tr>
<td>James Priest</td>
<td>Principal</td>
<td>U</td>
<td>FERMI National Accelerator Laboratory Kirk &amp; Wilson Road PO Box 500, MS 119 Batavia, IL 60510 Alternate: John L. Kubicek</td>
</tr>
<tr>
<td>Kristen Zane</td>
<td>Alternate</td>
<td>U</td>
<td>Hunt Midwest Real Estate Development, Inc 8300 NE Underground Drive Suite 100 Kansas City, MO 64161-9779 Principal: Lisa J. Krause</td>
</tr>
</tbody>
</table>
FIRST DRAFT MEETING MINUTES OF
THE TECHNICAL COMMITTEE ON
SUBTERRANEAN SPACES

May 13, 2013
Via Adobe Connect & Conference Call

Item 1, Call to Order

The meeting of the Technical Committee on Subterranean Spaces was convened by the Chair, Jack Poole at 12:00 noon on Monday, May 13, 2013.

Item 2, Introduction of Members and Guests

The Chair opened the meeting with welcoming remarks, and self-introductions of meeting participants and guests were conducted.

The following Technical Committee Principal and Alternate members participated:

<table>
<thead>
<tr>
<th>NAME</th>
<th>COMPANY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jack Poole, Chair</td>
<td>Poole Consulting Services, Inc.</td>
</tr>
<tr>
<td>Joseph Cappuccio, Principal</td>
<td>The RJA Group, Inc.</td>
</tr>
<tr>
<td>John Hastings, Principal</td>
<td>Kansas City Fire Department</td>
</tr>
<tr>
<td>Lisa J. Käuse, Principal</td>
<td>Hunt Midwest Real Estate Develop., Inc</td>
</tr>
<tr>
<td>James Priest, Principal</td>
<td>FERMI National Accelerator Laboratory</td>
</tr>
</tbody>
</table>

The following Technical Committee Principals did not participate:

<table>
<thead>
<tr>
<th>NAME</th>
<th>COMPANY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michael Earl Dillon, Principal</td>
<td>Dillon Consulting Engineers</td>
</tr>
<tr>
<td>Charles J. Doughty, Principal</td>
<td>Iron Mountain/Nat. Underground Storage</td>
</tr>
<tr>
<td>William A. Eppich, Principal</td>
<td>The Protectowire Company, Inc.</td>
</tr>
<tr>
<td>Frank McGarry, Principal</td>
<td>Frank McGarry Assoc., Inc</td>
</tr>
<tr>
<td>David Melzer, Principal</td>
<td>Dean Realty Company</td>
</tr>
<tr>
<td>John Kubicek, Alternate to J. Priest</td>
<td>US. Department of Energy</td>
</tr>
</tbody>
</table>

The following guests participated:

<table>
<thead>
<tr>
<th>Name</th>
<th>COMPANY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kristen Zane, Kansas City Fire</td>
<td></td>
</tr>
</tbody>
</table>

The following NFPA staff participated:

<table>
<thead>
<tr>
<th>Name</th>
<th>COMPANY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allan Fraser</td>
<td></td>
</tr>
</tbody>
</table>
Items 3 & 4

Allan Fraser gave the committee a short “Power Point” presentation on the new NFPA Codes and Standards Process, the “Document Information” page and the various milestone dates for this cycle.

Item 5, Review of Public Proposals for NFPA 520.

The Committee reviewed and resolved ten (10) public inputs and created two first revisions.

Item 6, Next Meeting Date and Location

The Committee decided to wait on setting the next meeting date and location until the public comment closing date.

Item 7, Adjournment

On Monday, May 13, 2013, the meeting was adjourned at 1:20 p.m. by the Chair, Jack Poole.

Minutes prepared by Allan B. Fraser, CBI, CPCA, NFPA Staff Liaison
General:

- At this and all NFPA committee meetings we are concerned with your safety
- If the fire alarm sounds, please proceed to an exit

Guests:

- All guests are asked to sign in and identify their affiliations
- Participation is limited to TC members or those individuals who have previously requested time to address the committee
- Other participation is granted at the discretion of the Chair
- Guest seating is located around the room

Disclosure:

- Members categorized in ANY interest category who have been retained to represent the interests of ANOTHER interest category must declare those interests to the committee and refrain from voting, both in the meeting and on the ballot item

General Procedures:

- Follow Robert’s Rules of Order
- Discussion requires a motion
Committee member actions:
- Member addresses the chair
- Receives recognition from the chair
- Introduces the motion
- Another member seconds the motion

Technical Committee Subterranean Spaces
- Consumer: 0 Members: 0%
- Enforcer: 1 Members: 11%
- Insurance: 0 Members: 0%
- Manufacturer: 2 Members: 22%
- Research & Testing: 0 Members: 0%
- Special Expert: 4 Members: 44%
- User: 2 Members: 22%
- Installer/Maintainer: 0 Members: 0%
- Labor: 0 Members: 0%
- Total: 9 members

Committee chair actions:
- States the motion
- Calls for discussion
- Ensures all issues have been heard
- Takes the vote
- Announces the result of the vote

Timeline:
Comment Stage (Second Draft):
- Public Comment Closing Date: 05/03/2013
- Second Draft Meeting: Today
- Posting Second Draft TC Balloting: 06/13/2014
- Posting Second Draft for NITMAM: 07/08/2014

Timeline:
Tech Session Preparation:
- NITMAM Closing Date: 08/22/2014
- NITMAM /CAM Posting Date: 10/17/2014
- NFPA Annual Meeting: 06/22-25/2015 (Las Vegas)

Standards Council Issuance:
- Documents w/CAM issued: 08/14/2015 (edition date 2015)

Motions for Ending Debate - Move Previous Question or “Call the Question”
- Not in order when another has the floor
- Requires a second
- This motion is not debatable and does not automatically stop debate
- A 2/3 affirmative vote immediately closes debate and returns to the original motion on the floor
- Less then 2/3 allows debate to continue
New Process – What’s New?

Changes in Terms:

<table>
<thead>
<tr>
<th>New Term</th>
<th>Old Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comment Stage</td>
<td>ROC Stage</td>
</tr>
<tr>
<td>Public Comment</td>
<td>Public Comment</td>
</tr>
<tr>
<td>Second Draft Meeting</td>
<td>ROC Meeting</td>
</tr>
<tr>
<td>Second Revision</td>
<td>Committee Comment or Accepted Public Comment</td>
</tr>
<tr>
<td>Committee Comment (a Second Revision that failed ballot)</td>
<td>(Comment reported as Rejected due to failed ballot)</td>
</tr>
<tr>
<td>Second Draft Report</td>
<td>ROC</td>
</tr>
<tr>
<td>Second Draft</td>
<td>ROC Draft</td>
</tr>
</tbody>
</table>

Resolving Public Comments

Committee Actions:
- Accept
- Reject but see…
- Reject
- Reject but Hold

Technical Committee Actions:
- Resolving Public Comments
  - Committee Action and Committee Statement
- Creating Second Revisions

Committee Statements:
- Committee must clearly indicate reasons for not accepting the recommendation and/or point to a relevant Second Revision
- All Public Comments Actions must have a Committee Statement
- Must include a valid technical reason

Committee Statements:
- No vague references to “intent”
- Explain how the submitter’s substantiation is inadequate
- Neither Public Comment Actions nor Committee Statements get letter balloted, simple majority vote at the meeting
Creating a Second Revision (SR):

- Committee wants to make a change (to add, delete or modify) the First Draft
- Committee develops the change text and a Committee Statement (CS) substantiating the change
- Each SR gets letter balloted

Ballots are ONLY on Second Revisions (SR):

- Public Comment Actions and Committee Statements not balloted
- Reference materials are available - Second Draft, Public Comments, First Draft Report

Creating a Second Revision (SR):

- No “new material” after the Public Input Stage since it hasn’t had the benefit of public review
- What constitutes new material is decided by the Technical Committee or Corr. Comm.
- Adding “new material” at the Comment stage could successfully be challenged through appeal to the Standards Council

Ballot form allows you to vote:

- Affirmative on all SR
- Affirmative on all SR with exceptions specifically noted

Ballot form provides a column for affirmative with comment:

- Note: This box needs to be checked only if there is an accompanying comment
- Reject or abstain requires a reason

Voting:

- Voting during meeting is used to establish a sense of agreement (simple majority)
- Formal vote secured by letter ballot (2/3 agreement)
- Only the formal ballot determines the committee’s official position on the Second Draft

Ballot Process:

- Initial ballot
- Circulation of negatives and comments
- Members may change votes during circulation
- A Second Revision that fails letter ballot is changed a Committee Comment (in the 2nd Draft Report), marked as “Reject” and deleted from the Second Draft.
Ballot Process:
- If SR fails ballot and subject text was a result of a First Draft change, a Supplementary Ballot is conducted
- Ballot asks if TC still favors the FR change in the First Draft
- If Yes, that FR change appears as SR in the Second Draft
- If No, the change appears as a Committee Comment (rejected) and the text reverts to previous edition (See Regs §4.4.10.2.1)

Electronic Balloting:
- Ballots will be an online format
- Alternates are strongly encouraged to return ballots
- Ballot session will time out after 90 minutes
- Use "submit" to save your work
Electronic Balloting:

- To complete ballot click Participant Consent and Submit
- Return and edit any votes before ballot due date

Legal:

Activities Disapproved by the Courts:

- Packing meetings
- Hiding commercial interest throwing the committees out of balance
- No final decision-making authority to unbalanced Task Groups; include all interested parties
- Hiding scientific or technical information from committees

Legal:

**Antitrust:** the single most important provision—Federal law prohibits contracts, combinations, or conspiracies which unreasonably restrain trade or commerce *Section 1 of the Sherman Act*

**Patent:** Disclosures of essential patent claims should be made by the patent holder, but others may also notify NFPA if they believe that a proposed or existing NFPA standard includes an essential patent claim.
3.3.8 Noncombustible Material (see 4).

A material that, in the form in which it is used and under the conditions anticipated, will not ignite, burn, support combustion, or release flammable vapors, when subjected to fire or heat. Materials that are reported as passing ASTM E 136, Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C, shall be considered noncombustible materials. [5000, 2009]

1) Statement of Problem and Substantiation for Public Comment

The intent of this public comment is to make NFPA 520 consistent with NFPA 5000, NFPA 101, NFPA 1 and others, where the definition of noncombustible material has been moved to comply with NFPA rules. In NFPA 5000 the definition reads “See 7.1.4.1” and section 7.1.4.1 is as follows:

7.1.4.1* Noncombustible Material.
7.1.4.1.1 A material that complies with any one of the following shall be considered a noncombustible material:
(1) The material, in the form in which it is used, and under the conditions anticipated, will not ignite, burn, support combustion, or release flammable vapors when subjected to fire or heat
(2) The material is reported as passing ASTM E 136, Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 Degrees C
(3) The material is reported as complying with the pass/fail criteria of ASTM E 136 when tested in accordance with the test method and procedure in ASTM E 2652, Standard Test Method for Behavior of Materials in a Tube Furnace with a Cone-shaped Airflow Stabilizer, at 750 Degrees C

The annex of NFPA 5000 reads:
A.7.1.4.1 The provisions of 7.1.4.1 do not require inherently noncombustible materials to be tested in order to be classified as noncombustible materials.
A.7.1.4.1.1 Examples of such materials include steel, concrete, masonry and glass.

Submitter Information Verification
<table>
<thead>
<tr>
<th><strong>Submitter Full Name:</strong></th>
<th>Marcelo Hirschler</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organization:</strong></td>
<td>GBH International</td>
</tr>
<tr>
<td><strong>Affiliation:</strong></td>
<td>NFPA GOT</td>
</tr>
<tr>
<td><strong>Street Address:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>City:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>State:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Zip:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Submittal Date:</strong></td>
<td>Wed Oct 16 14:59:45 EDT 2013</td>
</tr>
</tbody>
</table>
4.1* Noncombustible material [NFPA 5000, 2015]
4.1.1 A material that complies with any one of the following shall be considered a
noncombustible material:
(1)*The material, in the form in which it is used, and under the conditions anticipated,
will not ignite, burn, support combustion, or release flammable vapors when
subjected to fire or heat
(2) The material is reported as passing ASTM E 136, Standard Test Method for
Behavior of Materials in a Vertical Tube Furnace
at 750 Degrees C
(3) The material is reported as complying with the pass/fail criteria of ASTM E 136
when tested in accordance with the test method and procedure in ASTM E 2652,
Standard Test Method for Behavior of Materials in a Tube Furnace with a Cone-
shaped Airflow Stabilizer, at 750 Degrees C [NFPA 5000-2015]

A.4.1 The provisions of 4.1 do not require inherently noncombustible materials to be
tested in order to be classified as noncombustible materials. [NFPA 5000, 2015]
A.4.1.1(1) Examples of such materials include steel, concrete, masonry and glass. [NFPA 5000, 2015]

Also add ASTM E 2652, Standard Test Method for Behavior of Materials in a Tube
Furnace with a Cone-shaped Airflow Stabilizer, at 750 Degrees C (2012) into
chapter 2 on referenced standards.

Statement of Problem and Substantiation for Public Comment

This extracts the section of NFPA 5000 dealing with noncombustible material. This is
intended to precede existing section 4.1.

Related Public Comments for This Document

<table>
<thead>
<tr>
<th>Related Comment</th>
<th>Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Comment No. 1-NFPA 520-2013 [Section No. 3.3.8]</td>
<td></td>
</tr>
</tbody>
</table>

Submitter Information Verification

Submitter Full Name: Marcelo Hirschler
Organization: GBH International
Affiliation: NFPA GOT
Street Address:  
City:  
State:  
Zip:  
Submittal Date: Wed Oct 16 15:09:38 EDT 2013
5.8.2.3
Areas of refuge. Refuge areas and/or refuge chambers shall be provided with positive pressure of 0.05 in./wg (inches/water gauge) (12.5 Pa) relative to the adjacent space.

Statement of Problem and Substantiation for Public Comment

This section appears to have been overlooked when updating the rest of the standard to reference "refuge areas and/or refuge chambers". This comment updates the section to conform to the rest of the revised sections.

Submitter Information Verification

Submitter Full Name: BRADLEY AUSTIN
Organization: POOLE FIRE PROTECTION
Street Address: 
City: 
State: 
Zip: 
Submittal Date: Mon Nov 11 20:18:13 EST 2013
5.8.2.6 Two-way voice communications to capabilities with the fire command center shall be provided in each refuge area and/or refuge chamber.

Statement of Problem and Substantiation for Public Comment

The existing requirement was vague and did not provide the same level of detail as the adjacent requirements. This comment helps to better explain the intent of this section.

Submitter Information Verification

Submitter Full Name: BRADLEY AUSTIN
Organization: POOLE FIRE PROTECTION
Street Address: 
City: 
State: 
Zip: 
Submittal Date: Mon Nov 11 20:22:37 EST 2013
5.8.2.7

**Areas of refuge.** Refuge areas and/or refuge chambers shall be separated from the remainder of the subterranean space by walls with at least a 2-hour fire resistance rating.

**Statement of Problem and Substantiation for Public Comment**

This comment updates this section to comply with the updates to other sections regarding the verbiage "refuge areas and/or refuge chambers".

**Submitter Information Verification**

<table>
<thead>
<tr>
<th>Submitter Full Name:</th>
<th>BRADLEY AUSTIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization:</td>
<td>POOLE FIRE PROTECTION</td>
</tr>
<tr>
<td>Street Address:</td>
<td></td>
</tr>
<tr>
<td>City:</td>
<td></td>
</tr>
<tr>
<td>State:</td>
<td></td>
</tr>
<tr>
<td>Zip:</td>
<td></td>
</tr>
<tr>
<td>Submittal Date:</td>
<td>Mon Nov 11 20:28:01 EST 2013</td>
</tr>
</tbody>
</table>
5.9.1
An exit passageway or exit enclosure shall be separated from the remainder of the space by walls with at least a 1 1/2-hour fire resistance rating.

Statement of Problem and Substantiation for Public Comment

Since exit passageways are allowed to be used in lieu of refuge areas and/or refuge chambers (see section 5.8.1), they should afford at least the same level of protection to occupants. The term "exit enclosure" is not defined in chapter 3 and could lead to confusion in the application of this section.

Submitter Information Verification

Submitter Full Name: BRADLEY AUSTIN
Organization: POOLE FIRE PROTECTION
Street Address:
City:
State:
Zip:
Submittal Date: Mon Nov 11 20:35:09 EST 2013
5.9.2
An exit passageway or exit enclosure shall be supplied with outside air sufficient to provide positive pressure of 0.05 in./wg (12.5 Pa) relative to the adjacent subterranean space.

Statement of Problem and Substantiation for Public Comment

The term "exit enclosure" is not defined in chapter 3 and could cause confusion as to the application of this section.

Submitter Information Verification

Submitter Full Name: BRADLEY AUSTIN
Organization: POOLE FIRE PROTECTION
Street Address:
City:
State:
Zip:
Submittal Date: Mon Nov 11 20:37:04 EST 2013