### AGENDA
Standards Council Meeting
Via Teams Video Conferencing
April 14-15, 2021

<table>
<thead>
<tr>
<th>Agenda Item</th>
<th>Description</th>
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<tbody>
<tr>
<td>21-4-1</td>
<td>Report of the Committee Membership Task Group (J. Quiter, Chair). No Attachment</td>
</tr>
<tr>
<td>21-4-1-a</td>
<td>Consideration of Non-Reappointments. No Attachment</td>
</tr>
<tr>
<td>21-4-1-b</td>
<td>Act on pending applications for Committee Members. No Attachment</td>
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<tr>
<td>21-4-1-c</td>
<td>Request for classification reconsideration. No Attachment</td>
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<td>21-4-1-d</td>
<td>Report back to Council in accordance with Decision No. 20-6 (20-12-21). No Attachment</td>
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<tr>
<td>21-4-2</td>
<td>Report of the Awards Task Group (J. Golinveaux, Chair). No Attachment</td>
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<td>21-4-3</td>
<td>Update from P&amp;P Chair. No Attachment</td>
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<tr>
<td>21-4-4</td>
<td>Report of the December 2020 Minutes. No Attachment</td>
</tr>
<tr>
<td>21-4-5</td>
<td>Review of the process of Standards Council decision making by Suzanne Gallagher, Deputy General Counsel. No attachment.</td>
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### TENTATIVE INTERIM AMENDMENTS (TIAs)

<table>
<thead>
<tr>
<th>Agenda Item</th>
<th>Description</th>
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<tbody>
<tr>
<td>21-4-6</td>
<td>Act on the issuance of proposed Tentative Interim Amendment (TIA) to revise section 10.5.1.6.2 and add new associated Annex material of the 2020 edition of NFPA 2, <em>Hydrogen Technologies Code</em> (TIA No. 1542).</td>
</tr>
<tr>
<td>21-4-6-a</td>
<td>Text of proposed TIA No. 1542. See Attachment 21-4-6-a</td>
</tr>
<tr>
<td>21-4-6-b</td>
<td>Ballot results of TIA No. 1542. <strong>PASSED</strong> ballot on both technical merit and emergency nature – 29 voting members/26 agree on technical merit/0 disagree/0 abstained/3 ballots not returned/26 agree on emergency nature/0 disagree/0 abstained/3 ballots not returned. See Attachment 21-4-6-b</td>
</tr>
<tr>
<td>21-4-6-c</td>
<td>No comments were received.</td>
</tr>
<tr>
<td>21-4-7</td>
<td>Act on the issuance of proposed Tentative Interim Amendment (TIA) to revise Annex A.7.2.2item (5) of the proposed 2022 edition of NFPA 10, <em>Standard for Portable Fire Extinguishers</em> (TIA No. 1557).</td>
</tr>
<tr>
<td>21-4-7-a</td>
<td>Text of proposed TIA No. 1557. See Attachment 21-4-7-a</td>
</tr>
<tr>
<td>21-4-7-b</td>
<td>Ballot results of TIA No. 1557. <strong>FAILED</strong> ballot - passed ballot on technical merit but failed ballot on emergency nature– 31 voting members/22 agree on technical merit/6 disagree/0 abstained/3 ballots not returned/19 agree on emergency nature/9 disagree/0 abstained/3 ballots not returned. See Attachment 21-4-7-b</td>
</tr>
<tr>
<td>21-4-7-c</td>
<td>One comment was received. See Attachment 21-4-7-c</td>
</tr>
<tr>
<td>21-4-8</td>
<td>Act on the issuance of proposed Tentative Interim Amendment (TIA) to revise section 4.7.1.6 of the 2018 edition of NFPA 12, <em>Standard on Carbon Dioxide Extinguishing Systems</em> (TIA No. 1543).</td>
</tr>
<tr>
<td>21-4-8-a</td>
<td>Text of proposed TIA No. 1543. See Attachment 21-4-8-a</td>
</tr>
<tr>
<td>Date</td>
<td>Description</td>
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<td>-------</td>
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<tr>
<td>21-4-8-b</td>
<td>Ballot results of TIA No. 1543. <strong>PASSED</strong> ballot on both technical merit and emergency nature – 34 voting members/26 agree on technical merit/0 disagree/1 abstained/7 ballots not returned/26 agree on emergency nature/0 disagree/1 abstained/7 ballots not returned.</td>
</tr>
<tr>
<td>21-4-8-c</td>
<td>No comments were received.</td>
</tr>
<tr>
<td>21-4-9</td>
<td>Act on the issuance of proposed Tentative Interim Amendment (TIA) to revise section 20.5.3.1.3 of the proposed 2022 edition of NFPA 13, <em>Standard for the Installation of Sprinkler Systems</em> (TIA No. 1560).</td>
</tr>
<tr>
<td>21-4-9-a</td>
<td>Text of proposed TIA No. 1560.</td>
</tr>
<tr>
<td>21-4-9-b</td>
<td>Ballot results of TIA No. 1560. <strong>FAILED</strong> ballot on both technical merit and emergency nature – 36 voting members/22 agree on technical merit/12 disagree/0 abstained/2 ballots not returned/18 agree on emergency nature/16 disagree/0 abstained/2 ballots not returned.</td>
</tr>
<tr>
<td>21-4-9-c</td>
<td>No comments were received.</td>
</tr>
<tr>
<td>21-4-10</td>
<td>Act on the issuance of proposed Tentative Interim Amendment (TIA) to add new Annex material A.14.3.2 to the 2019 edition of NFPA 72, <em>Fire Alarm Signaling Code</em> (TIA No. 1548).</td>
</tr>
<tr>
<td>21-4-10-a</td>
<td>Text of proposed TIA No. 1548.</td>
</tr>
<tr>
<td>21-4-10-b</td>
<td>Ballot results of TIA No. 1548. <strong>FAILED</strong> ballot on both technical merit and emergency nature – 28 voting members/16 agree on technical merit/5 disagree/0 abstained/7 ballots not returned/16 agree on emergency nature/5 disagree/0 abstained/7 ballots not returned.</td>
</tr>
<tr>
<td>21-4-10-c</td>
<td>Four comments were received.</td>
</tr>
<tr>
<td>21-4-11</td>
<td>Act on the issuance of proposed Tentative Interim Amendment (TIA) to add new section 26.2.10 to the 2019 edition and proposed 2022 editions of NFPA 72, <em>Fire Alarm Signaling Code</em> (TIA No. 1549).</td>
</tr>
<tr>
<td>21-4-11-a</td>
<td>Text of proposed TIA No. 1549.</td>
</tr>
<tr>
<td>21-4-11-b</td>
<td>Ballot results of TIA No. 1549. <strong>PASSED</strong> ballot on both technical merit and emergency nature – 26 voting members/24 agree on technical merit/0 disagree/0 abstained/2 ballots not returned/24 agree on emergency nature/0 disagree/0 abstained/2 ballots not returned.</td>
</tr>
</tbody>
</table>

**REBALLOT FINAL RESULTS** of TIA No. 1548. **PASSED** ballot on both technical merit and emergency nature – 26 voting members/24 agree on technical merit/0 disagree/0 abstained/2 ballots not returned/24 agree on emergency nature/0 disagree/0 abstained/2 ballots not returned.
<table>
<thead>
<tr>
<th>21-4-11-c</th>
<th>Two comments were received. See Attachment 21-4-11-c</th>
</tr>
</thead>
</table>
| **21-4-12**  
| **21-4-12-a** | Text of proposed TIA No. 1547. See Attachment 21-4-12-a |
| **21-4-12-b** | Ballot results of TIA No. 1547. **PASSED** ballot on both technical merit and emergency nature – 31 voting members/25 agree on technical merit/0 disagree/2 abstained/4 ballots not returned/26 agree on emergency nature/0 disagree/1 abstained/4 ballots not returned. See Attachment 21-4-12-b |
| **21-4-12-c** | No comments were received. |
| **21-4-13**  
**NFPA 99** | Act on the issuance of proposed Tentative Interim Amendment (TIA) to add new item (13) to section 6.1.3 and revise Section 6.1.4 of the 2021 edition of NFPA 99, *Health Care Facilities Code* (TIA No. 1522). |
| **21-4-13-a** | Text of proposed TIA No. 1522. See Attachment 21-4-13-a |
| **21-4-13-b** | Ballot results of TIA No. 1522. **PASSED** ballot on both technical merit and emergency nature – 33 members/25 agree on technical merit/2 disagree/0 abstained/6 ballots not returned/24 agree on emergency nature/3 disagree/0 abstained/6 ballots not returned. **PASSED** CC ballot on both correlation and emergency nature – 18 voting members/14 agree on correlation/0 disagree/0 abstained/4 ballots not returned/14 agree on emergency nature/0 disagree/0 abstained/4 ballots not returned. See Attachment 21-4-13-b |
| **21-4-13-c** | No comments were received. |
| **21-4-14**  
| **21-4-14-a** | Text of proposed TIA No. 1559. See Attachment 21-4-14-a |
| **21-4-14-b** | Ballot results of TIA No. 1559. **PASSED** ballot on both technical merit and emergency nature – 25 voting members/21 agree on technical merit/2 disagree/0 abstained/2 ballots not returned/22 agree on emergency nature/1 disagree/0 abstained/2 ballots not returned. **PASSED** CC ballot on both correlation and emergency nature – 12 voting members/10 agree on correlation/0 disagree/0 abstained/2 ballots not returned/10 agree on emergency nature/0 disagree/0 abstained/2 ballots not returned. See Attachment 21-4-14-b |
| **21-4-14-c** | One comment was received. See Attachment 21-4-14-c |
| **21-4-15**  
**NFPA 407** | Act on the issuance of proposed Tentative Interim Amendment (TIA) to revise Sections 5.1.12, 6.1.3.12.2.7, 6.1.3.12.2.8, 6.1.3.12.2.9 and Table C.1 of the 2017 edition and proposed 2022 editions of NFPA 407, *Standard for Aircraft Fuel Servicing* (TIA No. 1558). |
<p>| <strong>21-4-15-a</strong> | Text of proposed TIA No. 1558. See Attachment 21-4-15-a |</p>
<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-4-15-b</td>
<td>Ballot results of TIA No. 1558. <strong>FAILED</strong> ballot on both technical merit and emergency nature – 29 voting members/15 agree on technical merit/10 disagree/0 abstained/4 ballots not returned/15 agree on emergency nature/10 disagree/0 abstained/4 ballots not returned. See Attachment 21-4-15-b</td>
</tr>
<tr>
<td>21-4-15-c</td>
<td>One hundred sixty (160) comments were received. One hundred fifty-eight (158) comments support the TIA, two (2) comments do not support the TIA. See Attachment 21-4-15-c</td>
</tr>
<tr>
<td>21-4-15-d</td>
<td><strong>APPEAL</strong> Consider the appeal of Steve Berry, National Air Transportation Assoc., to overturn the ballot results of TIA No. 1558 and issue the TIA. See Attachment 21-4-15-d</td>
</tr>
<tr>
<td>21-4-16-a</td>
<td>Text of proposed TIA No. 1546. See Attachment 21-4-16-a</td>
</tr>
<tr>
<td>21-4-16-b</td>
<td>Ballot results of TIA No. 1546. <strong>PASSED</strong> ballot on both technical merit and emergency nature – 20 voting members/15 agree on technical merit/0 disagree/1 abstained/4 ballots not returned/16 agree on emergency nature/0 disagree/0 abstained/4 ballots not returned. See Attachment 21-4-16-b</td>
</tr>
<tr>
<td>21-4-16-c</td>
<td>No comments were received.</td>
</tr>
<tr>
<td>21-4-16-d</td>
<td><strong>APPEAL</strong> Consider the appeal of Steve Berry, National Air Transportation Assoc., to overturn the ballot results of TIA No. 1558 and issue the TIA. See Attachment 21-4-16-d</td>
</tr>
<tr>
<td>21-4-17-a</td>
<td>Text of proposed TIA No. 1544. See Attachment 21-4-17-a</td>
</tr>
<tr>
<td>21-4-17-b</td>
<td>Ballot results of TIA No. 1544. <strong>PASSED</strong> ballot on both technical merit and emergency nature – 30 voting members/22 agree on technical merit/4 disagree/0 abstained/4 ballots not returned/20 agree on emergency nature/5 disagree/1 abstained/4 ballots not returned. See Attachment 21-4-17-b</td>
</tr>
<tr>
<td>21-4-17-c</td>
<td>No comments were received.</td>
</tr>
<tr>
<td>21-4-18-a</td>
<td>Text of proposed TIA No. 1552. See Attachment 21-4-18-a</td>
</tr>
<tr>
<td>21-4-18-b</td>
<td>Ballot results of TIA No. 1552 <strong>FAILED</strong> ballot on both technical merit and emergency nature – 36 voting members/9 agree on technical merit/21 disagree/2 abstained/2 ballots not returned/8 agree on emergency nature/24 disagree/2 abstained/2 ballots not returned. See Attachment 21-4-18-b</td>
</tr>
<tr>
<td>21-4-18-c</td>
<td>Forty-four comments were received. See Attachment 21-4-18-c</td>
</tr>
<tr>
<td>21-4-18-d</td>
<td><strong>APPEAL</strong> Consider the appeal of Ryan McGill, IAFF Local 2068, to overturn the ballot results of TIA No. 1552 and issue the TIA. See Attachment 21-4-18-d</td>
</tr>
</tbody>
</table>
21-4-19  
**NFPA 1977**  
Act on the issuance of proposed Tentative Interim Amendment (TIA) to delete and replace Figure 6.1.14.6(a) with existing figure from the 2016 edition of NFPA 1977, *Standard for Protective Clothing and Equipment for Wildland Fire Fighting*, (TIA No. 1562).

21-4-19-a  
Text of proposed TIA No. 1562.  
See Attachment 21-4-19-a

21-4-19-b  
Ballot results of TIA No. 1562. **PASSED** ballot on both technical merit and emergency nature – 23 voting members/17 agree on technical merit/0 disagree/0 abstained/6 ballots not returned/17 agree on emergency nature/0 disagree/0 abstained/6 ballots not returned. **PASSED** CC ballot on both correlation and emergency nature – 27 voting members/20 agree on correlation/0 disagree/0 abstained/7 ballots not returned/20 agree on emergency nature/0 disagree/0 abstained/7 ballots not returned.  
See Attachment 21-4-19-b

21-4-19-c  
No comments were received.

21-4-20  
**NFPA 1986**  
Act on the issuance of proposed Tentative Interim Amendment (TIA) to revise sections 8.2.5.5, 8.2.5.7, 8.2.5.8, 8.23.5.4 through 8.23.5.6 and 8.23.5.7(new) of the 2017 edition of NFPA 1986, *Standard on Respiratory Protection equipment for Tactical and Technical Operations*, (TIA No. 1545).

21-4-20-a  
Text of proposed TIA No. 1545.  
See Attachment 21-4-20-a

21-4-20-b  
Ballot results of TIA No. 1545. **PASSED** ballot on both technical merit and emergency nature – 24 voting members/17 agree on technical merit/2 disagree/2 abstained/3 ballots not returned/17 agree on emergency nature/2 disagree/2 abstained/3 ballots not returned. **PASSED** CC ballot on correlation but **FAILED** ballot on emergency nature – 27 voting members/17 agree on correlation/5 disagree/1 abstained/4 ballots not returned/15 agree on emergency nature/6 disagree/2 abstained/4 ballots not returned.  
See Attachment 21-4-20-b

21-4-20-c  
Nine comments were received.  
See Attachment 21-4-20-c

21-4-20-d  
**APPEAL**  
Consider the appeal of Clint Mayhue, Avon Protection Systems, to overturn the ballot results of TIA No. 1545 and issue the TIA.  
See Attachment 21-4-20-d

21-4-20-d-1  
**APPEAL**  
Consider the appeal of John Morris, 3M, to uphold the ballot results of TIA No. 1545 and not issue the TIA.  
See Attachment 21-4-20-d-1

**REVISION CYCLES**

21-4-21  
Consider a request to change the respective revision schedule as follows:

<table>
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<tr>
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<tbody>
<tr>
<td>NFPA 418</td>
<td>2021</td>
<td>PI Closing: January 5, 2022</td>
</tr>
</tbody>
</table>

See Attachment 21-4-21

**NEW PROJECTS**

21-4-22  
Consider the request of Christopher Wagner, AmeriGas Propane, to develop a standard to address Mobile Food Establishments/Mobile Cooking Operations. Seventeen (17) comments
were received on the proposed project. Sixteen (16) comments support the development of the project, one (1) does not support the project. See Attachment 21-4-22

| 21-4-23 | Consider the request of Brian Lucas, City and County of Denver, CO, to develop a standard to address fire protection of cannabis growing and processing facilities. Eighty-one (81) comments were received. Seventy (70) comments support development of the project, six (6) comments do not support the development of the project, five (5) provided commentary and twenty-six (26) indicated Technical Committee interest. See Attachment 21-4-23 |

| 21-4-24 | Consider the request of the Technical Committee on Hazardous Waste to approve the preliminary draft of NFPA 401, *Recommended Practice for the Prevention of Fires and Uncontrolled Chemical Reactions Associated with the Handling of Hazardous Waste*. If approved, the Technical Committee also requests the Standard to be entered into its initial revision cycle, with a Public Input closing date of January 5, 2022. See Attachment 21-4-24 |

### REPORTS BACK TO COUNCIL

| 21-4-25 | At the December 2020 Council meeting, the Council reviewed the request of Megan Hayes on behalf of NEMA regarding the terms of listed versus certified. After review of all information before it, the issue was directed to staff for review and instructions to report back to the Council during the April 2021 meeting. No Attachment |

| 21-4-26 | In accordance with prior actions and direction of Council, the following standards have completed their current revision cycles and are therefore transferred to the Technical Committee on Emergency Responders Occupational Health: NFPA 1581, *Standard on Fire Department Infection Control Program* NFPA 1582, *Standard on Comprehensive Occupational Medical Program for Fire Departments* NFPA 1583 *Standard on Health-Related Fitness Programs for Fire Department Members* NFPA 1584, *Standard on the Rehabilitation process for Members During Emergency Operations and Training Exercises* Draft development of NFPA 1585, *Standard on Contamination Control*, continues by the Technical Committee on Emergency Responders Occupational Health and will be presented to Council for entry into its initial public revision cycle at a later date. No Attachment |

| 21-4-27 | Review and consider the request to remove NFPA 1081 from new consolidated document NFPA 1010. See Attachment 21-4-27 |

### GENERAL ITEMS

| 21-4-28 | Consider the location/method and dates for the upcoming Council meetings in 2021: August 24-26, 2021 Location/Method TBD December 7-8, 2021 Location/Method TBD |

| 21-4-29 | Update from the Council Secretary. No Attachment |
The multi-purpose Combo Cart combines our exclusive hanging attachment for drying out plants with adjustable shelves below for general storage and transport needs.

- 65”H x 60”W x 24”D
- 14-gauge steel posts and supports
- Finish – medium gray E-Coat finish
- Option to upgrade to anti-bacterial & anti-microbial white powder coating
- Ships unassembled
- Assembles with minimal tools
- Comes standard with 1 adjustable hanging dry level at the top level and 2 shelf levels at the middle and bottom with 1 opening
- The hang attachment comes standard with 7 rods which easily adjust along the support bracket
- Shelves are a 1/4” HDPE plastic insert with a 1/4” lip on all four sides
- Additional shelves can easily be added to cart if required
- Cart has a weight capacity 1,000 lbs
The **Nesting Drying Rack** delivers ease of use, safety, and long life. Super heavy-duty construction combined with standard 5” swivel non-marring casters provides a 1,000 lb. total load capacity. Z-Base allows for nesting when not in use.

- **RGR-350 Series**: 48”L x 24”W x 72”H
- **RGR-550 Series**: 62 ¼”L x 24”W x 72”H
- Hang rail constructed of 14-gauge steel
- 1 ½” Square steel tubing base
- Chrome uprights and hang rails
- Welded gussets at Z base corners for added strength
- Load capacity – up to 1,000 lbs.
- Ships knocked-down
- Designed for easy assembly
- RGR-350 series can ship UPS
These durable and highly functional Wire Carts are ideal for mobile storage requirements. The open wire construction minimizes dust/dirt accumulation and maximizes airflow as well visibility.

- Lengths: 24", 30", 36", 42", 48", 60", and 72"
- Widths: 18", 21", and 24"
- Heights: 63" and 74"
- 4 Shelves with split sleeves
- 4 Posts
- Posts are numbered in 1" increments for ease of assembly
- 5" Heavy-duty non-marring swivel casters
- Easy to transport and maneuver
- Load capacity – up to 1,000 lbs.
- No tools required
- Ships knocked-down
- Most sizes can ship UPS

Available as a Security Cage
Secured Storage

- Robust pry-resistant Doors
- Fully welded closed tube frame
- Three point rod locking mechanism
- Tamper proof hardware
- Easy visual inspection of product with 1.5” x 1.5” grid spacing
- Update security anytime with Interchangeable Cylinder Lock
- Secured in place with 3/8” Seismically approved concrete anchors
- Store any size product with adjustable shelf spacing on 1-1/2” increments
Solid Lockers

**Widths (inch):**
- 6" - 12"
- 12" - 18"
- 30" - 36"
- 36" - 42"
- 42" - 48"
- 66" - 72"
- 72" - 78"

**Depths (inch):**
- 12" - 18"
- 18" - 24"

**Heights (inch):**
- 72" - 78"
- 78" - 84"

**Standard Colors:**
- Sand (SND)
- Medium Grey (MGY)
- Black (BLK)

Offered with or without legs
I personally feel that fire and electrical safety for Cannabis is a very worthwhile endeavor.

I am also concerned about staff and agencies having adequate qualified staff to perform inspections as well as enforcement of any standards that may be developed by NFPA. These facilities in my home state of Oklahoma and in my working area seem to locate and proliferate in rural areas outside city limits without City Fire and Electrical Ordinance oversight.

There may as well be unlicensed electrical wiring taking place in these facilities according to some electricians that have visited sites. As a utility worker I wanted to mention these items.

Thank you for the opportunity to voice opinion.

Respectfully
February 23, 2021

Via Email:
Dawn Michele Bellis
Director, Codes & Standards Administration
National Fire Protection Association
stds_admin@nfpa.org

RE: AAIS Comments on Expanded Fire Protection Standard for Cannabis Facilities

Dear Ms. Bellis:

We understand that the National Fire Protection Association (NFPA) is seeking industry input on whether support exists for the development of a new cannabis fire protection standard. American Association of Insurance Services, Inc. (AAIS) enthusiastically endorses the proposed project in recognition of the burgeoning cannabis industry and its unique attributes. A comprehensive standard that is specific to cannabis operations is aligned with, and integral to, our own nationwide efforts to develop and refine standardized cannabis risk management tools for the mutual benefit of cannabis businesses, insurance carriers, and consumers.

AAIS is a national not-for-profit insurance advisory organization that develops and maintains standardized programs (policy forms, loss costs, and manual rules) and a host of related services aimed at facilitating and improving the insurance industry. AAIS currently maintains over 30 insurance programs for its insurance carrier members covering a variety of personal, commercial, and farm risks. As a modern insurance advisory organization, AAIS has a long track record of confronting emerging issues such as cannabis operations and assessing their impacts on insurers, insurance regulators, and consumers.

The overwhelming majority of cannabis insurance options are currently offered in the less-regulated ‘non-admitted market’ with limited participation from established carriers and minimal oversight. In response to requests and input from state insurance regulators, AAIS produced the first-of-its-kind Cannabis Businessowners Program (CannaBOP) in 2016 to equip carriers in the highly regulated ‘admitted market.’ The program’s key objectives were to introduce standardized cannabis policy provisions and rating components into the market and help make cannabis risks more understandable manageable. The program has now been filed in 7 states (AZ, CA, IM, MI, NV, OR, & WA) and has been adopted by a handful of our pioneering member companies. AAIS is presently working on additional programs to further address the multitude of issues that are unique to cannabis operations.

We are confident that an expanded ANSI Accredited Standard dedicated to fire protection of cannabis growing and processing facilities would be a valuable resource for the property and casualty insurance industry. AAIS is also interested in membership on the Technical Committee if the Standards Council initiates development activities on this proposed project. Our application has been submitted separately.

Yours truly,

Phillip Skaggs
Assistant Counsel
American Association of Insurance Services, Inc.
phils@aaisonline.com
Good evening,

Please see my answers below in bold.

1. Are you, or your organization, in favor of the development of an NFPA Standard pertaining to the fire protection of cannabis growing and processing facilities?

Yes, I am in favor of the development of an NFPA Standard pertaining to the fire protection of cannabis growing and processing facilities.

2. Please state your reason(s) for supporting or opposing such standards development.

As cannabis legalization continues to advance, it is important to have consistent and supporting standards. Fire protection standards are imperative to the health and safety of these facilities and operators that work in them.

3. Are you or your organization interested in applying for membership on the Technical Committee if the Standards Council initiates development activities on the proposed project?

Yes, and I have submitted an application.

4. If yes, please submit an application, in addition to your comments in support of the project, online at: Submit online application*

Please submit all comments, in support or opposition to standards development related to fire protection of cannabis growing and processing facilities by March 31, 2021.

Thank you for your consideration.

Best Regards,

Phil
My name is Brian Williams and I work for the State of Michigan. I manage the Bureau of Fire Services’ (BFS) Marijuana Unit, which is charged with ensuring fire and life safety for licensed marijuana facilities in Michigan. The BFS Marijuana Unit conducts plan reviews and field inspections for licensed marijuana facilities. We are in favor of the development of NFPA 420.

Michigan allows for licensed medical and adult-use marijuana facilities. Licensed facilities include growers and processors along with retailers, safety labs and secure transporters. Since 2018, we have been providing plan reviews and field inspections based off the provisions found in NFPA 1, Chapter 38, 2018 edition. Michigan’s rules adopt NFPA 1, 2018 (and its referenced codes), as the standard for fire and life safety. One major reason for supporting this new standard development is the constant adaptation and new processes that these facilities install in their buildings. Grow and Processor facilities are always trying to find new ways to improve their process and most of these effect life safety. A new standard that focuses on these facilities will allow the technical committee to keep abreast of fire and life safety issues. These types of facilities pose many challenges, ranging from employee safety, security, product tracking, flammable extraction, high electrical loads, tightly spaced grow rooms, and fumigation to name a few. Having a new standard that covers all these important items will be very valuable for any AHJ that is involved with these facilities.

Brian Williams  
Marijuana Unit Manager  
Bureau of Fire Services  
611 W. Ottawa St., 4th Floor  
Lansing, MI 48933  
Cell – 517-230-5223  
williamsb@michigan.gov  
www.michigan.gov/bfs
Answers to questions below.

1. Yes

2. I support standards as I have worked in Nuclear industry for 10 years, heavy equipment industry for 5 years, and construction less than a year, but from the field certification I have performed while working at PSI, clients need guidance on operating safely and cities/states need these standards to fall back on or make law to ensure public safety.

3. I will be applying.

1. Are you, or your organization, in favor of the development of an NFPA Standard pertaining to the fire protection of cannabis growing and processing facilities?

2. Please state your reason(s) for supporting or opposing such standards development.

3. Are you or your organization interested in applying for membership on the Technical Committee if the Standards Council initiates development activities on the proposed project?

4. If yes, please submit an application, in addition to your comments in support of the project, online at: Submit online application*

Kind regards,

Bradley Hodges, PE (CA/MI/OH/TN/TX)
Senior Engineer, Pressure Safety Inspectors, LLC
Main: 303-317-6877
Cell: 865-556-5519
bradleyhodges@psinspectors.com

PSI - In the News
The New Face of Pot – NFPA Journal 2018
Buyers Beware – Cannabis Business Times 2018
NFPA Standards Council Members:

In response to your solicitation for comments regarding the potential new standards development project on cannabis growing and processing facilities, I would like to submit the following responses to the questions that were asked:

1. Are you, or your organization, in favor of the development of an NFPA Standard pertaining to the fire protection of cannabis growing and processing facilities? **Yes.**

2. Please state your reason(s) for supporting or opposing such standards development. The National Propane Gas Association (NPGA) is in favor of such standards for the following reasons:
   
   1. Developing such standards will help to eliminate accidents involving liquefied petroleum gases, which are used at cannabis growing and processing facilities.
   2. Create standard for all processing facilities to safely implement during CDB and THC processes will achieve uniformity throughout all states, leading to greater familiarity with the equipment and installation requirements by both enforcement agencies and the industry itself.
   3. The cannabis industry will be made more aware of the risks associated with the delivery and use of propane and other LP-gases at processing facilities.

3. Are you or your organization interested in applying for membership on the Technical Committee if the Standards Council initiates development activities on the proposed project? **Yes, I will be submitting an application.**

Thank you for your consideration.

Bruce Swiecicki, P.E.
Senior Technical Advisor
Regulatory and Technical Services
NATIONAL PROPANE GAS ASSOCIATION

815.806.9035 TEL
708-209-6288 CELL
bswiecicki@npga.org
http://www.npga.org
Maynard, Mary

From: Vinduska, Heidi <hvindusk@auroragov.org>
Sent: Monday, March 1, 2021 4:56 PM
To: stds_admin
Subject: Input on development of a new cannabis fire protection standard

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NFPA and whom it may concern,

This is in response to the NFPA News Release of seeking input on the development of a new cannabis fire protection standard.

I am in support of the development of this standard.

I’m a Fire Inspector in the City of Aurora Colorado and have been tasked with the duties of inspection of existing cannabis businesses in our jurisdiction. I do work closely with other divisions within the city the ensure enforcement and compliance. This is an industry that is increasing and as the competition for business grows so do the efforts to find new processes that will give each business it’s “niche” in the industry. I have found the business processes are constantly and rapidly changing. Some changes don’t affect the fire and life safety and some changes strongly effect it. I feel that a standard, such as what is being proposed, would give more consistency in the industry and give a clear structure to the processes and hazards in this industry. A standard would also give this industry a way to ensure life safety for the people in the facility and first responders.

Thank you for your time,

Heidi Vinduska
Fire Inspector
Aurora Fire Rescue | City of Aurora
office 303.326.8969 | cell 720.375.4913
From: Cam Abrey <cabrey@dauphin.ca>  
Sent: Tuesday, March 9, 2021 11:12 AM  
To: stds_admin  
Subject: Comments on new project request for fire protection of cannabis growing and processing facilities

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- Are you, or your organization, in favor of the development of an NFPA Standard pertaining to the fire protection of cannabis growing and processing facilities?
  - Yes, we currently have one cannabis growing facility within our protection area and I can foresee either future growth of the same facility or even other facilities coming to the area.

- Please state your reason(s) for supporting or opposing such standards development.
  - We are in support of the standards as we are primarily a rural community. The urban portion of our fire protection area is covered by a hydrant system, however the development of the growing facilities is taking place in the rural areas where there is no water supply. The current growing facility is on a family run farm that has been in the family for many years and are looking to diversify. With cannabis now legal in Canada I can imagine that many of the surviving small family farms may want to diversify their own portfolios and begin experimenting with cannabis growing facilities.

- Are you or your organization interested in applying for membership on the Technical Committee if the Standards Council initiates development activities on the proposed project?
  - My current schedule would not allow me the required time to be a part of the committee unfortunately.

Cameron Abrey  
Fire Chief  
Dauphin Fire Department  
121 2nd Street North West  
Dauphin, MB  R7N 1G6  
204 622 3100  
cam.abrey@dauphin.ca  
Fire Department Website
Maynard, Mary

From: Jonathan Winningham <jwinningham@orangeburgdps.org>
Sent: Tuesday, March 9, 2021 4:17 PM
To: stds_admin
Subject: Comments on new project request for fire protection of cannabis growing and processing facilities

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I, as an individual, am very much in favor of the development of an NFPA standard for fire protection of cannabis growing and processing facilities. This industry is growing at a pace that exceeds code adoption. In SC, there is currently hemp processing and growing taking place. I have had two different companies start the due diligence process but not start submittals for review. I didn't know what to look for and could find almost no information on this topic to start submittal review. I've been to Las Vegas and have visited dispensaries and was almost overwhelmed looking at the extraction process in the Planet 13 facility. Basically I had no knowledge about the process and equipment being. What standards are being used for the development and manufacture of the equipment? How is product being stored? How flammable or dangerous is a fire to occupants of this structure and to first responders? I basically had no answers and was limited to where I could turn. When speaking with those that are in this field, they downplay the danger. Most of what I've read or encountered seems to me that this field is mostly experimental. With changes to equipment and processes done on the whim. I would be interested in applying for membership to the technical committee.

Thank you,

Jonathan Winningham
Fire Marshal

Orangeburg Dept of Public Safety
1320 Middleton St
Orangeburg, SC 29115
803-533-4105
Creating a TC, or other, and developing fire protection requirements for cannabis growing and processing facilities is a must. This topic and the addressing thereof is severely lacking in different model codes and referenced standards.

I 100% support such a new project.

Best regards,

Justin Gipson
Fire Division Chief: Director of Fire Prevention
City of Chula Vista | 276 Fourth Ave. Bldg. C. Chula Vista, CA 91910
☎️ (619) 409-5841 | ☏️ (619) 691-5204 | ✉️ jgipson@chulavistaca.gov
1) Me and my organization(s) are in favor of a development of a standard for cannabis grow facilities in some form. It could be its own standard or a subsection in an existing code, as in a new chapter in the LSC 101.

2) The reason I support it, is in a fire, this type of material has a large risk potential to provide a quick altered mental status to any victims or rescue personnel. I currently have no codes to reference in enforcement and best judgement currently is to call it an toxic inhalation hazard building / area.

In addition the standard should cover retail buildings and areas that sell cannabis, storage areas / buildings, petty much any occupiable space that also has cannabis storage, should be included in a new standard or chapters.

3) If the standard Council would like or need membership in a new committee I would help serve on the committee.

4) - If the standard council provides a new standard or new chapter in a current standard, contact me to apply.

Jon Taluba
Principle Voting Member - Various Committees
To whom this may concern,

I am in favor of NFPA developing standards for cannabis growing and processing facilities.

As a Controls Engineer in the industry for almost 2.5 yrs I've witnessed a production and manufacturing pace that prioritizes the end product at the risk of following standards. In addition, respectfully, the end users at large are not experienced and lack understanding of industrial controls -- and that worries me. Finally, there is strong desire, and at time action, from end users to modify their OEM equipment without going through the proper channels.

It is with the above mentioned that I will reiterate that NFPA needs to develop standards for cannabis growing and processing facilities. My worry is that if standards are not developed and implemented then workers will be more likely to be exposed to hazardous work environments and get hurt.

Best,

Mario Gomez
Hello,

I support the development of a Cannabis Fire Protection Standard. After the last large explosion at the facility in Los Angeles, I did some research in Florida. I found there is a medical marijuana grow company based in my city, according to State of Florida records, but they will not tell me where it is.

For security purposes the State is keeping the actual location a secret.

This will be the first challenge to overcome.

Thomas R. Wood, CFO, FIFireE
Fire Chief
Boca Raton Fire Rescue Services
6500 Congress Avenue, Suite 200
Boca Raton  FL  33487-2808

Telephone: 561-982-4040
FAX: 561-982-4063
E-Mail: twood@ci.boca-raton.fl.us
Web Site: www.ci.boca-raton.fl.us/fire

Please note: Florida has a very broad public records law. Most written communications to or from local officials regarding city business are public records, and are available to the public and media upon request. Your e-mail communications may therefore be subject to public disclosure. The City of Boca Raton scanned this outbound message for viruses, vandals and malicious content and found this message to be free of such content.
Dear Sir or Madam:

Please find the attached letter encapsulating our interest to participate in the development of the NFPA Cannabis Fire Protection standards documents.

We appreciate your thoughtfulness given to this new market and how the NFPA can partner with industry to provide a safe and cost effective standard for the communities in which these horticulture businesses are developing.

We recently had a meaningful conversation with our congressman, Peter Meijer, here in Grand Rapids, MI. regarding the concerns this endeavor looks to address – he is very much interested in the benefits this industry is bringing to our state, to the point he has a scheduled tour of our facility in May.

Again, Pipp Horticulture looks to participate as a ready partner with NFPA as quickly as possible and appreciates the opportunity.

Sincerely,

Thomas A. French, Director – Operations & Engineering
Pipp Mobile Storage Systems, Inc.
2966 Wilson Drive NW • Walker, MI 49534
Direct 616-988-4059
Mobile 616-502-6945
Direct Fax 616-791-4377
tfrench@pippmobile.com
www.pipphorticulture.com  www.irsg.com
To Whom It May Concern:

Pursuant to the open invitation on the NFPA.org website for input on the development of a new cannabis fire protection standard, Pipp Horticulture would definitely like to participate in the process of developing this standard. Pipp has been in the mobile shelving and inventory management space for almost five decades, primarily focused in the retail and automotive inventory management market. We literally ship and install mobile storage shelving systems around the world. In 2017 we became involved in the legalized cannabis growing industry in California and have quickly become the North American leader of vertical, multi-level, indoor mobile growing systems.

During this time we have become increasingly aware of the interaction between indoor cannabis farm business owners and the AHJ’s interpretation of the sprinkling codes when considering multi-level, movable aisle, grow rooms. In an effort to become a better resource for our customers Pipp clearly has a stake in developing a reasonable NFPA standard, and we hope to bring our perspective to the code committee as we represent manufacturers and installers in the indoor cannabis farming market.

In response to your questions:

1. **Are you, or your organization, in favor of the development of an NFPA Standard pertaining to the fire protection of cannabis growing and processing facilities?**

   Pipp Mobile Storage Systems is in favor of the development of an NFPA Standard pertaining to the fire protection of cannabis growing and processing facilities. The input and involvement of industry manufacturer representatives and end-users - specifically those with a focus toward both vertical growing on multiple levels and the utilization of rolling racks - will benefit the code development process. The rolling grow bench industry has existed for several decades. However, the recent surge in use by the cannabis industry, especially in the use of vertical multi-tier rolling racks, has increased fire protection scrutiny. Although this scrutiny is important and beneficial for the community, its interpretation has been problematic for the owners and AHJ’s alike. Many times the codes have been inconsistently articulated for the architects, fire protection specialists, sprinkler contractors, AHJ’s and the farmers trying to understand code interpretations and design appropriately. A well-defined code that considers the environment these products are used in will help consistently guide communication between AHJ’s and Facility owners. It would also allow equipment suppliers such as Pipp to design and provide safe and cost-effective products to the industry.

   Pipp strives to provide a solution to their clients that is both economical and safe; however, the interpretation and enforcement of existing codes with regards to mobile rack systems is neither consistent nor clear. We understand the increased analysis of our products and our competitor’s products may result in code related modifications that could potentially alter which products are allowed. As such, Pipp would like to be involved...
with the code development so that we may explain why certain products are beneficial from both the manufacturing and end-user perspectives.

2. **Please state your reason(s) for supporting or opposing such standards development.**

The development of a document, such as NFPA 30, has allowed the various industries dealing with flammable liquids to align with a set of mutually agreed upon guidelines/standards/rules, and has greatly reduced the burden of inconsistent code interpretation/enforcement. Pipp has supplied thousands of mobile grow rack solutions to clients throughout the world but has recently begun to be impacted by increased code interpretations which result in delays in issuing of certificate of occupancies.

There are several areas where confusion currently exists with mobile grow rack storage, and they are primarily: commodity classification, solid shelf requirements, mobile rows and flue spacing, tray types (open top containers), and sprinkler protection.

The commodity classification of a marijuana plant is not defined specifically within NFPA 13. The commodity classification should be specifically classified. Although the commodity classification for live plants is listed in NFPA 13, the commodity classification has been questioned now that marijuana is being cultivated on the rack systems. A clear commodity classification is needed.

The use of mobile grow rack storage has resulted in various interpretations of the requirements for solid shelf racking, likely due to changes with the recent editions of NFPA 13. Earlier editions of NFPA 13, like the 2013 edition, did not explicitly require sprinklers to be provided below solid shelves in Chapter 13. Although this may have been an omission and corrected in more recent editions, the use of older editions is still prevalent throughout the country. Pipp understands that the classification of a marijuana plant may differ from fruits and vegetables, but a set of guidelines specific to live cannabis and dry cannabis on rack storage systems would potentially alleviate inconsistent interpretations.

The various tray types used in the industry are vastly different. Non-combustible aluminum trays clearly do not have the same characteristics as plastic trays. Furthermore, there are several types of plastic trays. It will be beneficial to the tray manufacturers if there is clear guidance on the use of certain trays. Specifically, how tray types/sizes fit into the NFPA 13 classification of open top containers.

The sprinkler protection requirements are by far the least clearly defined and result in the most difficult problems. Pipp understands that there are currently no listed fire sprinkler piping configurations that can accommodate movable racks; furthermore, there is no clear definition of when a growing tray becomes an open top container. For example, most trays have some form of water collecting capabilities and each tray varies in total collection ability. A clearly listed set of protection schemes is necessary to ensure end-users are held to the same “standard”. As these issues are not currently addressed in NFPA 13, a cannabis specific standard will address the unique hazards to cannabis rather than lumping it into other commodities.

In addition to fire sprinkler protection issues, lighting means and methods are not adequately addressed. The use of LED lighting has greatly mitigated the risk of fire caused by the overheating and malfunctioning of old/antiquated lighting fixtures. Therefore, the lighting means and methods also need to be a consideration of the holistic code development process and implementation.
3. Are you or your organization interested in applying for membership on the Technical Committee if the Standards Council initiates development activities on the proposed project?

Yes, Pipp is requesting to be included within the development team of any cannabis related standards. We will be submitting our application for the Technical Committee when the process is open for submissions.

Sincerely,
Thomas A. French
Director of Engineering and Operations
Walker, MI 49534
tfrench@pipphorticulture.com
616-988-4059
Good Morning,

Please accept the attached letter from the Florida Fire Chiefs’ Association, on behalf of our 2,000 plus members, supporting the development of a NFPA Standard for cannabis growing and processing facilities.

Thank you for your consideration.

Ray

Wm. Ray Colburn, Fire Chief-Retired
Executive Director/CEO
Florida Fire Chiefs’ Association
221 Pinewood Drive
Tallahassee, FL. 32303
850-900-5180 – Office
407-468-6622 – Cell

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March 24, 2021

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

Re: NFPA Standard on Cannabis Growing and Processing Facilities

To Whom It May Concern,

On behalf of the Florida Fire Chiefs’ Association and its membership of professionals in fire service leadership throughout the State of Florida, we would like to express support for developing an NFPA Standard pertaining to the fire protection of cannabis growing and processing facilities.

Florida has numerous cannabis growing and production facilities throughout the state, and these facilities tend to be in the rural areas of our great state. We believe that the development of a standard guideline that covers the comprehensive prevention and response criteria would be beneficial not only to our public safety personnel but the community at large.

We anticipate the continued growth of this industry in Florida. All measures that would protect our first responders’ safety and wellness and ensure safe business practices for the said industry are urgently needed.

Thank you for your consideration, and if we can be of any assistance, please feel free to contact us.

Sincerely,

Wm. Ray Colburn

Wm. Ray Colburn, Fire Chief-Retired
Executive Director/CEO
Florida Fire Chiefs’ Association

CC: FFCA Board of Directors

To whom it may concern,

My name is Ben Britton and I own and operate PurePressure, LLC a leading equipment manufacturer in Denver, CO that specializes in the development and production of solventless cannabis extraction equipment. We strive to offer clean, chemical free solutions to processors that are both safer and create a higher quality product.

It is part of our mission statement to provide safe, reliable extraction equipment to the industry and we try to go above and beyond to meet electrical and other product safety standards that we feel are applicable. However, as you may know the cannabis industry is plagued with vague and inconsistent guidelines that confuse both the customer and the equipment manufacturers.

It is in the best interest of all parties to support the creation of NFPA standards that apply to the cannabis industry. We also wish to distinguish the difference between the different extraction methods on the market, some of which utilize flammable solvents and highly hazardous operating practices. Our methods of extraction utilize ice water, agitation, heat and pressure to mechanically separate and filter the oils from the plant with minimal alteration from its natural state.

I am writing to you as a formal request to become a member of the Fire Protection of Cannabis Growing and Processing Facilities (CGP-AAA). I will be submitting my online application shortly as well.

Thank you for your consideration.

Sincerely,

Ben Britton
PurePressure | CEO
2625 S Santa Fe Dr, 1J
Denver, CO 80223
Mobile: 763-516-0666
Hello,

I am in favor of the development of an NFPA Standard pertaining to the fire protection of cannabis growing and processing facilities.

I work as a consultant in CO where cannabis-related projects are common. There are often underinformed entrepreneurs trying to enter the space and under-resourced AHJs and design professionals tasked with protecting these facilities. As legalization continues to expand nationally, an NFPA standard would provide a consistent safety baseline for the entire country and the fire protection industry.

Thanks,

At this time, TERPconsulting employees continue to work from home; however, we can be at the office or onsite as needed. Please contact us to make arrangements.

<https://terpconsulting.com/locations/>
Hello,

This responds to your request for comments from interested organizations to gauge support for development of a standard dedicated to the fire protection of cannabis growing and processing facilities. Our response to the three questions asked are as follows:

1. Are you, or your organization, in favor of the development of an NFPA Standard pertaining to the fire protection of cannabis growing and processing facilities?

UL LLC is in favor of the development of a NFPA standard for cannabis growing and processing facilities. We would recommend that the scope extend to safety aspects beyond fire protection, since cannabis operations also have significant electrical safety, health (asphyxiation), security, and other potential hazards to be mitigated.

2. Please state your reason(s) for supporting or opposing such standards development.

In addition to the incident cited in your article, fires and explosions related to plant oil extraction have been reported in several other states, including Michigan, Oregon, as well as in Canada. Without a specific set of requirements for mitigating fire hazards for the facility, it is challenging for AHJs to address the fire risks inherent in these operations and enforce appropriate risk mitigation methods. We agree that the expanding legality of cannabis will also expand the possibility of fire and explosion risk associated with its processing. To that end, UL recently published ANSI/CAN/UL/ULC 1389, “Plant Oil Extraction Equipment for Installation and Use in Ordinary (Unclassified) Locations and Hazardous (Classified) Locations”, ULC TG-44002, “National Technical Guide on the Safety of Cannabis Oil Extraction Processes,” and CAN/ULC S4400, “Standard For Safety Of Premises, Buildings And Equipment Utilized For The Cultivation, Processing And Production Of Cannabis.” Article 512 of NFPA 70 is also in development, to address these risks. An NFPA standard specifically addressing these types of facilities is critically important.

3. Are you or your organization interested in applying for membership on the Technical Committee if the Standards Council initiates development activities on the proposed project?

YES

If you have additional questions or comments please feel free to contact me. Thank you.

Howard Hopper, FPE
Regulatory Services Manager
Distinguished Member of Technical Staff
UL LLC 47173 Benicia Street
Fremont, CA 94538-7366
T: +1. 510.319.4061
Howard.D.Hopper@ul.com
Good evening,
Please find attached our letter of support for a cannabis standard. Ben Moffatt, Fire Prevention Regional Manager has expressed interest in assisting should this imitative advance, he has been copied on this email. Please let me know if we can be of further assistance in this effort.

Michael Desrochers, Executive Director
Department of Public Safety - Division of Fire Safety
State of Vermont
1311 US Route 302-Suite 600
Barre, Vermont 05671
(802) 479-7539
March 25, 2021

Subject: NFPA Letter of Support – Cannabis Standard Development

Dear NFPA Standards Development Committee,

The Division of Fire Safety supports the development of an NFPA Standard for cannabis growing and processing. The development of an NFPA standard would address the rapidly growing and evolving cannabis industry while providing a reasonable and consistent level of safety throughout the industry. My hope would be many Authorities Having Jurisdictions would adopt the standard to reduce fire and injuries in these facilities which have inherent hazards.

While the industry continues to emerge here in Vermont and across the Nation, the need for a standardized approach is increasingly apparent. Vermont currently regulates the growing, extraction and processing of commercial Hemp, our State is continuing to move towards a taxation and regulation model for retail sales and production of cannabis. Lessons learned from our experiences in regulating Hemp grow operations and CBD extraction, has shown us that there are many known risks and hazards many which are complex lack a consistent individual standard. The current piecemeal approach to the design and enforcement of cannabis operations can be confusing and burdensome for AHJ’s, owners, design professionals and processors.

In closing, the Vermont Division of Fire Safety supports the development and implementation of a nationally recognized standard on cannabis grow and processing facilities.

Sincerely,

Michael Desrochers, Executive Director
Division of Fire Safety
802-479-7539
michael.desrochers@vermont.gov

Copy- Robert Sponable, Deputy Director
Ben Moffatt, Barre District Manager
Landon Wheeler, Springfield District Manager
Maynard, Mary

From: Wayne Griswold <Wgriswold@terpconsulting.com>  
Sent: Friday, March 26, 2021 12:13 PM  
To: stds_admin  
Subject: Comments on new project request for fire protection of cannabis growing and processing facilities

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Please see below feedback as it relates to the request for fire protection of cannabis growing and processing facilities:

1. Are you, or your organization, in favor of the development of an NFPA Standard pertaining to the fire protection of cannabis growing and processing facilities?
   Yes

2. Please state your reason(s) for supporting or opposing such standards development.
   As fire protection engineers and consultants working within the cannabis/hemp industry, the need for a dedicated NFPA standard specific to this industry is overdue due to the uniqueness and lack of familiarity of the processes generally utilized by the industry. This combined with the size and scope of extraction and cultivation facilities having grown exponentially in recent years further justifies the need for this standard. Recent trends and lack of continuity of governance between jurisdictions has led hemp/cannabis companies to find areas less regulated or where fire/building departments are less familiar with the hazards presented. A dedicated NFPA standard would go a long way to establish a baseline methodology and level of safety for these types of facilities. In particular with the extraction process, the means and methodologies are evolving and in some instances becoming more dangerous as it relates to hazards presented and hazardous materials utilized and their associated quantities.

3. Are you or your organization interested in applying for membership on the Technical Committee if the Standards Council initiates development activities on the proposed project?
   Yes, myself or someone from our organization would be interested in becoming involved in the Technical Committee.

Please feel free to contact me with any additional questions or clarifications.

Best,

TERPconsulting
fire + life safety

Wayne Griswold, PE, CFPS
principal fire protection engineer
(c) +1.720.763.2264 | (o) +1.720.779.0797
14241 E. 4th Avenue, Suite 5-230, Aurora, CO 80011
baltimore | denver | las vegas | los angeles | phoenix

At this time, TERPconsulting employees continue to work from home; however, we can be at the office or onsite as needed. Please contact us to make arrangements.
Ladies and Gentlemen of the Standards Council,

I am writing you in support of NFPA developing a new standard for cannabis fire protection. While NFPA 1 appropriately addresses this topic, many states and local jurisdictions do not adopt NFPA 1 nor are these states and jurisdictions inclined to extract a portion of the NFPA 1 Fire Code to address this regulatory topic. It is also doubtful that the ICC would reference provisions from NFPA 1 in the International Fire Code. Therefore, jurisdictions in these non-NFPA 1 states do not have an easy path to enforcing the cannabis provision of NFPA 1. Creating of a separate standard will facilitate adoption of these provisions by other code development bodies and individual states.

Thank you for your consideration,

ANTHONY C. APFELBECK  
P: (407) 571-8433  
Director of Building & Fire Safety  
F: (407) 571-8445  
ACApfelbeck@altamonte.org

225 Newburyport Avenue  
Altamonte Springs, FL 32701  
www.Altamonte.org

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Persons with disabilities needing documents in an alternate format should contact (407) 571-8122 (Voice), (407) 571-8126 (TTY) or CityClerk@altamonte.org (Email).
March 30, 2021

RE: Feedback on NFPA Standard for Cannabis Operations

To Whom It May Concern

I am writing you today on behalf of the Phoenix Fire Department expressing support in creating a separate NFPA Standard to address the fire protection and safety requirements for cannabis growing and processing facilities. The fire service has seen too many large-scale fires and explosions due to these operations to include the LA City explosion that injured 12 firefighters. The current concerns we have with the codes and standards that regulate these operations are there is not just one code or standard that is all-encompassing of these operations. In order for Authorities Having Jurisdictions (AHJs) to properly regulate these facilities, we have to use local fire codes, building codes, electrical codes, mechanical codes and well as many different NFPA standards. This issue, in and of itself, is difficult to deal with, but it also produces inconsistencies in how each AHJ enforces the different codes and standards. Having an all-encompassing NFPA standard would result in consistent and effective enforcement which will keep our firefighters and community safe while allowing industry to know the requirements, so they can effectively design the building or space for this operation to operate safely.

In addition, I would like to volunteer to be a technical committee member of this NFPA Standard, if and when, its created.

Brian Scholl
Deputy Fire Marshal
Phoenix Fire Department
Greetings,

My name is Chris Beaumont and I am a Life Safety Code Enforcement Officer for the City of Portland Maine. I currently split my time between the City’s Permitting and Inspections Department under the Business Licensing Division and the Portland Fire Department’s Fire Prevention Bureau as the Lead Enforcement Officer for the City’s Marijuana Licensing and Compliance Team.

I am writing today to show support for the National Fire Protection Association to begin the development of a standard pertaining to the fire protection of cannabis growing and processing facilities as a standalone document. I believe this document is needed to serve as the link between all of the other previously developed NFPA codes that apply to this ever growing and emerging business sector. The new information added to NFPA 1 begins to develop an amazing framework and does establish parameters in most sectors of this industry, but I personally believe it still lacks a path to other key sections of the code that could potentially be applied.

This document could also serve as a standalone benchmark for compliance for not only an urban setting such as Portland, but will allow for uniformity across the entire state of Maine. It could also be used as a tool on not only the enforcement side but by professional designers and engineers as a starting point for the complex build out requirements for manufacturing facilities.

I am extremely interested in directly assisting in any way possible in the development of an NFPA Standard pertaining to the fire protection of cannabis growing and processing facilities. I have provided a job description and cover letter and resume for a position as the City of Portland’s Marijuana Compliance Coordinator that I have recently applied for. This position is newly created in our office but directly reflects the roles and responsibilities I have been covering for the past year and a half. These documents outline a deeper history of my involvement in the review, implementation, and enforcement of the NFPA standards currently applied to the cannabis industry in our city. I would be interested in serving on any committee, panel, or review board that is assigned to this project.

Please do not hesitate to reach out via this email or by phone at (207) 447-2205 any time if I can provide feedback or if I can assist in this project in any way. Thank you for your time, dedication and forward thinking into this important issue.

-Chris
Notice: Under Maine law, documents - including e-mails - in the possession of public officials or city employees about government business may be classified as public records. There are very few exceptions. As a result, please be advised that what is written in an e-mail could be released to the public and/or the media if requested.
Hello,

Please consider the following comments submitted on behalf of the ISO International Workshop Agreement on the safety, security and sustainability of cannabis facilities and operations (ISO IWA 37). Canada, represented by its national standards body, the Standards Council of Canada in partnership with UL Canada, is hosting this international workshop that commenced in November 2020. It aims to publish four documents by summer of 2021.

1. Are you, or your organization, in favor of the development of an NFPA Standard pertaining to the fire protection of cannabis growing and processing facilities? While Canada (ISO IWA 37 Secretariat) has no objection to the development of this NFPA Standard, we would like to offer a suggestion that we believe would benefit the NFPA development process for this standard.

2. Please state your reason(s) for supporting or opposing such standards development. In recognition of the risks associated with this new and emerging cannabis industry, Canada has addressed the standardization gap through the publication of Standards and Guides, including:
   - CAN/ULC-S4400, Standard for the safety of premises, buildings and equipment utilized for the cultivation, production and processing of cannabis;
   - ANSI/CAN/UL/ULC 1389, Plant oil extraction equipment for installation and use in ordinary (unclassified) locations and hazardous (classified) locations (a binational Canada-US standard); and
   - ULC TG-44002, National Technical Guide on the safety of cannabis oil extraction processes.

Since December 2020, through June 2021, Canada, through the partnership of Standards Council of Canada (SCC) and UL in Canada, is hosting an ISO International Workshop on the safety, security and sustainability of cannabis facilities and operations (ISO IWA 37). This Workshop is participated in by more than 200 delegates from 23 ISO member countries. One of the documents currently being developed at the Workshop is ISO IWA 37-1, Guide for safety of cannabis buildings, equipment and oil extraction operations. The ISO IWA Guide:
   - establishes a minimum level of protection and safety of occupants, and buildings or parts thereof, which are utilized for the commercial cultivation, specific to processing of cannabis plants and cannabis products, and ancillary activities associated with cannabis plants and cannabis products to minimize hazards;
   - establishes a minimum level of safety for the installation of devices, equipment, and systems utilized for cannabis cultivation, processing, and ancillary activities and addresses the risks of fire, electric shock, injury to persons and explosion associated with these devices, equipment and systems;
   - includes minimum considerations for training of personnel and equipment maintenance where it concerns the safety of occupants, and buildings or parts thereof; and
   - provides direction for the safe methods of extracting oil from cannabis plants including but not limited to initial extraction and post processing refinement.

We plan to update and harmonize our CAN/ULC-S4400 with the ISO guidance developed at the Workshop.
We invite the NFPA Technical Committee to use the final ISO IWA 37-1 document as a seed document for its own work to avoid duplication and conflicting requirements which may confuse the North American cannabis industry and stakeholders.

3. Are you or your organization interested in applying for membership on the Technical Committee if the Standards Council initiates development activities on the proposed project?
   No.

4. If yes, please submit an application, in addition to your comments in support of the project, online at: Submit online application*

Thank you for giving us the opportunity to submit these comments.

Sincerely,
Tess Espejo
Secretary, ISO IWA 37

Program Manager

Built Environment
Underwriters Laboratories of Canada Inc.
7 Underwriters Road, Toronto, ON M1R 3A9
T: (416) 288-2212
M: (416) 884-3710
E: Theresa.Espejo@ul.com
W: www.canada.ul.com

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Good day,

Please find my comments below regarding my support for the development of a standard dedicated to the fire protection of cannabis growing and processing facilities. As requested on the related website, I have responded to the four (4) noted topics below.

Topic 1: Are you, or your organization, in favor of the development of an NFPA Standard pertaining to the fire protection of cannabis growing and processing facilities?
Comment 1: Yes, I am in favor of the development of a specific standard, as is my employer CodeNext Inc.

Topic 2: Please state your reason(s) for supporting or opposing such standards development.
Comment 2: As a Professional Engineer and as a practitioner in the fire protection and life safety industry, as a Code consultant, I am strongly in favor of the development of industry specific standards relating to fire protection - especially for a new industry that is rapidly developing. A new standard will provide operators, owners, designers and (perhaps most importantly) authorities having jurisdiction with a consistent benchmark by which to consider the safety requirements applicable in cannabis growing, processing, and extraction facilities. While the building protection and life safety system requirements for cannabis facilities may not be unique to the cannabis industry (e.g., sprinkler protection, fire alarm system design, explosion control), a single and comprehensive standard will streamline the design and review process and reduce the likelihood of misinterpretation or misapplication of other, related standards.

Topic 3: Are you or your organization interested in applying for membership on the Technical Committee if the Standards Council initiates development activities on the proposed project?
Comment 3: Yes.

Topic 4: If yes, please submit an application, in addition to your comments in support of the project.
Comment 4: I have submitted an application. Thank you.

Best regards,

Melinda Amador, P. Eng. | Project Engineer

647.335.2709
mamador@codenext.ca
Maynard, Mary

From: Corey Kinsman <corey@the-fpi.com>  
Sent: Wednesday, January 27, 2021 3:07 PM  
To: stds_admin  
Subject: Comments on new project request for fire protection of cannabis growing and processing facilities

---

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For consistency of protection, I can understand wanting to formalize a position and standardize a protection scheme. This could also be accomplished by an NFPA Research Foundation Report similar to what was published last year for the Fire Hazard Assessment of Lead-Acid Batteries.

Standardized protection assumes standardized processes, and as with any new process, the technology changes rapidly. This is the case with processing, extraction, and testing operations. This is why a "state of the industry" hazard assessment could be developed, but the standards development cycle will have difficulty keeping up with being relevant.

My humble opinion; thank you for the opportunity to weigh in.

Corey Kinsman, P.E.
Licensed in TN, OH, GA, IL, KS & NV
The FPI Consortium, Inc.
615-933-8343
Ladies and Gentlemen of the Standards Council,

I am writing you in support of NFPA developing a new standard for cannabis fire protection. While NFPA 1 appropriately addresses this topic, many states and local jurisdictions do not adopt NFPA 1 nor are these states and jurisdictions inclined to extract a portion of the NFPA 1 Fire Code to address this regulatory topic. It is also doubtful that the ICC would reference provisions from NFPA 1 in the International Fire Code. Therefore, jurisdictions in these non-NFPA 1 states do not have an easy path to enforcing the cannabis provision of NFPA 1. Creating of a separate standard will facilitate adoption of these provisions by other code development bodies and individual states.

Thank you for your consideration,

ANTHONY C. APFELBECK  
P: (407) 571-8433  
F: (407) 571-8445  
ACApfelbeck@altamonte.org

225 Newburyport Avenue  
Altamonte Springs, FL 32701  
www.Altamonte.org
Hi,

Why are we looking only at cannabis when there are many other plant extraction, growing and distribution facilities that are very similar? We should stay with some type of indoor plant growing, extraction, etc. similar to what was started with NFPA 1 requirements. Focusing on this one industry will do a disservice to those involved in other non-cannabis industries where we can help protect them as well.

Also, why are we not also working on a standard for alcohol distilleries? That industry has been around for hundreds of years, yet there is no NFPA standard. Why is that? All I have to go by is industry standards, FM Global recommendations, and other snippets of information from various NFPA documents. Yet there is nothing specifically on distilleries?

Thank you,

Ronnie

Ronnie Thomas, PE
Reax Engineering, Inc.
985 Lincoln Way
STE 207
Auburn, CA 95603
M: 530 448 2334
From: Roger Mullennix <rmullennix@wmsdist.com>
Sent: Thursday, February 18, 2021 7:48 AM
To: stds_admin
Cc: Sue Schippert
Subject: Comments on new project request for fire protection of cannabis growing and processing facilities

As a Wholesale Distributor of HVAC products we have had many interactions on these projects. We are staying away from doing design build for Mechanical Contractors at most we are just a sounding board with little consulting offered. We have sold lots of equipment for different projects but all specified by others. Everything from Mini-Splits, VRV equipment, Furnaces with split A/C, and boilers. I am interested in staying in the know for all things Cannabis as it relates to the mechanicals. This is new and HVAC contractors see opportunities for profit so we need to make sure MIAM has guidelines and codes in place to protect all parties involved. Right now it is a crazy deal where everyone seems to be throwing their ideas at the wall and seeing what sticks.

Roger A Mullennix
Plumbing & Hydronics Divisions Manager
Williams Distributing
658 Richmond NW
Grand Rapids Mi 49504

Office 616-771-0430
Fax 616-771-0490
Mobile 616-318-7706
rmullennix@wmsdist.com
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18 USC Sections 2510-2521, the Electronic Communications Privacy Act, applies to e-mail, prohibits unauthorized interception, unauthorized use and unauthorized disclosure of the e-mail and its contents, and provides for civil remedies, including
Dear Ms. Bellis

This is in regard to the posting below from the January 22, 2021 issue of ANSI Standards Action under the Project Initiation Notification System (PINS) listings:

NFPA (National Fire Protection Association)
One Batterymarch Park, Quincy, MA 02169  www.nfpa.org
Contact: Dawn Michele Bellis; dbellis@nfpa.org

New Standard

Stakeholders: Authorities Having Jurisdiction, Architects and Engineers, Cannabis Growers, Cannabis extractors, cannabis testing labs, installing contractors, and cannabis processing facility operators/facility managers.

Project Need: As the legalized cannabis industry continues to rapidly expand in the United States and globally, there is a need for clear guidance on fire safety considerations for the facilities in which cannabis growing and processing occurs.

Scope: This standard will address the protection of facilities from fire and related hazards where cannabis is being grown, processed, and tested. It will address the unique fire- and life-safety challenges of these facilities and how to protect the people, property, and first responders from fire and related hazards of cannabis growing and processing.

Whilst we do not anticipate any Scope overlap between NFPA 420 and published standards or projects underway at UL/ULC Standards, or publications of the ULC Certification Organization, we want to make you aware of the following activities, so that stakeholders in your process can consider them in terms of preventing overlap, closing potential gaps in requirements, or requesting permission to use our copyrighted materials in your publications, if applicable:


1 Scope
1.1 This Standard covers commercial and industrial plant oil extraction equipment for installation and use indoors in an ordinary (unclassified) locations and hazardous (classified) locations. Based on the application, installation is in accordance with the manufacturer's installation's instructions, together with the following, as applicable:

a) CSA C22.1, Canadian Electrical Code, Part 1 (CE Code); ULC-S4400, Premises, Buildings and Equipment Utilized for the Cultivation, Processing and Production of Cannabis; National Fire Code of Canada (NFC); and CSA B149.1, Natural Gas and Propane Installation Code; and


1.2 Plant oil extraction equipment includes:

a) Preparatory equipment, for preparing the plant material for extraction of the oil, such as trimming, deseeding, and drying/curing;

b) Extractors, for removing the oil from the plant material by the use of butane, ethanol, n-hexane, liquefied petroleum gas (LPG), pentane or propane (flammable solvents) and Carbon Dioxide (CO2) (non-flammable solvent);

c) Extraction booths or pods, for enclosing/protecting plant oil extraction equipment; and
d) Post-processing equipment, for finalizing the plant oil extraction process such as vacuum ovens, rotary evaporators, and solvent recovery pumps.

1.3 This equipment, along with systems involving any combination of this equipment, is used for extracting oils from plants as instructed by the manufacturer.

1.4 The requirements in this standard do not cover the physiological or other attributes or effects that may result from the use of this equipment.

1.5 This standard does not apply to equipment involving the following risks of ignition:
   a) Exothermic reactions, including self-ignition of dusts.
   b) Mechanically generated sparks (generated intentionally).
   c) Flames and hot gases (including hot particles).

1.6 This standard does not apply to mechanical means of extraction of plant oils that do not use solvents.

1.7 This standard does cover the connection to external solvent containers or external solvent sources to the plant oil extraction equipment.

Note: Equipment is a general term including apparatus, fittings, devices, components, and the like used as a part of, or in connection with, an installation.

1.8 This standard does not cover the extraction or processing of cannabis oil in dwelling units or in basements.


1 Scope

1.1 This Standard establishes a minimum level of protection and safety of occupants, buildings or parts thereof, which are utilized for the cultivation and ancillary activities associated with cannabis plants and cannabis products. See Annex A (Informative), Explanatory Materials, Clause A.1.1

1.2 This Standard provides minimum requirements for devices, equipment, and systems utilized for cannabis cultivation and ancillary activities and addresses the risks of fire, electric shock, injury to persons and explosion associated with these devices, equipment and systems.

1.3 This Standard provides minimum requirements for the security of premises from intrusion and infiltration, as well as considerations for secure access and safe egress.

1.4 This Standard does not address the following:
   a) General fire prevention or building construction features that are normally a function of building and fire codes;
   b) Any use of the cannabis plant or cannabis products;
   c) Premises used exclusively for operational activities such as office space, call centres, and retail outlets, used for the distribution, marketing, or sale of cannabis, except as defined in Clause 1.5;
   NOTE 1: Shipping and receiving of products from the production facility for further distribution are not considered as retail outlet.
   d) The transportation of cannabis or cannabis related products;
   e) Occupational health and safety requirements governing cannabis workers and personnel except as identified in Clauses 10.2 and 17.2;
   f) Security of the supply chain monitoring system, including cybersecurity and notifications; and
   g) Outdoor grow area (including cannabis and industrial hemp).

NOTE: Residential occupancies that are allowed under Canadian laws and regulation to grow a maximum of four plants for recreational or personal purposes are not considered for the purposes of this Standard.

1.5 Where buildings or premises combine cultivation and processing of cannabis plants, including ancillary activities along with other operational activities outlined in Clause 1.4(c), the requirements of this Standard shall apply to that portion of the facility as determined by Clauses 1.1 and 1.2. See Annex A (Informative), Explanatory Materials, Clause A.1.5.


1 Scope

1.1 This Standard provides minimum IAQ requirements and guidelines for a building or portions of a building utilized for cannabis cultivation, post-harvest processing and ancillary spaces

1.2 This Standard recognizes the issues surrounding lead paint and asbestos in the built environment. Due to differing legal restrictions and licensure requirements, these materials are beyond the scope of this standard. It is the responsibility of the building owner and/or operator to assure compliance with all regulations applicable within the jurisdiction.

1.3 This Standard does not address: fumigation and insecticidal fogging, ozone generating air cleaning devices, ultraviolet germicidal irradiation (UVGI) exposure from air cleaning devices, nor exposure limits for hydrofluoroalkane (HFA-134a).


1. SCOPE
1.1 This Technical Guide provides the best practices for safe methods of extracting oil from cannabis plants, including but not limited to:
   A. Hydrocarbon;
   B. Alcohol;
   C. Carbon Dioxide (CO$_2$);
   D. Post Processing Refinement; and
   E. Distillation and Isolation.

1.2 This Technical Guide provides key elements to be considered to mitigate the risks of fire, electric shock, and injury to persons, including operational risks and equipment safety associated with cannabis oil extraction processes. These key elements include but are not limited to:
   A. Safety of buildings and facilities;
   B. Requirements for safety and performance of equipment;
   C. Training of personnel; and
   D. Testing and certification of products.

You may also wish to contact the leadership of the ISO International Workshop currently underway
ISO International Workshop Agreement on the Safety, Security and Sustainability of Cannabis Facilities and Operations (ISO IWA 37)
Convenor, Joe Gryn: Joe.Gryn@ul.com
Secretary Tess Espejo: Theresa.Espejo@ul.com

ASTM also have a D37 Committee on Cannabis
https://www.astm.org/COMMITTEE/D37.htm

If you have any questions or concerns, or wish to discuss how we can work to ensure the most effective results in our separate standards portfolios, please feel free to contact myself or Laura Werner.

Regards

John Wade
Standards Program Manager
Cannabis Facility Safety & Security

UL and ULC Standards
171 Nepean Street, Suite 400
Ottawa, ON, K2P 0B4, Canada
T: 613.755.2729 ext. 61426
Direct: 613.368.4426
F: 613.231.5977
W: ul.org
W: ulc.ca
W: ul.com

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Hello,

I currently work in California, I have experienced both illegal and legal grow operations. My experience with these types of operations is mainly in Southern California, the weather allows for both indoor and outdoor.

As to the indoor operations- power is the main concern. If growers are specifically growing indoor (residential) power is usually generated from the meter, meaning that power is supplied from the street to the residence. In my experience the resident will supplement this power source illegally. Which creates a host of issues.

An item that is usually overlooked on the fire ground at residential homes is the fertilizer component. If the grower is using soil versus hydroponics this can create a potential for a fertilizer to ignite if an ignition system (fire) is introduced. As this relates to power supply, hydroponics creates a water and electricity issue. Fortunately most hydro systems are self contained meaning that the water tub used is specific to the actual grow of plants (in different stages). But the chemicals (fertilizer) used (liquid or soils) is not contained and usually stored in a hazardous fashion.

My recommendations legal grows is that fertilizer’s are kept separate from any ignition component.

Hydroponics, is a bit more difficult. Meaning that liquid fertilizer is introduced into the water system by injection or mixtures that firefighters cannot control. If we had a lock out/ tag out system regarding this with a simple shut off containing this system.

Additionally, the lighting systems are another issue. My experience with lighting systems come with a whole host matters from extension cords, amps, bulbs, LED Lighting and power supply.

My recommendation for legal grows is to have dedicated circuits for isolation purposes. Meaning that if a single light is malfunctioning we can isolate this component without shutting down the entire operation.

Unfortunately, these items that I have mentioned have either caused problems on incidents or items that I recognized as a firefighter and company officer.

Please feel free to reach out if you have any specific questions.

Respectfully,

Mike Alvarado
The NFPA is a NATIONAL organization. On a NATIONAL level, cannabis is illegal.

Until the federal government legalizes cannabis, the NFPA should focus on issues that affect fire fighters in all 50 states.
From: David Blossom <ocflflscbaa0001@gmail.com>  
Sent: Wednesday, January 27, 2021 8:51 PM  
To: stds_admin  
Subject: Comments on new project request for fire protection of cannabis growing and processing facilities

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Not needed
1. I am opposed to the development of an NFPA standard pertaining to the fire protection of cannabis growing and processing facilities.
2. I am opposed to it due to the simple fact that there are other plant-based materials that can go under the same process of cannabis and the extraction of its oils, and thus would not necessarily be regulated. If the title and scope was changed to include all plant-based processing and extraction, I think that it would be a better standard that would encompass more of the process, and not just a specific material. If it encompassed other plant-based materials, I would be able to support the proposal of this standard.
3. Not at this time.

**Steven Parker**
EFO, FM
Fire Marshal
Arvada Fire Protection District
7903 Allison Way
Arvada, CO 80005
Direct: 303-403-0477 Mobile: 303-263-9778
www.ArvadaFire.com

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*Our mission is to preserve life, property, and the environment.*
Developing a standard for one specific industry needs to follow the specific risk associated with it. Does a Cannabis indoor grow facility pose the same danger as a lettuce, corn, flower, etc. facility? Does any standard development need to address all indoor growing facilities? Generally, these facilities would have very low occupancy and would not create much safety issues so would code development be more for building protection?

In reading about it the explosion in LA, it appears to be an explosion of butane canisters. Had this building been properly built or operated based upon current codes, would there have been the same safety issues? Everything I am reading about the explosion was an illegal operation using significant amount of butane canisters. No new codes will prevent an illegal operation from being dangerous. My opinion is that if current codes address the storage and use of butane canisters and proper egress and fire protection for an industrial building, no new, industry specific code should be needed.

Lee Stegall, PE LEED AP
Smith, Stegall, & Associates
2110 8th Street
Tuscaloosa, AL 35401
205-345-4402
To Whom it concerns,

I would be opposed to the formation of a separate standard for this purpose.

1 – The current requirements are in both NFPA 1 Fire Code and the International Fire Code. Those focusing on the topic work to keep both codes in sync to provide for correlation with the IBC regardless of which fire code is utilized for new construction; and for correlation with the IFC where the IFC is used for new construction purposes with the IBC and NFPA 1 is applied for maintenance purposes, (which is most of the states NFPA 1 is adopted in). Creating a separate standard will increase the possibility of conflict. Additionally, it may only have limited use if the IFC continues with its own requirements which are more generally applied.

2 – A separate standard will exacerbate an existing issue. When the Cannabis requirements were drafted and proposed for both fire codes it was not a unanimous concept. Many in the fire code community correctly pointed out that the hazards are already provided for if you simply applied the existing code. However, influential participants from at least one state insisted they needed the separate requirements because their state agricultural people considered it an agricultural use and not regulated by the code. Those opposed pointed out that cannabis is not the only plant life that is processed or extracted utilizing similar methods. Creating a separate section targeting cannabis only will give the impression that other plant products are not covered by the code. As a result, in the IFC cannabis was not specified, the language addresses plant processing and extraction facilities generally, in NFPA 1 an annex note was added on this point, “A.38.1 Processing of other agricultural products not addressed by this chapter should comply with other applicable sections of this code.” A new standard on cannabis, portions of which would likely be extracted into NFPA 1 still creates two tiers of compliance, one for cannabis and one for all other plant extraction and processing.

3 – NFPA 1 history. NFPA 1 was not always a robust code. The current NFPA 1 is 740 pages long with 488 of those pages the technical code without the annexes. However, in 2000 NFPA 1 was only 200 pages long with only 138 pages of technical code not including annexes and much of NFPA 1 was simply extracts from other documents. After the deal with ICC to create one Fire Code collapsed, NFPA realized that the 2000 edition was not up to par to compete with the IFC as to content. I am aware of this because at the time I chaired the Fire Prevention Code (Subchapter III) Subcommittee for the NJ State Fire Safety Commission, Code Advisory Committee. We were in the process of reviewing the 2000 IFC for adoption in NJ when NFPA, aware NJ state law also referenced the standards of NFPA, sent a letter to the NJ Division of Fire Safety requesting that we include NFPA 1 in our review. Division of Fire Safety staff never acknowledged the letter or reported it out to the Code Advisory Committee. NFPA staff provided me a copy of the letter and I raised the issue and obtained a greenlight to compare both codes from the Uniform Construction Code Division as well.

Once that happened NFPA then asked if my committee could hold off the comparison review of NFPA 1 versus the IFC until the 2003 edition of NFPA 1 was completed because they knew if we compared the 2000 editions NFPA 1 would not measure up. NFPA had obtained licensing rights to the Western Fire Chiefs Uniform Fire Code (much of which was the basis of the IFC) for inclusion into NFPA 1. This was no small ask, 18 months of review work had already occurred. But I
recommended that we grant the request and the subcommittee paused its work to then take it up again with the 2003 editions.

During the revision process for the 2003 edition I was invited by NFPA to attend the NFPA 1 Technical Committee Meeting as the Chair of the NJ Subcommittee to be well informed of the process and content. It was interesting to watch as the committee would motion to include language in the document and a member that served on a related standard would state that they can’t do that, his committee controls that topic, and staff would remind everyone NFPA 1 is a code, that as a code it could extract language or create its own on a given topic. The 2003 NFPA 1 Fire Code ended up being a robust document with a combination of its own language and extracts from other NFPA documents. That was then, this is now.

It seems that step by step topics are being removed from NFPA 1, leaving the technical committee to simply extract from other documents. NFPA 400 was created with the 2010 edition instead of adding to the regulation of hazardous materials already in NFPA 1. NFPA 855 was created with the 2020 edition even though stationary battery storage was historically a fire code topic reach back to 1997 in the UFC, 2003 in NFPA 1 and was extensively updated in the 2018 edition of both fire codes. Recently valet trash was scoped as a topic belonging to NFPA 101 which surprised many in the fire code world since it is not a topic of construction, protection, and occupancy features, rather an operational activity. A new standard on cannabis process and extraction would just add to the list.

Relying on extract documents more and more creates a practical difficulty with keeping a code current. This cycle the fire service and code development world is wrestling with governmental mandates for the use of A2L flammable refrigerants and massaging codes to properly address the A2Ls based upon their hazard. An important change is updating the definition of flammable gas to recognize the difference between 1A and 1B flammable gases as GHS currently does, and then to adjust the MAQ levels in recognition of the lower flammability. In the ICC world the changes for the IFC and the IBC go to the Fire Code Development Committee. A direct process. With NFPA 1 the flammable gas definition is extracted from NFPA 55 and the MAQ table is extracted from NFPA 400, NFPA 400 extracts the MAQ and definition from NFPA 55. To change NFPA 1 on this topic NFPA 55 and NFPA 400 need to be changed. But NFPA 400 has completed its 2nd revision stage for its next edition and NFPA 55 did not accept a request for an on topic Committee Input during the 1st revision process. To update NFPA 1 on this topic NFPA 55 would need to accept a Public Comment at this point and then a TIA would need to be submitted to and accepted by NFPA 400. A rigorous and difficult path because of edition timing. If the ICC arena proposals go through, but NFPA 1 is not updated similarly, NFPA 1 will be in conflict with the IBC recognition.

I have served on NFPA 1 first as an Alternate to the IAFC representative and now as a Special Expert. I believe it’s a good document and I like the NFPA standard development process; technical committees have a great ability to shape language as compared to the limited “As Submitted, AS Modified from Floor, or Denied” choices in the ICC system. But I believe the more topics are removed from NFPA 1 to be scoped to other committees and only available as extracts we weaken the document and make the process of keeping it current that more difficult. If the document does not keep up it encourages local amendments to fire codes, a patch work of requirements depending on the AHJ. Which is always difficult for the regulated community.

I would much rather see the Standards Council assign the newly reconfigured NFPA 1 Technical Committees to address the topic more thoroughly and broaden the application to all plant processing and extraction instead of targeting only cannabis.

For disclosure purposes I have no clients on this topic.

Bob

“Sapienter Si Sincere”
"Alere Flammam Veritatis"
Dear Standards Committee,

The estimated size of the cannabis oil industry is difficult to discern from public data in terms of tons of cannabis extracted per day for producing cannabis oil.

Assuming:
- 10% of Americans would take cannabis oil
- at a daily dosage of 10 mg per day
- and there is 0.9 mg cannabis oil per g of cannabis

Then:
- 10 mg oil per day = 11 g cannabis per day
- 330 million people x 10% x 11 g cannabis per day = 362,000,000 g/day cannabis = 362 tons/day cannabis extracted

While this figure is very approximate, it provides an order of magnitude regarding the potential size of the cannabis extraction industry in the United States.

By comparison, the edible oil industry in the United States has an annual crush rate of approximately 64.31 million metric tons/year (see attached). With a typical production schedule of 350 days/year, the equivalent daily figure is 183,743 tons/day oilseeds extracted. There are approximately 75 oilseed solvent extraction plants in the United States with an average capacity of 2,500 tons/day of oilseed processed.

So when the cannabis oil extraction industry reaches maturity, the full United States cannabis industry could be served by one small solvent extraction plant when considering the scale of the oilseed processing industry.

NFPA36 Solvent Extraction plants covers oil extraction from oilseeds. The standard is in existence since 1957 and specific to the oilseed extraction industry which has adopted a single solvent, commercial hexane. So the standard has been written very precise for this single solvent extraction application. As such, it remains a specific standard for a mature, large, and highly uniform industrial application.

Safety in cannabis oil extraction is also very important and has its challenges. With the industry in its formative years, there remains multiple extraction solvents and approaches being used. In my opinion, it is too early to develop an industry-specific NFPA standard for cannabis oil extraction. The value of the oil extracted is extremely high making it a multi-billion dollar industry, but the quantity of cannabis extracted will remain relatively low. Therefore, I also find it difficult to justify the development of a specific standard for a niche industry of this size.
My suggestion would be for the cannabis oil extraction industry to develop a best practice guide referring to existing NFPA standards, depending upon the solvent and process used. NFPA36, NFPA30 and NFPA497 come to mind as existing standards which could be referred to in a best practice guide so that the many small entrants in that quick-developing cannabis industry know where to go for plant design and operational safety advice.

Best regards,
Tim

Timothy Kemper
NFPA36 Technical Committee member
### Table 04: Major Oilseeds: World Supply and Distribution (Country totals) Million Metric Tons

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Major Oilseeds includes Copra, Cottonseed, Palm Kernel, Peanut, Rapeseed, Soybeans and Sunflowerseeds.