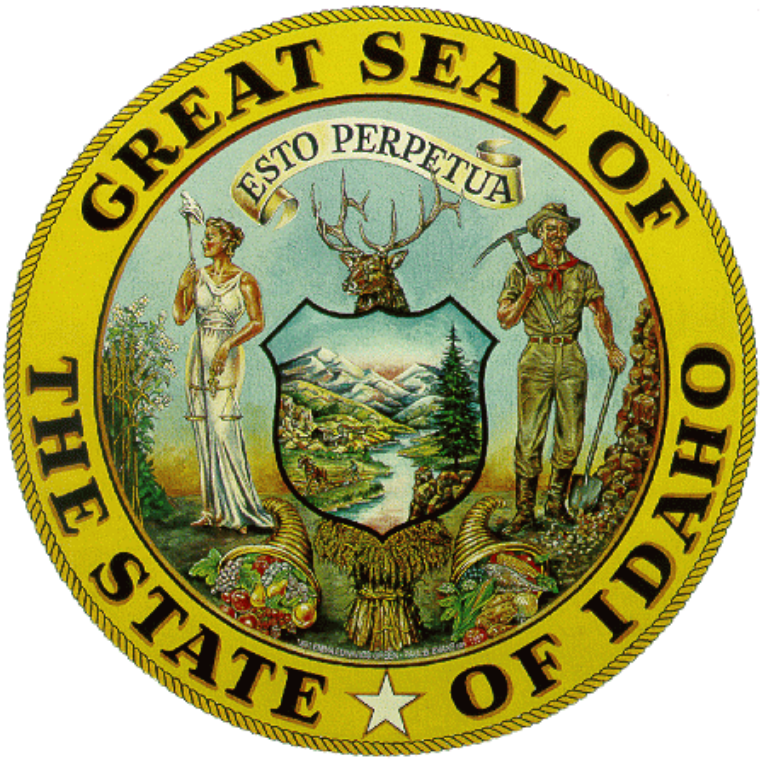
# DIVISION OF BUILDING SAFETY

# IDAHO HEATING, VENTILATION AND AIR CONDITIONING BOARD VIDEOCONFERENCE MEETING

## NOVEMBER 14, 2018



# IDAHO HEATING, VENTILATION AND AIR CONDITIONING BOARD

**Agenda Item No. 01** **Agenda and Minutes**

**PRESENTER:** Ted Sermon, Chairman

**OBJECTIVE:** Approve Idaho HVAC Board's November 14, 2018 Agenda and May 9, 2018 Meeting Minutes.

**ACTION:** Consent

**BACKGROUND:**

**PROCEDURAL HISTORY:**

**ATTACHMENTS:** Tentative Agenda and Draft Minutes

# ***TENTATIVE AGENDA***

## NOTICE OF PUBLIC MEETING

## IDAHO HEATING, VENTILATION AND AIR CONDITIONING BOARD VIDEOCONFERENCE MEETING

**Division of Building Safety**
**1090 East Watertower Street, Suite 150, Meridian**
**1250 Ironwood Drive, Suite 220, Coeur d'Alene**
**2055 Garrett Way, Building 1, Suite 4, Pocatello**
**dbs.idaho.gov – (208) 332-7137**

**Wednesday, November 14, 2018**
**9:30 a.m. – 12:30 p.m. (MST)**
**8:30 a.m. – 11:30 a.m. (PST)**

---

**9:30 a.m.** **CALL TO ORDER** – Ted Sermon, Chairman

- Roll Call & Introductions
- Recognition – Board Member Bill Vandergrift
- Welcome – New Board Members Garret Christoffersen (City Official), Mark Ferm (County Official), and Judy Van Cleave (HVAC Contractor/Specialty)
- Open Forum

**CONSENT AGENDA**

1. Approval of the November 14, 2018 Agenda and May 9, 2018 Board Meeting Minutes – Ted Sermon

**ACTION AGENDA**

2. Schedule 2019 Board Meetings – Ted Sermon

**INFORMATIONAL AGENDA**

3 Permit Fees--Square Footage vs. Per Appliance – John Rupert, Comfy Fire

4 Licensing/Requirements for the Apprentice/Journeyman Program – Jeff Cox, Right Now Heating & Air and David Leroy, Attorney

5. HVAC School Programs – John Nielsen, HVAC Program Manager

6. Apprentice Renewal – John Nielsen

7. Code Update – John Nielsen

8. Conduct Board Meetings Throughout State – Ted Sermon

9. Program Manager Report – John Nielsen

10. Compliance Program Report – Amy Kohler, Compliance Program Specialist

11. Administrator Report – Chris L. Jensen, Administrator
    a. Financial Report

**12:30 p.m. ADJOURN**

***For additional agenda information, refer to the packet, available one week prior to this meeting, at the DBS's central and regional offices and https://dbs.idaho.gov/boards/hvacboard/hvacmeetings.html.***

***All times, other than beginning, are approximate and scheduled according to Mountain Standard Time (MST), unless otherwise noted. Agenda items may shift depending on the Idaho HVAC Board's preference. 11/01/2018rb***

**IDAHO HEATING, VENTILATION AND AIR CONDITIONING BOARD VIDEOCONFERENCE MEETING**

**Wednesday – May 9, 2018 – 9:30 a.m. (MDT)**

**Division of Building Safety**
**1090 East Watertower Street, Suite 150, Meridian**
**1250 Ironwood Drive, Suite 220, Coeur d'Alene**
**2055 Garrett Way, Building 1, Suite 4, Pocatello**

# *DRAFT MINUTES OF THE MAY 9, 2018 MEETING

**NOTE: The following report is not a verbatim transcript of the discussions at the meeting, but is intended to record the significant features of those discussions.**

Chairman Ted Sermon called the meeting to order at 9:30 a.m. (MDT)

**Board Members Present:**
Ted Sermon, Chairman
Randy Hart
Bill Carter
Bill Hatch
Bill Vandegrift

**DBS Staff Members Present:**
Chris L. Jensen, Administrator - Teleconference
Ron Whitney, Deputy Administrator
John Nielsen, HVAC Program Manager
Spencer Holm, Deputy Attorney General
Larry Jeffres, Regional Manager, Region 1
Patrick J. Grace, Regional Manager, Region 2
Jeff Egan, Regional Manager, Region 3
Adam Bowcutt, Regional Supervisor, Region 3
Renee Bryant, Administrative Assistant 2

- **Recognition**
  Recognized for their service on the Idaho HVAC Board were John Smith and Geoff Oldenkamp.

- **Open Forum**
  Permit Fee – In April 2018, Kootenai County chose to remove the ordinances and dispense with their HVAC Program. By law, it then falls to DBS. John Rupert, Comfy Fire, stated the current HVAC fee structure is based on square footage for new construction. The HVAC contractor installing all HVAC work and the HVAC specialty contractor installing one appliance pay the same amount for a permit. This is incredibly burdensome, prejudicial and a penalty tax to small businesses and specialty contractors. Mr. Rupert suggested changing the fee structure from square footage to per fixture.

  Hearing this issue for the first time, the Chairman asked Mr. Rupert to put together a proposal and bring it to the November Board meeting for review. Regional Manager Larry Jeffres offered to work closely with Mr. Rupert.

  Apprenticeship--2000 Hour Requirement – Kassi Silvas, Dean of Career Technical Education at North Idaho College (NIC), addressed the 2,000-hour on-the-job training (OJT)

requirement approved by the Board at its January 2006 meeting. In the past, DBS approved students to take the journeyman exam upon completion of the one-year full-time apprenticeship program. Recently becoming aware of a graduate denied to test for journeyman, Ms. Silvas requested the Board honor the 2006 rule by grandfathering the students graduating in 2018, as well as the graduates in 2017.

Chairman Sermon explained the history behind the topic, as well as stated there would be further discussion under agenda item 03, *PUBLIC HEARING–Negotiated Rulemaking–Apprenticeship--2000 Hour Requirement*.

- **Approval of the May 9, 2018 Agenda**
  Agenda item 04, *Idaho Code § 54-5004(3) Idaho Ventilation and Air Conditioning Board*, was added to the agenda as an action item less than the required 48 hour notice for a regular meeting. To amend the agenda, a motion and good faith reason why the item was not included in the original agenda was required.

  ***MOTION:*** Bill Hatch made a motion to amend the agenda to include action agenda item 04, *Idaho Code § 54-5004(3) Idaho Ventilation and Air Conditioning Board.* Bill Vandegrift seconded. All in favor, motion carried.

  The good faith reason was the HVAC program did not decide there would be action required until after the 48-hour period had passed.

  ***MOTION:*** Bill Carter made a motion to approve the agenda as amended. Bill Hatch seconded. All in favor, motion carried.

- **Approval of the March 14, 2018 Meeting Minutes**
  ***MOTION:*** Bill Hatch made a motion to approve the minutes as presented in the packet. Bill Carter seconded. All in favor, motion carried.

- **PUBLIC HEARING–Negotiated Rulemaking–Apprenticeship--2000 Hour Requirement**
  Presented was a proposed rule change to IDAPA 07.07.01.023.01 *HVAC JOURNEYMAN CERTIFICATES OF COMPETENCY: REQUIREMENTS* that would allow an apprentice who completes a board-approved, full-time HVAC training course, which consists of a minimum of 800 hours of combined class and laboratory time, to receive up to one year of on-the-job experience toward the apprentice's fourth year. It was determined the text did not need to specify a certain year; therefore, it was recommended removing the verbiage "toward the apprentice's fourth year".

  To meet the requirements, Chairman Sermon requested, and Kassi Silvas, Dean of Career Technical Education at NIC agreed, to provide the school's curriculum.

  Following are suggestions to the proposal: 1) Breakdown the specific number of hours for lab time; one (1) year OR hour for hour, 2) Make it a temporary and proposed rule, 3) Add "If deadline is missed, students may appeal to the Board and be considered on an individual basis", 4) Clarify the type of program; i.e., "one-year intensive", "one-year academic", etc.,

DRAFT

5) Add "Classroom/lab time interpreted by the Board", and 6) Do not separate classroom/lab hours as long as the programs are approved by the Board.

After a lengthy discussion, the draft proposal will be submitted as a temporary and proposed rule and will read, "Notwithstanding the requirement that an apprentice demonstrate four (4) years of on-the-job experience, an apprentice who successfully completes a board-approved, one-year full-time HVAC training course may receive up to one (1) year of on-the-job experience."

***MOTION:*** Bill Carter made a motion to approve, with the addition of the words "successful" and "one-year", as well as additional clarifications, the proposed rule on a temporary and permanent basis. Bill Hatch seconded. All in favor, motion carried.

- **Idaho Code § 54-5004(3) Idaho Ventilation and Air Conditioning Board**
  The proposed statute change deals with the makeup of the HVAC Board. With only 22 individuals licensed as specialty contractors with DBS, it is practically impossible to fill the HVAC specialty contractor position on the Board. Therefore, to broaden the scope of qualified individuals, the proposal replaces "an HVAC specialty contractor" with "a representative of the HVAC industry".

  ***MOTION:*** Bill Carter made a motion to change the wording as written from "specialty" to "representative". Randy Hart seconded. Four ayes, one nay, motion carried.

- **Licensing Freedom Executive Order--Final Draft**
  Patrick J. Grace, Regional Manager, provided the Board was the final reports, with the recommended changes from the March 2018 meeting, on the HVAC Contractor and Specialty Contractor Licenses, HVAC Journeyman and Specialty Journeyman Licenses, and HVAC Apprentice and Specialty Apprentice Registration.

- **Continuing Education (CE)**
  The HVAC Program Manager explained the CE requirements for the electrical and plumbing trades. Mimicking plumbing, HVAC journeymen would need to complete, every three years, eight hours of CE (four hours HVAC code update related and four hours industry related). HVAC contractors would need to complete 16 hours of CE every three years. Hours accrued by obtaining journeyman education would apply whenever applicable.

  This topic is informational only and would not be eligible for consideration until the 2020 legislature. The Chairman requested, and the HVAC Program Manager offered, to send an e-mail to all interested parties on the potential for CE in the HVAC trade.

  ***ACTION:*** The Division will send an e-mail to the HVAC trade and colleges of the HVAC Board's consideration of CE.

- **Code Updates**
  The HVAC trade is currently using the 2012 codes. Joe Barlow, DBS Mechanical Plans Examiner, is comparing the 2015 and 2018 International Residential Code (IRC) and

DRAFT

International Mechanical Code (IMC). The Board is unsure which code to consider for future adoption. Mr. Barlow recommended the 2018 codes; stating it seems to clarify more than the 2015 codes.

Upon further discussion, the Board agreed to consider the 2018 codes. The HVAC Program Manager will provide an overview of significant changes in the 2018 IRC and IMC at the November 2018 Board meeting.

***ACTION:*** For the November meeting, the HVAC Program Manager will provide an overview on significant changes between the 2012 and 2018 codes.

***ACTION:*** The topic *Code Updates* will be placed on the November agenda as an informational item.

- **Program Manager Report**

  Legislation – DBS will present two draft rules and one proposed statute change to the 2019 legislative session. The rules are to test upon completion of apprenticeship school (no hours), and credit for full-time on-the-job experience. The statute replaces the HVAC Specialty Contractor representative with a representative of the HVAC industry.

  Mechanical Program – In January 1, 2019, the Division will implement a new statewide mechanical program to require, in its jurisdiction, Manuals S, J, and D for new residential construction only.

  Training – DBS staff will travel throughout the state of Idaho; providing training on submittal procedures, plan review and inspection requirements for S, J, and D Manuals in June. Additional information is available on the Division's website.

- **Compliance Program Report**

  Employee Appreciation Month – May is Employee Appreciation month in the state of Idaho. The Compliance Program Specialist took advantage of this opportunity to travel and meet with the Division's inspectors; discussing the Compliance program and any specific compliance issue(s) in their regions.

  Reports – Addressed was the HVAC Journeyman 1st Exam report, as well as the Notice of Violation Activity report.

- **Administrator Report**

  Financial Report – The Division prefers the HVAC program have at least one year in reserve of operating costs. Currently, there is approximately six months' worth.

  City of Meridian – The Division has provided a 60-day notice to the city of Meridian to terminate its electrical and building programs; working through the original three-year contract which ends September 30, 2018. The Mechanical program is still intact, as the City has specifically asked for a three-year extension.

DRAFT

Travel for Board Meetings – The Chairman questioned the possibility of traveling throughout the state for meetings. If confined to the Coeur d'Alene, Meridian and Pocatello areas, others would still have the ability to participate via videoconference. In addition, the Board could travel; however, DBS may possibly stay in their respective regions; lowering the cost of travel. Mike LaPray, HVAC Assistant Professor, College of Southern Idaho, offered the services of the college.

For the November 2018 Board meeting, Chairman Sermon suggested adding the topic to the agenda as an informational item.

***ACTION:*** The topic *Travel for Board Meetings* will be placed as an informational item on the November 2018 agenda.

- **Adjournment**

***MOTION:*** Bill Hatch made a motion to adjourn the meeting. Bill Carter seconded. All in favor, motion carried.

The meeting adjourned at 12:30 p.m. (MDT).

| | |
|---|---|
| TED SERMON, CHAIRMAN<br>HEATING, VENTILATION AND<br>AIR CONDITIONING BOARD | CHRIS L. JENSEN, ADMINISTRATOR<br>DIVISION OF BUILDING SAFETY |
| DATE | DATE |

**These DRAFT minutes are subject to possible correction and final approval by the Idaho HVAC Board. 10/31/2018rb**

DRAFT

# IDAHO HEATING, VENTILATION AND AIR CONDITIONING BOARD

**Agenda Item No. 02** **Schedule 2019 Board Meetings**

**PRESENTER:** Ted Sermon, Chairman

**OBJECTIVE:** Schedule board meetings for 2019.

**ACTION:** Vote to accept, reject or modify the 2019 meeting dates as suggested under the topic *Background*.

**BACKGROUND:** Selected for the Board's consideration are the following dates for the 2019 board meetings:

**January 8 (Tuesday), March 12 (Tuesday), May 21 (Tuesday), and November 12 (Tuesday)**

**PROCEDURAL HISTORY:**

**ATTACHMENTS:** 2019 Board Meeting Calendar

# DBS BOARD MEETINGS - 2019

| | |
|---|---|
| DAMAGE PREVENTION BOARD | JAN 24, MAR 28, MAY 23, JUL 25, SEP 26, NOV 21 |
| FACTORY BUILT STRUCTURES ADVISORY BOARD | FEB 12, MAY 14, JUL 9 |
| IDAHO BUILDING CODE BOARD | JAN 15, JAN 29, FEB 19, APR 16, JUN 18, AUG 20 (TENT), OCT 15 |
| IDAHO ELECTRICAL BOARD | JAN 23, APR 24, JUL 24, OCT 23 |
| IDAHO HEATING VENTILATION & AIR COND. BOARD | JAN 8, MAR 12, MAY 21, NOV 12 |
| IDAHO PLUMBING BOARD | JAN 17, MAR 21, MAY 16, SEPT 19 |
| PUBLIC WORKS CONTRACTORS LICENSE BOARD | JAN 14, APR 15, JUL 15, OCT 7 |
| SCHOOL SAFETY & SECURITY ADVISORY BOARD | JAN 10, SEP 12 |

Board Meetings will be held at each Division of Building Safety regional office either in person or through video

1090 E WATERTOWER ST
SUITE 150
MERIDIAN, ID 83642

1250 IRONWOOD DR
SUITE 220
COEUR D'ALENE, ID 83814

2055 GARRETT WAY
BLD 1, SUITE 4
POCATELLO, ID 83201

| JANUARY | | | | | | |
|---|---|---|---|---|---|---|
| S | M | T | W | T | F | S |
| | | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | 31 | | |

| FEBRUARY | | | | | | |
|---|---|---|---|---|---|---|
| S | M | T | W | T | F | S |
| | | | | | 1 | 2 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | | |

| MARCH | | | | | | |
|---|---|---|---|---|---|---|
| S | M | T | W | T | F | S |
| | | | | | 1 | 2 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | | | | | | |

| APRIL | | | | | | |
|---|---|---|---|---|---|---|
| S | M | T | W | T | F | S |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | | | | |

| MAY | | | | | | |
|---|---|---|---|---|---|---|
| S | M | T | W | T | F | S |
| | | | 1 | 2 | 3 | 4 |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 26 | 27 | 28 | 29 | 30 | 31 | |

| JUNE | | | | | | |
|---|---|---|---|---|---|---|
| S | M | T | W | T | F | S |
| | | | | | | 1 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 30 | | | | | | |

| JULY | | | | | | |
|---|---|---|---|---|---|---|
| S | M | T | W | T | F | S |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | 31 | | | |

| AUGUST | | | | | | |
|---|---|---|---|---|---|---|
| S | M | T | W | T | F | S |
| | | | | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 |

| SEPTEMBER | | | | | | |
|---|---|---|---|---|---|---|
| S | M | T | W | T | F | S |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | | | | | |

| OCTOBER | | | | | | |
|---|---|---|---|---|---|---|
| S | M | T | W | T | F | S |
| | | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | 31 | | |

| NOVEMBER | | | | | | |
|---|---|---|---|---|---|---|
| S | M | T | W | T | F | S |
| | | | | | 1 | 2 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |

| DECEMBER | | | | | | |
|---|---|---|---|---|---|---|
| S | M | T | W | T | F | S |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |

Holidays outlined & highlighted in **gray** -- Management meetings outlined in **blue** -- Industrial Safety meetings outlined in **red**

# IDAHO HEATING, VENTILATION AND AIR CONDITIONING BOARD

**Agenda Item No. 03 Permit Fees--Square Footage vs. Per Appliance**

**PRESENTER:** John Rupert, Comfy Fire

---

**OBJECTIVE:** Modify the fee structure to include a single fee for HVAC Specialty Contractors installing only one fixture in a new home.

---

**ACTION:** Informational

---

**BACKGROUND:** **May 2018** –In April 2018, Kootenai County chose to remove the ordinances and dispense with their HVAC Program. By law, it then falls to DBS. John Rupert, Comfy Fire, stated the current HVAC fee structure is based on square footage for new construction. The HVAC contractor installing all HVAC work and the HVAC specialty contractor installing one appliance pay the same amount for a permit. This is incredibly burdensome, prejudicial and a penalty tax to small businesses and specialty contractors. Mr. Rupert suggested changing the fee structure from square footage to per fixture.

Hearing this issue for the first time, the Chairman asked Mr. Rupert to put together a proposal and bring it to the November Board meeting for review. Regional Manager Larry Jeffres offered to work closely with Mr. Rupert.

---

**ATTACHMENTS:** Supporting Documentation from Mr. Rupert and DBS

---

Comfy Fire, Inc.
9323 N Government Way, PMB 105
Hayden, Idaho 83835

May 31, 2018

State of Idaho Department of Building Safety
1090 East Watertower Street, Suite 150
Meridian, Idaho 83642

Gentlemen:

The current HVAC fee schedule gives SUBSTANTIAL advantage to HVAC Contractors over HVAC Hearth Specialty Contractors. New construction permit fees are based on square footage of the home so the fees become redundant when multiple HVAC contractors bid jobs.

The SMALL BUSINESS Hearth Specialty Contractor must purchase a permit based on the square footage of the home even for ONE fireplace. The HVAC Contractor pays the same fee covering the entire Heating & Cooling System and can do fireplaces at no additional permit fees.

The HVAC Hearth Specialty Contractor is much more adept at safely installing the MOST DANGEROUS APPLIANCE in the house since their training and experience is focused only on hearth. There is a SIGNIFICANT difference in knowledge, training, & experience; so much, many states require separate licenses. If the mission of DBS is "Building a Safer Idaho", why are we, the EXPERTS in hearth, UNFAIRLY being charged hundreds of dollars more for permits?

Several years ago, I brought this to the attention of the board in a video conference. There was no response until the current hike in fees making the fees even MORE DISPROPORTIONATE. With DBS taking on the entire County of Kootenai, these fees will DEVASTATE the SMALL HVAC Specialty Contractor!!!

PLEASE, IMMEDIATELY, make Hearth Permits SEPARATE or make HVAC Permit Fees
Based on the NUMBER of Appliances.

Thank You for Your Swift Attention to this Matter,

John Rubert
HVAC Hearth Specialty Journeyman 1904
President, Comfy Fire, Inc.
HVAC Hearth Specialty Contractor 1906
Bureau of Occupational License, Contracting RCE-16892
BA Cum Laude, Business Management, Humboldt State University

Comfy Fire, Inc.
9323 N Government Way, PMB 105
Hayden, Idaho 83835

May 31, 2018

State of Idaho Department of Building Safety
1090 East Watertower Street, Suite 150
Meridian, Idaho 83642

Gentlemen:

The current HVAC fee schedule gives SUBSTANTIAL advantage to HVAC Contractors over HVAC Hearth Specialty Contractors. New construction permit fees are based on square footage of the home so the fees become redundant when multiple HVAC contractors bid jobs.

The SMALL BUSINESS Hearth Specialty Contractor must purchase a permit based on the square footage of the home even for ONE fireplace. The HVAC Contractor pays the same fee covering the entire Heating & Cooling System and can do fireplaces at no additional permit fees.

The HVAC Hearth Specialty Contractor is much more adept at safely installing the MOST DANGEROUS APPLIANCE in the house since their training and experience is focused only on hearth. There is a SIGNIFICANT difference in knowledge, training, & experience; so much, many states require separate licenses. If the mission of DBS is "Building a Safer Idaho", why are we, the EXPERTS in hearth, UNFAIRLY being charged hundreds of dollars more for permits?

Several years ago, I brought this to the attention of the board in a video conference. There was no response until the current hike in fees making the fees even MORE DISPROPORTIONATE. With DBS taking on the entire County of Kootenai, these fees will DEVASTATE the SMALL HVAC Specialty Contractor!!!

PLEASE, IMMEDIATELY, make Hearth Permits SEPARATE or make HVAC Permit Fees
Based on the NUMBER of Appliances.

Thank You for Your Swift Attention to this Matter,
John Rubert
HVAC Hearth Specialty Journeyman 1904
President, Comfy Fire, Inc.
HVAC Hearth Specialty Contractor 1906
Bureau of Occupational License, Contracting RCE-16892
BA Cum Laude, Business Management, Humboldt State University

ALSO SIGNED

Eron Armour
Armour Chimney Service
CSIA Certified Chimney Sweep #7416
F.I.R.E. Certified Inspector FCI-235
NFI Certified Gas Specialist #169571
NFI Certified Pellet Specialist #169571
NFI Certified Woodburning Specialist #169571
NFI Master Hearth Professional
Idaho Hearth Contractor 020658
WA Gen. Contractor ARMOUCS848DP

Comfy Fire, Inc.
9323 N Government Way, PMB 105
Hayden, Idaho 83835

RECEIVED
JUN 07 2018
DIVISION OF BUILDING SAFETY

May 31, 2018

State of Idaho Department of Building Safety
1090 East Watertower Street, Suite 150
Meridian, Idaho 83642

Gentlemen:

The current HVAC fee schedule gives SUBSTANTIAL advantage to HVAC Contractors over HVAC Hearth Specialty Contractors. New construction permit fees are based on square footage of the home so the fees become redundant when multiple HVAC contractors bid jobs.

The SMALL BUSINESS Hearth Specialty Contractor must purchase a permit based on the square footage of the home even for ONE fireplace. The HVAC Contractor pays the same fee covering the entire Heating & Cooling System and can do fireplaces at no additional permit fees.

The HVAC Hearth Specialty Contractor is much more adept at safely installing the MOST DANGEROUS APPLIANCE in the house since their training and experience is focused only on hearth. There is a SIGNIFICANT difference in knowledge, training, & experience; so much, many states require separate licenses. If the mission of DBS is "Building a Safer Idaho", why are we, the EXPERTS in hearth, UNFAIRLY being charged hundreds of dollars more for permits?

Several years ago, I brought this to the attention of the board in a video conference. There was no response until the current hike in fees making the fees even MORE DISPROPORTIONATE. With DBS taking on the entire County of Kootenai, these fees will DEVASTATE the SMALL HVAC Specialty Contractor!!!

PLEASE, IMMEDIATELY, make Hearth Permits SEPARATE or make HVAC Permit Fees Based on the NUMBER of Appliances.

Thank You for Your Swift Attention to this Matter,

John Rubert
HVAC Hearth Specialty Journeyman 1904
President, Comfy Fire, Inc.
HVAC Hearth Specialty Contractor 1906
Bureau of Occupational License, Contracting RCE-16892
BA Cum Laude, Business Management, Humboldt State University

Jeff Bourhart
Quality - Stoves

Ironstone Inc
President.

Sandy Dimmet
Specialty Gas Svc. INC.

Freeman - Kuma Stoves

01. New Residential - Single-Family Dwelling. Includes all buildings with HVAC systems being constructed on each property. (4-9-09)

02. New Residential - Multi-Family Dwellings. (3-26-08)

New Residential - Single-Family Dwelling

Up to 1,500 Square feet of living space - $130

1,501 to 2,500 Square feet of living space - $195

2,501 to 3,500 Square feet of living space - $260

3,501 to 4,500 Square feet of living space - $325

Over 4,500 Square feet of living space - $325 plus $65 for each additional 1,000 square feet or portion thereof

Gas fireplace/Fireplace stoves-$65 dollars per inspection

03. Existing Residential. Sixty-five dollars ($65) plus ten dollars ($10) for each additional piece of HVAC equipment being installed up to a maximum of the corresponding square footage of the residential building.

# IDAHO HEATING, VENTILATION AND AIR CONDITIONING BOARD

**Agenda Item No. 04 Licensing Requirement for the Apprentice and Journeyman Program**

**PRESENTER:** Jeff Cox, Right Now Heating & Air And David Leroy, Attorney

**OBJECTIVE:** Discuss concerns pertaining to HVAC licensing and permitting in Idaho.

**ACTION:** Informational

**BACKGROUND:**

**PROCEDURAL HISTORY:**

**ATTACHMENTS:** Memorandum for Board Consideration

October 22, 2018

Right Now Heating & Air
Jeff Cox
212 Evans
Caldwell, ID. 83605

Memorandum for Board consideration

Attorney at Law
David Leroy
802 W Bannock Ste 201
Boise, ID. 83702

Dear Mr. Leroy,

I am writing to you today seeking your council on issues with respect to the licensing and permitting in the State of Idaho for Tradesmen and women in the electrical, plumbing and mechanical industries. I am in my 41st year as an Owner/Operator of a plumbing, heating and air conditioning company with 160 employees and hold licenses in Idaho, Utah, Oregon, Texas and Oklahoma. I am in a unique position to see firsthand the differences between that each state has taken regarding how they license and permit these industries.

My intent is to share with you my concerns of the disadvantages that those wishing to enter into these trades face in Idaho. A strong labor force is imperative for the success of those in these trade industries and these industries are vital to a robust economy. The numerous changes or lack thereof are detrimental to growing the workforce, which in turn jeopardizes the growth of services business throughout the state.

The information I am providing will be focused in my specific field of mechanical (heating, air conditioning, and plumbing) however, all trades all similarly affected.

First, I wish to share with you some industry statistics facing our Nation. Today 52% of the HVAC Technical work force in the United States is made up of the Baby Boomer generation. The first of the Baby Boomers turned 70 years of age in 2016. Today for every two Baby Boomers retiring only one new person is entering the HVAC field to replace them. The average Technician in the HVAC industry is 56 years old, with more than 10,000 baby boomers retiring daily, along with limited access to vocational school training, and the anticipated 21% industry growth from 2012 to 2022 (Bureau of Labor Statistics) has created a shortage of qualified candidates.

Here on a local level the concerns of having a sufficient work force for the trade industry is made complicated ~~e~~ by the most stringent State requirements west of the Mississippi for a trades person in Idaho to enter and grow in the HVAC business.
To compound the problem Idaho does not recognize reciprocal experience from other licensing agencies has the lowest wages amongst the surrounding States.

For example, according to hvactraining101.com;
(Idaho) has six types of licensing based on experience and skill of the applicant. There is no reciprocal licensing agreement with any other state.

- To work in Idaho, you must be employed by a licensed contractor.
- You must submit and purchase a State required apprentice card by first day of employment.
- You are required to complete 4 years of continued education from an accredited school. Average cost for school tuition and books is $7,000 to $8000 for 4 years.
- You are required to complete 4 years of work experience certified by a licensed contractor.
- Upon completion of 4 years of work experience and continued education certificates you can take a written exam to qualify as a Journeyman HVAC Technician.
- An additional 2 years of experience is required as a licensed journeyman to take a written exam for the Contractor license for a total of 6 years.
- Average pay structure in Idaho for an experienced Technician (Journeyman) is $17.89 per hour. Beginning apprentice is $10.51 per hour with senior Technicians earning up to $28.61.

(Nevada) There are no license requirements for an applicant to work for a licensed contractor.

- Average pay structure in Nevada for an experienced Technician is $26 per hour verses $17.89 in Idaho in Idaho, which also requires 4 years of education and work experience.

(Utah) There are no license requirements for an applicant to work for a licensed contractor.

- Average pay structure in Nevada for an experienced Technician is $20 to $25 per hour verses $17.89 in Idaho, which also requires 4 years of education and work experience.

(California) There are no license requirements for an applicant to work for a licensed contractor.

- California offers the second highest pay structure to HVAC professionals only second to New York State.

(Oregon) There are no license requirements for an applicant to work for a licensed contractor.

- Average pay structure in Nevada for an experienced Technician is $20.22 per hour verses $17.89 in Idaho, which also requires 4 years of education and work experience.

(Montana) There are no license or requirements for an applicant to work for a licensed contractor.

- An experienced Technician earns on average $40,000 per year.

(Wyoming) There are no HVAC licensing requirements.

- HVAC starting wage average is $15.60 per hour with experienced Techs earning $33.00 per hour.

I could continue; however, the evidence is overwhelming that Idaho has made the HVAC trades more difficult to enter and achieve licensing than any other surrounding state with the least financial reward. These factors are creating a shortage of qualified men and women to work in the HVAC trades in Idaho. To compound this matter The Idaho State Building & Safety HVAC division board meeting held on January 19th, 2018 pressed to vote to have a licensed Journeyman

present on every job site. It was tabled for further discussion. It is evident, to even have such a discussion, this displays a disconnect with the State of Idaho HVAC board and the reality of what is occurring in the industry. The required four-year apprentice program to test to become a journeyman in Idaho is statistically failing to meet the current number of Journeyman Technicians needed in Idaho without taking into consideration any industry growth predicted over the next 4 years. According to the Idaho State Board of HVAC licensing for 2017 nine approved vocational educational schools had 27 applicants complete the required four-year apprentice program with only 18 passing the written journeyman exam with a 67% passing percentage.

These applicants have applied 4 years of work experience and continued education experience to have only 67% qualify as Journeyman. The 18 that did pass would almost fill the need of just my company. The shortage of qualified applicants is currently being enhanced by the State requirements of such stringent test and longevity requirements of education and experience.

My recommendation in meeting the current needs and to prepare for the future growth of the HVAC industry in Idaho;
Option #1:
I would recommend a similar program as the surrounding States have adopted.

- Age 21 required with four years of work experience or ages 18 to 20 requires 6 years work experience under a licensed contracting company allowing for the individual to take a written exam to qualify as a licensed contractor. Voluntary vocational training could qualify the individual for up to 2 years work experience. (No licensing required to work for a licensed contractor)

Option #2:

- Develop a one-year education program with two years of work experience to test and qualify as a journeyman HVAC Technician beginning at age 21. (4 years required experience for any candidate 18 to 20 years of age). (No licensing required to work for a licensed contractor)
- To allow any candidate from any state with 4 or more (Contractor Certified) years of experience to be qualified to take the written Journeyman exam.

Further, while it is important to insure public protection, it is possible that unnecessary barriers have been created affecting commerce and employment. Since HVAC licensing was implemented in Idaho a licensed contractor could apply for a specialty plumbing and specialty electrical license with only required work experience. This would allow, for example, an installing HVAC Technician to install a water heater under one license and one permit. Since 2017 a HVAC Technician can connect the gas and venting to the water heater under an HVAC license, however the same technician cannot connect the water supply to the top of the water heater without completing an 18-month continued education plumbing coarse to achieve a specialty plumbing license (the water connection is now required by a licensed plumber). At this same time, he is expected to be enrolled in and taking his 4-year HAVC continued education course.

This same effect has occurred with the Electrical Specialty license which has been completely dissolved by the board. The effect on existing homes is substantial in cost to the homeowner. For example, when replacing a homeowner's outdoor air conditioner there may or may not be a service disconnect mounted to the outside wall. This is a fused high voltage box with a three-connection terminal wire hook up equal to the same terminals on the air conditioner. HVAC technicians work

with a multitude of high and low voltage connections in both furnaces and air conditioners and yet these State board rulings now require a licensed electrician to replace or install a $20 fused disconnect at a cost to the homeowner of an average of $325 and requires an additional permit with inspection from that of the HVAC permit.

September 1st of 2018 The State Safety Board passed an additional requirement for electric water heaters in homes. The same above mentioned disconnect is now required to be installed at any electrical water heater not within site if the breaker panel. This again is adding a tremendous expense to the home owner because under current State requirements the licensed HVAC/plumber isn't allowed to install the disconnect. This installation is required by a licensed electrician with an additional permit and inspection.

The environment this is creating is fewer contractors are pulling permits altogether on existing homes to avoid the code permitting process as it becomes more departmentalized and more stringent. For example, if my company is to install a furnace, air conditioner, and water heater in an existing occupied home, there would be an electrical, plumbing, and mechanical permit required. These are most often separate inspectors either through the City, County, or State. It is my responsibility to coordinate with the homeowner and each inspector. The inspections are only provided Monday through Friday and quite often only given an 8AM to Noon or a 1PM to 4:30PM window. This may require the homeowner to take off multiple days of work to allow access for the inspections. When licensing and permitting began in the early 2000's all work could be done under one mechanical permit.

Today the average heating and air conditioning installation cost to meet current code, permit, and inspections has increased $500 to a $1,000 per installation. A water heater changeout permitted will increase the cost to the customer from $250 to $500.

This has led contractors to avoid pulling permits altogether so that they are more competitive for low bid opportunities. This has created an unfair balance between the contractors who are following the State requirements and those who are not.

Here is an example for a better understanding; a simple water heater change out with no permit requires an alike water heater and one to two hours labor with $20 in fittings. A permitted water heater change out requires three to four hours labor, adding an expansion tank, two new retro fitted water flex connectors, water shut off valve, a safety drain pan properly plumbed for drainage, carbon monoxide detectors installed throughout the home for every bedroom and each level of home, (gas water heater) venting must be replaced to double wall pipe verses current single wall pipe, (electric water heater) if not in view of the breaker panel requires an electrician to install an electrical safety disconnect with an additional electrical permit.

I could continue on with air conditioners and furnaces with up to three inspections required electrical, plumbing, and mechanical. Less than half of HVAC/plumbing contractors pull permits for work on existing homes. Only 20% of the HVAC/plumbing contractors pull permits consistently for work on existing homes. There is no enforcement for not pulling permits on existing homes in Idaho unless the inspector witnesses you performing work at a residence and he takes it upon himself to verify whether or not a permit was pulled. Once the contractor leaves the

residence the only course of action is to file a citizen complaint with the State Attorney General Office as a public witness. As an example, the State of Idaho Building and Safety recorded only one “failure to permit” violation in the month of November 2017. Just through our company follow up to bids we lose to competitors we recorded more than 250 installations with no permit for a 10-month period.

It is of my opinion that the State of Idaho Building and Safety HVAC licensing and permitting for existing occupied homes and businesses was created some 15 to 20 years ago to provide protection to the individual or individuals occupying the dwelling. Since that time, through continual changes of more stringent license requirements, an environment has been created that is less attractive for employment opportunities in Idaho as compared to most any other State. It is also of my opinion that the stringent additions to the required code upgrades and permitting process has created an unfair competitive bidding environment and has caused contractors to accept and perform business illegally throughout Idaho for financial gain avoiding proper licensing and permitting requirements.

It is of my opinion that if any permit be required for an existing residence it be based on safety of the occupants and the property. A single inspection for the complete installation as related to the appliance being installed to include electrical, plumbing, and mechanical. The Contractor should be responsible for the technical capabilities and performance of his employees.

As most States have recognized, it is important to supervise the Contractor not the employee. The Contractor is ultimately responsible for the performance and safety of the product he or she is installing. The Contractor needs to be held accountable for his or her experience in the trade, in business knowledge, and insurance requirements to protect the individuals and properties in which he or she contracts to do work.

The Contractor needs to be given the ability to produce, attract, and retain top talent to compete and grow the employment needs in the trades industry in today’s expanding economy in Idaho.

Sincerely,

Jeff Cox

# IDAHO HEATING, VENTILATION AND AIR CONDITIONING BOARD

**Agenda Item No. 05** **HVAC School Program**

**PRESENTER:** John Nielsen, HVAC Program Manager

**OBJECTIVE:** Explain the HVAC Board's role when it comes to the educational programs in Idaho.

**ACTION:** Informational

**BACKGROUND:**

**PROCEDURAL HISTORY:**

**ATTACHMENTS:** No Documentation

# IDAHO HEATING, VENTILATION AND AIR CONDITIONING BOARD

**Agenda Item No. 06** **Apprentice Renewal**

**PRESENTER:** John Nielsen, HVAC Program Manager

**OBJECTIVE:** Clarify how DBS is enforcing the HVAC apprentice registration renewal.

**ACTION:** Informational

**BACKGROUND:**

**PROCEDURAL HISTORY:**

**ATTACHMENTS:** IDAPA 07.07.01.025

**025.HVAC APPRENTICE REQUIREMENTS FOR REGISTRATION.**

Requirements for HVAC Apprentice. (4-11-06)

**01.** Age. Minimum of eighteen (18) years of age unless registered in a Bureau of Apprenticeship Training (BAT) certified HVAC training program. (4-11-06)

**02.** Training. Maintain enrollment in or successfully complete a training program approved by the board. (4-11-06)

**03**. Supervision. Work under the supervision of a certified HVAC journeyman.

(4-11-06)

# IDAHO HEATING, VENTILATION AND AIR CONDITIONING BOARD

**Agenda Item No. 07** **Update Codes**

**PRESENTER:** John Nielsen, HVAC Program Manager

**OBJECTIVE:** Discuss adopting newer versions of the IRC, IFGC and IMC.

**ACTION:** Informational

**BACKGROUND:** **May 2018 –** The HVAC trade is currently using the 2012 codes. Joe Barlow, DBS Mechanical Plans Examiner, is comparing the 2015 and 2018 International Residential Code (IRC) and International Mechanical Code (IMC). The Board is unsure which code to consider for future adoption. Mr. Barlow recommended the 2018 codes; stating it seems to clarify more than the 2015 codes.

Upon further discussion, the Board agreed to consider the 2018 codes. The HVAC Program Manager will provide an overview of significant changes in the 2018 IRC and IMC at the November 2018 Board meeting.

**PROCEDURAL HISTORY:**

**ATTACHMENTS:** Significant changes to IFGC 2012 to 2018, IMC 2012 to 2018 and IRC 2012 to 2018

# Significant Changes 2012 to 2018 IFGC

**Combustion Air for Appliances with Power Burners**

Added in 2015

Change Type: **Modification**

304.1

This change clarifies that the prescriptive combustion air provisions of section 304 do not apply to appliances having power burners.

Air combustion, ventilation and dilution of flue gases for appliances installed in buildings shall be provided by application of one of the methods prescribed in section 304.6 through 304.9. Where the requirements of section 304.5 are not met, outdoor air shall be introduced in accordance with one on the methods prescribed in sections 304.6 through 304.9. Direct- vent appliances, gas appliances of other than natural draft design, ~~and~~ vented gas appliances <u>not designated as</u> ~~other than~~ category I <u>and appliances with power burners</u> shall be provided with combustion, ventilation and dilution air in accordance with the appliance manufacturer's instructions.

**Exception:** Type 1 clothes dryers that are provided with makeup air in accordance with section 614.5.

**Condensate Pumps**

Added in 2015

Change Type: **Addition**

307.6

<u>Condensate pumps located in uninhabitable spaces, such as attics and crawl spaces, shall be connected to the appliance or equipment served such that when the pump fails, the appliance or equipment will be prevented from operating. Pumps shall be installed in accordance with the manufacturer's instruction.</u>

Condensate pumps located in uninhabitable spaces must be connected to the appliance to shut down the equipment if the pump fails.

**Electrical Bonding of Corrugated Stainless steel Tubing**

Added in 2015

Change Type: **Addition:**

310.1.1

Text has been added to address the allowable length of the bounding jumper wire and the method of making the bonding connections.

Corrugated stainless steel tubing (CSST) gas piping systems and piping systems containing one or more segments of CSST Shall be bonded to the electrical service grounding electrode system. The bond jumper shall connect to a metallic pipe or fitting between the point of delivery and the first downstream CSST fitting. The bonding jumper shall be not smaller than six AWG copper wire or equivalent. ~~Gas piping systems that contain one or more segments of CSST shall be bonded in accordance with this section.~~

310.1.1.1 Bonding Jumper Length. The length of the bonding jumper between the connection to the gas piping system and the connection to a grounding electrode system shall not exceed 75 feet (22,860 mm). Any additional grounding electrodes used shall be bonded to the electrical service grounding electrode system.

310.1.1.2 Bonding Connections. Bonding Connections shall be in accordance with NFPA 70.

310.1.1.3 Connection Devices. Devices used for making the bonding connections shall be listed for the application in accordance with UL 467.

**Electrical Bonding of CSST**

Added in 2018

Change Type: **Modification**

310.2, 310.3

The existing provisions for electrical bonding apply to CSST without an arc-resistant jacket or coating. New provisions added now address CSST with bonding jackets and coatings.

**Maximum Gas Demand**

Added in 2015

Change Type: **Modification**

402.2

Table 402.2 has been REMOVED and the code has been clarified that the actual maximum input rating of appliances is to be used for gas pipe sizing.

**Schedule 10 Steel Gas Piping**

Added in 2018

Change Type: **Modification**

403.4.2

Steel, stainless steel and wrought-iron as light as schedule 10 is now allowed.

403.10.1

Allows schedule 40 (or heavier) piping to be connect by threads, flanges, brazing, welds, or assembled with listed press connect fittings listed with ANSI LC4/CSA-6.32. Pipe lighter than schedule 40 is allowed to be connect using press-connect fittings, flanges, brazing or welding.

**Plastic Pipe, Tubing and Fittings**

Added in 2015

Change Type: **Modification**

403.6

The code now expressly prohibits the use of [PVC] and [CPVC] where in the past it was silent on these materials.

**Drilled and Tapped Metallic Pipe Fittings**

Added in 2015

Change Type: **Modification**

403.10.4

The code now expressly prohibits the practice of drilling and tapping pipe fittings in the field except where performed in accordance with five criteria that strictly limit such practice.

9. Where pipe fittings are drilled and tapped in the field, the operation shall be in accordance with all of the following:

9.1 The operation shall be performed on systems having operating pressures of 5 psi (34.5 kPa) or less.

9.2 The operation shall be performed by the gas supplier or the gas suppliers designated representative.

9.3 The drill and tapping operation shall be performed in accordance with written procedures prepared by the gas supplier.

9.4 The fittings shall be located outdoors.

9.5 The tapped fitting assembly shall be inspected and proven to be free of leakage.

**Fittings in Concealed Locations**

Added in 2015

Change Type: **Clarification**

404.5

This section was reformatted to state what fittings are allowed in concealed locations, rather than listing what is prohibited and the exceptions. The new text lists the four types of allowed fittings: threaded elbows, tees, and couplings; brazed fittings; welded fittings; and proprietary fittings listed to ANSI LC-1 or ANSI LC-4.

**Protection of Concealed Piping Against Physical Damage**

Added in 2015

Change Type: **Modification**

404.7

This section has been rewritten and now includes the requirement for piping ran parallel to framing members and piping within framing members to be protected, when located less than 1 ½ inch from the framing to which wall, ceiling, or floor membranes will be attached. When installed within 1 ½ inches shield plates will be required that cover the width and length of the pipe.

Exception: Black steel piping and galvanized steel piping shall not be required to be protected.

**Protection against Corrosion**

Added in 2018

Change Type: **Modification**

404.11

This section has been reorganized and updated. Previously this section applied to all metallic piping and tubing. Because copper and copper alloy tubing is less susceptible to corrosion, the requirements now only apply to steel piping and tubing. Stainless steel has been added to material requiring protection under some circumstances. Galvanized (zinc coated) is not approved for direct burial.

The code now identifies 3 methods of protection:

1. Piping made of non-corrosive material.
2. Factory-applied, electrically-insulating coated.
3. Cathodic protection system installed that is monitored and maintained with an approved program.

Field applied coating or wrap is not allowed.

Risers used in underground piping systems are required to be anodeless or cathodically protected by means of a welded anode.

**Piping Underground beneath Buildings**

Added in 2018

Change Type: **Modification**

404.14

A listed encasement system instead of a conduit encasement is recognized where plastic piping is installed underground beneath buildings.

Piping is prohibited underground beneath buildings, however the code permits it underground beneath a building if it is encased in a conduit made of iron, steel or plastic. Note that plastic pipe is never allowed under a building, or in a building. An additional method of encasement is now recognized, that method being an encasement system that is listed for the purpose. For example, a type of CSST is manufactured with a listed integral encasement system. The CSST is incased in its own integral conduit such that the tubing and its encasement are installed simultaneously as an assembly. This product is not new, but the code now specifically refers to it and would allow similar products with listed integral encasement systems.

**Pipe Cleaning**

Added in 2015

Change Type: **Addition**

404.18

The code now specifically prohibits the practice of using fuel gas as a medium for flushing foreign matter and debris from fuel-supply piping.

<u>The use of flammable or combustible gas to clean or remove debris from a piping system shall be prohibited.</u>

**Shutoff Valve Location**

Added in 2018

Change Type: **Clarification**

409.5.1

Shutoff valves located behind movable appliances such as gas dryers and ranges are considered as meeting the requirement for access.

**Support for Shutoff Valves in Tubing Systems**

Added in 2018

Change Type: **Addition**

409.7

Shutoff valves installed in tubing systems shall be rigidly and securely supported independently of the tubing.

Shut off valves installed in piping systems such as T-handle key valves for fireplaces, or valves in the run of CSST tubing are required to be independently supported and secured so damage will not occur when torque is applied.

**Medium-Pressure Regulators**

Added in 2015

Change Type: **Modification**

410.2

Item 7. Has been added. Where connected to rigid piping, a union shall be installed within 1 foot of either side of the MP regulator.

**MP Regulator and Appliance Pressure Test Port**

Added in 2018

Change Type: **Modification**

410.2

The code provided a new alternative to the required pressure tap fitting downstream of a medium pressure regulator.

Item 6. A tee fitting with one opening capped or plugged shall be installed not less than 10 pipe diameters downstream of the MP regulator outlet. Such tee fittings shall be positioned to allow connection of a pressure-measuring instrument. The tee fitting is not required where the MP regulator serves an appliance that has a pressure test port on the gas control inlet side and the appliance is located in the same room as the MP regulator.

**Connecting Portable and Movable Appliances**

Added in 2015

Change Type: **Modification**

411.1

Gas hoses used to connected portable outdoor appliances are practically limited to hoses designed for this purpose. Such hoses must comply with ANSI Z21.54. With the addition of Item 7.

**Connectors for Commercial Cooking Appliances**

Added in 2015

Change Type: **Modification**

411.1.1

Specific installation requirements have been added for safe installation of ANSI Z21.69 connectors for commercial cooking appliances. The option to connect the cooking appliance with semi-rigid tubing or rigid pipe have been removed.

Commercial cooking appliances installed on coasters and appliances that are moved for cleaning and sanitation purposes shall be connected to the piping system with an appliance connector listed as complying with ANSI Z21.69. The commercial cooking appliance connector installation shall be configured in accordance with the manufacturer's installation instructions. Movement of the appliances with casters shall be limited by a restraining device installed in accordance with the connector and appliance manufacturer's instructions.

**Door Clearances to Vent Terminals**

Added in 2015

Change Type: **Addition**

502.7.1

An appliance vent terminal is not permitted in a location within 12 inches of the arc of a swinging door.

Appliance and equipment vent terminals shall be located such that doors cannot swing within 12 inches (305 mm) horizontally of the vent terminal. Door stops or closers shall not be installed to obtain this clearance.

**Standards for Plastic Pipe Venting Materials**

Added in 2018

Change Type: **Modification**

503.4.1, 503.4.2

The standards to which plastic pipe venting materials must be labeled to either the appliance manufacturer's specifications or listed to UL1738.

**Plastic Piping for Appliance Vents**

Added in 2015

Change Type: **Modification**

503.4.1

The approval of plastic pipe for venting appliances is no longer a responsibility of the building official and, instead, that responsibility rests with the appliance manufacturer and the appliance listing agency.

**Sizing of Plastic Pipe Vents**

Added in 2015

Change Type: **Modification**

503.6.9.3

The code is no longer silent on the sizing of plastic piping for appliance vents and now states: the sizing of plastic pipe shall be in accordance with the manufacturer's instructions.

**Venting System Termination Location**

Added in 2015

Change Type: **Modification**

503.8

Text has been added to address the location of sidewall vent terminals with respect to adjoining buildings. Previous editions of the code were silent on this subject, and the appliance manufacturer's instructions are typically silent as well.

Item #5: Vent systems for category IV appliances that terminate through an outside wall of a building and discharge flue gases perpendicular to the adjacent wall shall be located not less than 10 ft. (3048 mm) horizontally from an operable opening in to an adjacent building. This requirement shall not apply to vent terminals that are 2 ft. (607 mm) or more above or 25 ft. (7620 mm) or more below operable openings.

**Direct-vent Termination Clearances**

Added in 2018

Change Type: **Modification**

503.8

Section 503.8 Item 3 relative to direct-vent appliances was reformatted into table form and a new category was added for direct-vent appliances having higher Btu/hr inputs that are more consistent with nonresidential appliances.

Direct-vent appliances having a input Btu/hr 150,000 or higher shall maintain a minimum clearance as required in accordance with the manufacturer's instructions and not less than the clearances specified in section 503.8, item 2.

Item .2 A mechanical draft venting system, excluding direct-vent appliances, shall terminate not less than 4 feet (1219 mm) below, 4 feet (1219 mm) horizontally from, or 1 foot (305 mm) above any door, operable window or gravity air inlet into any building. The bottom of the vent terminal shall be located not less than 12 inches (305 mm) above finished ground level.

Item 3. The clearance for through-the-wall direct-vent terminals shall be in accordance with table 503.8. ~~The vent terminal of a direct-vent appliance with an input of 10,000 Btu per hour (kW) or less shall be located not less than 6 inches (152 mm) from any air opening into a building. Such an appliance with an input over 10,000 Btu per hour (3 kW) but not over 50,000 Btu per hour (14.7 kW) shall be installed with a 9 inch (230 mm) vent termination clearance, and an appliance with an input over 50,000 Btu per hour (14.7 kW) shall have not less than a 12 inch (305 mm) vent termination clearance.~~ The bottom of the vent terminal and the air intake shall be located not less than 12 inches (305 mm) above finished ground level.

**Dryer Exhaust Duct Power Ventilators**

Added in 2015

Change Type: **Addition**

614.5

The new text recognizes the use of dryer exhaust duct power ventilators (DEDPV's) for installations that exceed the allowable exhaust duct length for clothes dryers.

Domestic dryer exhaust duct power ventilators shall be listed and labeled to UL 705 for use in dryer exhaust duct systems. The dryer exhaust duct power ventilator shall be installed in accordance with manufacturer's instructions.

The maximum length of the exhaust duct shall be determined by the dryer exhaust duct power ventilator manufacturer's installation instructions.

**Prohibited Location of Commercial Cooking Appliances:**

Added in 2015.

Change Type: **Modification**

623.3

The code does not prohibit the installation of cooking appliances that are listed as both commercial and domestic appliances. Previously the code did not allow commercial cooking appliances in domestic applications. With the exceptions introduced in 2015 and 2018 there are now paths that allow such use.

Exception: Appliances that are also listed as domestic cooking appliances. Was added to address appliances labeled for both cooking applications.

Added in 2018. Change Type: Modification

Exception: 2. Where the installation is designed by a licensed professional engineer in compliance with the manufacturer's installation instructions.

# Significant Changes IMC 2012 to 2018

**202**

**Definition of Commercial Cooking Appliance:**

Added in 2018.

Change Type: **Modification**

The code has been completely rewritten, and the unnecessary language regarding produced byproducts of commercial cooking operations, the need to exhaust those byproducts, and the language regarding specific appliances has been removed.

The code now reads as follows: Appliances used in a commercial food service establishment for heating or cooking food. For the purpose of this definition, a commercial food service establishment is where food is prepared on a scale that is by volume and frequency not representative of domestic household cooking.

**304.11**

**Fall-Arresting Restraint System:**

Added in 2015

Change Type: **Modification**

The Exception allows for fall-arresting restraint systems to be employed instead of guards on roofs.

The new exception is aimed at sloped roofs where such systems are typically utilized.

**306.1**

**Access:**

Added in 2015

Change Type: **Modification**

More than just appliances are now required to have access for inspection, service, replacement, and/or repair.

This code has been modified to encompass any and all components of an HVAC system that have been installed behind, under, or above permanent construction, or installed where other appliances or equipment obstruct access.

**307.2.5**

**Condensate Drain Line Maintenance:**

Added in 2015

Change Type: **Addition**

Condensate Drain lines shall be configured to permit the cleaning of blockages and performance of maintenance without requiring the drain line to be cut.

Drain that convey condensate water from cooling coils and evaporators are known to develop blockages, and these drains are commonly cleared of such blockages.

**307.3**

**Condensate Pumps in Uninhabitable Spaces:**

Added in 2015

Change Type: **Addition**

Condensate pumps located in uninhabitable spaces and used with condensing fuel-fired appliances and cooling equipment must be connected to the appliance or equipment served by the pump to prevent water damage in the event of pump failure.

<u>Condensate pumps located in uninhabitable spaces, such as attics and crawl spaces, shall be connected to the appliance or equipment served such that when the pump fails the appliance or equipment will be prevented from operating. Pumps shall be installed in accordance with the manufacturer's installation instructions.</u>

**401.2, 407.1, Table 403.3.1.1**

**Ventilation Required:**

Added in 2015

Change Type: **Addition**

Occupancies including hospitals, nursing homes, detoxification facilities and ambulatory care facilities must be ventilated in accordance with the new standard, ASHRAE 170.

Ambulatory care facilities and group I-2 occupancies shall be ventilated by mechanical means in accordance with section 407. Has been added to section **401.2**

**407.1 General** Mechanical ventilation for ambulatory care facilities and Group I-2 occupancies shall be designed and installed in accordance with this code and ASHRAE 170.

ASHRAE 170 is a ventilation standard with special previsions for health care facilities section 403 of the IMC no longer applies to such facilities.

**403.2.1, Table 403.3.1.1**

**Recirculation of Air:**

Added in 2015

Change Type: **Clarification**

The revisions to section 403.2.1 and notes b and g of table 403.3.1.1 clarify that recirculation of air within a space is permitted.

Previously code item 3 in section 403.2.1 has been widely misinterpreted. The common misinterpretation of the code was believed to be any air supplied to these spaces had to be exhausted to the outdoors. In other words, none of the supply air that goes in is returned to the air handler. Obviously it is problematic for a single air-handling system to serve spaces identified by not b or g and also serve spaces not identified by those notes. Both items 3 and 4 have the same basic intent of preventing air in spaces identified by note b or note g from being conveyed to other spaces, thereby spreading contaminants.

Notes b and g table 403.3.1.1 also have been misread and misunderstood by designers and engineers so they thought they should prevent air within spaces falling under note b or g from being recirculated.

Item 3 has had the following language added. Recirculation of air that is contained completely within such spaces shall not be prohibited. Where recirculation of air is prohibited.

Item 4 along with table notes b and g have had the following language added. Recirculation of air that is contained completely within in such spaces shall not be prohibited.

**403.3**

**Outdoor Air and Local Exhaust Airflow Rates:**

Added in 2015

Change Type: **Addition**

The new text introduces the basic requirements of ASHRAE 62.2 related to mechanical ventilation for group R-2, R-3 and R-4 buildings three stories or less in height.

The new text simplifies the mechanical ventilation compliance path for group R-2, R-3, and R-4 buildings three stories or less in height to be consistent with those in the 2012 IRC and ASHRAE 62.2. These building more closely match the scope of ASHRAE 62.2 than ASHRAE 62.1 and they should not be subject to the rigor of the design calculations of ASHRAE 62.1/IMC section 403.

**Table 403.3.1.1**

**Manicure and Pedicure Station Exhaust Rates:**

Added in 2015

Change Type: **Modification**

Note h on table 403.3.1.1 now recognizes the new section 502.20 for design of manicure and pedicure station exhaust systems and also specifies the applicability to both.

**h.** for nail salons, each ~~nail~~ manicure and pedicure station shall be provided with a source capture system capable of exhausting not less than 50 cfm per station. Exhaust inlets shall be located in accordance with section 502.20. Where one or more source capture systems operate continuously during occupancy, the exhaust rate from such systems shall be permitted to be applied to the exhaust flow rates required by table 403.3.1.1 for nail the salon.

**403.3.2.4**

**Outdoor Air Ventilation for Dwelling Units:**

Added in 2018

Change Type: **Addition**

There is a new requirement for labeling of controls for whole-house (Dwelling) ventilation systems.

Where provided within a dwelling unit, controls for outdoor air ventilation systems shall include text or a symbol indicating the system's function.

**403.3.2.5**

**Dwelling Unit Ventilation Equipment:**

Added in 2018

Change Type: **Addition**

A new requirement was added for the testing of exhaust fans for dwelling units.

Exhaust equipment serving single dwelling units shall be listed and labeled to provide the minimum required air flow in accordance with ANSI/AMCA 210-ANSI/ASHRAE 51.

This section simply requires fan to be tested, listed and labeled to verify their performance in a laboratory setting, and does not require any field testing if installed fans.

**404.1**

**Intermittent Operation of Mechanical Ventilation Systems for Enclosed Parking Garages:**

Added in 2015

Change Type: **Modification**

For enclosed garages, the ventilation system must operate continuously or must be automatically controlled for intermittent operation utilizing both carbon monoxide and nitrogen dioxide detectors. The option to detect vehicle operation or occupant presence has been deleted.

Where mechanical ventilation systems for enclosed parking garages ~~shall be permitted to~~ operate intermittently, such operation shall be automatic ~~in accordance with item 1, item 2 or both~~ by means of carbon monoxide detectors applies in conjunction with nitrogen dioxide detectors. Such detectors shall be installed in accordance with their manufacturer's recommendations.

**404.1**

**Mechanical Ventilation of Enclosed Parking Garages:**

Added in 2018

Change Type: **Modification**

The code text was rewritten to clarify the intent with regard to "intermittent" operation.

~~Where m~~ Mechanical ventilation systems for enclosed parking garages shall operate ~~intermittently~~ continuously or shall be automatically operated ~~such operation shall be automatic~~ by means of carbon monoxide detectors applied in conjunction with nitrogen dioxide detectors. Such detectors shall be listed in accordance with UL 2075 and installed in accordance with their listing and the manufacturer's ~~recommendations~~ instructions. Automatic operation shall cycle the ventilation system between the following two modes of operation:

1. Full-on at an airflow rate of not less than 0.75 cfm per square foot of the floor area served.
2. Standby at an airflow rate of not less than 0.05 cfm per square foot of the floor area served

The text was rewritten to make it clear the garage exhaust system can never shut off completely. The exhaust is either full-on all of the time, or it is allowed to be cycled between full-on and minimum-on by CO and $NO_2$ detectors.

~~404.2~~ Has been removed in its entirety.

**501.3**

**Mechanical Exhaust Systems Discharge:**

Added in 2015

Change Type: **Modification**

The adjective “public” was added to “nuisance” to make this requirement more enforceable. The new exception correlates with section 505.1, exception 1.

The air removed by every mechanical exhaust system shall be discharges outdoors at a point where it will not cause a public nuisance and not less than the distance specified in section 501.3.1. The air shall be discharged to a location from which it cannot again be readily drawn in by a ventilating system. Air shall not be exhausted into an attic, crawl space, <u>or be directed onto walkways.</u>

Exception <u>3. Where installed in accordance with the manufacturer’s instructions and where mechanical or natural ventilation is otherwise provided in accordance with chapter 4, listed and labeled domestic ductless range hoods shall not be required to discharge to the outdoors.</u>

The new exception parallels the exception to section 505.1 to eliminate what some perceive to be a conflict between these sections. In reality, a recirculating (ductless) range hood is not an exhaust system, because it does not exhaust air to the outdoors.

**502.20**

**Manicure and Pedicure Station Exhaust System:**

Added in 2015

Change Type: **Addition**

The new text specifically covers manicure and pedicure stations and states exhaust requirements in addition to those in Table 403.3.1.1. In previous editions of the code, pedicure stations were not specifically called out, as the text in table 403.3.1.1 referred only to nail salons generically.

<u>Manicure and pedicure stations shall be provided with an exhaust system in accordance with table 403.3.1.1, note h. Manicure tables and pedicure stations not provided with factory-installed exhaust inlets shall be provided with exhaust inlets located not more than 12 inches horizontally and vertically from the point of chemical application.</u>

**504.4**

**Sealing of Clothes Dryer Exhaust Ducts:**

Added in 2018

Change Type: **Modification**

The code now speaks to the sealing of clothes dryer exhaust ducts.

Clothes dryer exhaust ducts shall be sealed in accordance with section 603.9. Has been added to 504.4

**504.4.1**

**Clothes Dryer Exhaust Termination:**

Added in 2018

Change Type: **Addition**

The code now addresses the required size of the dryer exhaust duct terminals.

The passageways of dryer exhaust duct terminals shall be undiminished in size and shall provide an open area of not less than 12.5 square inches (80.65 $mm^2$).

Nothing in code requires a reduction in the allowable length of the duct based on the resistance of the exhaust terminal; therefore, it was determined to be necessary to specify a minimum size terminal opening to account for the airflow resistance offered by the terminal.

**504.5, 504.8.4.3**

**Dryer Exhaust Duct Power Ventilators:**

Added in 2015

Change Type: **Addition**

The new text recognizes the use of dryer exhaust duct power ventilators (DEDPV's) for installations that exceed the allowable exhaust duct length for clothes dryers.

Domestic dryer exhaust duct power ventilators shall be listed and labeled to UL 705 for use in dryer exhaust duct systems. The dryer exhaust duct power ventilator shall be installed in accordance with manufacturer's instructions.

The maximum length of the exhaust duct shall be determined by the dryer exhaust duct power ventilator manufacturer's installation instructions.

**504.8.2**

**Dryer Exhaust Duct Installation:**

Added in 2015

Change Type: **Modification**

Instead of prohibiting all duct fasteners such as screws and rivets, the code now limits the penetration of fasteners where installed.

Exhaust ducts shall be supported at 4-foot intervals and secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of air flow. Ducts shall not be joined with screws or similar fasteners that protrude more than 1/8 inch (3.2 mm) into the inside of the duct.

**504.8.2**

**Dryer Exhaust Ducts in Framing Cavities:**

Added in 2018

Change Type: **modification**

The code now address the installation of clothes dryer exhaust ducts in wall and ceiling cavities.

Where dryer exhaust ducts are enclosed in wall or ceiling cavities, such cavities shall allow the installation of the duct without deformation. Has been added to section 504.8.2.

The new text will require a space larger than a 2x4 wall stud cavity to accommodate 4-inch exhaust ducts.

**505.1, 505.4**

**Domestic Range Hoods**

Added in 2015

Change Type: **Modification**

The scope of domestic kitchen hoods coverage has been expanded to beyond dwelling units. Domestic hoods are mandated in new section 505.4

Where domestic range hoods and domestic appliances equipped with downdraft exhaust are ~~located within dwelling units~~ provided, such hoods and appliances shall discharge to the outdoors through sheet metal ducts constructed of galvanized steel, stainless steel, aluminum or copper. Such ducts shall have smooth inner walls, shall be air tight, shall be equipped with a backdraft damper, and shall be independent of all other exhaust systems.

Exception **1.** In other than Group I-1 and I-2, where installed in accordance with the manufacturer's installation instructions and where mechanical ventilation is otherwise provided in accordance with Chapter 4, listed and labeled ductless range hoods shall not be required to discharge to the outdoors.

In other than Group R occupancies, where domestic cooking appliances are utilized for domestic purposes, such appliances shall be provided with domestic range hoods. Hoods and exhaust systems shall be in accordance with sections 505.1 and 505.2.

**505.3**

**Domestic Kitchen Exhaust Systems in Multistory Buildings**

Added in 2015

Change Type: **Addition**

The new sections of code regulate the design and construction of exhaust shafts that serve domestic kitchen exhaust systems in multistory buildings.

Where a common multistory duct system is designed and installed to convey exhaust from multiple domestic kitchen exhaust systems, the construction of the system shall be in accordance with all of the following:

**1.** The shaft in which the duct is installed shall be constructed and fire resistance rated as required by the *international building code.*

2. Dampers shall be prohibited in the exhaust duct, except as a specified in section 505.1. Penetrations of the shaft and ductwork shall be protected in accordance with section 607.5.5, exception 2.
3. Rigid metal ductwork shall be installed within the shaft to convey the exhaust. The ductwork shall be constructed of sheet metal having a minimum thickness of 0.0187 (0.4712 mm) (No 26 gage) and in accordance with SMACNA Duct Construction Standards.
4. The ductwork within the shaft shall be designed and installed without offsets.
5. The exhaust fan motor design shall be in accordance with section 503.2.
6. The exhaust fan motor shall be located outside of the airstream.
7. The exhaust fan shall run continuously, and shall be connected to a standby power source.
8. Exhaust fan operation shall be monitored in an approved location and shall initiate an audible or visual signal when the fan is not in operation.
9. Where the exhaust rate for an individual kitchen exceeds 400 cfm (0.19 m3/s) makeup air shall be provided in accordance with section 505.5.
10. A cleanout opening shall be located at the base of the shaft to provide access to the duct to allow for cleanout and inspection. The finished openings shall be not less than 12 inches by 12 inches (305 mm by 305 mm).
11. Screens shall not be installed at the termination.
12. The common multistory duct system shall serve only Kitchen Exhaust and shall be independent of other exhaust systems.

The code allows a similar design for domestic clothes dryer exhaust systems, but previous editions were silent on domestic kitchen exhaust.

**506.3.7.1**

**Grease Duct Reservoirs**

Added in 2015

Change Type: **Modification**

A grease duct reservoir must now be the full width of the duct in all cases, and the reservoir must be provided with a drain opening.

Item ~~3. Have a length and width of not less than 12 inches (305 mm). Where the grease duct is less than 12 inches (305 mm) in a dimension, the reservoir shall be not more than 2 inches (51 mm) smaller than the duct in that dimension.~~ Has

been removed and replaced with: extend across the full width of the duct and have a length of not less than 12 inches.

Item 5. Has also undergone some changes and now reads as follows: Have a bottom that ~~is sloped to a point for drainage.~~ Slopes to a drain.

The text in item 3 allowed for the reservoir to be 2 inches less than the grease duct this would allow for cooking byproducts to bypass the reservoir all together.

Item 5 has been changed from requiring only that the reservoir bottom slopes to requiring that the bottom slope to a drain.

**506.3.8**

**Grease Duct Cleanouts and Openings**

Added in 2015

Change Type: **Modification**

The cleanout spacing provisions have been added to be consistent with section 506.3.9 for horizontal ducts.

The following text has been added to Item 2: Sections of grease ducts that are inaccessible from the hood or discharge openings shall be provided with cleanout openings spaced not more than 20 feet apart and not more than 10 feet from changes in direction greater than 45 degrees.

The new grease duct cleanout spacing provisions apply to vertical duct sections that are not accessible from the hood or terminal end.

**506.3.11**

**Grease Duct Enclosures**

Added in 2015

Change Type: **Modification**

The code specifically prohibits the installation of fire and smoke dampers in grease ducts.

A commercial kitchen grease duct serving a type I hood that penetrates a ceiling, wall, floor or any concealed spaces shall be enclosed from the point of penetration to the outlet terminal. In-line exhaust fans not located outdoors

shall be enclosed as required for grease ducts. A duct shall penetrate exterior walls only at locations where unprotected openings are permitted by the *International Building Code.* The duct enclosure shall serve a single grease duct and shall not contain other ducts, piping, or wiring systems. Duct enclosures shall be ~~either~~ a shaft enclosure in accordance with section 506.3.11.1, a field-applied enclosure assembly in accordance with section 506.3.11.2 or a factory-built enclosure assembly in accordance with section 506.3.11.3. Duct enclosures shall have a fire-resistance rating of not less than that of the assembly penetrated and not less than 1 hour. Fire dampers and smoke dampers shall not be installed in the grease ducts. ~~Duct enclosures shall be as prescribed by section 506.3.11.1, 506.3.11.2 or 506.3.11.3.~~

~~506.3.11.4 Duct enclosure not required.~~

**Exception:** A duct enclosure shall not be required for a grease duct that penetrates only a non-fire-resistance-rated roof or ceiling assembly.

It has long been understood that fire and smoke dampers are not compatible with grease ducts, and the duct enclosure requirements clearly account for the lack of such dampers where the duct penetrate walls, floors, and ceilings. Fire and smoke dampers would be made useless by the severe environment within grease ducts. The code now prohibits what has been assumed to be prohibited all along.

**506.3.13.2**

**Type 1 Hood Exhaust Termination**

Added in 2018

Change Type: **Modification**

The intent was clarified regarding clearance to openings to prevent other requirements from being overlooked.

Exhaust outlets shall be permitted to terminate through exterior walls where the smoke, grease, gases, vapors and odors in the discharge from such terminations do not create a public nuisance or a fire hazard. Such terminations shall not be located where protected openings are required by the *International Building Code.* ~~Other exterior openings~~ such terminations shall be located in accordance with section 506.3.13.3 and shall not be located within 3 feet (914 mm) ~~of such terminations~~ of any opening in the exterior wall.

The previous version of the text implied that outdoor air intake and operable windows could be located as close as 3 feet from a sidewall exhaust termination. Operable windows fall in the “air intake” category and therefore require a minimum 10 feet horizontal or 3 feet above clearance from such terminals.

**506.5.1.2**

**In-Line Fan Location in Exhaust Ducts Serving Commercial Kitchen Hoods**

Added in 2015

Change Type: **Addition**

New text addresses the enclosure requirements for in-line exhaust fans located in kitchen hood exhaust ducts, in effect treating them the same as ducts.

<u>Where enclosed duct system are connected to in-line fans not located outdoors, the fan shall be located in a room or space having the same fire resistance rating as the duct enclosure. Access shall be provided for servicing and cleaning of the fan components. Such rooms or spaces shall be ventilated in accordance with the fan manufacturer’s installation instructions.</u>

If the exhaust duct is required to be enclosed in fire-resistance-rated construction or a listed integral or field-installed duct enclosure system, the in-line fan must also be so enclosed because the in-line fan is part of the duct system. In-line fans require maintenance, and access must be provided for such maintenance.

**506.5.2, 202**

**Pollution Control Units**

Added in 2018

Change Type: **Addition**

The code added coverage and a definition for pollution control units which are installed in grease exhaust systems to extract smoke, grease particles and odors from the exhaust flow.

The installation of pollution-control units shall be in accordance with manufacturer's instructions and all of the following:

1. Pollution-control units shall be listed and labeled in accordance with UL 1978.
2. Fans serving pollution-control units shall be listed and labeled in accordance with UL 762.
3. Pollution-control units shall be mounted and secured in accordance with manufacturer's installation instructions and the *International Building Code*.
4. Pollution-control units located indoors shall be listed and labeled for such use. Where enclosed duct systems, as required by section 506.3.11, are connected to a pollution control unit, such unit shall be located in a room or space having the same fire-resistance rating as the duct enclosure. Access shall be provided for servicing and cleaning of the unit. The space or enclosure shall be ventilated in accordance with manufacturer's installation instructions.
5. A clearance of not less than 18 inches (457 mm) shall be maintained between the pollution-control unit and combustible materials.
6. Roof-mounted pollution-control units shall be listed for outdoor installation and shall be mounted not less than 18 inches (457 mm) above the roof.
7. Exhaust outlets for pollution-control units shall be in accordance with section 506.3.13.
8. An airflow differential pressure control shall be provided to monitor the pressure drop across the filter sections of a pollution-control unit. When the airflow is reduced below the design velocity, the airflow differential pressure control shall activate a visual alarm located in the area where cooking operations occur.
9. Pollution-control units shall be provided with a factory-installed fire suppression system.
10. Service space shall be provided in accordance with manufacturer's instructions for the pollution-control unit and the requirements of section 306
11. Was-down drains shall discharge through a grease interceptor and shall be sized for the flow. Drains, shall be sealed with a trap or other approved means to prevent air bypass. Where a trap is utilized it shall have a seal depth that accounts for the system pressurization and evaporation between cleanings.
12. Protection from freezing shall be provided for the water supply and fire suppression system where such systems are subject to freezing.

13. Duct connections to pollution-control units shall be in accordance with section 506.3.2.3. Where water splashed or carryover can occur in the transition duct as a result of a washing operation, the transition duct shall slope downward toward the cabinet drain pan for a length not less than 18 inches (457 mm). Ducts shall transition to the full size of the unit's inlet and outlet openings.
14. Extra-heavy-duty appliance exhaust systems shall not be connected to pollution-control units except where such units are specifically designed and listed for use with solid fuels.
15. Pollution-control units shall be maintained in accordance with the manufacturer's instructions.

**General Definitions**

**POLLUTION-CONTROL UNIT (PCU).** Manufactured equipment that is installed in a grease exhaust duct system for the purpose of extracting smoke, grease particles and odors from the exhaust flow by means of a series of filters.

**506.5.3**

**Hinged Up-Blast Fans for Type 1 Hoods**

Added in 2015

Change Type: **Modification**

The code now requires that hinged exhaust fans be provided with means to limit the travel of the fan assembly to prevent injury to personnel and damage to the building and fan.

~~An~~ up-blast fans serving type I hoods and installed in a vertical or horizontal position shall be hinged, ~~and~~ supplied with a flexible weatherproof electrical cable to permit inspection and cleaning and shall be equipped with a means of restraint to limit the swing of the fan on its hinge. The ductwork shall extend a minimum of 18 inches (457 mm) above the roof surface.

**507.1**

**Type 1 Hood installation**

Added 2015

Change Type: **Modification**

A requirement has been added for type I hood installations to comply with all aspects of a Type I exhaust system, weather the Type I hood is required by the code or installed by choice.

Commercial kitchen exhaust hoods shall comply with the requirements of this section. Hood shall be Type I or Type II and shall be designed to capture and confine cooking vapors and residues. A Type I or Type II hood shall be installed at or above all commercial cooking appliances in accordance with sections 507.2 and 507.3. Where any cooking appliance under a single hood requires a Type I hood, a Type I hood shall be installed. Where a Type II hood is require, a Type I or Type II hood shall be installed. Where a Type I hood is installed, the installation of the entire system, including the hood, ducts, exhaust equipment and makeup air system shall comply with the requirements of sections 506, 507, 508 and 509. ~~Commercial kitchen exhaust hood systems shall operate during the cooking operation.~~

Sometimes Type I hoods are installed where they are not required by the code. It could be by error or because the hood is being repurposed in a new location. If a Type 1 hood were connected to an exhaust system intend for Type II use, a fire hazard could result.

**507.1.1**

**Commercial Kitchen Exhaust Hood System Operation**

Added in 2015

Change Type: **Modification**

The requirements for automatic activation of the exhaust system has been revised to provide the intended performance requirements and to clarify that an interlock arrangement in an alternative to automatic hood operation.

Commercial kitchen exhaust hood systems shall operate during the cooking operation. The hood exhaust rate shall comply with the listing of the hood or shall comply with section 507.5. ~~Type I hood systems shall be designed and installed to automatically activate the exhaust fan~~ whenever ~~cooking operations occur. The activation of the exhaust fan shall occur through an interlock with the cooking appliance, by means of heat sensors or by means of other approved methods.~~ The exhaust fan serving a Type I hood shall have automatic controls that will activate the fan when any appliance that requires such Type I hood is turned on, or a means of interlock shall be provided that will prevent operation of such appliances when the exhaust fan is not turned on. Where one or more

temperature or radiant energy sensors are used to activate a Type I hood exhaust fan, the fan shall activate not more than 15-minutes after the first appliance, served by that hood, has been turned on. A method of interlock between an exhaust hood system and appliances equipped with standing pilot burners shall not cause the pilot burners to be extinguished. A method of interlock between an exhaust hood system and a cooking appliances shall not involve or depend upon any component of a fire extinguishing system. The net volumes for hoods shall be permitted to be reduced during part-load cooking conditions, where engineered or listed multispeed or variable speed controls automatically operate the exhaust system to maintain capture and removal of cooking effluents as required by this section. Reduced volumes shall not be below that required to maintain capture and removal of effluents from the idle cooking appliances that are operating in standby mode.

The text in previous editions of the code was not clear that automatic activation of the hood system was one of two compliance options. The code intends for the hood system to operate when any or all of the served appliances are being used. The new text also includes the criterion for how soon the hood system must activate after the first appliance has been turned on.

**507.1.1.1**

**Heat Sensors for Multiple Commercial Kitchen Hoods**

Added in 2015

Change Type: **Addition**

New text prohibits the use of a single sensor mounted in the common ductwork for commercial kitchen hood systems having multiple hoods connected to a manifold duct system.

Where heat or radiant energy sensors are utilized in hood systems consisting of multiple hoods served by a single exhaust system, such sensors shall be provided in each hood. Sensors shall be capable of being accessed from the hood outlet or from a cleanout location.

The new text will eliminate the possibility of a delay from a single sensor in a multiple hood, single duct design.

**507.2.6**

**Clearances for Type 1 Hood**

Added in 2018

Change Type: **Addition**

A new exception was added to recognize Type I hoods that are listed for clearances to combustibles less than 18 inches (457 mm)

**Exceptions:**

2. Type I hoods listed and labeled for clearances less than 18 inches in accordance with UL 710 shall be installed with the clearances specified by such listings.

Type I hoods can now be installed with clearances as close as zero inches if so listed and labeled.

**507.2.8**

**Type 1 Hood Grease Filters**

Added in 2015

Change Type: **Modification**

The new code now recognizes the use of disposable grease filters.

Type I hoods shall be equipped with grease filters listed and labeled in accordance with UL 1046 ~~and designed for the specific purpose.~~ Grease-~~collecting equipment~~ Filters Shall be provided with access for cleaning or replacement. The lowest edge of a grease filter located above the cooking surface shall be not less than the height specified in table ~~507.11~~ 507.2.8.

**Criteria.** Filters shall be of such size, type and arrangement as will permit the required quantity of air to pass through such units at rates not exceeding those for which the filter or unit was designed or approved. Filter units shall be installed in frames or holders so as to be readily removable without the use of separate tools, unless designed and installed to be cleaned in place and the system is equipped for such cleaning in place. Where filters are designed to be and required to be cleaned, removable filter units shall be of a size that will allow them to be cleaned in a dishwashing machine or pot sink. Filter units shall be arranged in place or provided with drip-intercepting devices to prevent grease or other condensate from dripping into food or on food preparation surfaces.

The revised text enables the use of disposable grease filters.

**508.1.2**

**Air Balance for Commercial Kitchen Ventilation Systems**

Added in 2015

Change Type: **Addition**

This new section requires that an air balance schedule be submitted with the design plans for commercial kitchen ventilation systems.

Design plans for a facility with a commercial kitchen ventilation system shall include a schedule or diagram indicating the design outdoor air balance. The design outdoor air balance shall indicate all exhaust and replacement air for the facility, plus the net exfiltration if applicable. The total replacement air airflow rate shall equal the total exhaust airflow rate plus the net exfiltration.

**510.4, 510.5**

**Hazardous Exhaust Systems**

Added in 2015

Change Type: **Modification**

Text in previous editions of the code that alluded to the recirculation of hazardous exhaust has been deleted. The previous exception was too broad in application, so the entire section has been reformatted to clarify the scope of the exception. The code now reads:

510.4 Hazardous exhaust systems shall be independent of other types of exhaust systems.

510.5 has been added and reads as follows:

Incompatible materials, as defined in the *international fore code,* shall not be exhausted through the same hazardous exhaust system. Hazardous exhaust systems shall not share common shafts with other duct systems, except where such systems are hazardous exhaust systems originating in the same fire area.

**Exception:** the provisions of this section shall not apply to laboratory exhaust systems where all of the following conditions apply:

1. All of the hazardous exhaust ductwork and other laboratory exhaust within both the occupied space and the shafts are under negative pressure while in operation.
2. The hazardous exhaust ductwork manifolded together within the occupied space must originate within the same fore area.
3. Hazardous exhaust ductwork originating in different fire areas and manifolded together in a common shaft shall meet the provisions of section 717.5.3, Exception 1.1 of the *International Building Code.*
4. Each control branch has a flow regulating device.
5. Perchloric acid hood and connected exhaust shall be prohibited from manifolding.
6. Radiosotope hoods are equipped with filtration and/or carbon beds where required by the registered design professional.
7. Biological safety cabinets are filtered.
8. Each hazardous exhaust duct system shall be served by redundant exhaust fans that comply with either of the following:
   - **8.1** The fan shall operate simultaneously in parallel and each fan shall be individually capable of providing the required exhaust rate.
   - **8.2** Each of the redundant fans is controlled so as to operate when the other fan has failed or is shut down for servicing.

Multiple difficulties with interpretation have been eliminated in the rewrite of section 510.4 and the introduction of section 510.5.

**510.7.1.1**

**Hazardous Exhaust Duct Penetrations of Shafts**

Added in 2015

Change Type: **Addition**

A pointer to the *International building Code* (IBC) provisions for hazardous exhaust duct penetrations of shafts has been added.

Hazardous exhaust ducts that penetrate fire-resistance-rated shafts shall comply with section 714.3.1 or 714.3.1.2 of the *International Building Code.*

The code prohibits fire and smoke dampers in hazardous exhaust ducts; therefore, another means of protection is required for penetrations of fire-resistance-rated assemblies.

**514.2**

**Energy Recovery Ventilation Systems**

Added in 2015

Change Type: **Modification**

Energy recovery ventilation (ERV) systems of the coil-type heat exchanger (run-around coils) are no longer limited in their application.

**Exception:** The application of ERV equipment that recovers sensible heat utilizing coil-type heat exchangers shall not be limited by this code section. Has been added.

**601.5**

**Return Air Openings**

Added in 2015

Change Type: **Addition**

The often misunderstood provisions in the previous editions of the code for return air have been relocated from a section specific to forced air-warm air furnaces in Chapter 9 to a more generic section in Chapter 6. The provisions have been clarified and streamlined to capture the desired intent.

The new code reads as follows:

Return air openings for HVAC systems shall comply with all of the following:

1. Openings shall not be located less than 10 feet measured in any direction from an open combustion chamber or draft hood of another appliance located in the same room or space.
2. Return air shall not be taken from a hazardous or insanitary location or a refrigeration room as defined in this code.
3. The amount of return air taken from any room or space shall be not greater than the flow rate of the supply air delivered to such room or space.
4. Return and transfer openings shall be sized in accordance with the appliance or equipment manufacturer's installation instructions, ACCA Manual D or the design of the registered design professional.
5. Return air taken from one dwelling unit shall not be discharged into another dwelling unit.
6. Taking return air from a crawl space shall not be accomplished through direct connection to the return side of a forced air furnace.

Transfer openings in the crawl space enclosure shall not be prohibited.

7. Return air shall not be taken from a closet, bathroom, toilet room, kitchen, garage, boiler room, furnace room or unconditioned attic.

~~918.6 Prohibited sources.~~ Has been deleted in its entirety.

The new text captures the many intentions of the old text while greatly simplifying it and presenting it in an easy-to-read format.

**602.1**

**Plenums Limited to One Fire Area**

Added in 2015

Change Type: **Clarification**

The revision clarifies that a plenum in a fore area cannot be connected to a plenum in an adjoining fire area by means of transfer ducts or openings, regardless of the presence of fire dampers.

Supply, return, exhaust, relief and ventilation air plenums shall be limited to uninhabitable crawl spaces, areas above a ceiling or below the floor, attic spaces and mechanical equipment rooms. Plenums shall be limited to one fire area. Air systems shall be ducted from the boundary of the fire area served directly to the air handling equipment. Fuel-fired appliances shall not be installed within a plenum.

**602.2**

**Plenum Construction**

Added in 2015

Change Type: **Modification**

Depending on the construction type of the building, plenums are no longer allowed to be bounded by the building materials that create the space being used as a plenum.

~~Plenum enclosures shall be constructed of materials permitted for the type of construction classification of the building.~~ Plenum enclosure construction materials that are exposed to the airflow shall comply with the requirements of section 703.5 of the *International Building Code* or such materials shall have a flame spread index of not more than 25 and a smoke-developed index of not more than 50 when tested in accordance with ASTM E 84 or UL 723. The use of gypsum boards to form plenums shall be limited to systems where the air temperatures do not exceed 125ºF (52ºC) and the building and mechanical system design conditions are such that the gypsum board surface temperatures will be maintained above the airstream dew-point temperatures. Air plenums formed by gypsum boards shall not be incorporated in air-handling systems utilizing evaporative coolers.

The new text no longer allows for building materials to be used in plenums that do not meet the minimum 25 flame spread index and also the 50 smoke-developed index.

**602.2.1.5**

**Discrete Plumbing and Mechanical Products in Plenums**

Added in 2015

Change Type: **Addition**

The code now addresses those products that in the previous editions of the code did not fall under the category of piping, wiring, ductwork, tubing, insulation and other continuous large surface area materials installed in plenums. A definition has been added to describe what is meant by discrete products.

Where discrete plumbing and mechanical products and appurtenances are located in a plenum and have exposed combustible material, they shall be listed and labeled for such use in accordance with UL 2043.

**General Definitions**

**Discrete Products.** Products that are non-continuous, individual, distinct pieces such as, but not limited to, electrical, plumbing and mechanical products and duct straps, duct fittings, duct registers and pipe hangers.

The new definition intends to describe products such as pull-ties strap, duct hanger strapping, duct fittings, detectors, speakers, control devices, pipe hangers, condensate pumps, etc. The definition refers to distinct individual pieces. These products are not suited for the test methods used for sheet materials, pipe, tubes and ducts. Therefore,

discrete products are now required to be tested in accordance with the appropriate standard, UL 2043.

**602.2.1.8**

**Pipe and Duct Insulation within Plenums**

Added in 2018

Change Type: **Addition**

A new section specifically addresses duct and pipe insulation in plenums.

Pipe and duct insulation contained within plenums, including insulation adhesives, shall have a flame spread of not more than 25 and a smoke developed index of not more than 50 when tested in accordance with ASTM E84 or UL 723, using specimen preparation and mounting procedures of ASTM E2231. Pipe and duct insulation shall not flame, glow, smolder or smoke when tested in accordance with ASTM C411 at the temperature to which they are exposed in service. The test temperature shall not fall below 250°F (121°C). Pipe and duct insulation shall be listed and labeled.

Although materials were covered in general in section 602.2.1, there was no subsection to specifically address duct and pipe insulation installed on the exterior of ducts and pipes located within plenums.

**Table 603.4**

**Duct construction Minimum Sheet Metal Thickness for Single Dwelling Units**

Added in 2015

Change Type: **Modification**

The table for duct gages for single dwelling units has been replaced with thicknesses consistent with SMACNA sheet metal construction standard.

Previous editions off the IMC allowed 30 gage metal ducts for dwelling units, depending on the duct size. In the 2009 and 2012 editions, 30 gage ducts were not an option. However, there was no demonstrated justification for eliminating 30 gage sheet metal from a strength, longevity, functionality, economic or energy standpoint.

**603.5.2**

**Phenolic Ducts**

Added in 2018

Change Type: **Addition**

The code added coverage for a newer type of non-metallic phenolic duct.

Nonmetallic phenolic ducts shall be constructed and installed in accordance with the SMACNA *Phenolic Duct Construction Standards.*

The code now references the SMACNA standard for phenolic duct construction.

**603.8.2**

**Testing of Underground Ducts**

Added in 2018

Change Type: **Modification**

The code now address the testing of underground ducts.

Duct shall be sealed. ~~and~~ secured and tested prior to ~~pouring the~~ concrete encasement or direct burial. Ducts shall be tested as required by section C403 of the *International Energy Code.*

Underground ducts are required to be sealed, secured in place to prevent movement or floating and tested, all prior to burial or pouring concrete.

**603.9**

**Duct Joints, Seams and Connections**

Added in 2015

Change Type: **Modification**

**Note:** This section was modified again in 2018.

Duct sealant tapes used on sheet metal ducts must be listed to UL 181B as is required for sealing tapes and mastics for flexible ducts. Snap-lock and button-lock seams are no longer exempt from the sealing requirements.

All longitudinal and transverse joints, seams and connections in metallic and non-metallic ducts shall be constructed as specified in SMACNA HVAC duct construction standards-metal and flexible and NAIMA fibrous glass duct construction standards. All joints, longitudinal and transverse seams and connections in ductwork shall be securely fastened and sealed with welds, gaskets, mastics (adhesives), mastic-plus-embedded- fabric systems, liquid sealants or tapes. ~~Closure systems~~ Tapes and mastics used to seal fibrous glass ductwork shall be listed and labeled in accordance with UL 181A and shall be marked “181A-P” for pressure-sensitive tape, “181-M” for mastic or “181-H” for heat-sensitive tape. ~~Closure systems~~ Tapes and mastics used to seal metallic and flexible sir ducts and flexible air connectors shall comply with UL 181B and shall be marked “181-FX” for pressure sensitive tape or “181M-B” for mastics. Duct connections to flanges of air distribution systems equipment shall be sealed and mechanically fastened. Mechanical fasteners for use with flexible nonmetallic air ducts shall comply with UL 181B and shall be marked “181B-C. Closure systems used to seal ~~metal~~ All Ductwork shall be installed in accordance with manufacturer’s ~~installation~~ instructions. ~~Unlisted duct tape is not permitted as a sealant on any duct.~~

**Exception:** ~~Continuously welded and locking-type longitudinal joints and seams in ducts operating at static pressures less than 2 inches of water column (500 Pa) pressure classification shall not require additional closure Systems.~~ For ducts having a static pressure classification of less than 2 inches water column (500 Pa), additional closure systems shall not be required for continuously welded joints and seams and locking-type joints and seams of other than snap-lock and button-lock types.

**603.9**

**Snap-lock and Button-lock Duct Joints**

Added in 2018

Change Type: **Modification**

The code is less restrictive for Snap- and button-lock duct joints located within the thermal envelope.

~~All~~ l Longitudinal and transverse joints, seams and connections in metallic and non-metallic ducts shall be constructed as specified in SMACNA HVAC duct construction standards-metal and flexible and ~~NAIMA~~ fibrous glass duct construction standards. ~~All j~~ Joints, longitudinal and transverse seams and connections in ductwork shall be securely fastened and sealed with welds,

gaskets, mastics (adhesives), mastic-plus-embedded- fabric systems, liquid sealants or tapes. Tapes and mastics used to seal fibrous glass ductwork shall be listed and labeled in accordance with UL 181A and shall be marked “181A-P” for pressure-sensitive tape, “181-M” for mastic or “181-H” for heat-sensitive tape. Tapes and mastics used to seal metallic and flexible sir ducts and flexible air connectors shall comply with UL 181B and shall be marked “181-FX” for pressure sensitive tape or “181M-B” for mastics. Duct connections to flanges of air distribution systems equipment shall be sealed and mechanically fastened. Mechanical fasteners for use with flexible nonmetallic air ducts shall comply with UL 181B and shall be marked “181B-C. Closure systems used to seal all ductwork shall be installed in accordance with manufacturer’s instructions.

**Exception:** For ducts having a static pressure classification of less than 2 inches water column (500 Pa), additional closure systems shall not be required for continuously welded joints and seams and locking-type joints and seams. ~~of other than~~ This exception shall not apply to snap-lock and button-lock type joints and seams located outside of conditioned spaces.

The new text relaxes this requirement by allowing joints and seam of the locking-type that are located inside conditioned spaces to be adequately sealed without requiring additional sealing.

**607.3.1**

**Ceiling Radiation Dampers**

Added in 2018

Change Type: **Modification**

The code mandates dynamic-type ceiling radiation dampers where subject to continuous air flow from HVAC fans.

Dampers shall be listed and labeled in accordance with the standards in this section. Fire dampers shall comply with the requirements of UL 555. Only fore damper ~~and ceiling radiation dampers~~ labeled for use in dynamic systems shall be installed in heating, ventilating and air-conditioning systems designed to operate with fans on during a fire. Smoke dampers shall comply with the requirements of both UL 555 and UL 555S. Ceiling radiation dampers shall comply with the requirements of UL 555C or shall be tested as part of a fire-resistance-rated floor/ceiling or roof/ ceiling assembly in accordance with ASTM E119 or UL 263. Only ceiling radiation dampers labeled for use in a dynamic system shall be installed in heating, ventilating and air-conditioning systems

designed to operate with fans on during a fire. Corridor dampers shall comply with the requirements of both UL 555 and UL 555S. Corridor dampers shall demonstrate acceptable closure performance when subject to 150 feet per minute (0.76 mps) velocity across the face of the damper using UL 555 fire exposure test.

The code now recognizes that ceiling radiation dampers need to be compatible with HVAC system operation.

**701.2**

**Dampered Openings**

Added in 2015

Change Type: **Addition**

Where dampers are installed on combustion air openings, the code now requires an interlock with the appliance to prevent operation of the appliance when the damper is closed. Manual dampers are prohibited on combustion air openings.

Where combustion air openings are provided with volume, smoke, or fire dampers, the dampers shall be interlocked with the firing cycle of the appliances served, so as to prevent operation of any appliance that draws combustion air from the room or space when any of the dampers are closed. Manual Dampers shall not be installed in combustion air ducts. Ducts not provided with dampers and that pass through rated construction shall be enclosed in a shaft in accordance with the *International Building Code.*

**802.9**

**Door Clearance to Vent Terminals**

Added in 2015

Change Type: **Addition**

To prevent damage to the vent, door or surrounding materials, doors are not permitted to swing within 12 inches of an appliance vent terminal.

Appliance and equipment vent terminals shall be located such that doors cannot swing within 12 inches (305 mm) horizontally of the vent terminal. Door stops or closures shall not be installed to obtain this clearance.

**903.4**

**Gasketed Fireplace Doors**

Added in 2015

Change Type: **Addition**

Gasketed (sealed) doors are prohibited on factory-built fireplaces except where the fireplaces are listed for use with such doors.

A gasketed fireplace door shall not be installed on a factory-built fireplace except where the fireplace system has been specifically tested, listed and labeled for such use in accordance with UL 127.

**929, 202**

**High-volume Large-diameter Fans**

Added in 2018

Change Type: **Addition**

The code added coverage for High-volume Large-diameter (HVLD) fans.

Where provided, a high-volume large-diameter fans shall be tested and labeled in accordance with AMCA 230, listed and labeled in accordance with UL 507, and installed in accordance with the manufacturer's instructions.

**General Definitions**

**HIGH-VOLUME LARGE-DIAMETER FAN.** A low-speed ceiling fan that circulates large volumes of air and that is greater than 7 feet (2134 mm) in diameter.

Previously the code did not specifically cover these types of fans.

**1102.3**

**Refrigerant Access Port Protection**

Added in 2015

Change Type: **Addition**

The requirement for making refrigerant access ports tamper resistant has been expanded to apply to existing systems when service to such systems involve adding or removing refrigerant.

Refrigerant access ports shall be protected in accordance with section 1101.10 whenever refrigerant is added to or recovered from refrigeration or air conditioning systems.

**1105.6.3**

**Ammonia System Ventilation Rate**

Added in 2018

Change Type: **Modification**

An important clarification was added regarding the ventilation rate required for ammonia systems, thereby resolving an interpretation issue.

For other than ammonia systems, the mechanical ventilation system shall be capable of exhausting the minimum quantity of air both at normal operating and emergency conditions, as required by sections 1105.6.3.1 and 1105.6.3.2. The minimum required emergency ventilation rate for ammonia shall be 30 air changes per hour in accordance with IIAR2. Multiple fans or multispeed fans shall be allowed to produce the emergency ventilation rate and to obtain a reduced airflow for normal ventilation.

Section 1105.6.3 references normal and emergency ventilation for machinery rooms for other than ammonia systems. For ammonia systems, this section prescribes a ventilation rate of 30 air changes per hour, but it failed to state if this rate is for emergency or normal conditions. It now states that the 30 ACH rate is for emergency operation.

**1107.2**

**Refrigerant Piping Location**

Added in 2018

Change Type: **Modification**

This code section was rewritten to clearly state the intent regarding the prohibited locations for refrigeration piping.

Refrigerant piping that crosses an open space that affords passageway in any building shall be not less than 7 feet 3 inches (2210 mm) above the floor unless the pipe is located against the ceiling of such space. Refrigerant piping shall not be placed in any of the following: ~~elevator, dumbwaiter or other shaft containing a moving object or in any shaft that has openings to living quarters or to means of egress. Refrigerant piping shall not be installed in an enclosed public stairway, stairway landing or means of egress.~~

1. A fire-resistance-rated exit access corridor.
2. An interior exit stairway.
3. An interior exit ramp.
4. An exit passageway.
5. An elevator, dumbwaiter or other shaft containing a moving object.
6. A shaft that has one or more openings into a fire-resistance-rated exit access corridor, interior exit stairway or ramp or exit passageway.

Previous editions of the code prohibited refrigerant piping in enclosed public stairways, stairway landings and means of egress. This wording was very ambiguous, especially the reference to “means of egress” and the terminology was inconsistent with the *International Building Code.* Means of egress is defined as a continuous and unobstructed path of horizontal and vertical egress travel from any occupied portion of a building, thus refrigerant piping would be prohibited almost everywhere in a building. The actual intent was logically assumed to be to prohibit refrigerant piping in exit stairways, exit ramps, exit passageways and fire-resistance-rated exit access corridors. A refrigerant leak in such spaces could jeopardize egress from the building.

**Chapter 14**

**Solar Thermal Systems**

Added in 2018

Change Type: **Modification**

This chapter was substantially rewritten for consistency with current technology.

**SECTION 1401**

## GENERAL

**1401.1 Scope.** This chapter shall govern the design, construction, installation, alteration and repair of solar thermal systems, equipment and appliances intended to utilize solar energy for space heating or cooling, domestic hot water heating, swimming pool heaters or process heating.

**1401.4 Solar ~~energy~~ thermal equipment and appliances.** Solar ~~energy~~ thermal equipment and appliances shall conform to the requirements of this chapter and ICC 900/SRCC 300. Solar thermal systems shall be listed and labeled in accordance with ICC900/SRCC300 and shall be installed in accordance with manufacturer's instruction and ICC900/SRCC300.

**1401.4.1 Collectors and panels.** Solar thermal collectors and panels shall be listed and labeled in accordance with ICC901/SRCC100.

## SECTION 1402

## DESIGN AND INSTALLATION

**1402.1 General.** The design and installation of solar thermal systems shall comply with sections 1402.1 through 1402.8. Solar thermal systems shall be listed and labeled in accordance with ICC 900/SRCC300 and shall be installed in accordance with the manufacturer's instructions and ICC900/SRCC300.

**~~1402.1~~ 1402.2 Access.** Access shall be provided to solar ~~energy~~ thermal equipment ~~and appliances~~ for maintenance. Solar thermal systems and appurtenances shall not obstruct or interfere with operation of any doors, windows or other building component requiring operation or access. Roof-mounted solar thermal equipment shall not obstruct or interfere with the operation of roof-mounted equipment, appliances, chimneys, roof hatches, smoke vents, skylights, and other roof penetrations and openings.

(Portions of chapter 14 are not shown for brevity and clarity. Refer to the 2018 IMC for the complete text.

# Significant Changes IRC 2012 to 2018

## Part 5 and 6

# Part 5

# Mechanical

**Access to Furnaces within Compartments**

Added in 2018

Change Type: **Deletion**

M1305.1.1

The appliance access and clearance requirements for furnaces in compartments have been removed from the code in favor of other code provisions and manufacturer's instructions.

**Appliances Installed in Pits**

Added in 2018

Change Type: **Modification**

M1305.1.3.2

The requirement for appliance installation in pits has been expanded to provide more detail and to be similar to language found in other ICC codes. Where the depth of a pit exceeds 12 inches, the new code requires concrete or masonry walls constructed to resist collapse and that extend 4 inches above adjoining grade. The minimum bottom clearance has been reduced from 6 inches to 3 inches.

**Clothes Dryer Exhaust**

Added in 2015

Change Type: **Addition**

M1502.4.4 M1502.4.5

The code now recognizes the use of dryer duct power ventilators to increase the allowable exhaust duct length for clothes dryers. The maximum length allowed for dryer ducts equipped with power ventilators is to be determined by the manufacturer's installation instruction. Ref. M1502.4.5.3

M1502.4.6. Change Type: Modification

A permanent label identifying the concealed length of the dryer exhaust duct is no longer required where the equivalent duct length does not exceed 35 feet. For the dryer exhaust duct exceeding 35 feet, a label or tag is required whether the duct is concealed or not.

Added in 2018.

Change Type: **Modification**

M1502.3.1

A minimum area of 12.5 square inches has been established for the terminal outlet of the dryer duct exhaust.

M1502.4.2

Wall and ceiling cavities enclosing dryer exhaust ducts must provide sufficient space that the 4-inch duct is not squeezed out of its shape or deformed in any way.

**Domestic Cooking Exhaust Equipment**

Added in 2018

Change Type: **Modification**

M1503

Changed the section from ~~M1503 Range Hoods~~ to M1503 Domestic Cooking Exhaust Equipment. “Domestic cooking equipment” is the terminology for “kitchen exhaust” because it is more descriptive and includes all of the components of the exhaust system.

This section has undergone several changes to the verbiage to encompass a larger verity of equipment that may be used. In addition section location has been shuffled. The following is a list of the most significant and relevant changes.

M1503.2 Items 1thru 4.

Addition of compliance with UL listings for Fans, equipment and microwaves installed in domestic kitchens.

~~M1505.1 Overhead Exhaust Hoods.~~ Has been removed, and replaced with M1503.2.1 Open Top Broiler Exhaust. Slight changes to the verbiage, and the last sentence from the 2012 IRC has had minor changes to the verbiage and been moved to an <u>exception.</u>

~~Section 1504 Installation of Microwave Ovens.~~ Has been **REMOVED**. The minimum clearances and applicable standard for microwaves ovens installed above a domestic cooking appliances have been consolidated in section 1901 covering other cooking appliances.

**Makeup Air for Kitchen Exhaust Systems**

Added in 2018

Change Type: **Modification**

M1503.6

Makeup air for domestic cooking exhaust systems is no longer required if all fuel-burning appliances in the dwelling unit have a direct vent or mechanical draft vent system.

Makeup air is allowed to be mechanical or passively provided and is required to have a damper that complies with section M1503.6.1

M1503.6.1 Location.

Makeup air serving domestic cooking exhaust is allowed to be located in any room or duct that directly communicates with the exhaust system having a permanent opening with a cross sectional opening equal to or greater than the makeup air supply opening.

M1503.6.2. Makeup Air Dampers.

Was also added indicating what types of dampers may be used in the makeup air system and the requirement for them to be located in a serviceable location.

**Exhaust Ducts and Exhaust Openings**

Added in 2015

Change Type: **Addition**

The code establishes maximum exhaust duct lengths based on duct diameter, type of duct and the exhaust fan air flow rating.

M1506.2 and Table M1506.2 to determine exhaust duct lengths and requirements.

No changes were made to exhaust openings.

**Above-Ground Duct Systems**

Added in 2015

Change Type: **Modification**

M1601.1.1 Table M1601.1.1

The list of duct system requirements has been revised to reference the applicable standards and delete redundant language. The table for material thickness of metal ducts was replaced with what is currently consistent with SMACNA sheet metal construction standard. This returns the minimum thickness for 14 inch ducts back from the 2009 IRC to 30ga.

M1601.2 Factory Made Ducts. **REMOVED.**

These burning classifications are already covered in the referenced UL 181 standard and it is not necessary to repeat them in the code.

**Duct Installation**

Added in 2015

Change Type: **Modification**

M1601.4

Tapes and mastics used to seal sheet metal ducts must be listed to UL 181 B as has been required for sealing flexible ducts. Snap-lock and button-lock seams are no longer exempt from the sealing requirements.

M1601.4.2 Duct Lap.

Has been removed from section M1601.4.1 and the requirements for crimping and insertion of oval pipe is now included.

M1601.4.4 Support.

This section has been revised and now reads: Manufacture's installation instructions and SMACNA standards are to be referenced for appropriate support intervals.

Added in 2018

**Exception:** For ducts having a static pressure classification of less than 2 inches water column (500 Pa), additional closure systems shall not be required for continuously welded joints and seams and locking-type joints and seams. ~~of other than~~ This exception shall not apply to snap-lock and button-lock type joints and seams located outside of conditioned spaces.

The new text relaxes this requirement by allowing joints and seam of the locking-type that are located inside conditioned spaces to be adequately sealed without requiring additional sealing.

**Underground Duct Systems**

Added in 2018

Change Type: **Modification**

M1601.2

Underground duct systems, including both direct-burial ducts and those incased in concrete, require sealing and testing.

**Return air**

Added in 2015

Change Type: **Modification**

M1602

This section has been revised and simplified to clarify understanding. The provisions for outdoor air openings have been REMOVED and the code now references the outdoor air provisions from chapter 3.

Item 3 regarding a space that was less than 25 percent of the entire volume served by the system was not well understood and not typically followed. This item has been REMOVED and replaced. The new code simply requires the amount of return air taken from any room is not greater than the supply air delivered.

Item 5 ~~A room or space containing a fuel-burning *appliance* where such room or space serves as the sole source of return air.~~ Has been REMOVED in its entirety, as it was deemed problematic.

The intent of the return air provisions is to keep contaminates out. The new text accomplishes this and captures the intent of the previous provisions.

**Ranges and Ovens**

Added in 2018

Change Type: **Clarification**

M1901

The provisions for reduced clearances above ranges and ovens have been clarified. These clearances were previously found in chapter 15. The listing requirement for microwave ovens has been added to section 1901.

**Hanger Spacing for PEX Tubing**

Added in 2018

Change Type: **Modification**

M2101.9

Support spacing for PEX tubing 1 ¼ inches in diameter or greater have been added to table M2101.9

**Pressure Tests for Hydronic Piping**

Added in 2018

Change Type: **Modification**

M2101.10

The requirement for the pressure test to last not more than 20 minutes has been removed, and now simply reads: The duration of each test shall be not less than 15 minutes.

Compressed air testing of PEX hydronic piping is now allowed when testing is in accordance with manufacturer's instructions.

**Thermal Barrier for Radiant Floor Heating Systems**

Added in 2018

Change Type: **Modification**

M2103.2

For hydronic floor heating systems, the minimum insulation R-values have been removed from this section and a reference to the energy provisions of chapter 11 has been added.

**Solar Thermal Energy Systems**

Added in 2018

Change Type: **Modification**

M2301.2.1

This section has been re-written and now clarifies roof mounted solar collectors and equipment should not interfere with the operation of key safety components and features of other systems.

M2301.2.6

Freeze protection shall be provided ~~by heating, insulation, thermal mass heat transfer fluids~~ has been replaced with in accordance with ICC900/SRCC300.

New subsections have been added that address two common freeze protection methods: drain back systems and freeze protection valves.

Drain back systems require a ¼ in 12 units slope from areas of freezing to locations not subject.

Freeze protection valves must not discharge in a manner that will create a hazard or structural damage.

# Part 6

# Fuel Gas

**Condensate Pumps**

Added in 2015

Change Type: **Addition**

G2404.11

Condensate pumps located in uninhabitable spaces must be connected to the appliance to shut down the equipment if the pump fails.

**Prohibited Locations for Appliances**

Added in 2018

Change Type: **Modification**

G2406.2

Exception 6 Clothes dryers are now allowed to be installed in bathrooms and toilet rooms. This exception is only allowed when a permanent opening not less than 100 square inches is installed. This opening must not communicate with sleeping rooms, bathrooms, toilet rooms, or storage closets.

**Electrical Bonding of CSST**

Added in 2018

Change Type: **Modification**

G2411.2 G2411.3

The existing provisions for electrical bonding apply to CSST without an arc-resistant jacket or coating. New provisions added now address CSST with bonding jackets and coatings.

**Maximum Gas Demand**

Added in 2015

Change Type: **Modification**

G2413.2

Table G2413.2 has been REMOVED and the code has been clarified that the actual maximum input rating of appliances is to be used for gas pipe sizing.

**Schedule 10 Steel Gas Piping**

Added in 2018

Change Type: **Modification**

G2414.4.2

Steel, stainless steel and wrought-iron as light as schedule 10 is now allowed.

G2414.10.1

Allows schedule 40 (or heavier) piping to be connect by threads, flanges, brazing, welds, or assembled with listed press connect fittings listed with ANSI LC4/CSA-6.32. Pipe lighter than schedule 40 is allowed to be connect using press-connect fittings, flanges, brazing or welding.

**Plastic Pipe, Tubing and Fittings**

Added in 2015

Change Type: **Modification**

G2414.6

The code now expressly prohibits the use of [PVC] and [CPVC] where in the past it was silent on these materials.

**Fittings in Concealed Locations**

Added in 2015

Change Type: **Clarification**

G2415.5

This section was reformatted to state what fittings are allowed in concealed locations, rather than listing what is prohibited and the exceptions. The new text list the four types of allowed fittings: threaded elbows, tees, and couplings; brazed fittings; welded fittings; and proprietary fittings listed to ANSI LC-1 or ANSI LC-4.

**Protection of Concealed Piping Against Physical Damage**

Added in 2015

Change Type: **Modification**

G2415.7

This section has been rewritten and now includes the requirement for piping ran parallel to framing members and piping within framing members to be protected, when located less than 1 ½ inch from the framing to which wall, ceiling, or floor membranes will be attached. When installed within 1 ½ inches shield plates will be required that cover the width and length of the pipe.

<u>Exception: Black steel piping and galvanized steel piping shall not be required to be protected.</u>

**Protection against Corrosion**

Added in 2018

Change Type: **Modification**

G2415.11

This section has been reorganized and updated. Previously this section applied to all metallic piping and tubing. Because copper and copper alloy tubing is less susceptible to corrosion, the requirements now only apply to steel piping and tubing. Stainless steel has been added to material requiring protection under some circumstances. Galvanized (zinc coated) is not approved for direct burial.

The code now identifies 3 methods of protection:

1. Piping made of non-corrosive material.
2. Factory-applied, electrically-insulating coated.

3. Cathodic protection system installed that is monitored and maintained with an approved program.

Field applied coating or wrap is not allowed.

Risers used in underground piping systems are required to be anodeless or cathodically protected by means of a welded anode.

**Shutoff Valve Location**

Added in 2018

Change Type: **Clarification**

G2420.5.1

Shutoff valves located behind movable appliances such as gas dryers and ranges are considered as meeting the requirement for access.

**Support for Shutoff Valves in Tubing Systems**

Added in 2018

Change Type: **Addition**

G2420.6

<u>Shutoff valves installed in tubing systems shall be rigidly and securely supported independently of the tubing.</u>

Shut off valves installed in piping systems such as T-handle key valves for fireplaces, or valves in the run of CSST tubing are required to be independently supported and secured so damage will not occur when torque is applied.

**Medium-Pressure Regulators**

Added in 2015

Change Type: **Modification**

G2421.2

Item 7. Has been added. <u>Where connected to rigid piping, a union shall be installed within 1 foot of either side of the MP regulator.</u>

**Connecting Portable and Movable Appliances**

Added in 2015

Change Type: **Modification**

Gas hoses used to connected portable outdoor appliances are practically limited to hoses designed for this purpose. Such hoses must comply with ANSI Z21.54. With the addition of Item 7.

**Door Clearances to Vent Terminals**

Added in 2015

Change Type: **Addition**

G2426.7.1

An appliance vent terminal is not permitted in a location within 12 inches of the arc of a swinging door.

**Plastic Piping for Appliance Vents**

Added in 2015

Change Type: **Modification**

G2427.4.1

The approval of plastic pipe for venting appliances is no longer a responsibility of the building official and, instead, that responsibility rests with the appliance manufacturer and the appliance listing agency.

G2427.6.8.3

The code is no longer silent on the sizing of plastic piping for appliance vents and now states: the sizing of plastic pipe shall be in accordance with the manufacturer's instructions.

**Venting System Termination Location**

Added in 2015

Change Type: **Modification**

G2427.8

Item #5: New text addresses the location of sidewall vent terminations with respect to adjoining buildings. A 10-foot separation is required when a vent discharges in the direction of an opening in an adjacent building.

**Clothes Dryer Exhaust Ducts**

Added in 2015

Change Type: **Modification**

G2439.4

The code now recognizes the use of dryer duct power ventilators to increase the allowable exhaust duct length for clothes dryers. The maximum length allowed for dryer ducts equipped with power ventilators is to be determined by the manufacturer's installation instruction. Ref G2439.7.4.3.

G2439.7.2

The allowance for mechanical fasteners now reads the same as section 1502 <u>Ducts shall not be joined with screws or similar fasteners that protrude more than 1/8 inch into the inside of the duct.</u>

G2439.7.5

A permanent label identifying the concealed length of the dryer exhaust duct is no longer required where the equivalent duct length does not exceed 35 feet. For the dryer exhaust duct exceeding 35 feet, a label or tag is required whether the duct is concealed or not.

**Forced Air Furnace Duct Size**

Added in 2018

Change type: **Deletion**

The prescriptive duct size requirements for forced air furnaces have been deleted in favor of other sizing methods specific to the appliance.

**Prohibited Location of Commercial Cooking Appliances**

Added in 2015

Change Type: **Modification**

The code does not prohibit the installation of cooking appliances that are listed as both commercial and domestic appliances. Previously the code did not allow commercial cooking appliances in domestic applications. With the exceptions introduced in 2015 and 2018 there are now paths that allow such use.

Exception: Appliances that are also listed as domestic cooking appliances. Was added to address appliances labeled for both cooking applications.

Added in 2018. Change Type: Modification

Exception: 2. Where the installation is designed by a licensed professional engineer in compliance with the manufacturer's installation instructions.

# IDAHO HEATING, VENTILATION AND AIR CONDITIONING BOARD

**Agenda Item No. 08 Conduct Board Meetings Throughout State**

**PRESENTER:** Ted Sermon, Chairman

---

**OBJECTIVE:** Travel to northern and eastern Idaho once a year to conduct board meetings.

---

**ACTION:** Informational

---

**BACKGROUND:** **May 2018 –** The Chairman questioned the possibility of traveling throughout the state for meetings. If confined to the Coeur d'Alene, Meridian and Pocatello areas, others would still have the ability to participate via videoconference. In addition, the Board could travel; however, DBS may possibly stay in their respective regions; lowering the cost of travel. Mike LaPray, HVAC Assistant Professor, College of Southern Idaho, offered the services of the college. For the November 2018 Board meeting, Chairman Sermon suggested adding the topic to the agenda as an informational item.

---

**PROCEDURAL HISTORY:**

---

**ATTACHMENTS:** No Documentation

---

# IDAHO HEATING, VENTILATION AND AIR CONDITIONING BOARD

**Agenda Item No. 09** **Program Manager Report**

**PRESENTER:** John Nielsen, HVAC Program Manager

**OBJECTIVE:** Report on the recent activities of the HVAC program.

**ACTION:** Informational

**BACKGROUND:** This topic is addressed at all regularly scheduled Idaho HVAC Board meetings.

**PROCEDURAL HISTORY:**

**ATTACHMENTS:** Journeyman First Exam Attempts Report

## HVAC JOURNEYMAN FIRST EXAM ATTEMPTS

| | | JAN '18 | FEB '18 | MAR '18 | APR '18 | MAY '18 | JUN '18 | JUL '18 | AUG '18 | SEP '18 | OCT '18 | NOV '18 | DEC '18 | TTL | % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CSI | T | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 1 | | | 5 | 100% |
| | P | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 1 | | | 5 | |
| CWI | T | 1 | 2 | 1 | 7 | 6 | 4 | 3 | 6 | 6 | 2 | | | 38 | 74% |
| | P | 0 | 2 | 1 | 5 | 5 | 3 | 3 | 3 | 5 | 1 | | | 28 | |
| EITC | T | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | | | 4 | 50% |
| | P | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | | | 2 | |
| HVACR | T | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | | | 4 | 100% |
| | P | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | | | 4 | |
| ISU | T | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | | | 5 | 80% |
| | P | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | | | 4 | |
| JATC EAST | T | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | 0% |
| | P | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | |
| JATC SW | T | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | | | 6 | 100% |
| | P | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | | | 6 | |
| LCSC | T | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | | | 4 | 75% |
| | P | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | | | 3 | |
| NIC | T | 0 | 1 | 1 | 2 | 0 | 1 | 0 | 2 | 0 | 2 | | | 9 | 56% |
| | P | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | | | 5 | |
| PREV HELD | T | 0 | 2 | 0 | 3 | 4 | 1 | 1 | 1 | 1 | 2 | | | 15 | 40% |
| | P | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 1 | 0 | 0 | | | 6 | |
| OOS | T | 2 | 1 | 5 | 3 | 1 | 1 | 0 | 2 | 2 | 1 | | | 18 | 56% |
| | P | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 2 | 1 | 1 | | | 10 | |
| TOTAL | T | **4** | **8** | **11** | **21** | **12** | **9** | **8** | **12** | **13** | **10** | **0** | **0** | 108 | 68% |
| | P | **1** | **5** | **9** | **14** | **8** | **7** | **5** | **9** | **10** | **5** | **0** | **0** | 73 | |
| % | | 25% | 63% | 82% | 67% | 67% | 78% | 63% | 75% | 77% | 50% | | | 68% | |

# IDAHO HEATING, VENTILATION AND AIR CONDITIONING BOARD

**Agenda Item No. 10** **Compliance Program Report**

**PRESENTER:** Amy Kohler, Compliance Program Specialist

**OBJECTIVE:** Provide an update on the statewide compliance program.

**ACTION:** Informational

**BACKGROUND:** This topic is addressed at all regularly scheduled Idaho HVAC Board meetings.

**PROCEDURAL HISTORY:**

**ATTACHMENTS:** NOV Activity Report

# HVC% NOV Activity by Date

ICS\akohler 11/7/2018 8:47:41 AM
From 5/1/2018 to 11/7/2018

27 Cases 32 Violations

| CASE NO | STARTED | CLOSED | Case Type | FEES CHARGED | FEES PAID | BALANCE DUE | STATUS | OFFENDER COMPLAINANT |
|---|---|---|---|---|---|---|---|---|
| **HVC1805-0001** | 5/7/2018 | | NOV | $600.00 | $0.00 | $600.00 | ACTIVE | **MICHAEL HAEGER - WATERS HOMESTEAD HEATING & AIR** |
| VIOLATION: HVC Unlicensed Contractor | | | | | | | | |
| VIOLATION: HVC Unlicensed Individual | | | | | | | | |
| | | | | | | | | |
| **HVC1805-0002** | 5/16/2018 | 7/18/2018 | NOV | $600.00 | $600.00 | $0.00 | PAID | **A-1 Rooftop Chimney Sweep Inc** |
| VIOLATION: HVC Knowingly Employing Unlicensed Ind | | | | | | | | |
| VIOLATION: HVC Unlicensed Contractor | | | | | | | | |
| VIOLATION: HVC Unlicensed Individual | | | | | | | | |
| | | | | | | | | |
| **HVC1805-0003** ARCO | 5/24/2018 | 6/28/2018 | NOV | $0.00 | $0.00 | $0.00 | WARNING | **JASON OLSEN** |
| VIOLATION: HVC Unlicensed Individual | | | | | | | | |
| | | | | | | | | |
| **HVC1806-0001** RIGBY | 6/11/2018 | | NOV | $100.00 | $0.00 | $100.00 | ACTIVE | **Javier Casas-Trejo** |
| VIOLATION: HVC Unlicensed Individual | | | | | | | | |
| | | | | | | | | |
| **HVC1806-0002** RIGBY | 6/11/2018 | 6/29/2018 | NOV | $100.00 | $100.00 | $0.00 | PAID | **Alpine Heating & A/C Inc** |
| VIOLATION: HVC Knowingly Employing Unlicensed Ind | | | | | | | | |
| | | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **HVC1806-0003**<br>SMELTERVILLE | 6/14/2018 | 8/8/2018 | NOV | $1000.00 | $1000.00 | $0.00 | PAID | **BILLS HEATING & APPLIANCE REPAIR** |
| VIOLATION: HVC Failure to Correct | | | | | | | | |
| | | | | | | | | |
| **HVC1806-0004**<br>BLACKFOOT | 6/22/2018 | 8/10/2018 | NOV | $100.00 | $100.00 | $0.00 | PAID | **RIGHT NOW HEATING & AIR** |
| VIOLATION: HVC Knowingly Employing Unlicensed Ind | | | | | | | | |
| | | | | | | | | |
| **HVC1806-0005**<br>blackfoot | 6/22/2018 | 7/25/2018 | NOV | $0.00 | $0.00 | $0.00 | WARNING | **JAXON W FRISK** |
| VIOLATION: HVC Unlicensed Individual | | | | | | | | |
| | | | | | | | | |
| **HVC1806-0006** | 6/28/2018 | 7/2/2018 | NOV | $0.00 | $0.00 | $0.00 | CLOSED | **WEST VALLEY CONTRACTORS LLC** |
| VIOLATION: HVC Unlicensed Contractor | | | | | | | | |
| VIOLATION: HVC Unlicensed Individual | | | | | | | | |
| | | | | | | | | |
| **HVC1807-0001**<br>BONNERS FERRY | 7/9/2018 | 9/25/2018 | NOV | $100.00 | $100.00 | $0.00 | PAID | **Shane Florea** |
| VIOLATION: HVC Knowingly Employing Unlicensed Ind | | | | | | | | |
| | | | | | | | | |
| **HVC1807-0002**<br>HOPE | 7/30/2018 | | NOV | $0.00 | $0.00 | $0.00 | CANCELLED | **TRADEMARK MECHANICAL INC** |
| VIOLATION: HVC Failure to Correct | | | | | | | | |
| | | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **HVC1807-0003**<br>HOPE | 7/30/2018 | | NOV | $0.00 | $0.00 | $0.00 | CANCELLED | **TRADEMARK MECHANICAL INC** |
| VIOLATION: HVC Failure to Correct | | | | | | | | |
| | | | | | | | | |
| **HVC1809-0001**<br>HAYDEN | 9/21/2018 | 11/1/2018 | NOV | $100.00 | $100.00 | $0.00 | PAID | **COMFORT MECHANICAL CONTRACTORS** |
| VIOLATION: HVC Knowingly Employing Unlicensed Ind | | | | | | | | |
| | | | | | | | | |
| **HVC1809-0002**<br>HAYDEN | 9/21/2018 | | NOV | $100.00 | $0.00 | $100.00 | ACTIVE | **DANIEL SCHROER** |
| VIOLATION: HVC Unlicensed Individual | | | | | | | | |
| | | | | | | | | |
| **HVC1810-0001**<br>POST FALLS | 10/4/2018 | 10/26/2018 | NOV | $0.00 | $0.00 | $0.00 | WARNING | **Jay Stephan Edlin** |
| VIOLATION: HVC Unlicensed Individual | | | | | | | | |
| | | | | | | | | |
| **HVC1810-0002**<br>POST FALLS | 10/4/2018 | | NOV | $600.00 | $0.00 | $600.00 | ACTIVE | **Par Construction** |
| VIOLATION: HVC Unlicensed Contractor | | | | | | | | |
| VIOLATION: HVC Knowingly Employing Unlicensed Individual | | | | | | | | |
| | | | | | | | | |
| **HVC1810-0003**<br>SAGLE | 10/10/2018 | | NOV | $100.00 | $0.00 | $100.00 | ACTIVE | **ROBS HEATING & COOLING** |
| VIOLATION: HVC Failure to Correct | | | | | | | | |
| | | | | | | | | |
| **HVC1810-0004**<br>VICTOR | 9/4/2018 | | NOV | $100.00 | $0.00 | $100.00 | ACTIVE | **FOX CREEK HEATING LLC** |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| VIOLATION: HVC Knowingly Employing Unlicensed Individual | | | | | | | | |
| | | | | | | | | |
| **HVC1810-0005** VICTOR | 9/4/2018 | | NOV | $100.00 | $0.00 | $100.00 | ACTIVE | **JOHN S PHILLIPS** |
| VIOLATION: HVC Unlicensed Individual | | | | | | | | |
| | | | | | | | | |
| **HVC1810-0006** VICTOR | 9/4/2018 | 10/26/2018 | NOV | $0.00 | $0.00 | $0.00 | WARNING | **RYAN H CRUZE** |
| VIOLATION: HVC Unlicensed Individual | | | | | | | | |
| | | | | | | | | |
| **HVC1810-0007** REXBURG | 10/10/2018 | 11/5/2018 | NOV | $100.00 | $100.00 | $0.00 | PAID | **J & B HEATING LLC** |
| VIOLATION: HVC Knowingly Employing Unlicensed Individual | | | | | | | | |
| | | | | | | | | |
| **HVC1810-0008** REXBURG | 10/10/2018 | | NOV | $100.00 | $0.00 | $100.00 | ACTIVE | **Rogelio Alba** |
| VIOLATION: HVC Unlicensed Individual | | | | | | | | |
| | | | | | | | | |
| **HVC1810-0009** BLACKFOOT | 10/19/2018 | 11/1/2018 | NOV | $100.00 | $100.00 | $0.00 | PAID | **BULLSEYE HEATING and COOLING** |
| VIOLATION: HVC Knowingly Employing Unlicensed Individual | | | | | | | | |
| | | | | | | | | |
| **HVC1810-0010** BLACKFOOT | 10/19/2018 | 11/1/2018 | NOV | $100.00 | $100.00 | $0.00 | PAID | **BULLSEYE HEATING and COOLING** |
| VIOLATION: HVC Knowingly Employing Unlicensed Individual | | | | | | | | |
| | | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **HVC1810-0011**<br>BLACKFOOT | 10/19/2018 | 11/1/2018 | NOV | $100.00 | $100.00 | $0.00 | PAID | **Richard August Winterfield** |
| VIOLATION: HVC Unlicensed Individual | | | | | | | | |
| | | | | | | | | |
| **HVC1810-0012**<br>BLACKFOOT | 10/19/2018 | 11/1/2018 | NOV | $100.00 | $100.00 | $0.00 | PAID | **Travis John Landon** |
| VIOLATION: HVC Unlicensed Individual | | | | | | | | |
| | | | | | | | | |
| **HVC1810-0013**<br>SANDPOINT | 10/25/2018 | | NOV | $100.00 | $0.00 | $100.00 | ACTIVE | **QUALITY STOVES** |
| VIOLATION: HVC Failure to Permit, Pay Fee, or Request Inspection | | | | | | | | |
| | | | | | | | | |
| **Total Cases: 27** | | | | **$4400.00** | **$2500.00** | **$1900.00** | | |

# IDAHO HEATING, VENTILATION AND AIR CONDITIONING BOARD

**Agenda Item No. 11** **Administrator Report**

**PRESENTER:** Chris L. Jensen, Administrator

**OBJECTIVE:** Provide an overview of the Division's current activities.

**ACTION:** Informational

**BACKGROUND:** This topic is addressed at all regularly scheduled Idaho HVAC Board meetings.

**PROCEDURAL HISTORY:**

**ATTACHMENTS:** No Documentation

# IDAHO HEATING, VENTILATION AND AIR CONDITIONING BOARD

**Agenda Item No. 11a** **Financial Report**

**PRESENTER:** Chris L. Jensen, Administrator

**OBJECTIVE:** Review the HVAC Board's financial report.

**ACTION:** Informational

**BACKGROUND:** This topic is addressed at all regularly scheduled Idaho HVAC Board meetings.

**PROCEDURAL HISTORY:**

**ATTACHMENTS:** Financial Report

# Division of Building Safety

IDAHO HVAC BOARD FUND 0229-08
Fiscal Year 2019 Financial Statements
As of 09/30/2018

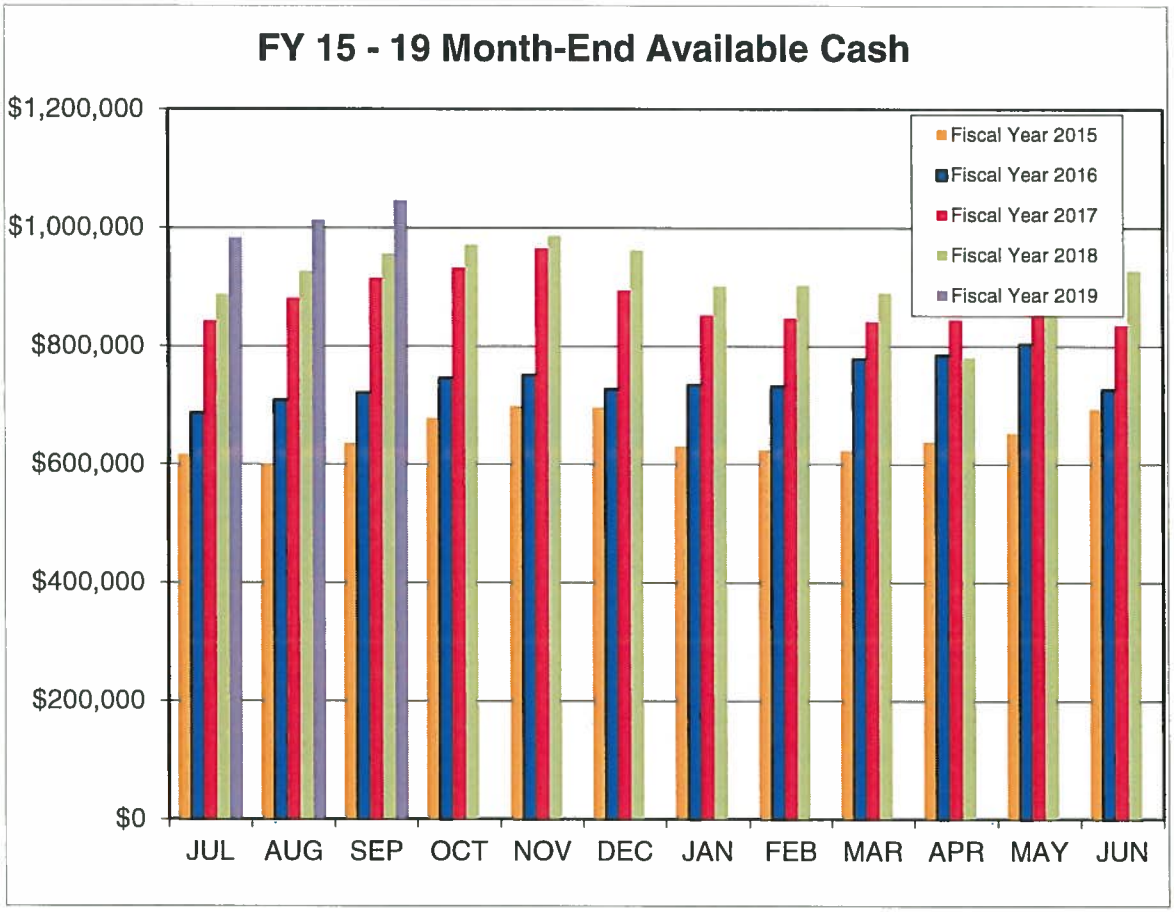
Statement of Revenues and Expenditures

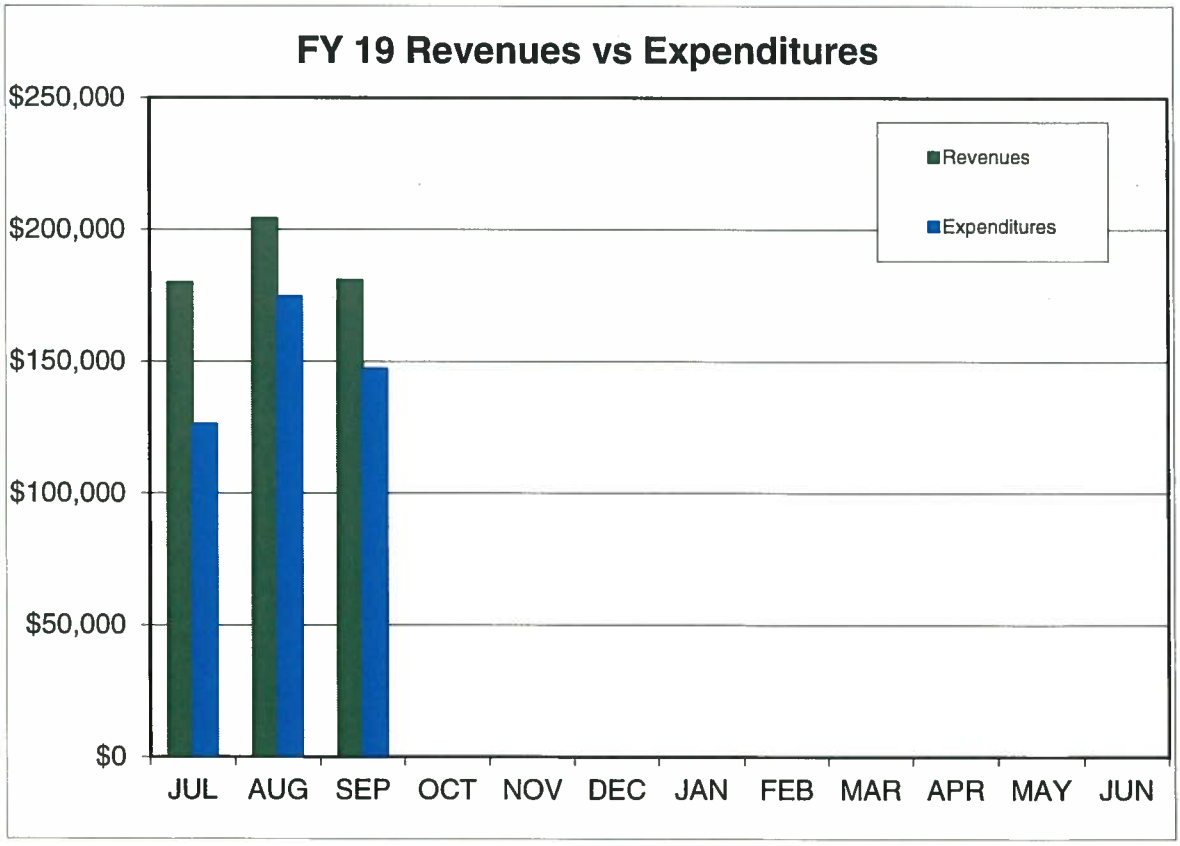
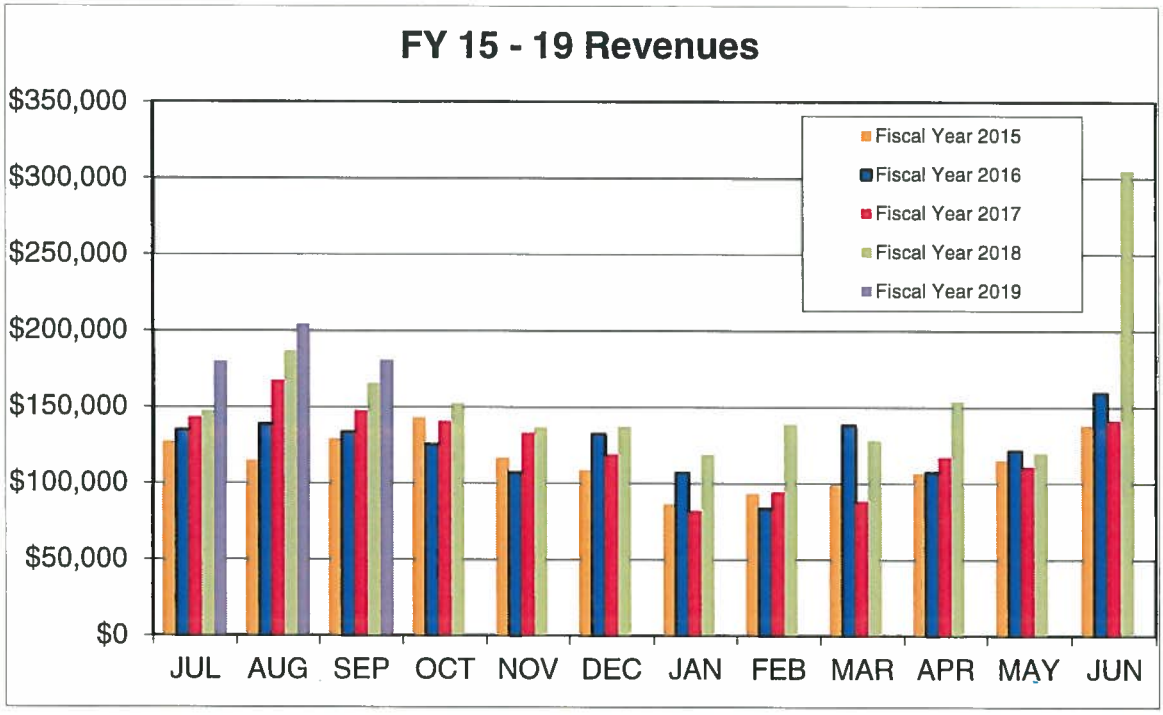
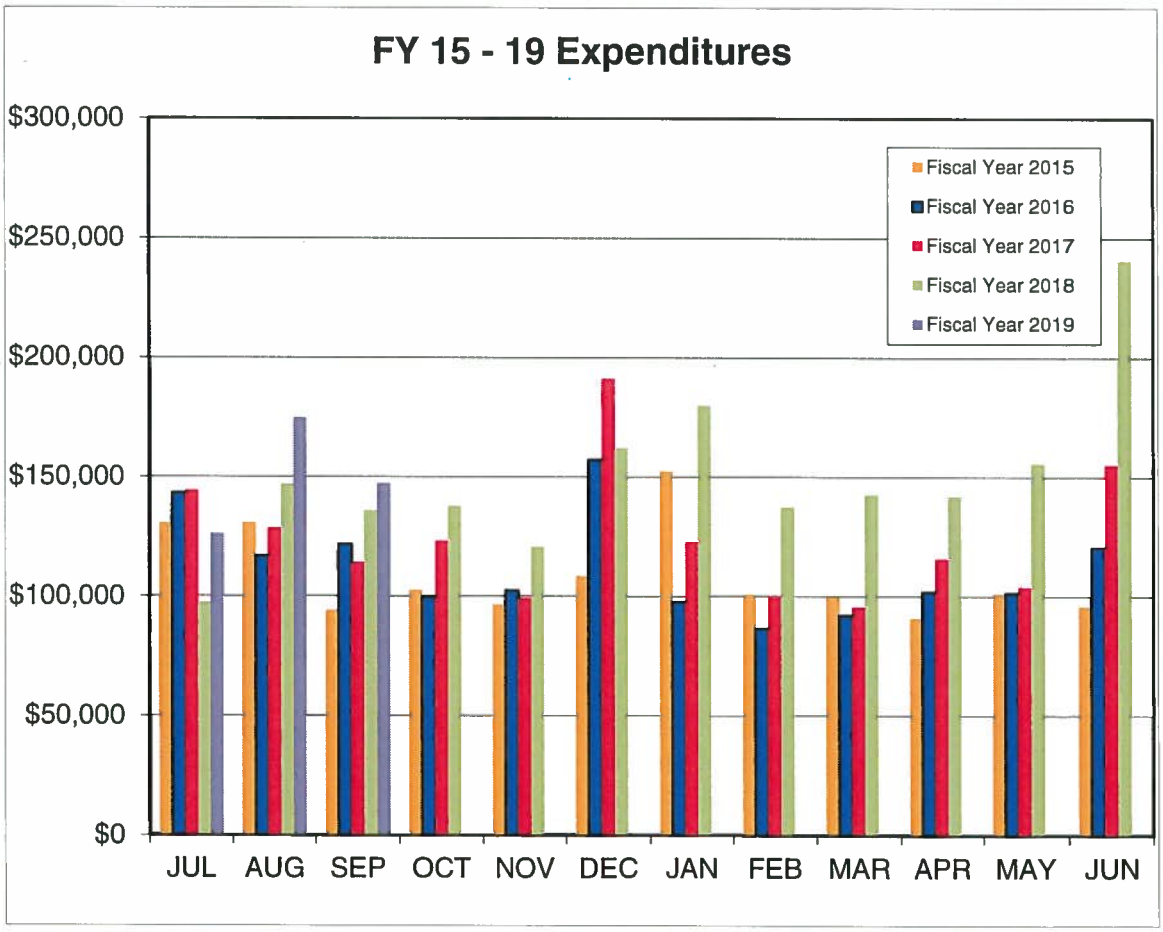
| Class | Budget | Fiscal Year To Date | YTD as a % of Budget | Remaining Budget | Projected for Remainder of Year | Projected Year End Totals | Projected Total as a % of Budget |
|---|---|---|---|---|---|---|---|
| Revenues: | 1,949,701 | 564,606 | 29.0% | 1,385,095 | 1,430,827 | 1,995,433 | 102.3% |
| Expenditures | | | | | | | |
| Personnel: | 1,515,200 | 356,401 | 23.5% | 1,158,799 | 1,188,003 | 1,544,403 | 101.9% |
| Operating: | 309,500 | 89,695 | 29.0% | 219,805 | 221,868 | 311,563 | 100.7% |
| Capital: | 125,001 | 1,450 | 1.2% | 123,552 | 123,552 | 125,001 | 100.0% |
| Total Expenditures | 1,949,701 | 447,546 | 23.0% | 1,502,156 | 1,533,422 | 1,980,967 | 101.6% |
| Net for FY 2019 | - | 117,061 | | | (102,595) | 14,466 | |

Statement of Cash Balance

| July 1, 2018 Beginning Cash Available | Fiscal Year to Date Revenues | Fiscal Year to Date Expenditures and Encumbrances | Other Changes in Cash | Available Cash as of September 30, 2018 | Projected Change in Cash for Remainder of Year | Projected Year End Available Cash |
|---|---|---|---|---|---|---|
| 927,955 | 564,606 | (447,546) | 225 | 1,045,240 | (102,595) | 942,646 |

# IDAHO HVAC BOARD FUND 0229-08






# IDAHO HVAC BOARD FUND 0229-08