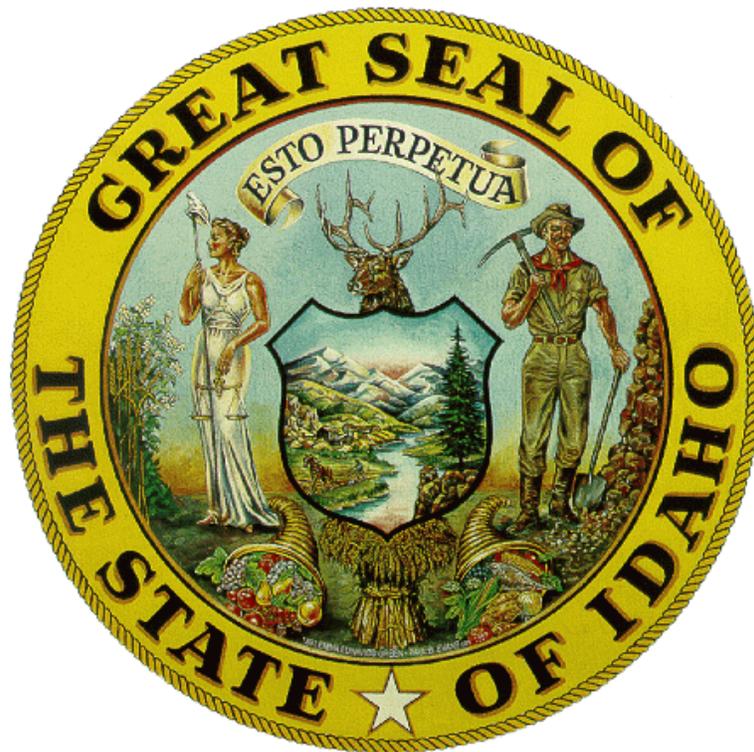


DIVISION OF BUILDING SAFETY

IDAHO BUILDING CODE BOARD  
VIDEOCONFERENCE MEETING

JUNE 28, 2016



# IDAHO BUILDING CODE BOARD

## Agenda Item No. 01

## Agenda

**PRESENTER:** Andrew Bick, Chairman

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**OBJECTIVE:** Approve agenda for the June 28, 2016 Idaho Building Code Board meeting.

---

**ACTION:** Consent

---

**BACKGROUND:**

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**PROCEDURAL  
HISTORY:**

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**ATTACHMENTS:** Tentative agenda

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## **TENTATIVE AGENDA**

### **NOTICE OF PUBLIC MEETING/PUBLIC HEARING**

#### **IDAHO BUILDING CODE 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**

**dbbs.idaho.gov – (208) 332-7137**

***Tuesday, June 28, 2016  
9:30 a.m.–12:30 p.m. (MDT)***

*(Note: North Idaho - Meeting Commences @ 8:30 a.m. PDT)*

---

**9:30 a.m. CALL TO ORDER** – Andrew Bick, Chairman

- Roll Call & Introductions
- Open Forum

#### **CONSENT AGENDA**

1. Approval of the June 28, 2016 Agenda
2. Approval of the April 26, 2016 Board Meeting Minutes

#### **PUBLIC HEARING**

3. Negotiated Rulemaking (Review proposed amendments to the currently adopted building and energy codes.) - Jason Blais, Building Code Collaborative Representative & Charlie Allen, IDABO Representative
  - a. 2015 International Building Code (IBC)
  - b. 2015 International Existing Building Code (IEBC)
  - c. International Energy Conservation Code (IECC) Economizers
  - d. 2015 International Residential Code (IRC)
  - e. 2015 International Energy Conservation Code (IECC)

#### **ACTION AGENDA**

4. Vote on proposed amendments to the building codes, energy code, and IDAPA rules – Andrew Bick
  - a. 2015 International Building Code (IBC)

- b. 2015 International Existing Building Code (IEBC)
- c. International Energy Conservation Code (IECC) Economizers
- d. 2015 International Residential Code (IRC)
- e. 2015 International Energy Conservation Code (IECC)

**INFORMATIONAL AGENDA**

- 5. Program Manager Report – Arlan Smith
- 6. Operational Report – Steve Keys
- 7. Administrator Report – C. Kelly Pearce
  - a. Financial Report – Fred Sisneros

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

*All times, other than beginning, are approximate unless otherwise noted. Agenda items may shift depending on Board preference.*  
05/23/2016r

# IDAHO BUILDING CODE BOARD

**Agenda Item No. 02**

**Minutes**

**PRESENTER:** Andrew Bick, Chairman

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**OBJECTIVE:** Approve minutes from the April 26, 2016 Idaho Building Code Board meeting.

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**ACTION:** Consent

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**BACKGROUND:**

---

**PROCEDURAL  
HISTORY:**

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**ATTACHMENTS:** Draft minutes

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**IDAHO BUILDING CODE BOARD  
VIDEOCONFERENCE MEETING/PUBLIC HEARING**

**Tuesday - April 26, 2016 - 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 APRIL 26, 2016 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 Bick called the meeting to order at 9:32 a.m. (MDT)

**Board Members Present:**

Andrew Bick, Chairman  
Michael Arrington  
Mike Tracy  
Travis Beck  
Chuck Bleth  
Jason Blais  
Dennis Schaffner  
Jan Welch, P.E.  
Scott Buck  
Allen Jensen

**DBS Staff Members Present:**

C. Kelly Pearce, Administrator  
Steve Keys, Deputy Administrator-Operations  
Ron Whitney, Deputy Administrator-Administration  
Patrick Grace, Deputy Attorney General  
Fred Sisneros, Financial Manager  
Arlan Smith, Building Program Manager  
Bill Hatch, Public Information Officer  
Larry Jeffres, Regional Manager, Region 1  
Chris Jensen, Regional Manager, Region 3  
Gary Sonnen, Regional Supervisor, Region 1  
Chuck Knapp, Regional Supervisor, Region 1  
Renee Bryant, Administrative Assistant 2/Board Support

◆ **Introduction**

Allen Jensen, County Building Inspector Representative, was introduced as the newest board member.

◆ **Open Forum**

No items or concerns were brought forth.

◆ **Approval of the April 26, 2016 Agenda**

**MOTION:** Mike Tracy made a motion to accept the agenda as presented. Scott Buck seconded. All in favor, motion carried.

◆ **Approval of the February 23, 2016 Board Meeting Minutes**

**MOTION:** Jan Welch made a motion to approve the minutes as written. Michael Arrington seconded. All in favor, motion carried.

◆ **Election of Officers**

Idaho Code 39-4106(2) requires the Board to elect, by majority vote, a chairman every two years. The Board elects a vice-chairman as well.

**MOTION:** Jason Blais made a motion to re-elect Andrew Bick as chairman. Michael Arrington seconded. All in favor, motion carried.

**MOTION:** Jason Blais made a motion to re-elect Scott Buck as vice-chairman. Michael Arrington seconded. All in favor, motion carried.

◆ **Negotiated Rulemaking**

The Building Code Collaborative has met several times to discuss the following proposed amendments to the building and energy codes. Jason Blais, Building Code Collaborative Representative, presented the following proposals:

2015 International Building Code (IBC) - The Collaborative came to a consensus to adopt the 2015 IBC.

The following amendments to IDAPA 07.03.01.004.01 will bring the rule in line with the code: 1) Change from 2012 to 2015 code, 2) Add lodging houses with five or fewer guest rooms to the R occupancies list, 3) Remove subcategory “e” in its entirety, and 4) Amend footnote on drinking fountains.

2015 International Existing Building Code (IEBC) - The Collaborative came to a consensus to adopt the 2015 IEBC.

The IEBC and IBC interact and cross reference each other. The only change to the IEBC is to update the year of the code edition to 2015. During the 2012 code development process, chapter 34 *Existing Building and Structures* was removed from the IBC. The provisions of that chapter are contained in the IEBC.

International Energy Conservation Code (IECC) Economizers - The Collaborative came to a consensus to adopt the 2015 IECC Economizer.

Depending on which edition of the code the Board chooses to adopt, 2012 or 2015, there were two proposals in the packet with regard to an exception of an economizer required in a commercial application.

Idaho Association of Building Officials (IDABO) Representative Charlie Allen brought forth the following proposals:

2015 International Residential Code (IRC) - The Code Collaborative was unable to come to a consensus to adopt the 2015 IRC.

The following amendments to IDAPA 07.03.01.004.02 will bring the rule in line with the code: 1) Change from the 2012 to 2015 code, 2) Add footnotes to Table R302.1(1) on projection/fire blocking, 3) Add exception on fire-resistance-ratings for townhomes, 4) Delete IRC Section R302.13 and its exceptions, 5) Delete “Add the following to IRC Section R315.3”, 6) Add language to delete exception 2 under exceptions to IRC R315.2.2, 7) Delete IRC Section 501.3 and its exceptions, 8) Replace Table R602.7.5 with new table on headers/king studs, 9) Delete multiple Tables (in 2015 code), 10) Change “Insulation” to “Installation” in Section N1102.4.1.1 (R402.4.1.1), and 11) Add exception to Section N1103.5.3 (R403.5.3).

An Executive Order by the White House was briefly addressed. The Order requires seismic provisions of the 2015 IBC or 2015 IRC to be in drawings of federal buildings in order to receive federal loans/grants.

Steve Martinez, Idaho Building Contractors Association (IBCA) Representative, stated the proposal looks fairly benign; however, there are over 320 pages of significant changes in the 2015 code. The IBCA recommends the Board stay with the 2012 IRC; only adding a few amendments where needed. Dave Yorgason, BCA Southwest Idaho, asked the Board to stay with the 2012 code as well.

Mr. Allen refuted that although there are 300+ pages in the *Significant Changes to the International Residential Code®*, 2015 Edition book, there are not 300+ new code changes. Some codes are drawn out over several pages and others do not apply to Idaho. If the 2015 code is adopted, there will hardly be any changes. There will be some decreases in the requirements that exist today, a lot of clarification and more options for builders.

2015 IECC - The Code Collaborative was unable to come to a consensus to adopt the 2015 IECC.

The following amendments to IDAPA rule 07.03.01.004.04 will bring the rule in line with the code: 1) Change from the 2012 to 2015 code, 2) Delete multiple Tables (in 2015 code), 3) Add footnotes to Table R402.1.2 on ceiling and wall R-values, 4) Delete subsection “h” on fireplace components, 5) Change multiple code sections to bring in line with 2015 code, 6) Delete subsection “m” on lighting equipment, 7) Add new section on hot water pipe insulation, and 8) Replace Table R406.4 with new table on maximum Energy Rating Index (ERI).

Steve Martinez stated from the Association’s perspective, both parties are even further apart than they are with the residential code as it pertains to the energy code. Mr. Martinez proposed to stay with the 2012 energy code which is the 2009 tables, as referenced in Mr. Allen presentation.

The IBCA agrees the following items are good alternatives: 1) Air leakage and testing, 2) Building envelope tightness, 3) Air leakage less than 7 air changes per hour, 4) Visual inspection option, 5) 75% lighting (when rule goes into effect in 2018), 6) ERI (likes idea; however, there are some issues), and 7) Hot water pipe installation (mostly agree).

Leon Duce, Association of Idaho Cities, was acknowledged for his services as moderator at the Building Code Collaborative meetings.

Sharon Grant, Eco Edge, provided a PowerPoint Presentation titled *Costs and Benefits of the 2015 IECC (Residential)*.

A lengthy discussion ensued with the following individuals either in support or in opposition of adopting the 2015 IECC: Pat Minegar, A-1 Heating; Dave Freelove, IDABO; Ted Martinez, Tradewinds; Lars Hansen, Brighton Corp.; Jon Hastings, Tresidio Homes; Adam Fuhrman, Greencastle Homes; Pam Page, Page’s Windows; Bill Haas, Hubble Homes; Dave Yorgason, BCA Southwest Idaho, and Steve Martinez, Tradewinds and IBCA.

As a rebuttal to several questions, Mr. Allen stated the city of Ammon has adopted the 2015 code with the exception of blower doors. There are over 300 contractors in Ammon that support IDABO’s position and would vote to support its proposal to the code changes.

Immediately after the topic *2015 IECC* was discussed, the majority of the audience left the meeting.

◆ **Program Manager Report**

Currently, there are 34 plans and 176 applications being reviewed and processed for permits. The Division’s building inspectors perform 40 to 60 inspections daily.

◆ **Operational Report**

The city contracts with the DBS are having a positive impact on the Building Program.

◆ **Administrator Report**

Financial Report - The Idaho Building Code fund, FY 2016 financial statement as of March 31, 2016, was reviewed.

Idaho’s Construction Industry - In conjunction with the Department of Commerce, the Division made a presentation at the ASHRAE Technical Conference on trends, industry and growth in the state of Idaho.

Office of School Safety and Security - A new five-person office titled *Office of School Safety and Security* has been created within the DBS, as well as a new 11-member advisory board.

◆ 2015 IECC (Cont.)

Mr. Allen apologized for misquoting himself earlier in the meeting. For clarification, there was approximately a 15% increase in efficiency from the 2006 to the 2009 code and another 15% increase from the 2009 to the 2012 code. However, there is no real increase in efficiency from the 2012 to the 2015 code. Also, there were not 300 contractors that voted in support of the code rather it was the contractor’s board that supports the code.

◆ **Adjournment**

**MOTION:** Mike Tracy made a motion to adjourn the meeting. Dennis Schaffner seconded. All in favor, motion carried.

The meeting adjourned at 12:48 p.m. (MDT).

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ANDREW BICK, CHAIRMAN  
IDAHO BUILDING CODE BOARD

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C. KELLY PEARCE, ADMINISTRATOR  
DIVISION OF BUILDING SAFETY

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DATE

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DATE

\*These DRAFT minutes are subject to possible correction and final approval by the Idaho Building Code Board. 05/18/2016rb

# IDAHO BUILDING CODE BOARD

## Agenda Item No. 03a

## Negotiated Rulemaking - 2015 IBC

**PRESENTER:** Jason Blais, Board Member and Code Collaborative Representative

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**OBJECTIVE:** Review proposed amendments to the 2015 International Building Code.

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**ACTION:** Informational

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**BACKGROUND:** Amendments to IDAPA 07.03.01.004.01 are: 1) Change from 2012 to 2015 code, 2) Add lodging houses with five or fewer guest rooms to the R occupancies list, 3) Remove subcategory “e” in its entirety, and 4) Amend footnote on drinking fountains.

---

**PROCEDURAL HISTORY:**

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**ATTACHMENTS:** Draft rule

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**DIVISION OF BUILDING SAFETY  
APPLICATION FOR REVIEW OF A PROPOSED STATEWIDE AMENDMENT  
TO STATE ADOPTED CODES  
2015 Code Adoption Cycle**

Log# \_\_\_\_\_  
(Office Use Only)

**PLEASE FOLLOW INSTRUCTIONS ON PAGE FIVE**

**1. State Building Code to be Amended:**

<input checked="" type="checkbox"/> International Building Code	<input type="checkbox"/> International Energy Conservation Code
<input type="checkbox"/> International Residential Code	<input type="checkbox"/> International Mechanical Code
<input type="checkbox"/> International Fuel Gas Code	<input type="checkbox"/> National Electrical Code
<input type="checkbox"/> International Existing Building Code	<input checked="" type="checkbox"/> IDAPA 07.03.01, 004, 01
<input type="checkbox"/> Idaho State Plumbing Code	

**Section:** IDAPA 07.03.01, 004, 01      **Pages:** 1&2

**2. Applicant Name (Specific local government, organization or individual):**

Code Collaborative Subcommittee

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**3. Signed:**

	City of Boise Building Official	3-30-16
<b>Proponent</b>	<b>Title</b>	<b>Date</b>

---

**4. Designated Contact Person:**

Jason Blais	City of Boise Building Official
<b>Name</b>	<b>Title</b>

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**Address:**      City of Boise – Planning & Development Services

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                         P.O. Box 500

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                         Boise, ID 83701

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384-3807		
<b>Office Phone</b>	<b>Cell</b>	<b>Fax</b>

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**E-mail address:**      jblais@cityofboise.org

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**5. Proposed Code Amendment.** Use ‘legislative format’ including both old and new language. See instructions on page five for specific details. Please attach a separate sheet for each separate proposal.

IBC	IDAPA 07.03.01, 004, 01	1&2
Code	Section	Pages

**Please note number of additional pages: 2**

To adopt the 2015 *International Building Code* and make editorial amendment update changes or deletions to IDAPA 07.03.01, 004, 01, accordingly to align.

See separate attachment for proposed IDAPA rule changes.

**Supporting Data for Statewide Amendment Proposals.** This information is required for all statewide amendment proposals. Attach supporting documentation, as necessary; incomplete proposals will not be accepted.

The governing boards require supporting data on any amendment proposal to show:

1. That it meets basic criteria – See Part I to specify how this proposal meets the criteria for code amendment.
2. The intended effect – See Part II to describe the purpose of the proposed amendment, including the benefits and the problems addressed.
3. The potential impacts or benefits to business – See Part III/Types of Construction, to explain how methods in construction businesses, industries and services would be affected.
4. The potential impacts on enforcement procedures, See Part III/Types of Services Required, to provide some analysis of the impacts on code enforcement in local jurisdictions.
5. Economic costs and benefits – Use the Table in Part IV of this form to estimate the costs and benefits of the proposal on construction practices, users and/or the public, the enforcement community, and operation and maintenance.

**Part I ♦ Background information on amendment.**

Code references: IBC, IDAPA 07.03.01, 004, 01 Title: International Building Code

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Related Codes: None

(Does this amendment change other related codes?)

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Proponent: Jason Blais

Phone: 384-3807

Date: 3/30/16

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**NOTE:** Amendments to the state building code must be based on one of the following criteria; please indicate the pertinent rationale for the proposed amendment by selecting from the list below:

- (1) The amendment is needed to address a critical life/safety need.
- (2) The amendment is needed to address a specific state policy or statute.
- (3) The amendment is needed for consistency with state or federal regulations.
- (4) The amendment is needed to address a unique character of the state.
- (5) The amendment corrects errors and omissions.

**Part II ♦ Amendment Benefit:**

**PROBLEM(S) ADDRESSED** (Describe the intended effect of the proposed code amendment):

The proposed amendments to the IDAPA rules are only editorial in nature in order to align them with the 2015 edition of the *International Building Code* (IBC).

For example, the IBC Section 907.2.3 amendment was added to the 2012 edition of the code based on language from the 2015 edition before the 2015 version being adopted. Now that the 2015 edition of the IBC is being proposed to be adopted, this amendment is no longer needed as the language is now in the published base code. The Code Collaborative agreed to adopt the 2015 IBC and concluded that some IDAPA rule amendments would need some minor updating or deleting in order to align.

**PRIMARY REASON FOR AMENDMENT:** (Describe how the amendment meets one of the criteria listed above)

With the proposal of adopting the 2015 IBC, there is the need to update or delete some existing IDAPA rule amendments. Doing so will correct errors or omissions. The Code Collaborative understood this.

**TYPE OF BENEFITS PROJECTED:**

**Part III ♦ Amendment Impacts or Benefits:**

**TYPES OF CONSTRUCTION:**  New Construction  Alteration/Tenant Improvement/Repair  
 Residential-Single Family  Residential-Multi Family  Commercial  Industrial

**List businesses/industries affected by amendment:**

Manufacturers: \_\_\_\_\_  
 Specific Construction Contractors & Trades: Commercial / Multi-Family  
 Construction Supply Industry: \_\_\_\_\_  
 Specialty Trades: \_\_\_\_\_  
 Types of Buildings: Commercial/multi-family  
 Fire Protection Industry: \_\_\_\_\_

**Types of Services Required:**

- Reporting:** Brief Description \_\_\_\_\_
- Record Keeping:** Brief Description \_\_\_\_\_
- Other:** Brief Description \_\_\_\_\_
- Indirect Cost to Industry:** Indicate whether there are multiple sources to obtain the equipment, material or service required by this proposal. If not, provide a justification of the benefit versus small business impact.

**Part IV ♦ Amendment Costs and Benefits**

Building Type	Construction <sup>1</sup>			Enforcement <sup>2</sup>			Operations & Maintenance <sup>3</sup>		
	Co sts	% impact <sup>4</sup>	Benefits <sup>5</sup>	Costs	% impact	Benefits	Costs	% impact	Benefits
<del>Residential</del>									
<del>Single family</del>									
Multi-family	∅	N/A	↑	∅	NA	↑	∅	N/A	↑
Commercial/ Retail	↓	↓	Updated code NEW	↓	↓	Updated code NEW	↓	↓	Updated code NEW
Industrial	↓	↓	Exceptions	↓	↓	Excepting	↓	↓	Exceptions
Institutional	↓	↓	↓	↓	↓	↓	↓	↓	↓

1 \$ / square foot of floor area or other cost. Attach data. Construction costs are costs prior to occupancy, and include both design and direct construction costs that impact the total cost of the construction to the owner/consumer.

2 Cost per project plan. Attach data. Enforcement costs include governmental review of plans, field inspection, and mediated litigation required for enforcement.

3 Cost to building owner/tenants over the life of the project.

4 Cost differential over a specific size project or range of projects as determined by the proponent. Provide sufficient cost and benefit detail to clarify the impact to the Council. All data should be created and referenced to third party reputable sources for verification.

5 Note sectors with measurable benefit from Part II, including benefits to a) the user, b) the public, c) the industry, and/or d) the economy; use e) for all of the above.

**IDAPA 07  
TITLE 03  
CHAPTER 01**

**07.03.01 - RULES OF BUILDING SAFETY**

**000. LEGAL AUTHORITY.**

The Idaho Building Code Board of the Division of Building Safety is authorized under Section 39-4107, Idaho Code, to promulgate rules concerning the enforcement and administration of the Idaho Building Code Act. (3-30-06)

**001. TITLE AND SCOPE.**

**01. Title.** These rules shall be cited as IDAPA 07.03.01, "Rules of Building Safety," Division of Building Safety. (3-30-06)

**02. Scope.** These rules prescribe the criteria for enforcement and administration of the Idaho Building Code Act by the Idaho Building Code Board and the Building Bureau of the Division of Building Safety. (3-30-06)

**002. WRITTEN INTERPRETATIONS.**

In accordance with Section 67-5201(19)(b)(iv), Idaho Code, this agency has statements that pertain to the interpretation of the rules of this chapter. These statements are available for review and copying at the offices of the Division of Building Safety. (3-30-06)

**003. ADMINISTRATIVE APPEALS.**

This chapter does not provide for administrative relief of the provisions contained herein. (3-30-06)

**004. ADOPTION AND INCORPORATION BY REFERENCE**

Under the provisions of Section 39-4109, Idaho Code, the codes enumerated in this Section are hereby adopted and incorporated by reference into IDAPA 07.03.01, "Rules of Building Safety," Division of Building Safety. Pursuant to Section 39-4109, Idaho Code, the effective date of any edition of the codes adopted in this Section, or any amendments identified thereto, shall be January 1 of the succeeding year following legislative approval of the rulemaking establishing the edition or amendment. Copies of these documents may be reviewed at the office of the Division of Building Safety. The referenced codes may be obtained from International Code Council, 5360 Workman Mill Road, Whittier, California 90601-2298 or the International Code Council at <http://www.iccsafe.org>. (3-20-14)

**01. International Building Code.** ~~2012~~ 2015 Edition with the following amendments: (4-4-13)

**a.** Delete section 305.2.3 and replace with the following: Twelve (12) or fewer children in a dwelling unit. A facility such as the above within a dwelling unit and having twelve (12) or fewer children receiving such day care shall be classified as a Group R-3 occupancy or shall comply with the International Residential Code. (3-20-14)

**b.** Delete section 308.6.4 and replace with the following: Persons receiving care in a dwelling unit. A facility such as the above within a dwelling unit and having twelve (12) or fewer children receiving day care or having five (5) or fewer persons receiving custodial care shall be classified as a Group R-3 occupancy or shall comply with the International Residential Code. (3-20-14)

**c.** Delete section 310.5 and replace with the following: Residential Group R-3. Residential Group R-3 occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4, E or I, including: (3-20-14)

- i. Buildings that do not contain more than two (2) dwelling units; (3-20-14)
- ii. Boarding houses (nontransient) with sixteen (16) or fewer occupants; (3-20-14)
- iii. Boarding houses (transient) with ten (10) or fewer occupants; (3-20-14)
- iv. Care facilities that provide accommodations for five (5) or fewer persons receiving care; (3-20-14)
- v. Congregate living facilities (nontransient) with sixteen (16) or fewer occupants; (3-20-14)
- vi. Congregate living facilities (transient) with ten (10) or fewer occupants; or (3-20-14)
- vii. Dwelling units providing day care for twelve (12) or fewer children. (3-20-14)

viii. Lodging houses with five or fewer guest rooms.

d. Delete section 310.5.1 and replace with the following: Care facilities within a dwelling. Care facilities for twelve (12) or fewer children receiving day care or for five (5) or fewer persons receiving care that are within a single-family dwelling are permitted to comply with the International Residential Code. (3-20-14)

~~e. Amend IBC section 907.2.3—Group E as follows:~~

~~i. Delete exception No. 1 contained under IBC section 907.2.3—Group E, and replace with the following: A manual fire alarm system is not required in Group E occupancies with an occupant load of fifty (50) or less.~~

~~ii. Add the following as exception No. 2 under IBC section 907.2.3—Group E: Emergency voice/alarm communication systems meeting the requirements of Section 907.5.2.2, and installed in accordance with Section 907.6 shall not be required in Group E occupancies with occupant loads of 100 or less, provided that activation of the manual fire alarm system initiates an approved occupant notification signal in accordance with Section 907.5.~~

~~iii. Re-number exception No. 2 as exception No. 3 under IBC section 907.2.3—Group E.~~

~~iv. Delete exception No. 3 and replace with the following as exception No. 4: Manual fire alarm boxes shall not be required in Group E occupancies where all of the following apply:~~

~~4.1 The building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.~~

~~4.2 The emergency voice/alarm communication system will activate on sprinkler waterflow.~~

~~4.3 Manual activation is provide from a normally occupied location.~~

~~fg. Delete Add footnote (f) contained in the header of column labeled “Drinking Fountains” under of Table 2902.1 Minimum Number of Required Plumbing Fixtures, and add footnote (f) under Table 2902.1 replace with stating the following: Drinking fountains are not required for an occupant load of thirty (30) or fewer.~~

~~gf. Delete footnote (g) (e) contained under Table 2902.1 Minimum Number of Required Plumbing Fixtures and replace with the following: For business occupancies, excluding restaurants, and mercantile occupancies with an occupant load of thirty (30) or fewer, service sinks shall not be required. (3-20-14)~~

02. International Residential Code. 2012 Edition with the following amendments: (3-20-14)

a. Delete exception No. 1 contained under IRC section R101.2 - Scope. (3-20-14)

# IDAHO BUILDING CODE BOARD

## Agenda Item No. 03b

## Negotiated Rulemaking - 2015 IEBC

**PRESENTER:** Jason Blais, Board Member and Code Collaborative Representative

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**OBJECTIVE:** Review proposed amendments to the 2015 International Existing Building Code.

---

**ACTION:** Informational

---

**BACKGROUND:** The IEBC and IBC interact and cross reference each other. The only change to the IEBC is to update the year of the code edition to 2015. During the 2012 code development process, chapter 34 *Existing Building and Structures* was removed from the IBC. The provisions of that chapter are contained in the IEBC.

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### **PROCEDURAL HISTORY:**

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**ATTACHMENTS:** Draft rule

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**DIVISION OF BUILDING SAFETY  
APPLICATION FOR REVIEW OF A PROPOSED STATEWIDE AMENDMENT  
TO STATE ADOPTED CODES  
2015 Code Adoption Cycle**

Log# \_\_\_\_\_  
(Office Use Only)

**PLEASE FOLLOW INSTRUCTIONS ON PAGE FIVE**

**1. State Building Code to be Amended:**

<input type="checkbox"/> International Building Code	<input type="checkbox"/> International Energy Conservation Code
<input type="checkbox"/> International Residential Code	<input type="checkbox"/> International Mechanical Code
<input type="checkbox"/> International Fuel Gas Code	<input type="checkbox"/> National Electrical Code
<input checked="" type="checkbox"/> International Existing Building Code	<input checked="" type="checkbox"/> IDAPA 07.03.01, 004, 03
<input type="checkbox"/> Idaho State Plumbing Code	

**Section:** IDAPA 07.03.01, 004, 03      **Page:** 5

**2. Applicant Name (Specific local government, organization or individual):**

Jason Blais

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**3. Signed:**

	City of Boise Building Official	4-4-16
<b>Proponent</b>	<b>Title</b>	<b>Date</b>

---

**4. Designated Contact Person:**

Jason Blais	City of Boise Building Official
<b>Name</b>	<b>Title</b>

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**Address:**      City of Boise – Planning & Development Services

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P.O. Box 500

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Boise, ID 83701

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384-3807

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<b>Office Phone</b>	<b>Cell</b>	<b>Fax</b>
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**E-mail address:**      jblais@cityofboise.org

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**5. Proposed Code Amendment.** Use ‘legislative format’ including both old and new language. See instructions on page five for specific details. Please attach a separate sheet for each separate proposal.

IEBC	IDAPA 07.03.01, 004, 03	5
<b>Code</b>	<b>Section</b>	<b>Page</b>

**Please note number of additional pages: 2**

To adopt the 2015 *International Existing Building Code* and make editorial amendment update changes or deletions to IDAPA 07.03.01, 004, 03, accordingly to align.

See separate attachment for proposed IDAPA rule changes.

**Supporting Data for Statewide Amendment Proposals.** This information is required for all statewide amendment proposals. **Attach supporting documentation, as necessary; incomplete proposals will not be accepted.**

The governing boards require supporting data on any amendment proposal to show:

1. That it meets basic criteria – See Part I to specify how this proposal meets the criteria for code amendment.
2. The intended effect – See Part II to describe the purpose of the proposed amendment, including the benefits and the problems addressed.
3. The potential impacts or benefits to business – See Part III/Types of Construction, to explain how methods in construction businesses, industries and services would be affected.
4. The potential impacts on enforcement procedures, See Part III/Types of Services Required, to provide some analysis of the impacts on code enforcement in local jurisdictions.
5. Economic costs and benefits – Use the Table in Part IV of this form to estimate the costs and benefits of the proposal on construction practices, users and/or the public, the enforcement community, and operation and maintenance.

**Part I ♦ Background information on amendment.**

Code references: IEBC, IDAPA 07.03.01, 004, 03      Title: International Existing Building Code

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Related Codes: None

---

(Does this amendment change other related codes?)

Proponent: Jason Blais

Phone: 384-3807

Date: 4/4/16

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**NOTE:** Amendments to the state building code must be based on one of the following criteria; please indicate the pertinent rationale for the proposed amendment by selecting from the list below:

- (1) The amendment is needed to address a critical life/safety need.
- (2) The amendment is needed to address a specific state policy or statute.
- (3) The amendment is needed for consistency with state or federal regulations.
- (4) The amendment is needed to address a unique character of the state.
- (5) The amendment corrects errors and omissions.

**Part II ♦ Amendment Benefit:**

**PROBLEM(S) ADDRESSED** (Describe the intended effect of the proposed code amendment):

The proposed amendment to the IDAPA rules are only editorial in nature in order to update the year of the code edition to align with the proposal to adopt the 2015 edition of the *International Existing Building Code* (IEBC).

Also, the 2015 *International Building Code* (IBC) has deleted Chapter 34 from the code. This makes it even more important that the edition of the IEBC matches the IBC for regulation of code requirements on existing buildings.

**PRIMARY REASON FOR AMENDMENT:** (Describe how the amendment meets one of the criteria listed above)

With a separate Code Collaborative proposal to adopt the 2015 *International Building Code*, it is also necessary to adopt the 2015 *International Existing Building Code* to have consistent codes that interact and cross reference each other.

**TYPE OF BENEFITS PROJECTED:**

**Part III ♦ Amendment Impacts or Benefits:**

**TYPES OF CONSTRUCTION:**  New Construction  Alteration/Tenant Improvement/Repair  
 Residential-Single Family  Residential-Multi Family  Commercial  Industrial

**List businesses/industries affected by amendment:**

Manufacturers: \_\_\_\_\_  
 Specific Construction Contractors & Trades: Commercial / multi-family remodelers  
 Construction Supply Industry: \_\_\_\_\_  
 Specialty Trades: \_\_\_\_\_  
 Types of Buildings: Alterations to existing commercial / multi-family  
 Fire Protection Industry: \_\_\_\_\_

**Types of Services Required:**

- Reporting: Brief Description \_\_\_\_\_
- Record Keeping: Brief Description \_\_\_\_\_
- Other: Brief Description \_\_\_\_\_
- Indirect Cost to Industry: Indicate whether there are multiple sources to obtain the equipment, material or service required by this proposal. If not, provide a justification of the benefit versus small business impact.

**Part IV ♦ Amendment Costs and Benefits**

Building Type	Construction <sup>1</sup>			Enforcement <sup>2</sup>			Operations & Maintenance <sup>3</sup>		
	Co sts	% impact <sup>4</sup>	Benefits <sup>5</sup>	Costs	% impact	Benefits	Costs	% impact	Benefits
<del>Residential</del>									
<del>Single family</del>									
Multi-family	∅	N/A	↑	∅	N/A	↑	∅	N/A	↑
Commercial/ Retail	↓	↓	code for exist. bldgs.	↓	↓	code for exist. bldgs.	↓	↓	Code for exist bldgs.
Industrial	↓	↓	↓	↓	↓	↓	↓	↓	↓
Institutional	↓	↓	↓	↓	↓	↓	↓	↓	↓

1 \$ / square foot of floor area or other cost. Attach data. Construction costs are costs prior to occupancy, and include both design and direct construction costs that impact the total cost of the construction to the owner/consumer.  
 2 Cost per project plan. Attach data. Enforcement costs include governmental review of plans, field inspection, and mediated litigation required for enforcement.  
 3 Cost to building owner/tenants over the life of the project.  
 4 Cost differential over a specific size project or range of projects as determined by the proponent. Provide sufficient cost and benefit detail to clarify the impact to the Council. All data should be created and referenced to third party reputable sources for verification.  
 5 Note sectors with measurable benefit from Part II, including benefits to a) the user, b) the public, c) the industry, and/or d) the economy; use e) for all of the above.

**IDAPA 07  
TITLE 03  
CHAPTER 01**

**07.03.01 - RULES OF BUILDING SAFETY**

**000. LEGAL AUTHORITY.**

The Idaho Building Code Board of the Division of Building Safety is authorized under Section 39-4107, Idaho Code, to promulgate rules concerning the enforcement and administration of the Idaho Building Code Act. (3-30-06)

**001. TITLE AND SCOPE.**

**01. Title.** These rules shall be cited as IDAPA 07.03.01, "Rules of Building Safety," Division of Building Safety. (3-30-06)

**02. Scope.** These rules prescribe the criteria for enforcement and administration of the Idaho Building Code Act by the Idaho Building Code Board and the Building Bureau of the Division of Building Safety. (3-30-06)

**002. WRITTEN INTERPRETATIONS.**

In accordance with Section 67-5201(19)(b)(iv), Idaho Code, this agency has statements that pertain to the interpretation of the rules of this chapter. These statements are available for review and copying at the offices of the Division of Building Safety. (3-30-06)

**003. ADMINISTRATIVE APPEALS.**

This chapter does not provide for administrative relief of the provisions contained herein. (3-30-06)

**004. ADOPTION AND INCORPORATION BY REFERENCE**

Under the provisions of Section 39-4109, Idaho Code, the codes enumerated in this Section are hereby adopted and incorporated by reference into IDAPA 07.03.01, "Rules of Building Safety," Division of Building Safety. Pursuant to Section 39-4109, Idaho Code, the effective date of any edition of the codes adopted in this Section, or any amendments identified thereto, shall be January 1 of the succeeding year following legislative approval of the rulemaking establishing the edition or amendment. Copies of these documents may be reviewed at the office of the Division of Building Safety. The referenced codes may be obtained from International Code Council, 5360 Workman Mill Road, Whittier, California 90601-2298 or the International Code Council at <http://www.iccsafe.org>.

(3-20-14)

**01. International Building Code.** 2012 Edition with the following amendments: (4-4-13)

**a.** Delete section 305.2.3 and replace with the following: Twelve (12) or fewer children in a dwelling unit. A facility such as the above within a dwelling unit and having twelve (12) or fewer children receiving such day care shall be classified as a Group R-3 occupancy or shall comply with the International Residential Code. (3-20-14)

**b.** Delete section 308.6.4 and replace with the following: Persons receiving care in a dwelling unit. A facility such as the above within a dwelling unit and having twelve (12) or fewer children receiving day care or having five (5) or fewer persons receiving custodial care shall be classified as a Group R-3 occupancy or shall comply with the International Residential Code. (3-20-14)

**c.** Delete section 310.5 and replace with the following: Residential Group R-3. Residential occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4, E or I, including: (3-20-14)

- i. Table N1102.1.1 (Table R402.1.1) - Insulation and Fenestration Requirements by Component; (3-20-14)
- ii. Table N1102.1.3 (Table R402.1.3 - Equivalent U-Factors; (3-20-14)
- iii. Table N1102.2.6 (Table R402.2.6) - Steel-Frame Ceiling, Wall and Floor Insulation (R-Value); (3-20-14)
- iv. Section N1102.4.1 (R402.4.1) Building Thermal Envelope; (3-20-14)
- v. Section N1102.4.1.1 (R402.4.1.1) - Insulation; (3-20-14)
- vi. Table N1102.4.1.1 (Table R402.4.1.1) - Air Barrier and Insulation Installation; (3-20-14)
- vii. Section N1102.4.1.2 (R402.4.1.2) Testing Option; (3-20-14)
- viii. Add Section N1102.4.1.3 (R402.4.1.3) - Visual Inspection Option; (3-20-14)
- ix. Add Section N1102.6 (R402.6) - Residential Log Home Thermal Envelope; (3-20-14)
- x. Add Table N1102.6 (Table R402.6) - Log Home Prescriptive Thermal Envelope Requirements by Component; and (3-20-14)
- xi. Section N1104.1 (R404.1) - Lighting Equipment. (3-20-14)
- 03. International Existing Building Code. 2012 2015 Edition. (4-4-13)
- 04. International Energy Conservation Code. 2012 Edition with the following amendments. (3-20-14)
  - a. Delete the values contained in Table R402.1.1 (Table N1102.1.1) for climate zone “5 and Marine 4” and climate zone “6” and replace with the following: (3-20-14)

TABLE R402.1.1 INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT										
Climate Zone	Fenestration U- Factor	Skylight U-factor	Glazed Fenestration SHGC	Ceiling R-Value	Wood Frame Wall R-Value	Mass Wall R-Value	Floor R-Value	Basement Wall R-Value	Slab R-Value	Crawlspace Wall R-Value
5 and Marine 4	0.35	0.60	NR	38	20 or 13+5h	13/17	30g	10/13	10, 2 ft	10/13
6	0.35	0.60	NR	49	20 or 13+5h	15/19	30g	15/19	10, 4 ft	10/13

(3-20-14)

b. Add the following footnote to the title of Table R402.1.1 - Insulation and Fenestration Requirements by Component: <sup>k</sup> For residential log home building thermal envelope construction requirements see section R402.6. (4-7-11)

c. Delete the values contained in Table R402.1.3 (Table N1102.1.3) for climate zone “5 and Marine 4”

# IDAHO BUILDING CODE BOARD

## Agenda Item No. 03c                      Negotiated Rulemaking - IECC Economizers

**PRESENTER:**            Jason Blais, Board Member and Code Collaborative Representative

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**OBJECTIVE:**            Review proposed amendments to the International Energy Conservation Code Economizers.

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**ACTION:**                Informational

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**BACKGROUND:**        Depending on which edition of the code the Board chooses to adopt, 2012 or 2015, there were two proposals in the packet with regard to an exception of an economizer required in a commercial application.

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**PROCEDURAL HISTORY:**

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**ATTACHMENTS:**      Draft rule

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**DIVISION OF BUILDING SAFETY  
APPLICATION FOR REVIEW OF A PROPOSED STATEWIDE AMENDMENT  
TO STATE ADOPTED CODES  
2015 Code Adoption Cycle**

Log# \_\_\_\_\_  
(Office Use Only)

**PLEASE FOLLOW INSTRUCTIONS ON PAGE FIVE**

**1. State Building Code to be Amended:**

<input type="checkbox"/> International Building Code	<input checked="" type="checkbox"/> International Energy Conservation Code
<input type="checkbox"/> International Residential Code	<input type="checkbox"/> International Mechanical Code
<input type="checkbox"/> International Fuel Gas Code	<input type="checkbox"/> National Electrical Code
<input type="checkbox"/> International Existing Building Code	<input type="checkbox"/> IDAPA
<input type="checkbox"/> Idaho State Plumbing Code	

**Section:** C403.3.1 (2012) or C403.3 (2015) **Pages:** C-52 (2012) C-61 (2015)

**2. Applicant Name (Specific local government, organization or individual):**

Code Collaborative Subcommittee

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**3. Signed:**

	City of Boise Building Official	4-14-16
<b>Proponent</b>	<b>Title</b>	<b>Date</b>

**4. Designated Contact Person:**

Jason Blais	City of Boise Building Official
<b>Name</b>	<b>Title</b>

**Address:** City of Boise – Planning & Development Services  
P.O. Box 500  
Boise, ID 83701

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384-3807

<b>Office Phone</b>	<b>Cell</b>	<b>Fax</b>
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**E-mail address:** jblais@cityofboise.org

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**5. Proposed Code Amendment.** Use ‘legislative format’ including both old and new language. See instructions on page five for specific details. Please attach a separate sheet for each separate proposal.

IECC Code	C403.3.1 (2012) or C403.3 (2015) Section	C-52 (2012) C-61 (2015) Pages
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**Please note number of additional pages: 6**

Depending on which edition of the Energy Code is adopted.

Add an additional exception to 2012 IECC Section C403.3.1 Economizers to read as follows:

7. Unusual outdoor air contaminate conditions – Systems where special outside air filtration and treatment for the reduction and treatment of unusual outdoor contaminants, makes an air economizer infeasible.

**OR**

Add an additional exception to 2015 IECC Section C403.3 Economizers (Prescriptive) to read as follows:

10. Unusual outdoor air contaminate conditions – Systems where special outside air filtration and treatment for the reduction and treatment of unusual outdoor contaminants, makes an air economizer infeasible.

**Supporting Data for Statewide Amendment Proposals.** This information is required for all statewide amendment proposals. **Attach supporting documentation, as necessary; incomplete proposals will not be accepted.**

The governing boards require supporting data on any amendment proposal to show:

1. That it meets basic criteria – See Part I to specify how this proposal meets the criteria for code amendment.
2. The intended effect – See Part II to describe the purpose of the proposed amendment, including the benefits and the problems addressed.
3. The potential impacts or benefits to business – See Part III/Types of Construction, to explain how methods in construction businesses, industries and services would be affected.
4. The potential impacts on enforcement procedures, See Part III/Types of Services Required, to provide some analysis of the impacts on code enforcement in local jurisdictions.
5. Economic costs and benefits – Use the Table in Part IV of this form to estimate the costs and benefits of the proposal on construction practices, users and/or the public, the enforcement community, and operation and maintenance.

**Part I ♦ Background information on amendment.**

Code references: IECC C403.3.1 (2012) C403.3 (2015) Title: International Energy Conservation Code

Related Codes: None

(Does this amendment change other related codes?)

Proponent: Jason Blais

Phone: 384-3807

Date: 4/14/16

**NOTE:** Amendments to the state building code must be based on one of the following criteria; please indicate the pertinent rationale for the proposed amendment by selecting from the list below:

- The amendment is needed to address a critical life/safety need.
- (2) The amendment is needed to address a specific state policy or statute.
- (3) The amendment is needed for consistency with state or federal regulations.
- (4) The amendment is needed to address a unique character of the state.
- (5) The amendment corrects errors and omissions.

**Part II ♦ Amendment Benefit:**

**PROBLEM(S) ADDRESSED** (Describe the intended effect of the proposed code amendment):

This particular issue was brought to light from a Code Collaborative member who is a mechanical engineer.

In specific applications, i.e server rooms and clean rooms that may be present in hospitals, industrial processes, and research facilities, it is not cost effective to filter the outside air from an economizer so that it is safe for these environments. The additional upfront costs for the additional filtration equipment and ducting may cost more than the potential energy savings could save. This is particularly true when existing buildings are adding capacity to server rooms and or clean rooms where access and/or space is limited. Because of the high degree of filtration needed it may be more cost effective to add additional cooling used a closed system (ductless).

Ductless systems can be much more efficient than roof top systems and may be a cost effective option if outdoor air (economizers) are not required.

The State of Washington has added the following exception to their state energy code which warrants being proposed in Idaho.

*"Exception - Unusual outdoor air contaminate conditions – Systems where special outside air filtration and treatment for the reduction and treatment of unusual outdoor contaminants, makes an air economizer infeasible."*

**PRIMARY REASON FOR AMENDMENT:** (Describe how the amendment meets one of the criteria listed above)

See reasoning noted above for justification. Doing so will address a safety component and correct errors or omissions with the code and the practical application of economizers in these specific noted cases. The Code Collaborative had short discussion on this.

**TYPE OF BENEFITS PROJECTED:**

**Part III ♦ Amendment Impacts or Benefits:**

**TYPES OF CONSTRUCTION:**  New Construction  Alteration/Tenant Improvement/Repair  
 Residential-Single Family  Residential-Multi Family  Commercial  Industrial

**List businesses/industries affected by amendment:**

Manufacturers: \_\_\_\_\_  
 Specific Construction Contractors & Trades: Mechanical Contractors  
 Construction Supply Industry: Economizer/HVAC suppliers  
 Specialty Trades: \_\_\_\_\_  
 Types of Buildings: Commercial  
 Fire Protection Industry: \_\_\_\_\_

**Types of Services Required:**

Reporting: Brief Description \_\_\_\_\_  
 Record Keeping: Brief Description \_\_\_\_\_  
 Other: Brief Description \_\_\_\_\_  
 Indirect Cost to Industry: Indicate whether there are multiple sources to obtain the equipment, material or service required by this proposal. If not, provide a justification of the benefit versus small business impact.

**Part IV ♦ Amendment Costs and Benefits**

Building Type	Construction <sup>1</sup>			Enforcement <sup>2</sup>			Operations & Maintenance <sup>3</sup>		
	Co sts	% impact <sup>4</sup>	Benefits <sup>5</sup>	Costs	% Impact	Benefits	Costs	% impact	Benefits
<del>Residential</del>									
<del>Single family</del>									
<del>Multi-family</del>									
Commercial/ Retail	Reduce	0%	No install.	None	0%	N/A	None	0%	N/A
Industrial	↓	↓	↓	↓	↓	↓	↓	↓	↓
Institutional	↓	↓	↓	↓	↓	↓	↓	↓	↓

1 \$ / square foot of floor area or other cost. Attach data. Construction costs are costs prior to occupancy, and include both design and direct construction costs that impact the total cost of the construction to the owner/consumer.  
 2 Cost per project plan. Attach data. Enforcement costs include governmental review of plans, field inspection, and mediated litigation required for enforcement.  
 3 Cost to building owner/tenants over the life of the project.  
 4 Cost differential over a specific size project or range of projects as determined by the proponent. Provide sufficient cost and benefit detail to clarify the impact to the Council. All data should be created and referenced to third party reputable sources for verification.  
 5 Note sectors with measurable benefit from Part II, including benefits to a) the user, b) the public, c) the industry, and/or d) the economy; use e) for all of the above.



# Economizer Fact Sheet



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JULY 2011 • VOLUME 1, ISSUE 1

## WHAT IS THE PURPOSE OF THIS REQUIREMENT?

Economizing refers to the use of outdoor air to provide building cooling. This approach reduces the annual hours of mechanical cooling system operation. There are two types of economizer systems – air economizer and water economizer. Proper application of these systems can significantly reduce mechanical cooling energy used by air conditioning systems.

### Fundamentals of air economizer

An air economizer is an integrated system of outside air and return air dampers, linkages, actuators, sensors and controllers in an air handling system. Operational controls provide the capability of automatically modulating outside and return air dampers to provide 100% of the design supply air as outside air to reduce or eliminate the need for mechanical cooling.

There are two methods of economizer control:

- > **Comparative Dry Bulb** – Employs standard temperature sensing in both return and outside air streams.
- > **Differential Enthalpy** – Uses enthalpy sensors to compare energy content of return and outside air streams.

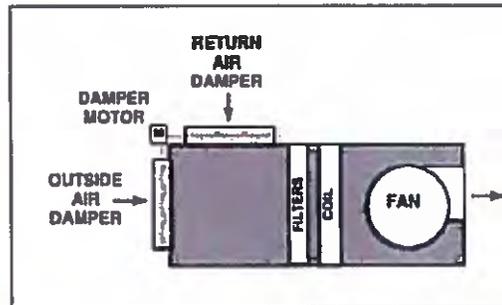


FIGURE 1 – Air Handler with Dampers for Economizer Controls

There are four operating modes in an air economizer system:

- > **Heating mode** – During cold weather, the outside air damper is adjusted to the minimum ventilation position to limit the amount of cold outdoor air that is mixed with the return air. The resulting mixed air is then heated to provide the necessary supply air temperature to heat the building.
- > **Modulated economizer mode** – During cool weather, outdoor air is mixed at varying percentages with return air so the resulting mixed air temperature is sufficient to condition the building. This is accomplished without mechanical heating or cooling. This is also referred to as “free cooling”.
- > **Integrated economizer mode** – During moderate weather, outdoor air can provide a percentage of the required cooling but not enough to meet the building loads. The outside air damper is adjusted to full open position, the return air damper is fully closed, and the mechanical cooling system is then operated simultaneously.
- > **Mechanical cooling mode** – During hot weather, integrated economizer is disabled and the outside air damper is adjusted to the minimum ventilation position. The mechanical cooling system provides all necessary cooling. This mode is triggered by the high limit temperature where excess outdoor air would cause the air handling system to use more energy than if it did not have air economizer.



Economizer Fact Sheet

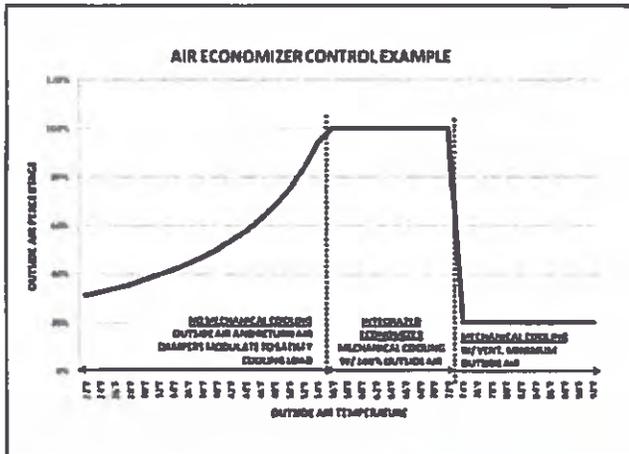


FIGURE 2 – Air Economizer Control Example

**NOTE** – Ventilation airflow and control requirements are prescribed in Chapter 4 of the *2009 International Mechanical Code with Washington State Amendments*.

It is important that all components of an air economizer system function properly. Outside air sensors must be installed where they can sense the true outdoor air temperature. Dampers, actuators and linkages need to respond correctly when the controller calls for damper position adjustment. At minimum a poorly functioning air economizer represents a loss of opportunity for mechanical cooling energy savings. Worst case it can significantly increase energy usage by introducing too much outdoor air during very cold and very warm outdoor conditions. Therefore it is important that air economizer systems be tested for proper performance when installed and serviced regularly to ensure all components continue to function optimally.

**Fundamentals of water economizer**

A water economizer is a system by which the supply air of a cooling system is cooled directly, indirectly or both, by evaporation of water or by other appropriate fluid in order to reduce or eliminate the need for mechanical refrigeration (WSEC 201). There are two primary types of water economizer - systems with chillers and systems without.

Water economizer systems without chillers are also referred to as air pre-cooling economizer. This approach uses a cooling tower or dry cooler to reduce condenser water system temperature below that required for cooling through the use of a supplemental cooling coil in the terminal units. This approach is most commonly used in packaged water-cooled data center equipment. It is occasionally used in hydronic heat pump systems, although several manufacturers no longer carry economizer coil options.

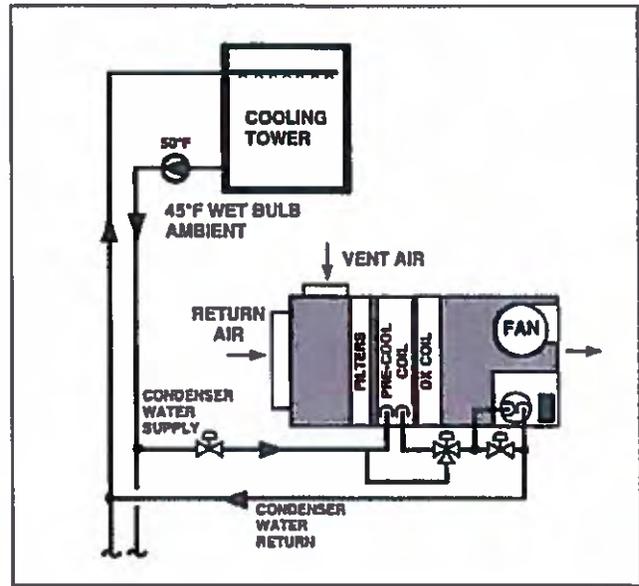


FIGURE 3 – Water Economizer - Supply Air Pre-Cooling

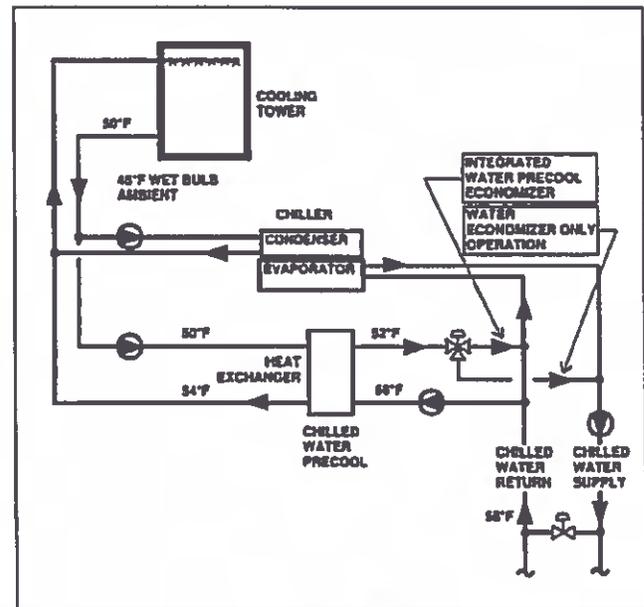


FIGURE 4 – Water Economizer in Chilled Water System

**NOTE** - This fact sheet discusses economizer requirements in a condensed and paraphrased fashion. The actual code requirements referred to herein must be read closely and in their entirety to correctly interpret the applicability of all provisions, due to the exacting details and complexities within all of the code economizer mandates.

## Economizer Fact Sheet

### WHAT DOES THE WSEC REQUIRE?

The WSEC defines application, operational requirements and exceptions for air and water economizer systems. As a general rule, full air economizer capability is required for all new systems. Air economizer requirements and exceptions for Simple Systems (WSEC 1424) are identical to those required for Complex Systems (WSEC 1433). Simple Systems refer to packaged unitary equipment.

#### Air Economizers

An air economizer system shall be capable of adjusting both outside air and return air dampers to the 100% outside air position when outdoor conditions are suitable to reduce or eliminate the need for mechanical cooling. This includes appropriate provisions for relief of this excess outside air to prevent building over-pressurization (WSEC 1413.1). Relief air dampers shall be motorized (WSEC 1412.4.1 with exceptions)

Air economizer controls shall be capable of integrated operation where economizer operation and mechanical cooling can occur simultaneously when needed to meet the cooling load. An exception is allowed for direct expansion units with a rated capacity less than 65,000 btu/h. (WSEC 1413.3)

**NOTE** – Economizer damper and control packages are available for small fan coils and can be controlled from appropriate stand alone thermostats. Building management systems are not required for cost effective and reliable economizer installations on small systems

If humidification equipment is needed to maintain minimum indoor humidity levels in a system with air economizer, then the humidifier shall be the adiabatic type (direct evaporative media or fog atomization type). Exceptions to this requirement apply to: specific health care facilities, 100% outside air systems, stand alone or duct mounted humidifiers serving no more than 10% of the air economizer capacity of all mechanical systems serving the building, or systems with water economizer. (WSEC 1413.4)

There are a variety of exceptions to the air economizer requirements under WSEC 1433. Some exceptions demonstrate alternative options that if applied within the parameters defined will likely provide similar energy savings to an equally sized system with an economizer. A few apply to unique situations where the air economizer would actually increase the energy used by the mechanical system. Many exceptions require that equipment have efficiency ratings that are better than the minimum requirements listed in mechanical equipment efficiency WSEC Tables 14-1A through 14-1G.

The following represents a summary of the available exceptions to air economizer and the requirements of these exceptions:

- > **Qualifying small equipment – Exception 1**  
Capacity of an individual unit can be no greater than 33,000 btu/h. Equipment must have SEER and EER values at least 15% better than the efficiency table values. In addition, the total capacity of all qualifying small systems in a building cannot exceed either 72,000 btu/h or 5% of the air economizer capacity of all mechanical systems serving the building, whichever is greater. This exception does not apply to unitary cooling equipment installed outdoors or located in any room that has an exterior building envelope element, be it wall, floor, or ceiling. This exception shall not be used for the shell-and-core permit or for the initial tenant improvement. It only applies to existing buildings with previous tenant improvement build-outs
- > **Chilled water terminal units – Exception 2**  
Applies to chilled water terminal units connected to systems with chilled water generation equipment with IPLV values that are at least 25% better than minimum part load efficiencies listed in WSEC Table 14-1C. The total capacity of all systems in the building that do not comply with air economizer requirements cannot exceed 480,000 btu/h or 20% of the air economizer capacity of all mechanical systems serving the building, whichever is greater. Additional limitations apply. This exception shall not be used for the shell-and-core permit or for the initial tenant improvement. It only applies to existing buildings with previous tenant improvement build-outs.
- > **Onsite energy – Exception 4**  
Applies to a system where at least 75% of the annual energy it uses for mechanical cooling is being generated with site-recovered or site-solar energy sources. Recovered energy is defined as energy captured and utilized which would otherwise have been wasted. Solar energy sources are defined as natural daylighting and thermal, chemical or electrical energy derived directly from conversion of incident solar radiation.
- > **Unusual outdoor air contaminate conditions – Exception 5**  
Systems where special outside air filtration and treatment, for the reduction and treatment of unusual outdoor contaminants, makes an air economizer infeasible. 
- > **Dehumidification – Exception 6**  
Systems with dehumidification requirements where air economizer would increase overall building energy consumption.

## Economizer Fact Sheet

- **Water source heat pump systems – Exception 7**  
All required parameters must be met to be eligible. It shall consist of multiple water source heat pumps that are connected to a common loop. Heat pumps shall have a cooling EER and heating COP that are at least 15% better than the WSEC equipment efficiency table values. Air systems shall have at least 60% air economizer and a minimum of 50% heat recovery effectiveness. If provided with a boiler or furnace that is less than 199,000 btu/h, this equipment shall be rated to at least 90% AFUE.
- **Group R occupancy small system – Exception 8**  
For equipment installed outdoors or in a room adjacent to the outdoors, cooling capacity of an individual unit can be no greater than 20,000 btu/h. For all other applicable equipment, cooling capacity of an individual unit can be no greater than 54,000 btu/h. For split systems, these limits are based on the cooling capacity of individual fan coils. Cooling units shall have SEER and EER values at least 15% better than listed in WSEC Tables 14-1A, 14-1B and 14-1D. Chillers with fan coil units or variable refrigerant flow (VRF) systems do not qualify for this exception as they are not covered in WSEC Tables 14-1A, 14-1B, and 14-1D.
- **Computer and data processing center cooling equipment – Exception 9, parts F and G**  
Applies to equipment used to cool any dedicated server room, electronic equipment room or telecom switch room provided that they completely comply with Option 9a, 9b, or 9c in the Exception 9 Table below. This applies to equipment subject to the performance requirements of *ASHRAE Standard 127-2007 Method of Testing for Rating Computer and Data Processing Room Unitary Air-Conditioners*. EER and IPLV values shall be equal to or better than the WSEC equipment efficiency table values.

	Equipment Type	Higher Equipment Efficiency	Part-Load Control	Economizer
Option 9a	Table 14-1A and 14-1B <sup>a</sup>	+15% <sup>b</sup>	Required Over 85,000 Btu/h <sup>c</sup>	None Required
Option 9b	Table 14-1A and 14-1B <sup>a</sup>	+5% <sup>d</sup>	Required Over 85,000 Btu/h <sup>c</sup>	Waterside Economizer
Option 9c	ASHRAE Standard 127 <sup>e</sup>	+0% <sup>g</sup>	Required Over 85,000 Btu/h <sup>c</sup>	Waterside Economizer

WSEC 1433 - Exception 9 Table

- **Variable refrigerant flow (VRF) systems – Exception 10**  
System shall be capable of serving multiple zones in both heating and cooling mode simultaneously by transferring energy from one zone to the other. System shall serve

at least 20% internal and 20% perimeter zones for load diversity. Outdoor unit shall be a reverse-cycle heat pump with variable speed compressor and condenser fan with at least 65,000 btu/h in total capacity. This exception is limited to buildings of 60,000 SF or less. It cannot be applied to portions of buildings

### Water Economizers

A water economizer system may be provided in lieu of an air economizer system when allowed under WSEC 1132.2 Exception 1 or WSEC 1433 Exceptions 3 and 9. When selected as an alternative to air economizer, the water economizer system shall be capable of providing the total concurrent cooling load served by the connected terminal equipment lacking air economizer. This concurrent load is calculated based on outside air temperatures of 50°F dry-bulb/45°F wet-bulb and below. For this calculation all load factors including solar gain and internal loads (such as occupant and plug loads) shall be based on load peaks, except for the outside temperatures (WSEC 1413.1). Specific documentation requirements for this system type are defined in WSEC 1413.2. System controls shall be capable of integrated operation similarly to air economizer systems. The only exception to the integrated operation requirement is for water-cooled water chillers.

Under WSEC 1433, the two exceptions that allow water economizer systems are:

- **Chilled beams and chilled ceiling systems – Exception 3**  
Applies to water-cooled refrigeration equipment serving chilled beams and chilled ceiling (space cooling) systems only, which are provided with a water economizer meeting the requirements of WSEC 1413. Maximum capacity of this system shall not exceed 500 tons. Terminal chilled water units other than chilled beams and chilled ceilings do not qualify under this exception.
- **Cooling equipment serving dedicated server rooms, electronic equipment rooms or telecom switch rooms – Exception 9, parts A through E**  
Applies to equipment used to cool any dedicated server room, electronic equipment room or telecom switch room provided that they completely comply with option 9a, 9b, or 9c in the Exception 9 Table. In addition to the water economizer requirements described above, this equipment shall be served by a dedicated condenser water system. A non-dedicated condenser water system may be approved if it can provide appropriate water temperatures during hours when waterside economizer cooling is available. Under this exception the total allowed capacity of cooling systems without economizers shall not exceed 240,000 btu/h or 10% of the air economizer capacity of all mechanical systems serving the building. Additional requirements apply.

### Existing Mechanical System Additions, Alternation and Repairs

New mechanical systems installed in an existing building, or existing mechanical systems that are altered or replaced, shall comply with all requirements of WSEC Chapter 14 Mechanical Systems. This includes all economizer performance and integrated operation requirements identified in WSEC 1413, 1423 and 1433. Refer to WSEC 1132.2 Alterations and Repairs, Mechanical Systems for complete requirements.

Alterations to existing mechanical cooling systems cannot decrease the existing economizer capacity unless provisions are included that make the system eligible for an economizer exception. Such systems applying for economizer exceptions have to comply with individual equipment sizing limits and whole building capacity limits based on the air economizer capacity of all mechanical systems serving the building. For existing mechanical cooling systems that do not comply with WSEC 1413 and either WSEC 1424 or 1433, including individual unit size limits and total building capacity limits, the alteration shall then comply with WSEC Table 11-1.

There are three categories per equipment type in WSEC Table 11.1. Under each category unique exceptions to WSEC 1433 requirements are listed.

- > **Replacement unit of the same type with the same or smaller output capacity**  
In general, if the replaced unit did not have economizer, economizer will not be required with certain caveats such as high efficiency required for compressorized gear.
- > **Replacement unit of the same type with a larger output capacity**  
In general, if the replaced unit did not have economizer, and was originally installed prior to 1991, economizer may not be required with certain caveats. Otherwise, full compliance with WSEC 1433 is required.
- > **New equipment added to existing system or replacement unit of a different type**  
If new terminal equipment is added to particular pre-1991 central systems, economizer may not be required with certain caveats. Otherwise, full compliance with WSEC 1433 is required.

### Recommendations for optimal long-term economizer performance

#### Economizer commissioning procedure

- > *Observe damper position at various outdoor air temperatures and compare to the design intent (high limit settings, low-limit lockout).*
- > *Set up false temperature readings through the building management system or by increasing the temperature at outdoor air temperature sensor (electric hair dryer or similar approach). Compare the response of the economizer damper to the design intent.*
- > *Install temperature data-loggers or use building management system (BMS) trend logging capabilities to measure the outside air, return air, supply air, and mixed air streams. Monitor dataloggers or BMS trending for a minimum period of two weeks.*
- > *If post occupancy, look for large peaks compared to historical billing data in energy use during summer & winter.*

#### Economizer recommended maintenance

- > *As air flows over the outside-air damper and into the building, dirt and moisture accumulate on the damper and its linkages. Unless regularly cleaned and lubricated, these components can eventually corrode and lock up.*
- > *Check for burned out damper motors.*
- > *Check for actuators that come loose from their mounting position with difficulty transferring torque to the damper.*
- > *Check and calibrate temperature sensors.*
- > *Annually re-commission the economizer. Run a functional performance test to demonstrate proper operation of the physical components of the system.*

#### Additional Resources

- > *Energy Design Resources, Economizers Design Brief – <http://www.energydesignresources.com/resources/publications/design-briefs/design-brief-economizers.aspx>*
- > *Trane Engineers Newsletter Edition 35-2, Air Economizers – [http://www.trane.com/commercial/uploads/pdf/673/admapn020en\\_0406.pdf](http://www.trane.com/commercial/uploads/pdf/673/admapn020en_0406.pdf)*
- > *NREC Compliance Forms, MECH-ECO Economizer Flowchart – [www.nec.net/energy](http://www.nec.net/energy) <<http://www.nec.net/energy>> codes*
- > *PECI Functional Testing for Air Handlers – Chapter 3: Economizer and Mixed Air*
- > *CED Engineering Economizers in Air Handling Systems*
- > *ASHRAE 90.1 – 2007 User’s Manual*

Technical content contributed by:





# Northwest Energy Efficiency Council Resources



## Several technical resources are available in support of the 2009 Washington State Non-Residential Energy Code (NREC).

Refer to the NEEC website under the Energy Codes tab – <http://www.NEEC.net/energycodes>

All of these resources are available for download from our website.

### COMPLIANCE FORMS

NREC compliance forms have been designed as tools to help designers comply with the Energy Code, and to assist building officials, plans reviewers and inspectors with enforcement of the Energy Code. The following forms are available:

- > *Building Envelope Compliance Forms*
- > *Lighting Compliance Forms*
- > *Energy Metering Compliance Forms*
- > *Mechanical Systems Compliance Forms*

### WEBINARS

Recorded webinars are available for the following topics:

- > *NREC Chapter 13 – Building Envelope*
- > *NREC Chapter 14 – Mechanical System*
- > *NREC Chapters 12 & 15 – Lighting and Energy Metering*
- > *NREC Compliance Forms Instructions*
- > *Continuous Insulation*

### RESIDENTIAL ENERGY CODE TECHNICAL SUPPORT

NEEC provides technical support for the Non-Residential sections of the Energy Code, which includes Multi-Family Residential buildings. For Energy Code technical support for Single-Family Residential buildings contact the Washington State University Energy Extension Office – <http://www.energy.wsu.edu/BuildingEfficiency/EnergyCode.aspx>

### FACT SHEETS

Detailed fact sheets are available for several key topics in the NREC that provide context to Code requirements and perspective from industry experts:

- > *Air Barrier Management*
- > *Continuous Insulation*
- > *Daylighting Controls*
- > *Economizer*
- > *Energy Recovery*
- > *Solar Gain Management*

### ADDITIONAL RESOURCES

- > *2009 NREC Technical Reference Manual – This manual provides useful guidance and information for the Energy Code by various industry experts*
- > *Classroom Training Presentation – NEEC presented classroom trainings around the state that provided a summary of updates and additions to the NREC from the 2006 to the 2009 Energy Code edition. Presentation material is available.*
- > *Air Leakage Test Protocol for Measuring Air Leakage in Buildings – The 2009 NREC has requirements for air pressurization/depressurization testing for some buildings. The U.S. Army Corps of Engineers has published an air leakage test protocol that may be helpful to those needing more information on this procedure.*

# IDAHO BUILDING CODE BOARD

**Agenda Item No. 03d**

**Negotiated Rulemaking - 2015 IRC**

**PRESENTER:** Charlie Allen, IDABO Representative

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**OBJECTIVE:** Review proposed amendments to the 2015 International Residential Code.

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**ACTION:** Informational

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**BACKGROUND:** Following are amendments to IDAPA 07.03.01.004.02: 1) Change from the 2012 to 2015 code, 2) Add footnotes to Table R302.1(1) on projection/fire blocking, 3) Add exception on fire-resistance-ratings for townhomes, 4) Delete IRC Section R302.13 and its exceptions, 5) Delete “Add the following to IRC Section R315.3”, 6) Add language to delete exception 2 under exceptions to IRC R315.2.2, 7) Delete IRC Section 501.3 and its exceptions, 8) Replace Table R602.7.5 with new table on headers/king studs, 9) Delete multiple Tables (in 2015 code), 10) Change “Insulation” to “Installation” in Section N1102.4.1.1 (R402.4.1.1), and 11) Add exception to Section N1103.5.3 (R403.5.3).

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**PROCEDURAL  
HISTORY:**

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**ATTACHMENTS:** Draft rule

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**5. Proposed Code Amendment.** Use 'legislative format' including both old and new language. See instructions on page five for specific details. Please attach a separate sheet for each separate proposal.

IRC	IDAPA 07.03.01, 004, 02	2-5
<b>Code</b>	<b>Section</b>	<b>Pages</b>

**Please note number of additional pages: 7**

To adopt the 2015 *International Residential Code* and make editorial amendment update changes or deletions to IDAPA 07.03.01, 004, 02, accordingly to align.

See separate attachment for proposed IDAPA rule changes.

**Supporting Data for Statewide Amendment Proposals.** This information is required for all statewide amendment proposals. Attach supporting documentation, as necessary; incomplete proposals will not be accepted.

The governing boards require supporting data on any amendment proposal to show:

1. That it meets basic criteria – See Part I to specify how this proposal meets the criteria for code amendment.
2. The intended effect – See Part II to describe the purpose of the proposed amendment, including the benefits and the problems addressed.
3. The potential impacts or benefits to business – See Part III/Types of Construction, to explain how methods in construction businesses, industries and services would be affected.
4. The potential impacts on enforcement procedures, See Part III/Types of Services Required, to provide some analysis of the impacts on code enforcement in local jurisdictions.
5. Economic costs and benefits – Use the Table in Part IV of this form to estimate the costs and benefits of the proposal on construction practices, users and/or the public, the enforcement community, and operation and maintenance.

**Part I ♦ Background information on amendment.**

Code references: IRC, IDAPA 07.03.01, 004, 02

Title: International Residential Code

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Related Codes: IECC

(Does this amendment change other related codes?)

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Proponent: Charlie Allen

Phone: 612-4022

Date: 4/14/16

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**NOTE:** Amendments to the state building code must be based on one of the following criteria; please indicate the pertinent rationale for the proposed amendment by selecting from the list below:

- (1) The amendment is needed to address a critical life/safety need.
- (2) The amendment is needed to address a specific state policy or statute.
- (3) The amendment is needed for consistency with state or federal regulations.
- (4) The amendment is needed to address a unique character of the state.
- (5) The amendment corrects errors and omissions.

**Part II ♦ Amendment Benefit:**

**PROBLEM(S) ADDRESSED** (Describe the intended effect of the proposed code amendment):

Most of the proposed amendments to the IDAPA rules are only editorial in nature in order to align them with the 2015 edition of the *International Residential Code* (IRC).

For example, amended IRC Table R302.1(1) now needs beneficial footnotes added to the Table. Amendment language is also needed for the IRC Section R302.2 for acceptable townhouse wall separation requirements outlined in the IDAPA rules. The IDAPA rules have IRC Section R501.3 struck from the code but this code section has now changed to R302.13. In proposing the 2015 IRC, some IDAPA rule amendments need some updating or deleting in order to align.

A majority of changes in the 2015 IRC will reduce costs to builders and provide clarification and ease of finding code requirements. An exception to that is the new requirement for the number of king studs next to headers depending on the size of the header needed. An amendment was made to reduce the overly conservative numbers to align with more current framing practices. This was developed by the American Wood Council and has research to back their proposal.

**PRIMARY REASON FOR AMENDMENT:** (Describe how the amendment meets one of the criteria listed above)

With the proposal of adopting the 2015 IRC, there is the need to update or delete some of the IDAPA rule amendments. Doing so will correct errors or omissions to align with the code text.

**TYPE OF BENEFITS PROJECTED:**

**Part III ♦ Amendment Impacts or Benefits:**

**TYPES OF CONSTRUCTION:**  New Construction  Alteration/Tenant Improvement/Repair  
 Residential-Single Family  Residential-Multi Family  Commercial  Industrial

**List businesses/industries affected by amendment:**

Manufacturers: \_\_\_\_\_  
 Specific Construction Contractors & Trades: Residential  
 Construction Supply Industry: \_\_\_\_\_  
 Specialty Trades: \_\_\_\_\_  
 Types of Buildings: Residential - one & two family dwellings and townhouses  
 Fire Protection Industry: \_\_\_\_\_

**Types of Services Required:**

**Reporting:** Brief Description \_\_\_\_\_  
 **Record Keeping:** Brief Description \_\_\_\_\_  
 **Other:** Brief Description \_\_\_\_\_  
 **Indirect Cost to Industry:** Indicate whether there are multiple sources to obtain the equipment, material or service required by this proposal. If not, provide a justification of the benefit versus small business impact.

**Part IV ♦ Amendment Costs and Benefits**

Building Type	Construction <sup>1</sup>			Enforcement <sup>2</sup>			Operations & Maintenance <sup>3</sup>		
	Co sts	% impact <sup>4</sup>	Benefits <sup>5</sup>	Costs	% impact	Benefits	Costs	% impact	Benefits
Residential	⊕	N/A	updated	⊕	N/A	updated	⊕	N/A	updated
Single family	↓	↓	code-rev	↓	↓	code-rev	↓	↓	code-rev
Multi-family	—	—	exceptions	—	—	exceptions	—	—	exceptions
Commercial/ Retail	—	—	—	—	—	—	—	—	—
Industrial	—	—	—	—	—	—	—	—	—
Institutional	—	—	—	—	—	—	—	—	—

1 \$ / square foot of floor area or other cost. Attach data. **Construction** costs are costs prior to occupancy, and include both design and direct construction costs that impact the total cost of the construction to the owner/consumer.  
 2 Cost per project plan. Attach data. **Enforcement** costs include governmental review of plans, field inspection, and mediated litigation required for enforcement.  
 3 Cost to building owner/tenants over the life of the project.  
 4 Cost differential over a specific size project or range of projects as determined by the proponent. Provide sufficient cost and benefit detail to clarify the impact to the Council. All data should be created and referenced to third party reputable sources for verification.  
 5 Note sectors with measurable benefit from Part II, including benefits to a) the user, b) the public, c) the industry, and/or d) the economy; use e) for all of the above.

- 02. **International Residential Code. 2012 2015** Edition with the following amendments: (3-20-14)
  - a. Delete exception No. 1 contained under IRC section R101.2 - Scope. (3-20-14)
  - b. Delete exception No. 2 contained under IRC section R101.2 - Scope, and replace with the following: Owner-occupied lodging houses with five (5) or fewer guestrooms shall be permitted to be constructed in accordance with the International Residential Code for One- and Two-family Dwellings. (4-11-15)
  - c. Delete item No. 7 contained under the “Building” subsection of IRC section R105.2 - Work exempt from permit, and replace with the following: Prefabricated swimming pools that are not greater than four (4) feet (one thousand, two hundred nineteen (1219) mm) deep. (4-7-11)
  - d. Add the following item No. 11 at the end of the “Building” subsection of IRC section R105.2 - Work exempt from permit: Flag poles. (3-20-14)
  - e. Delete IRC section R109.1.3 and replace with the following: Floodplain inspections. For construction in areas prone to flooding as established by Table R301.2(1), upon placement of the lowest floor, including basement, the building official is authorized to require submission of documentation of the elevation of the lowest floor, including basement, required in section R322. (3-29-10)
  - f. IRC Table R302.1(1) Exterior Walls -- delete Table R302.1(1) and replace with the following:

**TABLE R302.1(1)  
EXTERIOR WALLS**

EXTERIOR WALL ELEMENT		MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE
Walls	Fire-resistance rated	1 hour-tested in accordance with ASTM E 119 or UL263 with exposure from both sides	< 3 feet
	Not fire-resistance rated	0 hours	≥ 3 feet
Projections	<b>Not allowed</b>	<b>N/A</b>	<b>&lt; 2 feet</b>
	Fire-resistance rated	1 hour on the underside <b>a,b</b>	≥ 2 feet to < 3 feet
	Not fire-resistance rated	0 hours	≥ 3 feet
Openings in Walls	Not allowed	N/A	< 3 feet
	25% maximum of wall area	0 hours	≥ 3 feet to < 5 feet
	Unlimited	0 hours	5 feet
Penetrations	All	Comply with Section R302.4	< 3 feet
		None required	≥ 3 feet

For SI: 1 foot = 304.8 mm.

N/A = Not Applicable

(4-11-15)

**a. Roof eave fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave if fireblocking is provided from the wall top plate to the underside of the roof sheathing.**

**b. Roof eave fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave**

provided that gable vent openings are not installed.

**g.** Delete ~~the exception contained under~~ IRC section R302.2 and replace with the following: –  
~~Townhouses, and replace with the following two exceptions:~~ (3-25-16)

Townhouses. Each townhouse shall be considered a separate building and shall be separated by fire-resistance-rated wall assemblies in accordance with Item i or ii. as follows:

**i.** When provided with an automatic fire sprinkler system per section R313.1, a common 1-hour fire-resistance-rated wall assembly tested in accordance with ASTM E 119 or UL 263 is permitted for townhouses if such walls do not contain plumbing or mechanical equipment, ducts, or vents in the cavity of the common wall. The wall shall be rated for fire exposure from both sides, and shall extend to and be tight against exterior walls and the underside of the roof sheathing. Penetrations of electrical outlet boxes shall be in accordance with Section R302.4. (3-25-16)

**ii.** Two (2) 1-hour fire-resistance-rated wall assemblies (as specified in Section R302.1) or a common 2-hour fire-resistance-rated wall assembly tested in accordance with ASTM E 119 or UL 263 are permitted for townhouses. If two (2) 1-hour fire-resistance-rated walls are used, plumbing and electrical installations within the wall cavity shall conform to fire-resistance penetration requirements in accordance with section R302.4 through R302.4.2 for each of the two (2) 1-hour rated walls penetrated. The 2-hour fire-resistance-rated common wall shall not contain plumbing or mechanical equipment, ducts or vents within its wall cavity. The wall shall be rated for fire exposure from both sides, and shall extend to and be tight against the exterior walls and the underside of the roof sheathing. Penetrations of electrical outlet boxes shall be in accordance with Section R302.4. (3-25-16)

**h.** Delete IRC section R302.13 and its exceptions.

**h. i.** Delete IRC section R303.4 and replace with the following: R303.4 Mechanical Ventilation. Dwelling units shall be provided with whole-house mechanical ventilation in accordance with Section M1507.3

Exception: Where the air infiltration rate of a dwelling unit is equal to 5 air changes per hour or greater when tested with a blower door at a pressure of 0.2 inch w.c. (50 pa) in accordance with Section N1102.4.1.2. (4-11-15)

**i. j.** Delete the exception contained under IRC section R313.1 -- Townhouse automatic fire sprinkler systems, and replace with the following: Exception: Automatic residential fire sprinkler systems shall not be required in townhouses where either two (2) 1-hour fire-resistance-rated walls or a common two-hour fire-resistance rated wall, as specified in ~~exception 2~~ of section R302.2 is installed between dwelling units or when additions or alterations are made to existing townhouses that do not have an automatic residential fire sprinkler system installed. (3-25-16)

**j. k.** Delete IRC section R313.2. (3-29-10)

**k. l.** ~~Add the following to IRC section R315.3 — Where required in existing dwellings: Exceptions: 1. Work involving the exterior surfaces of dwellings, such as, but not limited to, replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck or electrical permits, are exempt from the requirements of this section; and Delete exception 2. under the exceptions to IRC section R315.3 R315.2.2~~ Alterations, repairs and additions and replace with the following: 2. Installation, alteration or repairs of ~~noncombustion electrical~~, plumbing or mechanical systems are exempt from the requirements of this section. (3-20-14)

**l. m.** Delete IRC section R322.1.10. (3-29-10)

**m. n.** Delete IRC section R322.2.2 subparagraph ~~2.2.1~~, and replace with the following: The total net area of all openings shall be at least one (1) square inch (645 mm<sup>2</sup>) for each square foot (0.093 m<sup>2</sup>) of enclosed area, or the opening shall be designed and the construction documents shall include a statement that the design and installation of the openings will provide for equalization of hydrostatic flood forces on exterior walls by allowing the automatic entry and exit of floodwaters. (3-20-14)

**n.** ~~Delete IRC section R501.3 and its exceptions.~~ (3-20-14)

o. Delete IRC section R602.10 and replace with the following: Wall bracing. Buildings shall be braced in accordance with this section or, when applicable section R602.12, or the most current edition of APA System Report SR-102 as an alternate method. Where a building, or portion thereof, does not comply with one (1) or more of the bracing requirements in this section, those portions shall be designated and constructed in accordance with section R301.1. (3-20-14)

p. Delete Table R602.7.5 Minimum number of full height studs at each end of headers in exterior walls and replace with the following Table;

Table R602.7.5 Minimum Number of Full Height Studs at Each End of Headers in Exterior Walls<sup>a</sup>

<u>MAXIMUM HEADER SPAN (feet)</u>	<u>ULTIMATE DESIGN WIND SPEED AND EXPOSURE CATEGORY</u>	
	<u>&lt; 140 MPH, Exposure B or &lt; 130 mph, Exposure C</u>	<u>&lt; 115 mph, Exposure B<sup>b</sup></u>
<u>4</u>	<u>1</u>	<u>1</u>
<u>6</u>	<u>2</u>	<u>1</u>
<u>8</u>	<u>2</u>	<u>1</u>
<u>10</u>	<u>3</u>	<u>2</u>
<u>12</u>	<u>3</u>	<u>2</u>
<u>14</u>	<u>3</u>	<u>2</u>
<u>16</u>	<u>4</u>	<u>2</u>
<u>18</u>	<u>4</u>	<u>2</u>

a. For header spans between those given above, use the minimum number of full-height studs associated with the larger header span.

b. The tabulated minimum number of full-height studs is applicable where jack studs are provided to support the header at each end in accordance with Table R6 02.7.1(1). Where a framing anchor is used to support the header in lieu of a jack stud in accordance with footnote "d" of Table R602.7(1), the minimum number of full-height studs at each end of a header shall be in accordance with requirements for wind speed < 140 mph, Exposure B.

~~p. q.~~ Chapter 11 [RE] Energy Efficiency - The following sections and tables of chapter 11 shall be amended in accordance with the requirements contained below in Subsection 004.04 of these rules which correspond to the appropriate section: (3-20-14)

- i. ~~Table N1102.1.12 (Table R402.1.12) - Insulation and Fenestration Requirements by Component;~~ (3-20-14)
- ii. ~~Table N1102.1.34 (Table R402.1.34 - Equivalent U-Factors;~~ (3-20-14)
- iii. ~~Table N1102.2.6 (Table R402.2.6) - Steel Frame Ceiling, Wall and Floor Insulation (R-Value);~~ (3-20-14)
- ~~iv.~~ ii. Section N1102.4.1 (R402.4.1) Building Thermal Envelope; (3-20-14)
- v. ~~iii.~~ Section N1102.4.1.1 (R402.4.1.1) - Insulation Installation; (3-20-14)
- vi. ~~Table N1102.4.1.1 (Table R402.4.1.1) - Air Barrier and Insulation Installation;~~ (3-20-14)
- vii. ~~iv.~~ Section N1102.4.1.2 (R402.4.1.2) Testing Option; (3-20-14)
- viii. ~~v.~~ Add Section N1102.4.1.3 (R402.4.1.3) - Visual Inspection Option; (3-20-14)
- ix. ~~vi.~~ Add Section N1102.6 (R402.6) - Residential Log Home Thermal Envelope; (3-20-14)

\*. vii. Add Table N1102.6 (Table R402.6) - Log Home Prescriptive Thermal Envelope Requirements by Component; and (3-20-14)

viii. Add exception to Section N1103.5.3 (R403.5.3) Hot Water Pipe Insulation (Prescriptive)

~~xi. Section N1104.1 (R404.1) - Lighting Equipment. (3-20-14)~~

ix. Table N1106.4 (R406.4) Maximum Energy Rating Index

April 14, 2016

To: IDABO Government Affairs Committee

Fr: Teri Ottens, IDABO Staff

Re: Executive Order – Establishing a Federal Earthquake Risk Management Standard

On February 2, 2016, the White House issued an Executive Order applying to the earthquake safety of any “buildings that are owned, leased, financed, or regulated by the Federal Government” (copy of full order is attached). It applies to any construction of a new building or alteration to existing buildings. Section 2(c) of the order defines this as:

(c) Federal Assistance Programs. Each agency assisting in the financing, through Federal grants or **loans, or guaranteeing the financing, through loan or mortgage insurance programs**, of a newly constructed building shall consider updating its procedures for providing the assistance to be consistent with section 3(a) of this order, to assure appropriate consideration of earthquake safety. *(emphasis added)*

It goes on to state how to meet the requirements that the earthquake provisions of the 2015 IBS and IRC must be met:

### Sec. 3. Codes, Standards, and Concurrent Requirements.

- (a) Commencing within 90 days after the date of this order, each agency shall ensure that every new building for which the agency has not started programming is in compliance with the earthquake-resistant design provisions of the **2015 editions of the International Building Code (IBC) or the International Residential Code (IRC)**, nationally recognized building codes promulgated by the International Code Council (ICC), or equivalent codes, consistent with the provisions of and to the extent required by 40 U.S.C. 3312. When the ICC releases a new version of the IRC or IBC, each agency that constructs buildings shall determine whether the **new version** is a nationally recognized code for the purposes of 40 U.S.C. 3312(b), as expeditiously as practicable, but **not later than 2 years** after the release of the new version. If an agency determines that a new version is a nationally recognized code, it shall ensure that any building, for which the agency has not started programming, shall be in compliance with that new version or an equivalent code.

This Order gives federal agencies 90 days to comply. It applies to all federal programs including loans, or guaranteeing the financing, leasing, mortgage insurance programs, as well as disaster relief. This definition includes the following:

- VA, FHA and other federally funded guaranteed loans
- Federal insurance programs, such as flood insurance
- Disaster relief (although Section 8 (d) makes it clear it does not apply to emergency work essential to save lives and protect property or temporary housing)

assistance in a disaster. It does apply in a “declared major disaster or emergency when assistance actions involve new construction or alterations to an existing building.

The International Code Council’s Government Affairs Committee feels that if a jurisdiction does not have the earthquake provisions of the 2015 IBC and IRC in place that will put federal loans and grants at risk of not being available as funding sources for Idahoans.

**Conclusion:**

It is IDABO’s belief that delay in adoption of the 2015 IBC and IRC with the required earthquake provisions will jeopardize funding sources for new and existing buildings and homes in Idaho. Federal loan and insurance programs cannot be made available for financing residential properties and could significantly impact the citizens of Idaho, particularly the low income and veterans. It will have major impact if a disaster is declared in a jurisdiction without current codes. It will have major impact on private property owners who lease to the federal government.

And while there is the possibility of a proposal to just adopt the specific earthquake regulations throughout both codes it would make a complicated and unwieldy adoption process and add confusion for the public, designers, builders and code officials on the use and enforcement of the codes.

**Recommendation:**

It appears that in order to avoid questions of federal programs being applied in Idaho, the State of Idaho needs to adopt both the 2015 IBC and IRC in full as quickly as the process will allow and to set up a system that allows for the state and its jurisdictions to stay on track in adopting all new versions of the code within 2 years after the release of that version of the code.

*Note: We are currently seeking opinions from affected state agencies on how they will handle this Order.*

A copy of the full executive order is available upon request.

# IDAHO BUILDING CODE BOARD

## Agenda Item No. 03e

## Negotiated Rulemaking - 2015 IECC

**PRESENTER:** Charlie Allen, IDABO Representative

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**OBJECTIVE:** Review proposed amendments to the 2015 International Energy Conservation Code.

---

**ACTION:** Informational

---

**BACKGROUND:** Following are amendments to IDAPA rule 07.03.01.004.04: 1) Change from the 2012 to 2015 code, 2) Delete multiple Tables (in 2015 code), 3) Add footnotes to Table R402.1.2 on ceiling and wall R-values, 4) Delete subsection “h” on fireplace components, 5) Change multiple code sections to bring in line with 2015 code, 6) Delete subsection “m” on lighting equipment, 7) Add new section on hot water pipe insulation, and 8) Replace Table R406.4 with new table on maximum Energy Rating Index (ERI).

---

## **PROCEDURAL HISTORY:**

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**ATTACHMENTS:** Draft rule

---





**5. Proposed Code Amendment.** Use ‘legislative format’ including both old and new language. **See instructions on page five for specific details.** Please attach a separate sheet for each separate proposal.

IECC	IDAPA 07.03.01, 004, 04	5-8
Code	Section	Pages

**Please note number of additional pages: 7**

To adopt the 2015 *International Energy Conservation Code* and make editorial amendments and other amendment update changes or deletions to IDAPA 07.03.01, 004, 04, accordingly to align.

See separate attachment for proposed IDAPA rule changes.

**Supporting Data for Statewide Amendment Proposals.** This information is required for all statewide amendment proposals. Attach supporting documentation, as necessary; incomplete proposals will not be accepted.

The governing boards require supporting data on any amendment proposal to show:

1. That it meets basic criteria – See Part I to specify how this proposal meets the criteria for code amendment.
2. The intended effect – See Part II to describe the purpose of the proposed amendment, including the benefits and the problems addressed.
3. The potential impacts or benefits to business – See Part III/Types of Construction, to explain how methods in construction businesses, industries and services would be affected.
4. The potential impacts on enforcement procedures, See Part III/Types of Services Required, to provide some analysis of the impacts on code enforcement in local jurisdictions.
5. Economic costs and benefits – Use the Table in Part IV of this form to estimate the costs and benefits of the proposal on construction practices, users and/or the public, the enforcement community, and operation and maintenance.

**Part I ♦ Background information on amendment.**

Code references: IECC, IDAPA 07.03.01, 004, 04      Title: International Energy Conservation Code

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Related Codes: IRC

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(Does this amendment change other related codes?)

Proponent: Charlie Allen

Phone: 612-4022

Date: 4/14/16

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**NOTE:** Amendments to the state building code must be based on one of the following criteria; please indicate the pertinent rationale for the proposed amendment by selecting from the list below:

- (1) The amendment is needed to address a critical life/safety need.
- (2) The amendment is needed to address a specific state policy or statute.
- (3) The amendment is needed for consistency with state or federal regulations.
- (4) The amendment is needed to address a unique character of the state.
- (5) The amendment corrects errors and omissions.

**Part II ♦ Amendment Benefit:**

**PROBLEM(S) ADDRESSED** (Describe the intended effect of the proposed code amendment):

Many of the proposed amendments to the IDAPA rules are editorial in nature in order to align them with the 2015 edition of the *International Energy Conservation Code* (IECC).

There are amendments with compromise in some areas. Some amendments provide other viable options that align with current construction practices where it has been shown already meet compliance with the 2015 IECC. For example, providing a footnote to Table R402.1.2 to allow R-38 attic insulation where R-21 is provided in the exterior walls in Climate Zone 5. Numerous Reschecks on the 2015 IECC for current construction of homes are showing compliance with R-38 attic insulation and R-21 wall insulation which is very typical of current construction practice of homes today.

The existing amendment on lighting to be 50% high efficacy is proposed to be deleted. The 2015 IECC requires 75% of lighting to be high efficacy which still allows 25% of lighting to be of any type for decorative purposes. Light bulbs are being regulated nationally whereas most are high efficacy that are

available anyway with prices having dropped significantly as well. Efficient lighting also has substantial energy savings with a very quick payback of 1-2 years for homeowners.

An exception is added clarifying piping insulation is not required for single family dwellings for items 1, 2 and 4 listed under IECC section R403.5.3.

Adopting the 2015 IECC also allows another option for builder compliance using the Energy Rating Index (ERI) method (such as the HERS rating). Adding another option is a good thing and many builders are currently already utilizing this method but typically still have to submit traditional energy code compliance documents instead. This change would allow jurisdictions to accept the ERI documents and independent rater inspections/reports. An amendment adjusts Table R406.4 Maximum Energy Rating Index in Climate Zones 5 and 6 to more of a tiered approach based on square footages of the homes. This is needed due to volume differences between smaller homes and larger homes.

**PRIMARY REASON FOR AMENDMENT:** (Describe how the amendment meets one of the criteria listed above)

With the proposal of adopting the 2015 IECC, there is the need to update or delete some of the IDAPA rule amendments. Doing so will correct errors or omissions to align with the code text.

Mandating a blower door test on every home is likely not feasible especially in the more rural parts (unique character) of the state. Qualified individuals to perform the blower door tests in rural areas may be scarce. The amendment to retain the visual inspection option and an option for a blower door test along with the existing specified air changes per hour (ACH) amendment will remain. Across the state, blower door tests are showing new homes with an average of 3.6 ACH, indicating tight construction.

Providing a footnote to Table R402.1.2 to allow R-38 attic insulation where R-21 is provided in the exterior walls in Climate Zone 5 as another option is good and complies with the 2015 IECC in most typical cases. This construction is typical practice in Climate Zone 5 of the state.

The market has already taken care of the availability of low U-values on windows and high efficacy light bulbs. Even though the code has minor changes on these, there really is no change in actual construction practice with these changes.

An exception added clarifying piping insulation is not required for single family dwellings for items 1, 2 and 4 listed under IECC section R403.5.3. There appears to be no sound available data backing these requirements.

If builders are choosing to do an ERI method in their construction, why not allow this method as another option for meeting the energy code? They could then just submit the ERI documents/design and rater information/reports to applicable jurisdictions for review and approval. The 2015 IECC allows this method as an option. Options are good and this can save redundancy in eliminating submittal of traditional energy compliance documents. The ERI target is amended with a tiered approach based on size of the homes for our Climate Zones in Idaho.

In current construction practices, costs will likely remain the same because of the above mentioned amendments with some slight increases in lighting.

**TYPE OF BENEFITS PROJECTED:**

**Part III ♦ Amendment Impacts or Benefits:**

**TYPES OF CONSTRUCTION:**  New Construction  Alteration/Tenant Improvement/Repair  
 Residential-Single Family  Residential-Multi Family  Commercial  Industrial

**List businesses/industries affected by amendment:**

Manufacturers: \_\_\_\_\_  
 Specific Construction Contractors & Trades: Commercial, multi family, single family dwellings  
 Construction Supply Industry: \_\_\_\_\_  
 Specialty Trades: \_\_\_\_\_  
 Types of Buildings: Commercial, Multi-family, Single family dwellings  
 Fire Protection Industry: \_\_\_\_\_

**Types of Services Required:**

- Reporting:** Brief Description \_\_\_\_\_
- Record Keeping:** Brief Description \_\_\_\_\_
- Other:** Brief Description \_\_\_\_\_
- Indirect Cost to Industry:** Indicate whether there are multiple sources to obtain the equipment, material or service required by this proposal. If not, provide a justification of the benefit versus small business impact.

**Part IV ♦ Amendment Costs and Benefits**

Building Type	Construction <sup>1</sup>			Enforcement <sup>2</sup>			Operations & Maintenance <sup>3</sup>		
	Co sts	% impact <sup>4</sup>	Benefits <sup>5</sup>	Costs	% impact	Benefits	Costs	% impact	Benefits
Residential	Likely to remain the same - with slight increase in lighting	N/A	↑	∅	N/A	↑	∅	N/A	↑
Single family			↑						
Multi-family			updated code						
Commercial/Retail			new exceptions			Updated code			Updated code
Industrial						new exceptions			new exceptions
Institutional									

1 \$ / square foot of floor area or other cost. Attach data. **Construction** costs are costs prior to occupancy, and include both design and direct construction costs that impact the total cost of the construction to the owner/consumer.  
 2 Cost per project plan. Attach data. **Enforcement** costs include governmental review of plans, field inspection, and mediated litigation required for enforcement.  
 3 Cost to building owner/tenants over the life of the project.  
 4 Cost differential over a specific size project or range of projects as determined by the proponent. Provide sufficient cost and benefit detail to clarify the impact to the Council. All data should be created and referenced to third party reputable sources for verification.  
 5 Note sectors with measurable benefit from Part II, including benefits to a) the user, b) the public, c) the industry, and/or d) the economy; use e) for all of the above.

04. International Energy Conservation Code. ~~2012~~ 2015 Edition with the following amendments. (3-20-14)

a. Add the following as a new subsection C101.5.3: Industrial, electronic, and manufacturing equipment. Buildings or portions thereof that are heated or cooled exclusively to maintain the required operating temperature of industrial, electronic, or manufacturing equipment shall be exempt from the provisions of this code. Such buildings or portions thereof shall be separated from connected conditioned space by building thermal envelope assemblies complying with this code. (3-25-16)

b. ~~Delete the values contained in Table R402.1.1 (Table N1102.1.1) for climate zone “5 and Marine 4” and climate zone “6” and replace with the following: Add footnote j to the Ceiling R-Value header, add footnote k to the Wood frame Wall R-Value header, and add footnote l to table title of Table R402.1.2~~

(3-20-14)

Climate Zone	Fenestration U-Factor	Skylight U-factor	Glazed Fenestration SHGC	Ceiling R-Value	Wood Frame Wall R-Value	Mass Wall R-Value	Floor R-Value	Basement Wall R-Value	Slab R-Value	Crawlspace Wall R-Value
5 and Marine 4	0.35	0.60	NR	49	20 or 13+5 <sup>h</sup>	13/17	30 <sup>g</sup>	10/13	10, 2 ft	10/13
6	0.35	0.60	NR	49	20+5 or 13+5 <sup>h</sup>	15/19	30 <sup>g</sup>	15/19	10, 4 ft	10/13

(3-20-14)

~~j. The Ceiling R-Value in Climate zone 5 may be reduced to R-38 when the wood frame wall R-value is increased to R-21.~~

~~k. The continuous insulation required for wood frame walls in climate zone 6 may be eliminated if wall R-value is increased to R-21.~~

~~c. Add the following footnote to the title of Table R402.1.1—Insulation and Fenestration Requirements by Component: <sup>1</sup> For residential log home building thermal envelope construction requirements see section R402.6.~~ (3-25-16)

d. ~~Delete the values contained in Table R402.1.3 (Table N1102.1.3) for climate zone “5 and Marine~~

4” and climate zone “6” and replace with the following:

TABLE R402.1.3 EQUIVALENT U-FACTORS								
Climate Zone	Fenestration U-factor	Skylight U-factor	Ceiling R-Value	Wood-Frame Wall R-Value	Mass-Wall R-Value	Floor R-Value	Basement Wall R-Value	Crawlspace Wall R-Value
5 and Marine 4	0.35	0.60	0.030	0.057	0.082	0.033	0.059	0.065
6	0.35	0.60	0.026	0.057	0.060	0.033	0.050	0.065

(3-20-14)

e. Delete Table R402.2.6 (Table N1102.2.6 and replace with the following:

Table R402.2.6 STEEL-FRAME CEILING, WALL AND FLOOR INSULATION (R-VALUE)	
Wood Frame R-value Requirement	Cold-formed Steel Equivalent R-value <sup>a</sup>
<b>Steel Truss Ceilings<sup>b</sup></b>	
5-30	5-38 R <sub>V</sub> 5-30 + 3 R <sub>V</sub> 5-26 + 5
5-38	5-49 R <sub>V</sub> 5-38 + 3
5-49	5-38 + 5
<b>Steel Truss Ceilings<sup>b</sup></b>	
5-30	5-38 I <sub>Q</sub> 2 [ 4 R <sub>V</sub> 2 [ 6 R <sub>V</sub> 2 [ 8 5-49 I <sub>Q</sub> D <sub>Q</sub> I <sub>U</sub> D <sub>P</sub> I <sub>Q</sub> J
5-38	5-49 I <sub>Q</sub> 2 [ 4 R <sub>V</sub> 2 [ 6 R <sub>V</sub> 2 [ 8 R <sub>V</sub> 2 [ 10
<b>Steel-Framed Wall</b>	
5-13	5-13 + 5 R <sub>V</sub> 5-15 + 4 R <sub>V</sub> 5-21 + 3 R <sub>V</sub> 5-0 + 10
5-19	5-13 + 9 R <sub>V</sub> 5-19 + 8 R <sub>V</sub> 5-25 + 7
5-24	5-13 + 10 R <sub>V</sub> 5-19 + 9 R <sub>V</sub> 5-25 + 8
<b>Steel Joist floor</b>	
5-13	5-19 I <sub>Q</sub> 2 [ 6 5-19 + 6 I <sub>Q</sub> 2 [ 8 R <sub>V</sub> 2 [ 10
5-19	5-19 + 6 I <sub>Q</sub> 2 [ 6 5-19 + 12 I <sub>Q</sub> 2 [ 8 R <sub>V</sub> 2 [ 10
a. Cavity insulation R-value is listed first, followed by continuous insulation R-value.	
b. Insulation exceeding the height of the framing shall cover the framing.	

(3-25-16)

f. c. Delete section R402.4.1 (N1102.4.1) and replace with the following: Building thermal envelope. The building thermal envelope shall comply with sections R402.4.1.1 and either section R402.4.1.2 or R402.4.1.3. The sealing methods between dissimilar materials shall allow for differential expansion and contraction. (3-25-16)

g. d. Delete section R402.4.1.1 (N1102.4.1.1) and replace with the following: Installation. The

components of the building thermal envelope as listed in Table R402.4.1.1 shall be installed in accordance with the manufacturer's instructions and the criteria listed in Table R402.4.1.1, as applicable to the method of construction. (3-25-16)

~~h. Delete the criteria requirement for the "Fireplace" component of Table R402.4.1.1 (Table N1102.4.1.1) – Air Barrier and Insulation Installation, and replace with the following: An air barrier shall be installed on fireplace walls. (3-20-14)~~

**i. e.** Delete section R402.4.1.2 (N1102.4.1.2) and replace with the following: Testing option, Building envelope tightness and insulation installation shall be considered acceptable when tested air leakage is less than seven (7) air changes per hour (ACH) when tested with a blower door at a pressure of 33.5 psf (50 Pa). Testing shall occur after rough in and after installation of penetrations of the building envelope, including penetrations for utilities, plumbing, electrical, ventilation and combustion appliances. During testing: (3-25-16)

- i. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed; (3-20-14)
- ii. Dampers shall be closed, but not sealed, including exhaust, intake, makeup air, backdraft and flue dampers; (3-20-14)
- iii. Interior doors shall be open; (3-20-14)
- iv. Exterior openings for continuous ventilation systems and heat recovery ventilators shall be closed and sealed; (3-20-14)
- v. Heating and cooling system(s) shall be turned off; (3-20-14)
- vi. HVAC ducts shall not be sealed; and (3-20-14)
- vii. Supply and return registers shall not be sealed. (3-20-14)

**j. f.** Add the following as section R402.4.1.3 (N1102.4.1.3): Visual inspection option, Building envelope tightness and insulation installation shall be considered acceptable when the items listed in Table R402.4.1.1, applicable to the method of construction, are field verified. Where required by code official an approved party independent from the installer of the insulation shall inspect the air barrier and insulation. (3-20-14)

**k. g.** Add the following section: R402.6 (N1102.6) Residential Log Home Thermal Envelope. Residential log home construction shall comply with sections R401 (General), R402.4 (Air Leakage), R402.5 (Maximum Fenestration U-Factor and SHGC), R403.1 (Controls), ~~R403.2.2~~ **R403.3.2** (Sealing), ~~R403.2.3~~ **R403.3.5** (Building Cavities), sections ~~R403.3~~ **R403.4** through ~~R403.9~~ **R403.10** (referred to as the mandatory provisions), Section R404 (Electrical Power and Lighting Systems), and either i., ii., or iii. as follows: (3-20-14)

- i. Sections R402.2 through R402.3, ~~R403.2.1~~ **R403.3.1**, R404.1 and Table R402.6; (4-7-11)
- ii. Section R405 Simulated Performance Alternative (Performance); or (4-7-11)
- iii. REScheck (U.S. Department of Energy Building Codes Program). (4-7-11)

**l. h.** Add Table R402.6 (Table N1102.6) Log Home Prescriptive Thermal Envelope Requirements By Component to be used only in accordance with item i of section R402.6 above to appear as follows:

**TABLE R402.6  
LOG HOME PRESCRIPTIVE THERMAL ENVELOPE REQUIREMENTS BY COMPONENT**

For SI: 1 foot = 304.8 mm.

Climate Zone	Fenestration U-factor <sup>a</sup>	Skylight U-factor	Glazed Fenestration Shgc	Ceiling R-value	Min. Average Log Size In Inches	Floor R-value	Basement Wall R-value <sup>d</sup>	Slab R-value & Depth <sup>b</sup>	Crawl Space Wall R-value <sup>d</sup>
5, 6 - High efficiency equipment path <sup>c</sup>	0.32	0.60	NR	49	5	30	15/19	10, 4 ft.	10/13
5	0.32	0.60	NR	49	8	30	10/13	10, 2 ft.	10/13
6	0.30	0.60	NR	49	8	30	15/19	10, 4 ft.	10/13

- a. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.
- b. R-5 shall be added to the required slab edge R-values for heated slabs.
- c. 90% AFUE natural gas or propane, 84% AFUE oil, or 15 SEER heat pump heating equipment (zonal electric resistance heating equipment such as electric base board electric resistance heating equipment as the sole source for heating is considered compliant with the high efficiency equipment path).
- d. "15/19" means R-15 continuous insulated sheathing on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. "15/19" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulated sheathing on the interior or exterior of the home. "10/13" means R-10 continuous insulated sheathing on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.

(3-20-14)

~~m. Delete section R404.1 (N1104.1) and replace with the following: Lighting equipment (Mandatory). A minimum of fifty percent (50%) of the lamps in permanently installed lighting fixtures shall be high efficacy lamps or a minimum of fifty percent (50%) of the permanently installed lighting fixtures shall contain only high efficacy lamps.~~ (3-20-14)

i. Section R403.5.3 (N1103.5.3) Hot Water Pipe Insulation (Prescriptive). Add exception 1. Insulation for items 1, 2, and 4 shall not be required for Single Family Dwellings.

j. Delete Table R406.4 (N1106.4) Maximum Energy Rating Index and replace with the following:

*Table R406.4 Maximum Energy Rating Index*

Climate Zone	Energy Rating Index
1	52
2	52
3	51
4	54
5	1,500 sq. ft. or less - 70
	1,501 sq. ft. to 2,500 sq. ft. - 65
	2,501 sq. ft. to 5,000 sq. ft. - 60
	5,001 sq. ft. or greater - 55
6	1,500 sq. ft. or less - 69
	1,501 sq. ft. to 2,500 sq. ft. - 64
	2,501 sq. ft. to 5,000 sq. ft. - 59
	5,001 sq. ft. or greater - 54
7	53
8	53

**05. References to Other Codes.** Where any provisions of the codes that are adopted in this Section make reference to other construction and safety-related model codes or standards which have not been adopted by the involved authority having jurisdiction, to the extent possible, such reference should be construed as pertaining to the equivalent code or standard that has been duly adopted by such jurisdiction. (3-29-10)

**005. OFFICE -- OFFICE HOURS -- STREET ADDRESS -- MAILING ADDRESS -- TELEPHONE, FACSIMILE AND WEB ADDRESS.**

The principal place of business of the Division of Building Safety is in Meridian, Idaho. The office is located at 1090 E. Watertower St., Meridian, Idaho and is open from 8 a.m. to 5 p.m., except Saturday, Sunday and legal holidays. The mailing address is: Division of Building Safety, 1090 E. Watertower St., Meridian, Idaho 83642. The telephone number of the office is (208) 334-3896. The facsimile number of the office is (208) 855-9399. The Department website at <http://dbs.idaho.gov>. (3-30-06)

# IDAHO BUILDING CODE BOARD

## Agenda Item No. 04a

## Negotiated Rulemaking - 2015 IBC

**PRESENTER:** Jason Blais, Board Member and Code Collaborative Representative

---

**OBJECTIVE:** Vote to modify IDAPA 07.03.01.004.01; bringing the rule in line with the 2015 IBC.

---

**ACTION:** Accept or reject the proposed amendments.

---

**BACKGROUND:** See agenda item 03a

---

### **PROCEDURAL HISTORY:**

---

**ATTACHMENTS:** See agenda item 03a

---



# IDAHO BUILDING CODE BOARD

## Agenda Item No. 04b

## Negotiated Rulemaking - 2015 IEBC

**PRESENTER:** Jason Blais, Board Member and Code Collaborative Representative

---

**OBJECTIVE:** Vote to change the IEBC year to the 2015 edition.

---

**ACTION:** Accept or reject the proposed amendment.

---

**BACKGROUND:** See agenda item 03b

---

### **PROCEDURAL HISTORY:**

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**ATTACHMENTS:** See agenda item 03b

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# IDAHO BUILDING CODE BOARD

## Agenda Item No. 04c                      Negotiated Rulemaking - IECC Economizers

**PRESENTER:**            Jason Blais, Board Member and Code Collaborative Representative

---

**OBJECTIVE:**            Vote to adopt either the 2012 or 2015 edition of the IECC with regard to economizers.

---

**ACTION:**                Accept or reject the proposed amendment.

---

**BACKGROUND:**        See agenda item 03c

---

**PROCEDURAL  
HISTORY:**

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**ATTACHMENTS:**      See agenda item 03c

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# IDAHO BUILDING CODE BOARD

## Agenda Item No. 04d

## Negotiated Rulemaking - 2015 IRC

**PRESENTER:** Charlie Allen, IDABO Representative

---

**OBJECTIVE:** Vote to modify IDAPA 07.03.01.004.02; bringing the rule in line with the 2015 IRC.

---

**ACTION:** Accept or reject the proposed amendments.

---

**BACKGROUND:** See agenda item 03d

---

### **PROCEDURAL HISTORY:**

---

**ATTACHMENTS:** See agenda item 03d

---



# IDAHO BUILDING CODE BOARD

## Agenda Item No. 04e

## Negotiated Rulemaking - 2015 IECC

**PRESENTER:** Charlie Allen, IDABO Representative

---

**OBJECTIVE:** Vote to modify IDAPA 07.03.01.004.04; bringing the rule in line with the 2015 IECC.

---

**ACTION:** Accept or reject the proposed amendments.

---

**BACKGROUND:** See agenda item 03e

---

### **PROCEDURAL HISTORY:**

---

**ATTACHMENTS:** See agenda item 03e

---



# IDAHO BUILDING CODE BOARD

**Agenda Item No. 05**

**Program Manager Report**

**PRESENTER:** Arlan Smith, Building Safety Program Manager

---

**OBJECTIVE:** Update the Board on the Building program's current activities.

---

**ACTION:** Informational

---

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

---

**PROCEDURAL HISTORY:**

---

**ATTACHMENTS:** No documentation

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# IDAHO BUILDING CODE BOARD

**Agenda Item No. 06**

**Operational Report**

**PRESENTER:** Steve Keys, Deputy Administrator-Operations

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**OBJECTIVE:** Provide an update on the daily operations of the Building program and division.

---

**ACTION:** Informational

---

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

---

**PROCEDURAL HISTORY:**

---

**ATTACHMENTS:** No documentation

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# IDAHO BUILDING CODE BOARD

**Agenda Item No. 07**

**Administrator Report**

**PRESENTER:** C. Kelly Pearce, Administrator

---

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

---

**ACTION:** Informational

---

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

---

**PROCEDURAL HISTORY:**

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**ATTACHMENTS:** No documentation

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# IDAHO BUILDING CODE BOARD

**Agenda Item No. 07a**

**Financial Report**

**PRESENTER:** Fred Sisneros, Financial Manager

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**OBJECTIVE:** Review the Idaho Building Code Board's Financial report.

---

**ACTION:** Informational

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

---

**PROCEDURAL HISTORY:**

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**ATTACHMENTS:** Financial report

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**Division of Building Safety**  
 IDAHO BUILDING CODE FUND 0229-02  
 Fiscal Year 2016 Financial Statements  
 As of 05/31/2016

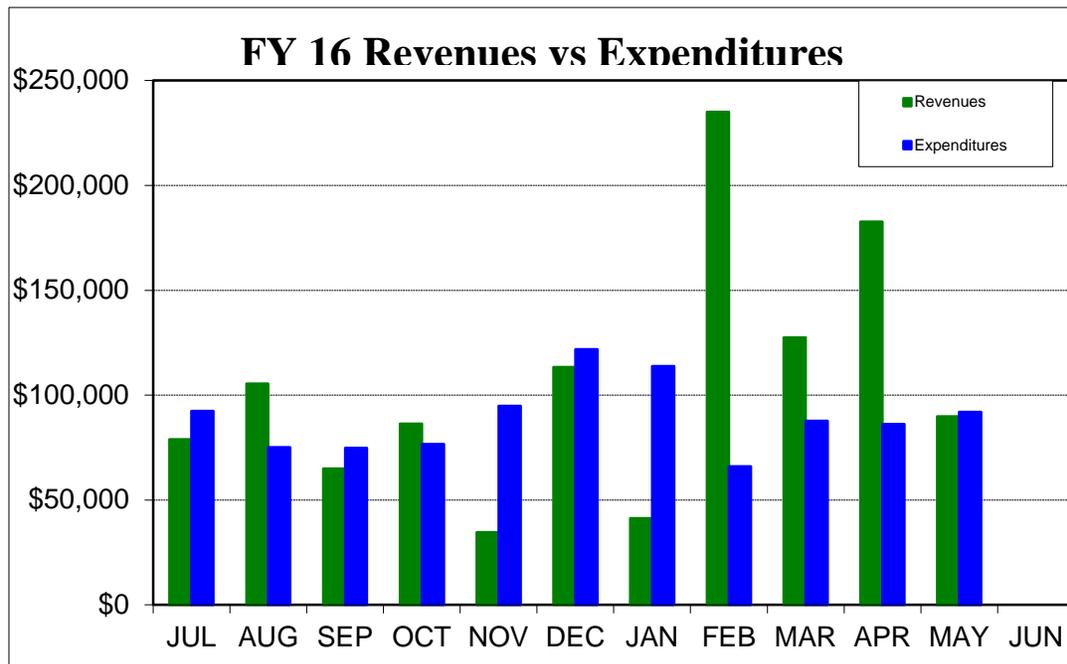
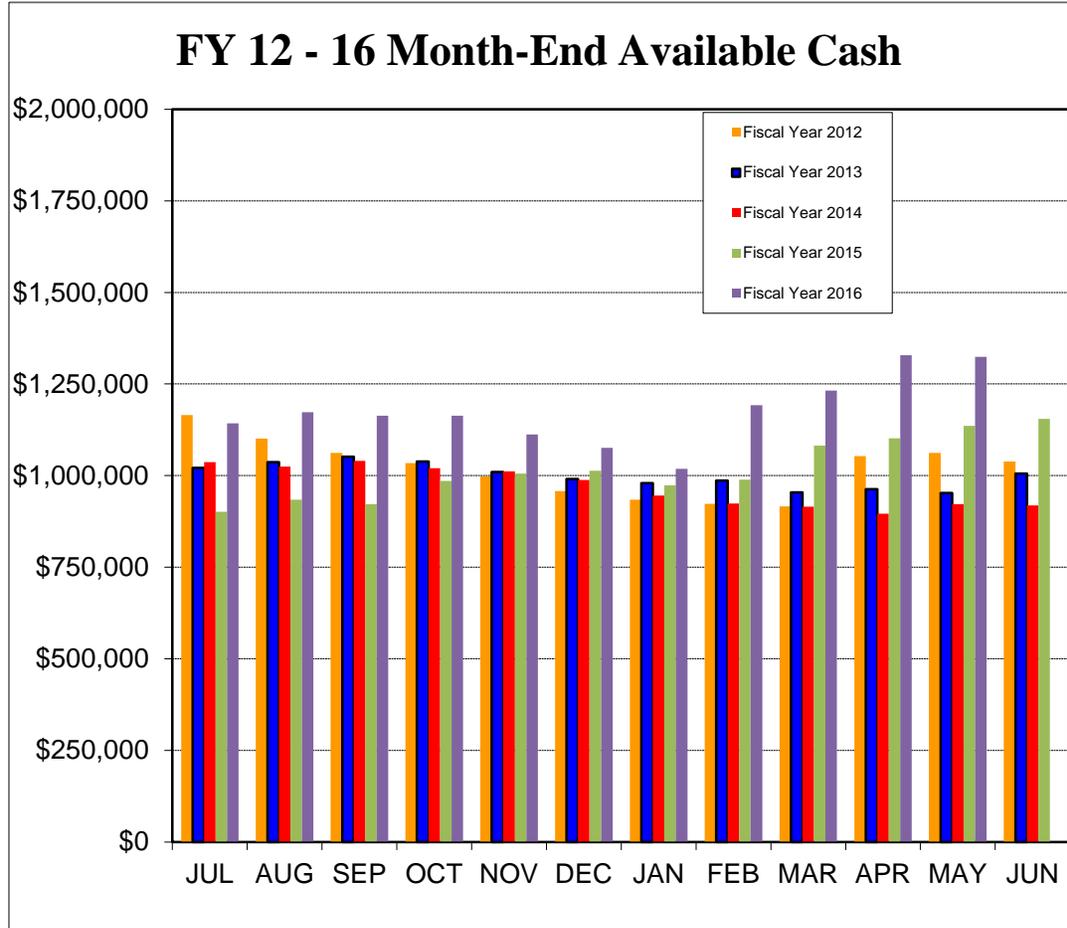
Statement of Revenues and Expenditures

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:	969,000	1,160,227	119.7%	(191,227)	46,733	1,206,960.62	124.6%
Expenditures							
Personnel:	572,000	830,457	145.2%	(258,457)	66,437	896,894	156.8%
Operating:	143,000	133,663	93.5%	9,337	12,382	146,046	102.1%
Capital:	18,600	17,502	94.1%	1,098	1,098	18,600	100.0%
Total Expenditures	733,600	981,623	133.8%	(248,023)	79,916	1,061,539	144.7%
Net for FY 2016	235,400	178,604			(33,183)	145,421	

Statement of Cash Balance

July 1, 2015 Beginning Cash Available	Fiscal Year to Date Revenues	Fiscal Year to Date Expenditures and Encumbrances	Other Changes in Cash	Available Cash as of May 31, 2016	Projected Change in Cash for Remainder of Year	Projected Year End Available Cash
1,154,747	1,160,227	(981,623)	(9,133)	1,324,219	(33,183)	1,291,036

## IDAHO BUILDING CODE FUND 0229-02



# IDAHO BUILDING CODE FUND 0229-02

