Industrialized Buildings Commission
◆ An Interstate Compact ◆

Suite 210
505 Huntmar Park Drive
Herndon, Virginia 20170
(703) 481-2022
(703) 481-3596 FAX
www.interstateibc.org

MINUTES

Rules Development Committee
Wednesday, July 15, 2015
Herndon, Virginia

In the absence of a RDC chairman and vice-chairman, IIBC chairman Warren Ducharme called the meeting to order on Wednesday, July 15, 2015, at 9:00 a.m. at the Crowne Plaza Dulles Airport, 2200 Centreville Road in Herndon, Virginia. Attendance was taken as noted below. He welcomed Chuck Osterday with NTA as the third-party inspection agency and Delma Sheaffer as the residential industry representatives.

The Committee solicited nominations for chairman and vice-chairman positions. By unanimous vote, the Committee elected Don Engle chairman and Barbara Bieganski vice-chairman. In the absence of Don Engle, Barbara Bieganski chaired the meeting.

Members Present:	Barbara Bieganski, Vanguard Modular Building Systems Denise Beer, Williams Scotsman Christine Kline, Whitley East Chuck Osterday, NTA Emory Rodgers, Commonwealth of Virginia Delma Sheaffer, Excel Homes
Others Present:	Daniel G. Arevalo, Mobile Modular Michael Baier, State of New Jersey Debbie Becker, Industrialized Buildings Commission William Begley, Sea Box, Inc. Andrew Carlson, Pyramid1, Inc. Jeffrey Clouse, T. R. Arnold & Associates, Inc. Frederick Cook, Cor-10 Concepts Warren Ducharme, State of Rhode Island N. Kevin Eğilmez, Industrialized Buildings Commission Robert Gorleski, PFS Corporation Bruce Hagen, State of North Dakota Tom Hardiman, Modular Building Institute Arthur Hood, Cor-10 Concepts Eric Leatherby, Commonwealth of Virginia Scott McKown, State of Minnesota Steve Morris, Cor-10 Concepts Valrae Negley, Commonwealth of Virginia Dennis Quitschreiber, Dynamic Homes Harold Raup, PFS Corporation

Others Present (cont.):	Brennen Snyder, Modspace Eric Snyder, Modspace Randy Soper, Sea Box, Inc.

Approval of Minutes

On a motion by Denise Beer, seconded by Chuck Osterday, the Committee approved the minutes of the July 16, 2014, meeting as submitted.

Correspondence

The Secretariat noted that a list of correspondence was available.

Old Business

There were no advisory reports given.

New Business

Kevin Egilmez stated that there are vacancies in state and industry representative positions. Tom Hardiman suggested Muncy Homes, Ritz Craft, Signature or Professional Building Systems for industry representatives and South Carolina (Jenny Mead) or Georgia (Ted Miltiades) for state representatives.

Emory Rogers with the Commonwealth of Virginia announced that he is retiring and will not be able to serve as a state representative. He suggested contacting his director, Bill Shelton, to nominate a replacement.

The Committee reviewed a second draft of Formal Interpretation No. 15-XX, CA Documents per Manufacturing Facility (Attachment A). Its purpose would be to limit a manufacturing facility to one CA manual and have it approved by all evaluation agencies where applicable. As recommended by the Committee following last year's discussions, the second draft added language to allow manufacturing facilities with independent production lines to maintain separate manuals. A motion to approve Formal Interpretation No. 15-XX as amended was made by Chuck Osterday, seconded by Barbara Bieganski, and approved unanimously.

The Committee continued its discussion on approval of used chassis (Attachment B). Last year, the Committee assigned Andrew Carlson the responsibility to develop a procedure for assessing and approving used chassis. It was decided to form a new team to be headed by Barbara Bieganski with Christine Kline, Eric Snyder and Andrew Carlson volunteering to participate. The group agreed to meet by conference calls and develop a product for approval by letter ballot prior to next year's meeting.

The Committee discussed two proposals to improve inspector-trainee program (Attachment C). Kevin Egilmez reported that only one in four trainees obtain their certification as industrialized buildings inspectors according to the Commission's records and that only one in six trainees pass

one or more tests according to ICC's database. One proposal would be to reduce the two-year designation period which would decrease the number of inspections performed by trainees. The shorter time period would be feasible since current computer based tests are offered more frequently than the original paper and pencil tests. An alternate proposal would require trainees to show evidence of taking required tests at regular intervals to maintain their designation. A motion was made by Chuck Osterday, seconded by Delma Sheaffer, and approved unanimously, to draft a Formal Interpretation that would require inspector-trainees to take at least one of the required tests every six months to maintain their designation. Inspection agencies would be responsible for keeping copies of relevant documents. The Committee agreed to vote on the final language by letter ballot.

The Committee discussed a proposal to require evaluation agencies to identify plans examiners on documents (Attachment D). This information is already provided by the majority of the agencies and, in accordance with Commission policy, is required when plans are submitted electronically. Roughly half of the plans approved are for buildings outside the scope of the residential code which must be reviewed by Unlimited (Level II) Plans Examiners certified in the appropriate disciplines. The new policy will ensure consistency and enable the Commission to monitor compliance with certification requirements more effectively. A motion was made by Barbara Bieganski, seconded by Chuck Osterday, to draft a Formal Interpretation requiring evaluation agencies to identify the name and certificate number of plan reviewers and structural calculation reviewers on each submittal.

The Committee discussed the need to provide thermal transmittance (U-) values on data plate when the new energy codes require a certificate with more detailed information (Attachment E). Since certificates must include information such as predominant R-values, type of insulation, and heat loss, providing thermal transmittance values on data plates is redundant. A motion was made by Chuck Osterday, seconded by Barbara Bieganski, and approved unanimously to revise Formal Interpretation 00-01 to allow manufacturers to omit U-values when a certificate is provided. The Committee agreed to vote on the final language by letter ballot.

Kevin Egilmez reported that the Commission has become aware of some dealers combining new and existing modules to form new buildings (Attachment F). Current methods for determining applicable codes for the building do not work because the dates of manufacture for the modules vary and the fifty-percent alteration rule cannot be applied. Procedures are needed to ensure the modified building does not exceed the design parameters of individual modules as well as various code provisions including area limitations, minimum construction types, sprinkler and other fire-protection requirements, means of egress provisions, minimum occupancy and use loads, etc. The Committee decided to form a group to be headed by Denise Beer to develop standards for assessing and approving reconfigured buildings to be presented at next year's meeting. Bob Gorleski, Tom Hardiman and Dan Arevalo agreed to participate in the group.

The Committee discussed IIBC buildings that are (Attachment G) relocated to other participating states or to other jurisdictions within participating states. Buildings that were not manufactured to comply with requirements of the new location must be reevaluated and recertified by a designated agency under the Commission's regulations. Kevin Egilmez suggested that inspection agencies should return the original IIBC certification labels and issue new ones in

accordance with *Existing Building Certification Report* instructions. The Committee agreed with the recommendation subject to approval of final language by letter ballot.

The Committee discussed label fees which were last modified in 2009 (Attachment H). Kevin Egilmez reported that the fees are not generating sufficient revenues to fully fund the program because annual production has been below the projected figures for several years. He added that fees may need to be increased in the near future to cover the shortfall especially if the demand in North Dakota continued to decline.

Recommendations to the Commission

Vice Chairman Bieganski communicated the following RDC recommendations and actions to the Commission:

1. Issue revised Formal Interpretation limiting CA Documents per Manufacturing Facility.
2. Draft a Formal Interpretation to require Inspector-Trainees to show proof of taking tests. The Committee will vote on the final language by letter ballot.
3. Issue a Formal Interpretation to require evaluation agencies to identify plan reviewers and structural calculation reviewers on submittals.
4. Revise Formal Interpretation 00-01 to exempt manufacturers from providing U-values on a data plate if an energy certificate is provided. The final language will be voted on by letter ballot.
5. Amend *Existing Building Certification Report* instructions to require certification labels to be returned when an IIBC building is recertified. The final language will be voted on by letter ballot.

Date and Location of Next Meeting

The next RDC meeting was tentatively scheduled for July 20, 2016, the third Wednesday in July. The secretariat stated that notice would be sent out regarding the meeting's location.

The motion to adjourn, made by Barbara Bieganski and seconded by Chuck Osterday, was approved and the meeting adjourned at 1:40 p.m.

Respectfully submitted,

N. Kevin Eğilmez
Secretariat Staff

Attachments

ATTACHMENT A

Industrialized Buildings Commission
♦ An Interstate Compact ♦

505 Huntmar Park Drive
Suite 210
Herndon, Virginia 20170
(703) 481-2022
(703) 481-3596 fax
www.InterstateIBC.org

FORMAL INTERPRETATION No. 15-XX

Subject: CA Documents per Manufacturing Facility
Reference: UAP, Part V, Section 2(C)
Effective Date:

ISSUE

Can one manufacturing facility have more than one set of approved compliance assurance documents?

INTERPRETATION

A manufacturer must have approved compliance assurance documents (i.e., building systems documents, compliance assurance manual and on-site installation instructions) for the product(s) it proposes to manufacture at its manufacturing facility. A manufacturer may develop separate building systems documents and on-site installation instructions for different products produced at the same facility and have them approved by different evaluation agencies. However, ~~a manufacturing facility can have only one compliance assurance manual that must be approved by all applicable evaluation agencies~~ a manufacturer may have only one compliance assurance manual that must be approved by all applicable evaluation agencies unless separate processes are used to manufacture the products.

ATTACHMENT B

19260 C.R. 46, New Paris, IN 46553
Telephone (574) 831-4200 Fax (574) 831-4209
www.pyramid1inc.com

PYRAMID1, INC.

ENGINEERING * DESIGN * REVIEW & INSPECTION AGENCY

July 9, 2014

N. Kevin Engilmez
Industrialized Buildings Commission
505 Huntmar Park Drive
Herndon, VA 20170

RE: IBC Meeting - 7/16/2014 supplied info
ModSpace, Elizabethtown, PA

Dear Mr. Egilmez:

Enclosed please find justification for allowing previously used frames to automatically be evaluated and utilized in new construction:

References

International Building Code, IBC-12
Specification for Structural Steel Buildings, AISC 360-10
14th Edition of the AISC Steel Construction Manual
AISC Rehabilitation and Retrofit Guide, AISC Steel Design Guide 15
Uniform Administrative Procedures, July 2007

Preface

Modular building are acquired, the existing building removed, with only the frame remaining. This allows a complete assessment of the frame component by Pyramid1 to approved plans. New construction to approved plans is then done on top of the recycled frame, to create a new modular building to be inspected and labeled.

Code Citations

IBC Section 2205.1 General.

The design, fabrication and erection of structural steel for buildings and structures shall be in accordance with AISC 360. ...

AISC Steel Construction Manual, Part 2 - General Design Consideration, Renovation Retrofit of Existing Structures.

*The provisions in **AISC Specification** Section B6 governs the evaluation of existing structures. Historical data on available steel grades and hot-rolled structural shapes, including dimensions and properties, is available in **AISC Design Guide 15, Rehabilitation and Retrofit Guild** (Brockenbrough, 2002) and the companion database of historical shape properties from 1873-1999 available at www.aisc.org.*

AISC Design Guide 15, Section 1.1

AISC and other specification for the design of structural steel usually refer to standards published by the American Society for Testing and Materials (ASTM). Table 1.1a presents a historical summary of the pertinent ASTM standards for structural steels for buildings over the last century, with the relevant yield points and tensile strengths specified. ...

Code Compliance

If the approximate age of the unit is known, the steel can be calculated based on the AISC specification. To make sure the worst case specification is utilized, a +/- 10 year worst-case value from AISC Design Guide 15 Table 1.1a can be utilized to ensure structural compliance.

Pyramid1 proposes to separately inspect each frame component before introduction into the manufacturing process to assess that the frame can be proven to meet new construction. Any additional repairs to the frame will be done by a certified welder with new, traceable steel members.

Requested Variance

As all of the construction above the frame is new, ModSpace asks the Commission to allow this type of structure to be automatically allowed under UAP Part IV(A)(7)(h)(i), as the frame can be assessed thru the design evaluation and inspection agency.

If you have any questions, please feel free to contact me at your convenience.

Sincerely,

Andrew Carlson, CBO, MCP
Review and Inspection Services

ARC/arc

INTERNATIONAL BUILDING CODE 2012

Chapter 1. Scope and Administration
Section 104.1 Duties and Powers of Building Official
104.9.1 Used materials and equipment. The use of used materials which meet the requirements of this code for new materials is permitted. Used equipment and devices shall not be reused unless *approved* by the *building official.*

Chapter 17. Special Inspections and Tests
Section 1701. General
1701.3 Used materials. The use of second-hand materials that meet the minimum requirements of this code for new materials shall be permitted.

UNIFORM ADMINISTRATIVE PROCEDURES

Part IV. Administration
Section 4(A)(7) Relocatable Buildings

When industrialized/modular buildings or building components are relocated, the local enforcement agency shall accept buildings labeled in accordance with these Uniform Administrative Procedures.

(a) – (f) ...

(g) If the previously insigniaed building has not been modified or altered, the building will be eligible for issuance of a new certification label without updating to current codes, since it was built before the effective date of these Uniform Administrative Procedures.

(h) If a previously insigniaed building is altered or modified, Subsection (A)(7)(a),(b),(c) will also be applicable.

(i) Industrialized/modular buildings that do not have a previously affixed state insignia(s), are not automatically eligible for re-labeling. Industrialized/ modular buildings that can be proven or assessed by a designated evaluation and inspection agency to meet these Uniform Administrative Procedures may be approved and labeled in accordance with these Uniform Administrative Procedures and the Model Rules and Regulations.

ANSI/AISC 360-10
An American National Standard

Specification for Structural Steel Buildings

June 22, 2010

Supersedes the
Specification for Structural Steel Buildings
dated March 9, 2005
and all previous versions of this specification

Approved by the AISC Committee on Specifications

AMERICAN INSTITUTE OF STEEL CONSTRUCTION
One East Wacker Drive, Suite 700
Chicago, Illinois 60601-1802

APPENDIX 5

EVALUATION OF EXISTING STRUCTURES

This appendix applies to the evaluation of the strength and *stiffness* under static vertical (gravity) *loads* of existing structures by *structural analysis*, by load tests or by a combination of structural analysis and load tests when specified by the *engineer of record* or in the contract documents. For such evaluation, the steel grades are not limited to those listed in Section A3.1. This appendix does not address load testing for the effects of seismic loads or moving loads (vibrations).

The Appendix is organized as follows:

5.1. General Provisions
5.2. Material Properties
5.3. Evaluation by Structural Analysis
5.4. Evaluation by Load Tests
5.5. Evaluation Report

5.1. GENERAL PROVISIONS

These provisions shall be applicable when the evaluation of an existing steel structure is specified for (a) verification of a specific set of design loadings or (b) determination of the *available strength* of a *force* resisting member or system. The evaluation shall be performed by *structural analysis* (Section 5.3), by *load* tests (Section 5.4), or by a combination of structural analysis and load tests, as specified in the contract documents. Where load tests are used, the *engineer of record* shall first analyze the applicable parts of the structure, prepare a testing plan, and develop a written procedure to prevent excessive permanent deformation or catastrophic collapse during testing.

5.2. MATERIAL PROPERTIES

1. Determination of Required Tests

The *engineer of record* shall determine the specific tests that are required from Sections 5.2.2 through 5.2.6 and specify the locations where they are required. Where available, the use of applicable project records shall be permitted to reduce or eliminate the need for testing.

2. Tensile Properties

Tensile properties of members shall be considered in evaluation by *structural analysis* (Section 5.3) or *load* tests (Section 5.4). Such properties shall include the *yield stress*, *tensile strength* and *percent elongation*. Where available, certified material test reports or certified reports of tests made by the fabricator or a testing laboratory in accordance with ASTM A6/A6M or A568/A568M, as applicable, shall be permit-

ted for this purpose. Otherwise, tensile tests shall be conducted in accordance with ASTM A370 from samples cut from components of the structure.

3. Chemical Composition

Where welding is anticipated for repair or modification of existing structures, the chemical composition of the steel shall be determined for use in preparing a welding procedure specification (WPS). Where available, results from certified material test reports or certified reports of tests made by the fabricator or a testing laboratory in accordance with ASTM procedures shall be permitted for this purpose. Otherwise, analyses shall be conducted in accordance with ASTM A751 from the samples used to determine tensile properties, or from samples taken from the same locations.

4. Base Metal Notch Toughness

Where welded tension *splices* in heavy shapes and plates as defined in Section A3.1d are critical to the performance of the structure, the Charpy V-*notch toughness* shall be determined in accordance with the provisions of Section A3.1d. If the notch toughness so determined does not meet the provisions of Section A3.1d, the *engineer of record* shall determine if remedial actions are required.

5. Weld Metal

Where structural performance is dependent on existing welded *connections*, representative samples of *weld metal* shall be obtained. Chemical analysis and mechanical tests shall be made to characterize the weld metal. A determination shall be made of the magnitude and consequences of imperfections. If the requirements of AWS D1.1/D1.1M are not met, the *engineer of record* shall determine if remedial actions are required.

6. Bolts and Rivets

Representative samples of bolts shall be inspected to determine markings and classifications. Where bolts cannot be properly identified visually, representative samples shall be removed and tested to determine *tensile strength* in accordance with ASTM F606 or ASTM F606M and the bolt classified accordingly. Alternatively, the assumption that the bolts are ASTM A307 shall be permitted. Rivets shall be assumed to be ASTM A502, Grade 1, unless a higher grade is established through documentation or testing.

5.3. EVALUATION BY STRUCTURAL ANALYSIS

1. Dimensional Data

All dimensions used in the evaluation, such as spans, *column* heights, member spacings, *bracing* locations, cross section dimensions, thicknesses, and *connection* details, shall be determined from a field survey. Alternatively, when available, it shall be permitted to determine such dimensions from applicable project design or shop drawings with field verification of critical values.

2. Strength Evaluation

Forces (*load effects*) in members and connections shall be determined by *structural analysis* applicable to the type of structure evaluated. The load effects shall be determined for the static vertical (gravity) *loads* and *factored load* combinations stipulated in Section B2.

The *available strength* of members and connections shall be determined from applicable provisions of Chapters B through K of this Specification.

3. Serviceability Evaluation

Where required, the deformations at *service loads* shall be calculated and reported.

5.4. EVALUATION BY LOAD TESTS

1. Determination of Load Rating by Testing

To determine the *load* rating of an existing floor or roof structure by testing, a test load shall be applied incrementally in accordance with the *engineer of record's* plan. The structure shall be visually inspected for signs of distress or imminent failure at each load level. Appropriate measures shall be taken if these or any other unusual conditions are encountered.

The tested strength of the structure shall be taken as the maximum applied test load plus the in-situ dead load. The live load rating of a floor structure shall be determined by setting the tested strength equal to $1.2D + 1.6L$, where D is the nominal dead load and L is the nominal live load rating for the structure. The nominal live load rating of the floor structure shall not exceed that which can be calculated using applicable provisions of the specification. For roof structures, L_r, S or R as defined in ASCE/SEI 7, shall be substituted for L. More severe *load combinations* shall be used where required by *applicable building codes.*

Periodic unloading shall be considered once the *service load* level is attained and after the onset of inelastic structural behavior is identified to document the amount of permanent set and the magnitude of the inelastic deformations. Deformations of the structure, such as member deflections, shall be monitored at critical locations during the test, referenced to the initial position before loading. It shall be demonstrated that the deformation of the structure does not increase by more than 10% during a one-hour holding period under sustained, maximum test load. It is permissible to repeat the sequence if necessary to demonstrate compliance.

Deformations of the structure shall also be recorded 24 hours after the test loading is removed to determine the amount of permanent set. Because the amount of acceptable permanent deformation depends on the specific structure, no limit is specified for permanent deformation at maximum loading. Where it is not feasible to load test the entire structure, a segment or zone of not less than one complete bay, representative of the most critical conditions, shall be selected.

2. Serviceability Evaluation

When *load* tests are prescribed, the structure shall be loaded incrementally to the *service load* level. Deformations shall be monitored during a one hour holding period under sustained service test load. The structure shall then be unloaded and the deformation recorded.

5.5. EVALUATION REPORT

After the evaluation of an existing structure has been completed, the *engineer of record* shall prepare a report documenting the evaluation. The report shall indicate whether the evaluation was performed by *structural analysis*, by *load* testing, or by a combination of structural analysis and load testing. Furthermore, when testing is performed, the report shall include the loads and load combination used and the load-deformation and time-deformation relationships observed. All relevant information obtained from *design drawings*, material test reports, and auxiliary material testing shall also be reported. Finally, the report shall indicate whether the structure, including all members and *connections*, is adequate to withstand the *load effects*.

ATTACHMENT C

INSPECTOR-TRAINEE DESIGNATIONS

PART VI. DESIGNATION OF EVALUATION AND INSPECTION AGENCIES

SECTION 4. QUALIFICATIONS OF TECHNICAL PERSONNEL

(B) Certification Requirements

(1) ... Inspectors designated as trainees may perform inspections within the limitations set forth under this Section.

(4) ... Industrialized Buildings Inspector Trainee designations shall be valid for two (2) years from the date of notification.

(C) Industrialized Buildings Inspector and Trainees

(3) The Commission shall designate an applicant as an Industrialized Buildings Inspector Trainee if the applicant has met the education and experience requirements of ASTM E-541, Section 14, is employed by a designated agency but has not successfully completed the required test(s).

(a) Each inspector trainee shall complete the designated agency's training program and shall be so certified prior to performing any independent inspections. An inspector trainee shall only be authorized to inspect industrialized building types for which training has been provided.

(b) Any inspector trainee performing independent inspections shall be supervised on site not less than once every three (3) months by qualified designated agency personnel.

Background:

When the trainee requirements were first developed, model code organizations typically offered a maximum of two test sittings once every six months. The two-year time limit was based on a candidate being able to pass at least one of the four required tests every six months. With today's computer-based tests, candidates can schedule and take any test within days. The only restriction is that a candidate cannot take the same test twice in a six-month period.

Discussion:

- Since the program's inception, the Commission designated 97 applicants as trainees of which only 25 went on to obtain their industrialized buildings inspector certifications.
- Of the 32 people whose trainee designation expired after 2010, only eight went on to become certified as industrialized buildings inspectors.
- According to ICC database, only four of the 24 trainees that expired after 2010 passed one or more of the required tests.

Recommendations:

- To maintain their designation, inspector-trainees should submit evidence of passing or taking one of the required tests quarterly or semiannually, or;
- Reduce inspector-trainee designation period to six months or one year.

ATTACHMENT D

PLANS EXAMINERS

PART VI. DESIGNATION OF EVALUATION AND INSPECTION AGENCIES

SECTION 4. QUALIFICATIONS OF TECHNICAL PERSONNEL

(B) Certification Requirements

(1) No person may perform inspections or examine plans unless such person possesses a current industrialized buildings inspector certificate or an appropriate plans examiner certificate, as applicable.

(D) One and Two Family Dwelling (Level I) Plans Examiner

(2) A certified One and Two Family Dwelling (Level I) Plans Examiner shall be authorized to review and/or evaluate any one and two family dwelling plans.

(E) Unlimited (Level II) Plans Examiner

(2) A certified Unlimited (Level II) Plans Examiner shall be authorized to review or evaluate all plans permitted to One and Two Family Dwelling (Level I) Plans Examiners and all remaining use groups and categories not reserved to the state.

Background:

OTFD (Level I) Plans Examiners are limited to approving plans within the scope of the IRC. Plans beyond the scope of the IRC must be approved by Unlimited (Level II) Plans Examiners that are certified in the appropriate discipline.

Discussion:

- Approximately 50 percent of the modules produced are designed to comply with codes other than IRC.
- Most evaluation agencies already identify plans examiners with their submittals. This information is currently required if the documents are submitted electronically.

Recommendation:

- To ensure consistency, the Commission should issue a Formal Interpretation requiring evaluation agencies to identify name and certificate number of the plan reviewer(s) and the structural calculation reviewers on each submittal.

ATTACHMENT E

DATA PLATE U-VALUES

MRR PART IV. PRODUCT CONTROL AND IDENTIFICATION

SECTION 1. MANUFACTURER'S DATA PLATE

The following information shall be typewritten on a smudge proof, permanent manufacturer's data plate located in the vicinity of the certification label:

(11) Thermal transmittance values

Background:

Thermal transmittance values are required to be provided on data plates to assist local building officials in determining whether a building is suitable for a particular location.

Discussion:

- The new energy codes require residential buildings to be provided with a certificate that lists predominant R-values, type of insulation, heat loss, etc. Providing thermal transmittance values on data plates in addition to the certificate is redundant.

Recommendation:

- Update Formal Interpretation 00-01 to allow manufacturers to omit this information when a certificate is provided.

R401.3 Certificate (mandatory). A building certificate shall be completed and posted on or in the electrical distribution panel by the builder or registered design professional. The certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label, or other required labels. The certificate shall list: the date the certificate is installed; the dwelling address; residential contractor name and contractor license number, or homeowner name, if acting as the general contractor; the predominant installed R-values, their location, and type of insulation installed in or on ceiling/roof, walls, rim/band joist, foundation, slab, basement wall, crawl space wall or floor, and ducts outside conditioned spaces; U-factors for fenestration and the solar heat gain coefficient (SHGC) of fenestration; and the results of any required duct system and building envelope air leakage testing done on the building. Where there is more than one value for each component, the certificate shall list the value covering the largest area. The certificate shall list the types, input ratings, manufacturers, model numbers and efficiencies of heating, cooling, and service water heating equipment. The certificate shall also list the structure's calculated heat loss, calculated cooling load, and calculated heat gain. Where an electric furnace or baseboard electric heater is installed in the residence, the certificate shall list "electric furnace" or "baseboard electric heater," as appropriate. An efficiency shall not be listed for electric furnaces or electric baseboard heaters. The certificate shall list the mechanical ventilation system type, location, and capacity, and the building's designated continuous and total ventilation rates. The certificate shall also list the type, size, and location of any make-up air system installed and the location or future location of the radon fan.

Statutory Authority: *MS s 326B.02; 326B.101; 326B.106*

History: *39 SR 232*

Published Electronically: *February 16, 2015*

1322.0402 SECTION R402, BUILDING THERMAL ENVELOPE.

Subpart 1. **Table R402.1.1.** IECC Table R402.1.1 is amended to read as follows:

Table R402.1.1 Insulation and fenestration requirements by component.[a]

Climate Zone	Fenestration U-Factor[b]	Skylight[b] U-Factor	Glazed Fenestration SHGC[b,e]	Ceiling[j] R-Value	Wood Frame Wall R-Value[f]
6	0.32	0.55	NR	49	20, 13+5
7	0.32	0.55	NR	49	21

Table R402.1.1 Insulation and fenestration requirements by component.

Mass Wall R-Value[i,g,h]	Floor R-Value	Basement Wall R-Value[c,i]	Slab R-Value and Depth[d]	Crawl Space Wall R-Value[c,i]
15/20	30[e]	15	10, 3.5 ft	15
19/21	38[e]	15	10, 5 ft	15

— Industrialized Buildings Commission —

Number
00-01

Effective Date: April 3, 2000

Subject: Thermal transmittance- (U-) versus Thermal resistance- (R-) Values on data plates

Reference: MRR, Part IV, Section 1(11)

ISSUE: MRR, Part IV, Section 1(11) requires manufacturers to provide thermal transmittance- (U-) values on data plates. Is it acceptable to provide thermal resistance- (R-) values instead?

INTERP.: If energy codes require thermal resistance- or U-values to be calculated (or be derived from tables) to demonstrate compliance, then the manufacturer must provide these U-values on the data plate.

If a building is deemed to comply with the energy code requirements when components are provided with insulation equal to or greater than the R-value specified in the code (see Chapter 7672.0800, Subpart 4 of the Minnesota Energy Code and Chapter 6, Table 602.0 of the Rhode Island State Energy Code), then the manufacturer may provide R- rather than U-values on data plates.

FORMAL INTERPRETATION

ATTACHMENT F

RECERTIFIED IIBC BUILDINGS

PART IV. ADMINISTRATION

SECTION 4. CERTIFICATION

(A) Labels

(7) Relocatable Buildings

When industrialized/modular buildings or building components are relocated, the local enforcement agency shall accept buildings labeled in accordance with these Uniform Administrative Procedures.

(e) In instances where the labeled characteristics of the industrialized/ modular building or building component to be relocated are not consistent with the requirements of the new location or use, the local enforcement agency shall ensure that the structure complies with the requirements of the building code for the use and type of construction.

(E) Alterations of Certified Units

Industrialized/modular buildings or building components certified and labeled pursuant to these Uniform Administrative Procedures shall not be altered in any way prior to the issuance of a certificate of occupancy without resubmission to the evaluation agency for approval of the alteration and of the unit which includes the alteration.

Background:

Occasionally, IIBC-certified industrialized buildings that are relocated to other participating states or to other jurisdictions within participating states must be recertified to bring it into compliance with the requirements of the new location.

Discussion:

- Although alterations to certified units are addressed in the UAP, the Commission does not have a policy regarding handling of the certification labels. When a certified building is altered, information in the Commission's records associated with the existing certification label, such as the manufacturer, model designation, use group, may no longer be pertinent. Furthermore, a certification label should only be applied after all of the alterations have been completed and approved.

Recommendation:

- When an IIBC building is altered and is being recertified, the existing certification labels should be returned and the new ones issued in accordance with *Existing Building Certification Report* instructions.

INDUSTRIALIZED BUILDINGS COMMISSION | 505 Huntmar Park Dr., Ste. 210, VA 20170 | 703.481.2022

Inspection agency:	This form is for reporting existing industrialized buildings labeled under UAP, Pt. IV, Sec. 4(A)(7)

PART I. INDUSTRIALIZED BUILDING OWNER

Company Name:	Phone:
Mailing Address:	
Contact:	Email:

PART II. INDUSTRIALIZED BUILDING LOCATION

Current Location:
Destination:

PART III. INDUSTRIALIZED BUILDING INFORMATION

Manufactured by:	Date Manufactured:	
Model:	Use Group (old):	Use Group (new):
State agency that issued existing labels:		

No.	Serial No.	Existing Label No.	IBC Label No.	No.	Serial No.	Existing Label No.	IBC Label No.
1.				6.			
2.				7.			
3.				8.			
4.				9.			
5.				10.			

PART IV. IBC CERTIFICATION LABEL PAYMENT

Modular/Closed Panel Labels	Qty.:	Fee: $ 70.00	Amt.:
Component Labels	Qty.:	Fee: $ 46.00	Amt.:
Check (payable to Industrialized Buildings Commission)	No.:	Date:	Amt.:

INSTRUCTIONS

INSPECTION AGENCY IS RESPONSIBLE FOR COMPLETING THE FORM AND FILING THE REPORT.

- A separate form must be filed for each industrialized building.
- To request and assign labels –
  1. Complete parts I, II and IV and submit a copy of the form along with check to Industrialized Buildings Commission.
  2. After receiving IBC authorization, log on to IBC website to assign labels
- Inspection agency must maintain custody of and attach all labels.
- A full report, including a completed form and copies of relevant documents, is due no later than 30 days after receiving IBC authorization.

For IBC use only -	Code:	TN:	Date:
Labels assigned:	Report Due:		

ATTACHMENT G

RECONFIGURING BUILDINGS

PART IV. ADMINISTRATION

SECTION 4. CERTIFICATION

(E) Alterations of Certified Units

Industrialized/modular buildings or building components certified and labeled pursuant to these Uniform Administrative Procedures shall not be altered in any way prior to the issuance of a certificate of occupancy without resubmission to the evaluation agency for approval of the alteration and of the unit which includes the alteration.

Background:

Certified modules are being combined to form new buildings that bear little resemblance to the original building. These modules may have been part of bigger or smaller buildings; manufactured to different codes; and classified under different use or occupancy groups. The reconfigured buildings may also incorporate newly manufactured modules.

Discussion:

1. What is the date of manufacture for determining applicable codes and standards?
2. Which on-site installation instructions/requirements apply?
3. How is the 50-percent alteration rule applied?

Recommendation:

Develop standards for addressing reconfigured buildings.

ATTACHMENT H

INDUSTRIALIZED BUILDINGS COMMISSION

*** STANDARD * Fiscal Year Budget**

Estimated Expenditures:		
Task 1:	General Administrative Expenses	$ 168,168
Task 2:	General Administrative Services	$ 68,627
Task 3:	Rules & Regulations Maintenance	$ 3,283
Task 4:	Certification Program	$ 10,871
Task 5:	Training Seminars	$ 26,158
Task 6:	Label Program	$ 45,367
Task 7:	Library Maintenance	$ 34,281
Task 8:	Plant Monitoring	$ 140,327
Task 9:	Headquarters Monitoring	$ 29,456
Task 10:	Design Review	$ 145,681
Task 11:	IT Services	$ 14,407
Task 12:	Marketing & Outreach	$ 13,010
	Total:	**$ 699,636**

Requisite Revenues:

	Label Fees	Certification Fees	Designation Fees	Interest
Jul-09	$ 57,220		$ 3,500	$ -
Aug-09	$ 57,220			$ -
Sep-09	$ 57,220			$ -
Oct-09	$ 57,220			$ -
Nov-09	$ 57,220			$ -
Dec-09	$ 57,220	$ 750		$ -
Jan-10	$ 57,220			$ -
Feb-10	$ 57,220			$ -
Mar-10	$ 57,220			$ -
Apr-10	$ 57,220			$ -
May-10	$ 57,220			$ -
Jun-10	$ 57,220	$ 750		$ -
	$ 686,636	$ 1,500	$ 3,500	$ -

Subtotal (fees & interest):	$ 691,636
Headquarters Audits:	$ 5,500
Seminar Fees:	$ 2,500
Total:	**$ 699,636**

Production 1998-2008 (in modules)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	AVERAGE
Jan.	666	456	881	983	823	885	910	973	825	847	483	794
Feb.	668	514	998	990	800	610	1048	1043	884	715	529	800
Mar.	833	869	996	1188	786	770	1093	946	997	774	481	885
Apr.	882	837	946	1171	909	878	1123	941	858	809	621	907
May	638	898	1230	1071	897	1050	1093	1145	1012	884	615	958
Jun.	891	949	1145	1126	889	942	1346	1050	1142	828	529	985
Jul.	856	819	1081	1123	887	1073	1101	966	787	727	577	909
Aug.	790	947	1254	1126	1005	907	1265	1254	1079	887	627	1013
Sep.	800	866	912	841	814	818	1209	1089	885	707	528	861
Oct.	694	834	1196	879	999	1257	1132	1126	864	778	709	952
Nov.	614	912	956	739	829	871	1029	900	767	763	503	808
Dec.	519	779	748	876	723	968	897	725	735	490	299	705
	8851	**9680**	**12343**	**12113**	**10361**	**11029**	**13246**	**12158**	**10835**	**9209**	**6501**	***10,575***

Production 2005-2014 (in modules)

	Average	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
Jan.	517	482	374	342	303	259	283	483	847	825	973
Feb.	534	587	397	271	352	258	308	529	715	884	1043
Mar.	564	659	304	524	313	344	302	481	774	997	946
Apr.	582	689	399	633	294	258	313	621	809	858	941
May	652	725	527	637	371	279	329	615	884	1012	1145
Jun.	675	663	703	538	385	513	401	529	828	1142	1050
Jul.	612	639	720	554	410	398	340	577	727	787	966
Aug.	729	706	752	694	624	340	326	627	887	1079	1254
Sep.	655	740	702	646	525	392	337	528	707	885	1089
Oct.	680	796	733	687	494	302	309	709	778	864	1126
Nov.	579	600	548	597	473	312	324	503	763	767	900
Dec.	479	718	470	466	352	289	245	299	490	735	725
Total:	7,258	8,004	6,629	6,589	4,896	3,944	3,817	6,501	9,209	10,835	12,158

Label Revenues 2005-2014

	Average	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
Jan.	$ 34,573	$ 37,105	$ 35,487	$ 22,805	$ 26,430	$ 9,475	$ 22,075	$ 38,820	$ 61,230	$ 42,425	$ 49,880
Feb.	$ 35,371	$ 39,450	$ 21,325	$ 32,017	$ 23,250	$ 29,520	$ 18,390	$ 35,120	$ 37,415	$ 57,675	$ 59,545
Mar.	$ 40,067	$ 49,735	$ 28,185	$ 50,320	$ 18,920	$ 20,735	$ 18,285	$ 46,310	$ 37,915	$ 73,808	$ 56,455
Apr.	$ 38,400	$ 42,025	$ 39,160	$ 42,080	$ 26,290	$ 17,060	$ 21,935	$ 25,655	$ 56,325	$ 58,268	$ 55,206
May	$ 43,132	$ 54,505	$ 42,017	$ 38,190	$ 38,845	$ 21,575	$ 17,765	$ 36,600	$ 51,340	$ 50,563	$ 79,920
Jun.	$ 40,069	$ 41,295	$ 48,760	$ 34,125	$ 22,560	$ 38,040	$ 25,840	$ 46,390	$ 46,470	$ 60,438	$ 36,768
Jul.	$ 40,843	$ 53,125	$ 55,522	$ 44,440	$ 24,675	$ 27,955	$ 21,465	$ 37,405	$ 52,450	$ 42,220	$ 49,176
Aug.	$ 41,850	$ 35,245	$ 39,520	$ 56,225	$ 45,454	$ 20,905	$ 17,255	$ 35,895	$ 45,565	$ 53,782	$ 68,650
Sep.	$ 42,728	$ 57,520	$ 48,735	$ 34,795	$ 37,470	$ 32,070	$ 8,835	$ 27,110	$ 40,285	$ 61,790	$ 78,669
Oct.	$ 46,813	$ 65,060	$ 52,240	$ 56,895	$ 33,215	$ 32,480	$ 20,835	$ 35,995	$ 47,810	$ 63,505	$ 60,096
Nov.	$ 40,709	$ 44,097	$ 54,950	$ 56,910	$ 40,908	$ 19,485	$ 20,425	$ 25,085	$ 44,195	$ 43,615	$ 57,423
Dec.	$ 29,417	$ 30,842	$ 33,285	$ 28,585	$ 13,730	$ 21,805	$ 12,895	$ 15,420	$ 34,440	$ 56,550	$ 46,620
Total:	$ 473,972	$ 550,004	$ 499,186	$ 497,387	$ 351,747	$ 291,105	$ 226,000	$ 405,805	$ 555,440	$ 664,639	$ 698,408