



CAROL OWENS
WISCONSIN STATE REPRESENTATIVE



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TO: Assembly Committee on Housing Members
FROM: Representative Carol Owens, Chairperson
DATE: June 16, 1998
RE: **CLEARINGHOUSE RULES**

Today, the following rule was referred to the Assembly Committee on Housing:

Clearinghouse Rule 97-138, relating to the uniform dwelling code.

Please contact Jacque in my office (267-7990) if you would like a copy of the rule. The deadline for committee action on this rule is **July 16, 1998**. If you are interested in requesting a hearing or submitting comments on the rule, please do so prior to the deadline date.



201 West Washington Avenue
P.O. Box 7970
Madison, Wisconsin 53707
(608) 266-1018

Tommy G. Thompson, Governor
William J. McCoshen, Secretary

June 10, 1998

Senate Chief Clerk
Room 402
1 East Main Street
Madison, Wisconsin 53703

Assembly Chief Clerk
Room 402
1 East Main Street
Madison, Wisconsin 53703

Dear Chief Clerks:

**TRANSMITTAL IN FINAL DRAFT FORM OF ADMINISTRATIVE
RULES AND REPORT**

CLEARINGHOUSE RULE NO.: 97-138

RULE NO.: Chapters ILHR 20-25

RELATING TO: Uniform Dwelling Code

Pursuant to section 227.19, Stats., agencies are required to submit, in triplicate, copies of the proposed administrative rules in final draft form together with a rule report and an analysis. The recommendations received from the Legislative Council are also to be submitted.

At this time, this material, together with cover letters to the President of the Senate and the Speaker of the Assembly, is being transmitted for referral to the standing committees for legislative review.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'W. McCoshen', written over a horizontal line.

for William J. McCoshen
Secretary

Zibrowski, Jacque

From: Zibrowski, Jacque
Sent: Tuesday, June 16, 1998 5:06 PM
To: Matthias, Mary
Subject: RE: CLEARINGHOUSE RULE

Thanks...I will pass that along to Carol! Have a good night!!!

From: Matthias, Mary
Sent: Tuesday, June 16, 1998 5:04 PM
To: Zibrowski, Jacque
Subject: RE: CLEARINGHOUSE RULE

hey- I looked at our file on the rule. Our office didn't find any substantive problems with it- so the Committee shouldn't have to worry about it.

Talk to you later!

Mary Matthias
Senior Staff Attorney
Legislative Council Staff
Tel: 408/291-2222 FAX: 408/291-2222



201 West Washington Avenue
P.O. Box 7970
Madison, Wisconsin 53707
(608) 266-1018

Tommy G. Thompson, Governor
William J. McCoshen, Secretary

June 10, 1998

Senator Brian Rude
President of the Senate
119 Martin L. King Blvd, Rm 102
Madison, Wisconsin 53702

Representative Scott Jensen
Speaker of the Assembly
211 West, State Capitol
Madison, Wisconsin 53702

Dear Senator Rude and Representative Jensen:

NOTICE OF ADMINISTRATIVE RULES IN FINAL DRAFT FORM

CLEARINGHOUSE RULE NO.: 97-138

RULE NO.: Chapters ILHR 20-25

RELATING TO: Uniform Dwelling Code

Section 227.19, Stats., requires agencies to submit proposed rules in final draft form to the presiding officer of each house for referral to the appropriate legislative standing committees.

The following information, as required by law, is being submitted to you.

1. Rules in final draft form (in triplicate).
2. Report consisting of:
 - a) Rule Report.
 - b) Public Hearing Attendance Record.
 - c) Public Hearing Comment and Agency Response Form.
 - d) Legislative Council Rules Clearinghouse Report.
 - e) Response to Legislative Council Rules Clearinghouse Report.
 - f) Fiscal Estimate.
 - g) Final Regulatory Flexibility Analysis.

If you have any questions regarding this matter, please do not hesitate to contact us.

Respectfully submitted,

William J. McCoshen
Secretary

FINAL REGULATORY FLEXIBILITY ANALYSIS

Department of Commerce

*copy to
Bob Satter
e.c. Bond & Kaiton*

CLEARINGHOUSE RULE NO.: 97-138

RULE NO.: Chapters ILHR 20-25

RELATING TO: Uniform Dwelling Code

1. **Reason for including or failing to include the following methods for reducing impact of the rule on small businesses: Less stringent compliance or reporting requirements; less stringent schedules or deadlines for compliance or reporting requirements; simplification of compliance or reporting requirements; establishment of performance standards to replace design or operational standards; exemption from any or all requirements.**

Comments were received from approximately 50 small businesses during public hearings and the subsequent comment period. The rules were revised extensively based on these comments. Small businesses are amply represented on the Uniform Dwelling Code Council, which helped develop and amend the rules

2. **Issues raised by small businesses during hearings, changes in proposed rules as a result of those comments and reasons for rejecting any alternatives suggested by small businesses.**

The five most common concerns raised by small businesses at public hearings were deleted or amended to their satisfaction. These concerns are enumerated in Exhibit No. 21 on page 16 of the attached comment summary and agency response form.

3. **Nature and estimated cost of preparation of any reports by small businesses.**

No reporting changes are included in these proposed rules.

4. **Nature and estimated cost of other measures and investments required of small businesses.**

The total additional costs to a dwelling as a result of these changes could be approximately \$100. However, many of these code changes have been standard practice for years, so in those cases, there would be no impact.

5. **Additional cost to agency of administering or enforcing a rule which includes any of the methods in 1. for reducing impact on small businesses.**

No additional costs are anticipated.

6. **Impact on public health, safety and welfare caused by including any of the methods in 1. for reducing impact on small businesses.**

Emergency egress from a basement bedroom could be hindered by the lack of bedroom definition which was removed after public hearings. This topic will be investigated further in the next code change cycle.

FISCAL ESTIMATE
DOA-2048 (R10/94)

ORIGINAL
 CORRECTED

UPDATED
 SUPPLEMENTAL

LRB or Bill No./Adm. Rule No.
Chapters ILHR 20-25
Amendment No. if Applicable

Subject

Miscellaneous changes to Uniform Dwelling Code, including a complete rewrite of chapter ILHR 22.

Fiscal Effect

State: No State Fiscal Effect

Check columns below only if bill makes a direct appropriation or affects a sum sufficient appropriation

- Increase Existing Appropriation
- Decrease Existing Appropriation
- Create New Appropriation
- Increase Existing Revenues
- Decrease Existing Revenues

- Increase Costs - May be Possible to Absorb Within Agency's Budget Yes No
- Decrease Costs

Local: No local government costs

- 1. Increase Costs
 Permissive Mandatory
- 2. Decrease Costs
 Permissive Mandatory

- 3. Increase Revenues
 Permissive Mandatory
- 4. Decrease Revenues
 Permissive Mandatory

5. Types of Local Governmental Units Affected:
- Towns Villages Cities
 - Counties Others _____
 - School Districts WTCS Districts

Fund Sources Affected
 GPR FED PRO PRS SEG SEG-S

Affected Ch. 20 Appropriations
Not applicable

Assumptions Used in Arriving at Fiscal Estimate

The Uniform Dwelling Code has been in effect since 1980. There are no new regulation schemes contained in these proposed changes. Although there is a time lag or learning curve involved in any administrative rule change, we do not expect revenues to be affected.

Long-Range Fiscal Implications

None known or anticipated

Agency/Prepared by: (Name & Phone No.)
Commerce, Safety & Buildings Division
Duane Hubeler (608)266-1390

Authorized Signature/Telephone No.

[Signature] 6-8976

Date

5-26-98

FISCAL ESTIMATE WORKSHEET
Detailed Estimate of Annual Fiscal Effect
DOA-2047(R10/94)

ORIGINAL UPDATED
 CORRECTED SUPPLEMENTAL

LRB or Bill No./Adm. Rule No. Amendment No.
Chapters ILHR 20-25

Subject

Miscellaneous changes to Uniform Dwelling Code, including a complete rewrite of chapter ILHR 22.

I. One-time Costs or Revenue Impacts for State and/or Local Government (do not include in annualized fiscal effect):

None

II. Annualized Costs:	Annualized Fiscal impact on State funds from:	
	Increased Costs	Decreased Costs
A. State Costs By Category	\$	\$ -
State Operations - Salaries and Fringes		
(FTE Position Changes)	(0 FTE)	(- 0 FTE)
State Operations - Other Costs		-
Local Assistance		-
Aids to Individuals or Organizations		-
TOTAL State Costs By Category	\$ 0	\$ -0
B. State Costs By Source of Funds	Increased Costs	Decreased Costs
GPR	\$	\$ -
FED		-
PRO/PRS	0	-0
SEG/SEG-S		-
III. State Revenues- Complete this only when proposal will increase or decrease state revenues (e.g., tax increase, decrease in license fee, etc.)	Increased Rev.	Decreased Rev.
GPR Taxes	\$	\$ -
GPR Earned		-
FED		-
PRO/PRS		-
SEG/SEG-S		-
TOTAL State Revenues	\$ 0	\$ -0

NET ANNUALIZED FISCAL IMPACT

	<u>STATE</u>	<u>LOCAL</u>
NET CHANGE IN COSTS	\$ 0	\$ 0
NET CHANGE IN REVENUES	\$ 0	\$ 0

Agency/Prepared by: (Name & Phone No.)

Authorized Signature/Telephone No.

Date

Commerce, Safety & Buildings Division
Duane Hubeler (608)266-1390

DH 6-8976

5-26-98

RESPONSE TO LEGISLATIVE COUNCIL CLEARINGHOUSE REPORT

Department of Commerce

CLEARINGHOUSE RULE NO.: 97-138

RULE NO.: Chapters ILHR 20-25

RELATING TO: Uniform Dwelling Code

Agency contact person for substantive questions.

Name: LeRoy Stublaski

Title: Engineering Consultant – Uniform Dwelling

Telephone No. 267-5113

Legislative Council report recommendations accepted in whole.

Yes

No

1. Review of statutory authority (s.227.15(2)(a))

a. Accepted

b. Accepted in part

c. Rejected

d. Comments attached

2. Review of rules for form, style and placement in administrative code (s.227.15(2)(c))

a. Accepted

b. Accepted in part

c. Rejected

d. Comments attached

3. Review rules for conflict with or duplication of existing rules (s.227.15(2)(d))
- a. Accepted
 - b. Accepted in part
 - c. Rejected
 - d. Comments attached
4. Review rules for adequate references to related statutes, rules and forms (s.227.15(2)(e))
- a. Accepted
 - b. Accepted in part
 - c. Rejected
 - d. Comments attached
5. Review language of rules for clarity, grammar, punctuation and plainness (s.227.15(2)(f))
- a. Accepted
 - b. Accepted in part
 - c. Rejected
 - d. Comments attached
6. Review rules for potential conflicts with, and comparability to, related federal regulations (s.227.15(2)(g))
- a. Accepted
 - b. Accepted in part
 - c. Rejected
 - d. Comments attached
7. Review rules for permit action deadline (s.227.15(2)(h))
- a. Accepted
 - b. Accepted in part
 - c. Rejected
 - d. Comments attached

RESPONSE TO LEGISLATIVE COUNCIL CLEARINGHOUSE REPORT

2. Comments on Form, Style and Placement in Administrative Rule

- h. Consistency with model code sequence is desired.
- i. Active voice is not possible and not required. It would be inconsistent with all of our codes.

All other comments were accepted.

5. Comments on Clarity, Grammar, Punctuation and Plain Use of Language

- e. Section ILHR 20.10 already specifies when the insulation inspection takes place.
- j. Conditioned space is also a defined term.
- k. Clarification will be made where possible. The dwelling envelope may or may not coincide with the exterior walls.
- l. An alternate correction was made by inserting the word "would" before "not contribute".
- n. The term is used in other industry and national standards with which consistency is important.
- o. One is a material property and one is an assembly property. Consistency with other industry and national standards is important.
- p. Language is from the current code. Users do not report any problems.
- q. Any design covered by the code is referred to.
- w. Section ILHR 22.36 (1) refers to the expression of the comparison. The annual energy use may be expressed as the use in a 52-week period or a 365-day period.

All other comments were accepted.

WISCONSIN LEGISLATIVE COUNCIL STAFF



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CLEARINGHOUSE REPORT TO AGENCY

[THIS REPORT HAS BEEN PREPARED PURSUANT TO S. 227.15, STATS. THIS IS A REPORT ON A RULE AS ORIGINALLY PROPOSED BY THE AGENCY; THE REPORT MAY NOT REFLECT THE FINAL CONTENT OF THE RULE IN FINAL DRAFT FORM AS IT WILL BE SUBMITTED TO THE LEGISLATURE. THIS REPORT CONSTITUTES A REVIEW OF, BUT NOT APPROVAL OR DISAPPROVAL OF, THE SUBSTANTIVE CONTENT AND TECHNICAL ACCURACY OF THE RULE.]

CLEARINGHOUSE RULE 97-138

AN ORDER to repeal ILHR 20.07 (22), (27m), (39), (73r) and (74), 21.03 (6m) (b) 3., 21.08 (6) (e), 21.17 (3) and (4), 21.29 (12) and 23.15 (2) (d); to renumber ILHR 21.17 (2) to (5), 21.29 (13) and (14) and 23.15 (2) (e) and (f); to amend ILHR 21.02 (1) (c) and (3) (d), 21.03 (6m) (b) 1. and 2., 21.042 (5) (b) and (c), 21.045 (3) (b), 21.05 (3), 21.08 (6) (c), (d) and (e) 1. b., 21.17 (3) (d), 21.18 (2), 21.205, 21.25 Table 21.25-A and 21.27 (3) (a) 2. c.; to repeal and recreate chapter ILHR 22 and ILHR 20.24, 21.05 (4) and (5), 21.08 (5) and (6) (b), 21.17 (1) and (3) (c), 21.20, 21.22 (9), 21.27 (3) (a) 1., 23.02 (1) and (3) (a) and 23.08 (2) (b) 15. and (5); and to create ILHR 20.07 (8f), 20.09 (5) (b) 1. c. and d., 21.08 (7), 21.17 (2) and (4) and 23.14 (2) (a) Note, relating to the uniform dwelling code.

Submitted by **DEPARTMENT OF COMMERCE**

11-11-97 RECEIVED BY LEGISLATIVE COUNCIL.

12-10-97 REPORT SENT TO AGENCY.

RNS:MCP:kjf;lah

LEGISLATIVE COUNCIL RULES CLEARINGHOUSE REPORT

This rule has been reviewed by the Rules Clearinghouse. Based on that review, comments are reported as noted below:

1. STATUTORY AUTHORITY [s. 227.15 (2) (a)]

Comment Attached YES NO

2. FORM, STYLE AND PLACEMENT IN ADMINISTRATIVE CODE [s. 227.15 (2) (c)]

Comment Attached YES NO

3. CONFLICT WITH OR DUPLICATION OF EXISTING RULES [s. 227.15 (2) (d)]

Comment Attached YES NO

4. ADEQUACY OF REFERENCES TO RELATED STATUTES, RULES AND FORMS
[s. 227.15 (2) (e)]

Comment Attached YES NO

5. CLARITY, GRAMMAR, PUNCTUATION AND USE OF PLAIN LANGUAGE [s. 227.15 (2) (f)]

Comment Attached YES NO

6. POTENTIAL CONFLICTS WITH, AND COMPARABILITY TO, RELATED FEDERAL
REGULATIONS [s. 227.15 (2) (g)]

Comment Attached YES NO

7. COMPLIANCE WITH PERMIT ACTION DEADLINE REQUIREMENTS [s. 227.15 (2) (h)]

Comment Attached YES NO

WISCONSIN LEGISLATIVE COUNCIL STAFF

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CLEARINGHOUSE RULE 97-138

Comments

[NOTE: All citations to "Manual" in the comments below are to the Administrative Rules Procedures Manual, prepared by the Revisor of Statutes Bureau and the Legislative Council Staff, dated October 1994.]

2. Form, Style and Placement in Administrative Code

- a. The repeal and recreation of s. ILHR 20.24 in SECTION 8 should not include the subchapter title.
- b. SECTION 9 should be divided into two SECTIONS--one that renumbers and amends s. ILHR 21.02 (1) (c) and one that creates s. ILHR 21.02 (1) (c) 2. and 3.
- c. The title in s. ILHR 21.05 (4) (b) should be underlined.
- d. The reference in s. ILHR 21.08 (5) (b) to "subpars." should be changed to "par."
- e. The title to s. ILHR 21.17 should not be shown when s. ILHR 21.17 (1) is repealed and recreated.
- f. The hyphen in s. ILHR 21.17 (4) (c) should be replaced by "to."
- g. The title of ch. ILHR 22 should be shown when the entire chapter is repealed and recreated.
- h. In ch. ILHR 22, it is suggested that the order of subchs. II and III be reversed.
- i. The last sentence of s. ILHR 22.04 should be written in the active voice. It should begin "_____ shall provide . . ." The entire rule should be reviewed for instances of this error; see, for example, ss. ILHR 22.16 (intro.) and 23.02 (1) (c).

- j. The cross-reference in s. ILHR 22.30 (2) should be to "sub. (3)."

5. Clarity, Grammar, Punctuation and Use of Plain Language

a. The term "bedroom" is defined in s. ILHR 20.07 (8f) to mean a room with a closable door that also contains a closet. This definition could encompass other kinds of rooms not normally thought of as bedrooms, such as a bathroom that has a closet. It also would exclude a room that is used as a bedroom but that does not contain a closet.

b. The phrase "irrespective of height or width" that is added to s. ILHR 21.03 (6m) (b) 1. is unclear. As drafted, this phrase means "without regard to" the height or width. The apparent intent of this provision would be better expressed by the phrase "in either height or width." In the alternative, the underscored language could be deleted.

c. Sections ILHR 22.01 and 22.02 (1) and (2) should commence with "This chapter applies . . .", "This chapter is not intended . . ." and "This chapter allows . . .", respectively.

d. Section ILHR 22.03 (1) specifies two alternatives for identifying insulation. It is difficult to understand the differences between the two alternatives and difficult to understand how the requirement of posting the certification relates to these alternatives. This subsection could be clarified easily by separating the alternatives into two paragraphs.

e. Section ILHR 22.03 (2) (a) requires installation of insulation in a manner to permit inspection. Should this be clarified to state that the inspection would occur before walls and ceilings are finished?

f. Section ILHR 22.04 refers interchangeably to equipment and product. Can consistent terminology be used in this section?

g. The first sentence in s. ILHR 22.05 (1) is difficult to understand. One way to clarify this sentence would be to separate it into two sentences, one for labeling and certification by the manufacturer and one for independent laboratory certification. Also, the acronym "NFRC" should be included in this subsection. Finally, sub. (1) appears to *require* manufacturer certification, but sub. (2) establishes requirements when the manufacturer has not determined product U-value. Are these subsections inconsistent?

h. The comma after "such as" should be deleted in s. ILHR 22.06 (3).

i. The definition of "energy" in s. ILHR 22.06 (11) could be clarified by adding "form" after "one" and by placing the acronyms in parentheses.

j. The definition of "glazing area" in s. ILHR 22.06 (14) refers to glazing that encloses conditioned spaces. Would it be preferable to refer to glazed surfaces that are part of the dwelling envelope, which is a defined term in the rule?

k. The definition of "gross exterior wall area" in s. ILHR 22.06 (15) could be substantially clarified. The meaning of "normal projection" is not clear and may be technical

jargon. The phrase "bounding interior space which is conditioned by an energy-using system" is unnecessary because this concept is included in the defined term "dwelling envelope." It is not clear which surfaces and spaces are referred to by the phrases "such surfaces" and "such spaces." Opaque areas are deemed to include windows and doors in this definition, but are excluded from the definition of "opaque areas" in s. ILHR 22.06 (26).

l. In s. ILHR 22.06 (28), "contributed" should replace "contribute."

m. The definition of "sash crack" in s. ILHR 22.06 (31) requires a measurement of the perimeter of all window sashes. It is not clear what is meant by "overall dimensions" and how a perimeter could consist of anything other than the overall dimension. Also, does the phrase "expressed in feet" mean "rounded off to the nearest foot" or does it mean something else?

n. The term "daylighting" in s. ILHR 22.06 (37) is jargon. It would appear to be more appropriate to use "sunlight."

o. The definitions of "thermal conductance" and "thermal transmittance" in s. ILHR 22.06 (39) and (42) are nearly the same. There does not appear to be any reason to use two terms to mean the same thing. If these terms are in fact different, the definitions should indicate that difference.

p. It is not clear what portion of the roof would be the "low sides" in s. ILHR 22.08 (1) (a) (intro.) Is the "side" of the roof the gable? Also, what is meant by the "upper one-half of the roof or attic area"?

q. The phrase "of vapor retarders" should apparently be added after "designs" in s. ILHR 22.22 (1) (a).

r. The phrase "the given" in s. ILHR 22.28 (2) should be replaced by "a" and the hyphen in the phrase "10-feet" should be eliminated. This latter problem should be corrected in ss. ILHR 22.26 (2) and 22.27 (2) also.

s. The word "plus," which is used several times in ss. ILHR 22.33 and 22.34, should be replaced by "and."

t. It is not clear what is meant by "analysis of the annual energy usage or annual energy analysis" in s. ILHR 22.33. These two terms appear to be virtually the same.

u. Section ILHR 22.35 (1) should commence with: "The input values in this section shall be used"

v. In table 22.35-2, an asterisk should be placed after "Duct Location."

w. Section ILHR 22.36 (1) allows the comparison of designs on an annual basis or "other time unit." However, s. ILHR 22.33 appears to allow only annual calculations.

x. Section ILHR 22.41 (2) (intro.) should commence as follows: "To qualify for the exclusion in sub. (1), the renewable energy"

- y. The word "shall" should be deleted in s. ILHR 22.41 (2) (a).
- z. In s. ILHR 22.42 (1), "an" should be inserted before "exception."
- aa. The comma in the second sentence of s. ILHR 22.42 (2) should be deleted and "must" should be replaced by "shall."

RULE REPORT

Department of Commerce

Rule No.: Chapters ILHR 20-25

Relating to: Uniform Dwelling Code

Agency contact person for substantive questions:

Name Leroy Stublaski

Title Uniform Dwelling Code Coordinator

Telephone Number (608)267-5113

Agency contact person for internal processing:

Name Duane Hubeler

Title Code Consultant

Telephone Number (608)266-1390

1. Agency statutory authority under which the agency intends to promulgate the rule(s).
101.02 (1), 101.63 (1), 101.64 (3), 101.72 and 101.74
2. Citation of federal regulations which require adoption or which are relevant to the proposed rule(s).
Section 304 (a) of the Energy Policy Act of 1992
3. Citation of court decisions which are applicable to the proposed rule(s).
None known.

4. Description of the proposed rule(s).

The proposed rules consist of various changes to chapters ILHR 20 to 23 relating to the Uniform Dwelling Code. Many of the changes are made for general clarification, to incorporate code interpretations, and to update adopted standards. There are some new, substantive changes proposed that were discussed with the UDC Council in accordance with the scoping statement.

The major change consists of a complete repeal and recreation of chapter ILHR 22 relating to energy efficiency. Other changes relate to mechanical attachment of roof trusses and rafters, fire separation between adjacent zero-lot-line dwellings, additional requirements for safety glazing in bathrooms and stairways, and less stringent requirements for drain tile and sump pumps.

5. Reason for the proposed rule(s).

Section 101.63 (5), Stats., requires the department to review the rules contained in the Uniform Dwelling Code on a biennial basis.



State of Wisconsin \ Department of Commerce

RULES in FINAL DRAFT FORM

Rule No.: Chapters ILHR 20-25

Relating to: Uniform Dwelling Code

Clearinghouse Rule No.: 97-138

The Wisconsin Department of Commerce (formerly Industry, Labor and Human Relations) proposes an order to repeal ss. ILHR 20.07 (22), ILHR 20.07 (27m), ILHR 20.07 (39), ILHR 20.07 (73r), ILHR 20.07 (74), ILHR 21.03 (6m) (b) 3., ILHR 21.08 (6) (e), and ILHR 21.29 (12);

to renumber ss. ILHR 21.29 (13) and (14);

to renumber and amend s. ILHR 21.02 (1) (c);

to amend ss. ILHR 21.02 (3) (d), ILHR 21.03 (6m) (b) 1. and 2., ILHR 21.042 (5) (b) and (c), ILHR 21.045 (3) (b), ILHR 21.05 (3), ILHR 21.08 (6) (c) and (d), ILHR 21.18 (2), ILHR 21.205, ILHR 21.25 TABLE 21.25-A, and ILHR 21.27 (3) (a) 2. c.;

to repeal and recreate chapter ILHR 22 and ss. ILHR 20.24, ILHR 21.05 (4), ILHR 21.05 (5), ILHR 21.08 (5), ILHR 21.08 (6) (b), ILHR 21.17, ILHR 21.20, ILHR 21.22 (9), ILHR 21.27 (3) (a) 1., ILHR 23.02 (1), ILHR 23.02 (3) (a), ILHR 23.08 (2) (b) 15, ILHR 23.08 (5), and ILHR 23.15 (2) (d);

and to create ss. ILHR 20.09 (5) (b) 1. c. and d., ILHR 21.02 (1) (c) 2. and 3., ILHR 21.08 (7), ILHR 23.065, and ILHR 23.14 (2) (a) Note relating to the Uniform Dwelling Code.

Analysis of Proposed Rules

Statutory Authority: ss. 101.63 (1) and (1m), 101.64 (1) and (6), 101.72, 101.73 (1m) and 101.74, Stats.

Statutes Interpreted: ss. 101.60, 101.615, 101.62, 101.651, 101.66, 101.70, 101.76, and 101.761, Stats.

Under s. 101.63, 101.64 (1) and (6), 101.72, 101.73 (1m) and 101.74 (1), Stats., the Department of Commerce has the responsibility of adopting rules to establish standards for the construction of 1- and 2-family dwellings. The first edition of chapter ILHR 22 was effective December 22, 1978; chapters ILHR 20, 21, 23 through 25 were first effective June 1, 1980. The last update to the energy efficiency requirements in chapter 22 was in 1989. The last general update to the rest of the code was in 1995.

s. **ILHR 21.02** is revised to require mechanical attachment of most roof framing using clips and prohibiting toe-nailing as a means of permanent fastening.

s. **ILHR 21.03** is amended to remove the exemption for casement windows from the clear opening requirement for egress windows.

ss. **ILHR 21.042 and 21.045** are amended to have handrail heights and railing spacings consistent throughout the code for stairs, ramps and ladders.

s. **ILHR 21.05 (5)** has been revised to require safety glazing in certain stairway and bathroom configurations.

s. **ILHR 21.08 (5)** has been amended to address fire separation for multiple, detached dwellings on a single property and the new issue of adjacent, zero-lot-line dwellings. Also, the requirements for joints in

gypsum drywall, used to form the fire separation between a dwelling and an attached garage, have been clarified and more options given.

s. **ILHR 21.08 (6)** reduces the fire separation requirements between duplex units for consistency.

s. **ILHR 21.17** has been amended to clarify when a complete drain tile or pipe system is required and when a partial system may be installed. Definitions have been added for complete and partial systems. A complete drain tile system may still be required in municipalities that enforce this code. However, the clarification is added that a municipality enforcing this code is always free to allow a partial system if site conditions allow.

s. **ILHR 21.22 (9)** is amended to require bridging on floor joists made of 2X10 and 2X12 sawn lumber.

Chapter **ILHR 22**

The proposed rule changes include a complete repeal and recreation of ch. **ILHR 22**, relating to energy conservation.

Some of the new provisions are taken from the 1995 Model Energy Code, (MEC). The impetus to use model code requirements came from three areas, federal law, state law, and Safety and Buildings Division policy.

The federal Energy Policy Act, EPACK, of October 1992 requires states to review their present codes. Each state is required to certify to the Secretary of the U.S. Department Of Energy, that it has reviewed the provisions of its residential building code regarding energy efficiency and made a determination as to whether it is appropriate for such state to revise their residential building code provisions to meet or exceed the MEC.

State laws, ss. 101.63 (1) and 101.73 (1) require the department to establish energy conservation standards for dwellings based on costs and benefits to homeowners and appropriate national standards.

The Safety & Building Division's strategic plan includes using model codes, such as the MEC for the following reasons: 1) To take advantage of economy of scale in the development of the code and compliance tools such as software, 2) To allow all staff and customers to use training and certification materials developed from the national standards, 3) To provide more opportunities for Wisconsin businesses and more choices for consumers and, 4) To benefit from general uniformity across the states.

The department held public hearings in October and November of 1994 to ask for comments on whether the UDC should be revised to meet or exceed the provisions of the 1992 MEC. The department received comments both in favor of and against using MEC. The UDC council recommended formation of an advisory sub-committee to study the issue and develop a proposal to revise Chapter **ILHR 22** of the UDC.

The subcommittee decided to review the 1995 MEC and choose portions to incorporate into the Wisconsin code. The subcommittee developed a draft proposal which was then reviewed and revised by the full UDC Council.

The proposed Chapter **ILHR 22** is divided into the following seven subchapters: Purpose, Scope and Application; Materials and Equipment; Definitions; Design Criteria; Heating and Air Conditioning

Equipment and Systems; Dwelling Envelope Design; and Design by Systems Analysis and Design of Dwellings Utilizing Renewable Energy Sources.

Chapter 22, Subchapter I

Subchapter I-Purpose, Scope and Application has only editorial changes.

Chapter 22, Subchapter II

The proposed Subchapter II-Materials and Equipment, includes three sections: s. ILHR 22.03 Identification, s. ILHR 22.04 Maintenance Information and s. ILHR 22.05 Fenestration Product Rating Certification and Labeling.

S. ILHR 22.03 requires batt or board insulation to have a thermal resistance identification mark applied by the manufacturer or that the insulation installer provide a signed and dated certification as to the R-value. Blown or sprayed insulation is required to be installed with depth markers. These changes are to make it easier for owners and inspectors to verify the installed insulation levels.

S. ILHR 22.04 requires the maintenance instructions for installed equipment to be provided to the owner.

In the past, window performance was not evaluated by consistent methods and manufacturer's claims could not be compared to each other or to the code. There is a new national standard and certification program developed by the National Fenestration Rating Council (NFRC). **S. ILHR 22.05** gives two options for determining window performance. It specifies that U-values of windows, doors and skylights must be determined in accordance with the NFRC procedures for determining fenestration product thermal properties by an accredited laboratory, and labeled and certified by the manufacturer. As an alternative, U-values may be taken from the default table given in the code.

Chapter 22, Subchapter III

Subchapter III-Definitions was created to put all definitions relating to energy efficiency into Chapter ILHR 22. Some definitions in the current s. ILHR 20.07 that apply to energy conservation are also added to the proposed definitions in this subchapter.

Chapter 22, Subchapter IV

Subchapter IV-Design Criteria, contains two sections, ILHR 22.07 Indoor and Outdoor Temperatures and ILHR 22.08 Ventilation and Moisture Control.

S. ILHR 22.07 Indoor and Outdoor Temperatures, specifies the indoor and outdoor temperatures used to determine the total dwelling heat loss or gain and for selecting the size of the heating or cooling equipment and remains unchanged from the current code.

S. ILHR 22.08 Ventilation and Moisture Control, specifies what ventilation must be provided in attics and crawl spaces and requires the outdoor termination of clothes dryer vents. These provisions are the same as in the current code.

Chapter 22, Subchapter V

Subchapter V-Heating and Air Conditioning Equipment and Systems has proposed sections, ILHR 22.09 through ILHR 22.19. These sections specify requirements for calculation of system heating and cooling loads; equipment sizing limits; equipment controls and duct and pipe insulation.

New provisions in Subchapter V include requirements for a maximum of 0.5 air changes per hour allowance in infiltration in equipment sizing calculations, use of ASHRAE Fundamentals guidelines in equipment sizing calculations, supplementary heater controls for heat pumps, controls and dampers for mechanical ventilation, and operation ranges for humidistats and thermostats. Heating pipes in unheated spaces and all cooling pipes in uncooled spaces are required to be insulated to R4, rather than the current requirement for one inch of insulation, which was vague. Duct insulation remains at R5.

Chapter 22, Subchapter VI

Subchapter VI-Dwelling Envelope Design, has requirements for vapor retarders, insulation levels for the assemblies that make up the thermal envelope, air leakage for windows and doors, thermal performance calculations, and recessed lighting fixtures in insulated ceilings in sections ILHR 22.20 through ILHR 22.32.

In s. ILHR 22.22, vapor retarder materials are required to have a consistent one perm rating for both electrically and nonelectrically heated homes. The requirements are written to be more performance based and would allow a vapor retarder to be installed between the basement wall and interior basement wall insulation. A vapor retarder is still required to be placed under basement and slab-on-grade floors.

The proposed insulation requirements for walls, attics, floors and foundations were based on the MEC, with some modifications. The MEC insulation levels were analyzed using Wisconsin climate and construction costs in a life cycle cost analysis. Insulation levels that were more stringent than those that gave the lowest life cycle cost were reduced to that level. This way the insulation levels are cost effective for the home owner.

Thermal envelope requirements for electrically-heated dwellings remain unchanged unless they were less stringent than those for non-electrically-heated dwellings. In those cases, the requirements for electrically-heated dwellings were made equivalent to those for non-electrically-heated.

Under the proposed rules, the maximum overall thermal transmittance (U-value) for a non-electrically-heated home with a fully insulated basement is 27% lower than under the current code. The proposed rules also give an automatic credit for furnaces that exceed the minimum national efficiency standards. When a 90% efficient furnace is installed, the maximum overall thermal transmittance (U-value) for a home with a fully insulated basement is 14% lower than under the current code.

In the current code, the design standards for non-electrically heated and electrically heated homes are handled in separate subchapters. The proposed requirements of s. ILHR 22.21 combine them and have the same format of application for both types, which will simplify code application and enforcement.

Since steel stud framing is becoming more popular, s. ILHR 22.23 contains proposed code language for metal studs. There is an equation for recalculating the U-value using a series-parallel heat flow path procedure, to correct for parallel path thermal bridging.

In s. **ILHR 22.30**, the air leakage limits for windows and doors are updated to current national standards.

In s. **ILHR 22.31**, the proposed rules include updated default framing factors for wall construction to be used when the actual percent of framing is not calculated. The new wall framing factors from the 1993 ASHRAE Handbook of Fundamentals are 22% and 25% for 24 and 16 inch stud spacing, respectively. The framing factors were updated to more realistically account for all the sills, plates, headers, etc. that make up walls. Some framing factors used in the past considered only the studs and underestimated the impact of the framing on the insulation value of the whole wall assembly.

In s. **ILHR 22.32**, the proposed rules require recessed light fixtures that are installed in insulated assemblies to be protected from insulation contact and to be sealed or enclosed to reduce air leakage. Warm, moist air passing through these fixtures is a frequent cause of condensation and moisture damage.

Chapter 22, Subchapter VII

Subchapter VII-Design By Systems Analysis and Design of Dwellings Utilizing Renewable Energy Sources, has been expanded to give more direction for the energy analysis that is done under this section. Similar to the current code, this subchapter would be used only to demonstrate that a proposed design is equivalent to a design that meets all of the code's prescriptive standards. It allows trade-offs between energy using systems and gives credit for renewable energy sources. The analysis can be simple for limited trade-offs or can be more complex for trade-offs that effect several energy using systems.

The UDC energy worksheet has been updated to reflect the new envelope requirements. A new simpler prescriptive method is included. Designers can simply choose from a number of prescriptive package options. With this method calculations are minimized. The prescriptive packages automatically give credit for the installation of high efficiency furnaces.

The appendix includes default tables of U-values for various insulated assemblies. These tables will further reduce the need for calculations.

s. **ILHR 23.02 (3)** is amended to clarify the amount of makeup air needed for balancing and to clarify how range hoods are balanced.

s. **ILHR 23.08 (5)** is amended to require duct construction to be in accordance with a national standard.

The proposed rules were developed after consultation with the Uniform Dwelling Code Advisory Subcommittee and the Uniform Dwelling Code Council. The current memberships of the Subcommittee and Council are given below.

UNIFORM DWELLING CODE ENERGY SUB-COMMITTEE

Oscar Bloch, Public Service Commission
*Joseph Chudnow, Contractor-Private
Ross DePaola, Wisconsin Environmental Decade
John Griebler, Building Inspectors
Len Linzmeier, Housing Manufacturers
Charles Madden, Architect-Private
Mary Meunier, Wisconsin Energy Bureau
*Dave Crocker, served as a substitute for Joseph Chudnow

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