

COMMENT FORM

USE A SEPARATE FILE FOR EACH COMMENT THAT ADDRESSES UNRELATED SUBJECT MATTER

Comment #: 3-9

(To be filled in by ICC)

Section: 302.1

(If the comment is for a new section, indicate "NEW". If Table or Figure identify as such)

Commenter:

(Name, Company, Representing - Please do not use acronyms for your company or representation - please spell out)

Kathleen Petrie, City of Seattle, Dept of Planning & Development

Revise as follows:

302.1 Requirements determined by the jurisdiction. The *jurisdiction* shall indicate the following information in Table 302.1 for inclusion in its code adopting ordinance:

1. In accordance with Section 102.4.12, the *jurisdiction* shall indicate Bronze, Silver, Gold or Emerald as the minimum ICC 700 Environmental Performance Level for residential occupancies not regulated by this code by checking the corresponding box in Table 302.1. The minimum energy efficiency requirements shall be in accordance with Section 102.14.2. For residential mixed use occupancies, see Section 102.4.12.1.
2. The *jurisdiction* shall indicate whether ASHRAE 189.1 is applicable by selecting "Yes" or "No" in the optional compliance path in Table 302.1. Where "Yes" is selected, the administrative provisions of Chapter 1 of this code and the provisions of ASHRAE 189.1 listed in Chapter 12 shall apply and the remainder of this code shall not apply. Residential buildings not with the scope of ASHRAE 189.1 shall comply with ICC 700 and the *jurisdiction* shall indicate in Table 302.1 the environmental performance level for such residential buildings.
3. The *jurisdiction* shall indicate the minimum number of *project electives* that must be incorporated into all projects, as modified by Section 303.2.
4. Where "Yes" or "No" boxes are provided, the *jurisdiction* shall check the box to indicate "Yes" where that section or appendix is to be enforced as a mandatory requirement in the *jurisdiction*, or "No" where that section or appendix is *not* to be enforced as a mandatory requirement in the *jurisdiction*.
 - 4.1 Where "Yes" is selected for enhanced construction material and waste management in Table 302.1, the *jurisdiction* shall indicate the minimum percentage of construction waste that is required to be recycled in accordance with Section 502.1 by checking the box in Table 302.1 corresponding to 50% or 65%.
 - 4.2 Where "Yes" is selected for enhanced plumbing fixture and flow rates in Table 302.1, the *jurisdiction* shall indicate the ~~minimum~~ maximum flow rates required in accordance with Section 702.1 by checking the box in Table 302.1 corresponding to Tier 1 or Tier 2.

Reason:

Replace the term "minimum" with the term "maximum".

COMMENT FORM
(See instructions on page 2)
DO NOT USE TRACK CHANGES

USE A SEPARATE FILE FOR EACH COMMENT THAT ADDRESSES UNRELATED SUBJECT MATTER

Comment #: 3-32

(To be filled in by ICC)

Section: Table 302.1 (3)

Commenter: David S. Collins, FAIA, Preview Group, representing The American Institute of Architects

Revise as follows:

| CH 3. JURISDICTIONAL REQUIREMENTS AND PROJECT ELECTIVES | | | |
|---|---|------------------------------|-----------------------------|
| 302.1 (2) | Optional compliance path – ASHRAE 189.1 | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 302.1 (3) | Project Electives – The <i>jurisdiction</i> shall indicate a number between 0 <u>1</u> and 14 to establish the minimum total number of <i>project electives</i> that must be satisfied. | _____ | |

Reason: Establishes a minimum (vs nothing) for both a jurisdiction and designer to set as a threshold.

COMMENT FORM

(See instructions on page 2)

DO NOT USE TRACK CHANGES

USE A SEPARATE FILE FOR EACH COMMENT THAT ADDRESSES UNRELATED SUBJECT MATTER

Comment #: 3-37

(To be filled in by ICC)

Section: 303.1

Commenter: David S. Collins, FAIA, Preview Group, representing The American Institute of Architects

Revise as follows:

303.1 Electives required. A total of not less than the number of *project electives* as indicated by the jurisdiction in Section 302.1 (3) of Table 302.1 shall be selected by the owner or *registered design professional*. Such electives project electives shall be applied as mandatory requirements to the project and shall be indicated to the *code official* by means of completion of Table 303.1.

Reason: Clarifies language and intent of jurisdictional obligation and owner or registered design professional responsibility.

COMMENT FORM

(See instructions on page 2)

DO NOT USE TRACK CHANGES

USE A SEPARATE FILE FOR EACH COMMENT THAT ADDRESSES UNRELATED SUBJECT MATTER

Comment #: 3-38

(To be filled in by ICC)

Section: 303.1 Electives required; including Table 303.1

(If the comment is for a new section, indicate "NEW". If Table or Figure identify as such)

Commenter: Noel Kaplan, Fairfax County Department of Planning and Zoning, representing his department

(Name, Company, Representing - Please do not use acronyms for your company or representation - please spell out)

Revise as follows:

(See page 2 for instruction lines)

A total of not less than the number of *project electives* indicated in Table 302.1 shall be selected by the owner or *registered design professional*. Such electives shall be applied as mandatory requirements to the project and shall be indicated to the *code official* by means of completion of Table 303.1. Electives identified by the jurisdiction as being "not available" are not available for selection.

**TABLE 303.1
PROJECT ELECTIVES CHECKLIST**

| Section | Description | Check the corresponding box to indicate each <i>project elective</i> selected. | Jurisdictional determination of non-availability? |
|---|---------------------------------------|--|---|
| CH 3. JURISDICTIONAL REQUIREMENTS AND PROJECT ELECTIVES | | | |
| 304.1 | Whole Building Life Cycle Assessment | <input type="checkbox"/> | <input type="checkbox"/> |
| CH 4. SITE DEVELOPMENT AND LAND USE | | | |
| 407.2.1 | Flood hazard avoidance | <input type="checkbox"/> | <input type="checkbox"/> |
| 407.2.2 | Agricultural land | <input type="checkbox"/> | <input type="checkbox"/> |
| 407.2.3 | Infill site | <input type="checkbox"/> | <input type="checkbox"/> |
| 407.2.4 | Brownfield site | <input type="checkbox"/> | <input type="checkbox"/> |
| 407.2.5 | Greenfield development | <input type="checkbox"/> | <input type="checkbox"/> |
| 407.2.6 | Greenfield proximity to development | <input type="checkbox"/> | <input type="checkbox"/> |
| 407.2.7 | Greenfield proximity to diverse uses | <input type="checkbox"/> | <input type="checkbox"/> |
| 407.3.1 | Changing and shower facilities | <input type="checkbox"/> | <input type="checkbox"/> |
| 407.3.2 | Long term bicycle parking and storage | <input type="checkbox"/> | <input type="checkbox"/> |
| 407.3.3 | Preferred parking | <input type="checkbox"/> | <input type="checkbox"/> |
| 407.4.1 | Site hardscape 1 | <input type="checkbox"/> | <input type="checkbox"/> |
| 407.4.2 | Site hardscape 2 | <input type="checkbox"/> | <input type="checkbox"/> |
| 407.4.3 | Site hardscape 3 | <input type="checkbox"/> | <input type="checkbox"/> |
| 407.4.4 | Roof covering | <input type="checkbox"/> | <input type="checkbox"/> |

| Section | Description | Check the corresponding box to indicate each project elective selected. | Jurisdictional determination of non-availability? |
|--|--|---|---|
| 407.5 | Light pollution | <input type="checkbox"/> | <input type="checkbox"/> |
| CH 5. MATERIAL RESOURCE CONSERVATION AND EFFICIENCY | | | |
| 507.2 | Waste management (502.1 + 20%) | <input type="checkbox"/> | <input type="checkbox"/> |
| 507.3(1) | Reused, recycled content, recyclable, bio-based and indigenous materials (50%) | <input type="checkbox"/> | <input type="checkbox"/> |
| 507.3(2) | Reused, recycled content, recyclable, bio-based and indigenous materials (80%) | <input type="checkbox"/> (2 Electives) | <input type="checkbox"/> |
| 507.4(1) | Multi-story building – footprint reduced by at least 45% | <input type="checkbox"/> | <input type="checkbox"/> |
| 507.4(2) | Multi-story buildings – footprint reduced by at least 70% | <input type="checkbox"/> (2 Electives) | <input type="checkbox"/> |
| 507.5 | Reduced building volume | <input type="checkbox"/> | <input type="checkbox"/> |
| 507.6.1 | Service life – 100 year design service life category | <input type="checkbox"/> | <input type="checkbox"/> |
| 507.6.1 | Service life – 200 year design service life category | <input type="checkbox"/> (2 Electives) | <input type="checkbox"/> |
| 507.6.2 | Interior adaptability | <input type="checkbox"/> | <input type="checkbox"/> |
| 507.7 | Moisture control | <input type="checkbox"/> | <input type="checkbox"/> |
| CH 6. ENERGY CONSERVATION, EFFICIENCY AND EARTH ATMOSPHERIC QUALITY | | | |
| 613.3.1 | Project <i>TANEU</i> is at least 7 points lower than required by Table 302.1. | <input type="checkbox"/> | <input type="checkbox"/> |
| 613.3.2 | Project <i>TANEU</i> is at least 14 points lower than required by Table 302.1 | <input type="checkbox"/> (2 Electives) | <input type="checkbox"/> |
| 613.3.3 | Project <i>TANEU</i> is at least 21 points lower than required by Table 302.1 | <input type="checkbox"/> (3 Electives) | <input type="checkbox"/> |
| 613.3.4 | Project <i>TANEU</i> is at least 28 points lower than required by Table 302.1 | <input type="checkbox"/> (4 Electives) | <input type="checkbox"/> |
| 613.3.5 | Project <i>TANEU</i> is at least 35 points lower than required by Table 302.1 | <input type="checkbox"/> (5 Electives) | <input type="checkbox"/> |
| 613.3.6 | Project <i>TANEU</i> is at least 42 points lower than required by Table 302.1 | <input type="checkbox"/> (6 Electives) | <input type="checkbox"/> |
| 613.3.7 | Project <i>TANEU</i> is at least 49 points lower than required by Table 302.1 | <input type="checkbox"/> (7 Electives) | <input type="checkbox"/> |
| 613.3.8 | Project <i>TANEU</i> is at least 56 points lower than required by Table 302.1 | <input type="checkbox"/> (8 Electives) | <input type="checkbox"/> |
| 613.3.9 | Project <i>TANEU</i> is at least 63 points lower than required by Table 302.1 | <input type="checkbox"/> (9 Electives) | <input type="checkbox"/> |
| 613.3.10 | Project <i>TANEU</i> is at least 70 points lower than required by Table 302.1 | <input type="checkbox"/> (10 Electives) | <input type="checkbox"/> |
| 613.4 | Building thermal envelope systems | <input type="checkbox"/> | <input type="checkbox"/> |
| 613.5 | Mechanical systems | <input type="checkbox"/> | <input type="checkbox"/> |
| 613.6 | Passive design | <input type="checkbox"/> | <input type="checkbox"/> |
| CH 7. WATER RESOURCE CONSERVATION AND EFFICIENCY | | | |
| 710.2.1 | Fixture flow rates are one tier above that required by Table 302.1 | <input type="checkbox"/> | <input type="checkbox"/> |
| 710.2.1 | Fixture flow rates are two tiers above that required by Table 302.1. | <input type="checkbox"/> (2 Electives) | <input type="checkbox"/> |
| 710.3 | On-site wastewater treatment | <input type="checkbox"/> | <input type="checkbox"/> |
| 710.4 | Non-potable outdoor water supply | <input type="checkbox"/> | <input type="checkbox"/> |
| 710.5 | Non-potable water for plumbing fixture flushing | <input type="checkbox"/> | <input type="checkbox"/> |
| 710.6 | Automatic fire sprinkler system | <input type="checkbox"/> | <input type="checkbox"/> |

| Section | Description | Check the corresponding box to indicate each <i>project elective</i> selected. | Jurisdictional determination of non-availability? |
|--|---|--|---|
| 710.7 | Non-potable water supply to fire pumps | <input type="checkbox"/> | <input type="checkbox"/> |
| 710.8 | Non-potable water for industrial process makeup water | <input type="checkbox"/> | <input type="checkbox"/> |
| 710.9 | Efficient hot water distribution system | <input type="checkbox"/> | <input type="checkbox"/> |
| 710.10 | Non-potable water for cooling tower makeup water | <input type="checkbox"/> | <input type="checkbox"/> |
| 710.11 | Graywater collection | <input type="checkbox"/> | <input type="checkbox"/> |
| CH 8 INDOOR ENVIRONMENTAL QUALITY AND COMFORT | | | |
| 809.2.1 | VOC emissions - flooring | <input type="checkbox"/> | <input type="checkbox"/> |
| 809.2.2 | VOC emissions – ceiling systems | | <input type="checkbox"/> |
| 809.2.3 | VOC emissions- wall systems | <input type="checkbox"/> | <input type="checkbox"/> |
| 809.2.4 | Total VOC limit | <input type="checkbox"/> | <input type="checkbox"/> |
| 809.3 | Views to building exterior | <input type="checkbox"/> | <input type="checkbox"/> |

Reason:

Some of the items listed in Table 303.1 may not be appropriate for application in individual jurisdictions, and governing bodies of jurisdictions are in the best position to make this determination. For example, a jurisdiction may determine that the “agricultural land” elective would not produce much benefit in light of the extent and/or location of agricultural zoning within the jurisdiction. Further, the provision of jurisdictional flexibility in determining which electives are available would allow each jurisdiction to craft this code provision to emphasize elements of local importance.

If it is felt that specific items within the list of electives should not be subject to a jurisdictional determination of availability, perhaps these electives could be identified as being excluded from jurisdictional discretion.

COMMENT FORM

(See instructions on page 2)

DO NOT USE TRACK CHANGES

USE A SEPARATE FILE FOR EACH COMMENT THAT ADDRESSES UNRELATED SUBJECT MATTER

Comment #: 3-47

(To be filled in by ICC)

Section: Table 303.1

Commenter: Steven R Winkel, FAIA, PE, The Preview Group, Inc., representing The American Institute of Architects

Revise as follows:

Add footnote "a" to Table 303.1:

- a. Where multiple electives are shown in the table in the form "(x electives)", "x" indicates the number of credits to be applied for that elective to the total number of project electives required by the jurisdiction as shown in Section 302.1(3) of Table 302.1.

[Add this footnote to each cell in Table 303.1 where an elective number greater than 1 appears.]

Reason: This will clarify that where multiple credits for project electives are allowable that the number to be applied to the required total of project electives is the number listed in parenthesis in the column in the table where project electives are selected. The footnote also clarifies that the number of multiple point electives is to apply to the total number of project electives chosen by the jurisdiction in the row for Section 302.1(3) in Table 302.1. This footnote would be added editorially to each row in Table 303.1 where multiple elective credits are indicated. This change does not alter any project elective requirements, or the number of elective credits for any project elective.

COMMENT FORM

(See instructions on page 2)

DO NOT USE TRACK CHANGES

USE A SEPARATE FILE FOR EACH COMMENT THAT ADDRESSES UNRELATED SUBJECT MATTER

Comment #: 3-36

(To be filled in by ICC)

Section: 303.1

Commenter: David S. Collins, FAIA, Preview Group, representing The American Institute of Architects

Revise as follows:

303.1 Electives required. A total of not less than the number of *project electives* as indicated by the jurisdiction in Table 302.1 shall be selected by the owner ~~or registered design professional~~. Such electives shall be applied as mandatory requirements to the project and shall be indicated to the *code official* by means of completion of Table 303.1.

**TABLE 303.1
PROJECT ELECTIVES CHECKLIST**

| Section | Description | Check the corresponding box to indicate each <i>project elective</i> selected. |
|--|--|---|
| CH 3. JURISDICTIONAL REQUIREMENTS AND PROJECT ELECTIVES | | |
| 304.1 | Whole Building Life Cycle Assessment (LCA) | <input type="checkbox"/> (5 Electives) |

Reason: Revised to clarify the decisions in Table 302.1 are made by the jurisdiction and that the owner is responsible for selecting the project electives. The registered design professional may advise and help in that determination, but it is the owner's decision as to how the building should be designed. We have changed the elective for an LCA to be 5. As efficiency and alternative energy systems become more integrated in reducing a building's operational load, the value and importance of LCA becomes more significant as a comprehensive and holistic requirement for sustainable design. Performing a whole building LCA as a substitute for Section 503 supplants a significant portion of the code's materiality requirement.

COMMENT

Comment #: 3-52

Section: 202, 304.1,

Commenter: Robert L. Beauregard, American Public Gas Association, representing himself

Add new text as follows:

202: PRIMARY ENERGY USE. The total fuel-cycle energy embedded within building materials as well as all forms of energy required for building operation. Units of energy shall reported in total Btu's for building materials and total Btu's per unit of energy (e.g., kWh, therms, gallons, etc.) consumed in the operation of building mechanical systems (HVAC, lighting, etc.) Total fuel-cycle energy will include energy required from the point of initial extraction, through processing and delivery to the final point of consumption into building materials or building operation.

Reason: A definition of primary energy use is required to implement Section 304.

Revise as follows:

304.1 Whole building life cycle assessment project elective. A whole *building life cycle assessment* shall be a *project elective*. The requirements for the execution of a whole *building life cycle assessment* shall be performed in accordance with the following. Where a whole *building life cycle assessment* is performed in accordance with Section 304.1, compliance with Section 503 shall not be required. The data and final report shall be included in the owner education manual required by Section 904.4.

1. The assessment shall demonstrate that the *building* project achieves not less than a 20 percent improvement in environmental performance for each of at least three of the following impact measures as compared to a reference *building* of similar useable floor area, function and configuration that meets the minimum energy requirements of this code and the structural requirements of the *International Building Code*:
 - 1.1 ~~Primary energy use~~ Primary energy use
 - 1.2 *Global warming potential*
 - 1.3 *Acidification potential*
 - 1.4 *Eutrophication potential*
 - 1.5 *Ozone depletion potential*
 - 1.6 *Smog potential*

Reason: Add definition of primary energy use to enable a rational basis of the section 304.1 project elective.

COMMENT FORM

(See instructions on page 2)

DO NOT USE TRACK CHANGES

USE A SEPARATE FILE FOR EACH COMMENT THAT ADDRESSES UNRELATED SUBJECT MATTER

Comment #: 3-53

Section: 304.1 New section item

Commenter: John Bertrand, Moen Incorporated, representing company

Revise as follows:

Add new item #9 to 304.1 to read as follows:

9. Mechanical, electrical and plumbing components and specialty items shall not be included in this calculation.

Reason: These products are typically comprised of many specialized components of various domestic and international origins. An LCA on these individual specialized components is incredibly burdensome and costly with limited impact on the overall building LCA.

COMMENT FORM

(See instructions on page 2)

DO NOT USE TRACK CHANGES

USE A SEPARATE FILE FOR EACH COMMENT THAT ADDRESSES UNRELATED SUBJECT MATTER

Comment #: 3-57

(To be filled in by ICC)

Section: 304.1 Item 7

(If the comment is for a new section, indicate "NEW". If Table or Figure identify as such)

Commenter: Fernando Fernandez, Toto USA, representing TOTO USA, Inc.

(Name, Company, Representing - Please do not use acronyms for your company or representation - please spell out)

Add new text as follows:

304.1

7. The full life cycle, from resource extraction to demolition and disposal, including but not limited to, on-site construction, maintenance and replacement, and material and product embodied acquisition, process and transportation energy, shall be assessed.

Exception: Electrical and mechanical equipment and controls, plumbing products, fire detection and alarm systems, elevators and conveying systems shall not be included in the assessment.

Reason: To remain consistent with the language in 503.1 exception #2, and its intent in exempting the items mentioned therein. Conducting an LCA assessment on these products imposes a severe hardship and undue financial burden on manufacturers of these products.

COMMENT FORM

(See instructions on page 2)

DO NOT USE TRACK CHANGES

USE A SEPARATE FILE FOR EACH COMMENT THAT ADDRESSES UNRELATED SUBJECT MATTER

Comment #: 3-55

(To be filled in by ICC)

Section: 304.1

Commenter: David S. Collins, FAIA, Preview Group, representing The American Institute of Architects

Revise as follows:

304.1 Whole building life cycle assessment project elective. A whole *building life cycle assessment* shall be a *project elective*. The requirements for the execution of a whole *building life cycle assessment* shall be performed in accordance with the following. Where a whole *building life cycle assessment* is performed in accordance with Section 304.1, compliance with Section 503 shall not be required. The data and final report shall be included in the owner education manual required by Section 904.4.

5. The service life of the reference *building* shall be in accordance with Section ~~504.1~~ 505.1 and shall ~~be not less than 25 years.~~

Reason: The reference to 504.1 is incorrect, 505.1 establishes the requirements for LCA. The allowance for not less than 25 years in this section conflicts with the requirements in 505.1 where that is only permitted when approved.

COMMENT FORM

USE A SEPARATE FILE FOR EACH COMMENT THAT ADDRESSES UNRELATED SUBJECT MATTER

Comment #: 3-60

(To be filled in by ICC)

Section: 304.1

(If the comment is for a new section, indicate "NEW". If Table or Figure identify as such)

Commenter:

(Name, Company, Representing - Please do not use acronyms for your company or representation – please spell out)

Kathleen Petrie, City of Seattle, Dept of Planning & Development

Delete without substitution:

304.1 Whole building life cycle assessment project elective. A whole *building life cycle assessment* shall be a *project elective*. The requirements for the execution of a whole *building life cycle assessment* shall be performed in accordance with the following. ~~Where a whole *building life cycle assessment* is performed in accordance with Section 304.1, compliance with Section 503 shall not be required.~~ The data and final report shall be included in the owner education manual required by Section 904.4.

1. The assessment shall demonstrate that the *building* project achieves not less than a 20 percent improvement in environmental performance for each of at least three of the following impact measures as compared to a reference *building* of similar useable floor area, function and configuration that meets the minimum energy requirements of this code and the structural requirements of the *International Building Code*:
 - 1.1 Primary energy use
 - 1.2 *Global warming potential*
 - 1.3 Acidification potential
 - 1.4 Eutrophication potential
 - 1.5 Ozone depletion potential
 - 1.6 Smog potential
2. The reference and project *buildings* shall utilize the same *life cycle assessment* tool.
3. *Building* operational energy shall be included.
4. *Building* process energy shall be permitted to be included.
5. The service life of the reference *building* shall be in accordance with Section 504.1 and shall be not less than 25 years.
6. Maintenance and replacement schedules and actions for components shall be included in the assessment.
7. The full life cycle, from resource extraction to demolition and disposal, including but not limited to, on-site construction, maintenance and replacement, and material and product embodied acquisition, process and transportation energy, shall be assessed.
8. The complete *building* envelope, structural elements, inclusive of footings and foundations, and interior walls, floors and ceilings, including interior and exterior finishes, shall be assessed to the extent that data is available for the materials being analyzed in the selected *life cycle assessment* tool.

Delete without substitution:

503.1 Material selection and properties. *Building materials shall conform to Sections 503.2 and 503.3.*

Exceptions:

1. ~~Where *life cycle assessment* is performed in accordance with Section 304, compliance with Section 503 shall not be required.~~
2. Electrical and mechanical equipment and controls, plumbing fixtures, fire detection and alarm systems, elevators and conveying systems shall not be required to comply with Section 503.

Reason:

The definition of Life Cycle Assessment per chapter 2 of the IgCC is: A technique to evaluate the relevant energy and material consumed and environmental emissions associated with the entire life of a building, product, process, activity or service. By opting to eliminate the requirements of section 503, you do not meet the definition of Life Cycle Assessment. In addition, not all of the impact measures directly relate to material selection, therefore, the results of the minimum 3 that 304.1 requires be evaluated may allow a building with unlimited amounts of virgin unsustainably harvested old growth lumber, or products from plants that don't comply with environmental regulations. We recommend that the requirements of section 503 are complied with, regardless of the choice to complete a whole building Life Cycle Assessment.

COMMENT FORM

USE A SEPARATE FILE FOR EACH COMMENT THAT ADDRESSES UNRELATED SUBJECT MATTER

Comment #: 3-61

(To be filled in by ICC)

Section: 304.1

(If the comment is for a new section, indicate "NEW". If Table or Figure identify as such)

Commenter:

(Name, Company, Representing - Please do not use acronyms for your company or representation – please spell out)

Kathleen Petrie, City of Seattle, Dept of Planning & Development

Revise as follows:

304.1 Whole building life cycle assessment project elective. A whole *building life cycle assessment* shall be a *project elective*. The requirements for the execution of a whole *building life cycle assessment* shall be performed in accordance with the following. Where a whole *building life cycle assessment* is performed in accordance with Section 304.1, compliance with Section 503 shall not be required. The data and final report shall be included in the owner education manual required by Section 904.4.

1. The assessment shall demonstrate that the *building* project achieves not less than a 20 percent improvement in environmental performance for each of at least three of the following impact measures as compared to a reference *building* of similar useable floor area, function and configuration that meets the minimum energy requirements of this code and the structural requirements of the *International Building Code*:
 - 1.1 Primary energy use
 - 1.2 *Global warming potential*
 - 1.3 Acidification potential
 - 1.4 Eutrophication potential
 - 1.5 Ozone depletion potential
 - 1.6 Smog potential
2. The reference and project *buildings* shall utilize the same *life cycle assessment* tool.
3. *Building* operational energy shall be included.
4. *Building* process **energy loads** shall be permitted to be included.
5. The service life of the reference *building* shall be in accordance with Section 504.1 and shall be not less than 25 years.
6. Maintenance and replacement schedules and actions for components shall be included in the assessment.
7. The full life cycle, from resource extraction to demolition and disposal, including but not limited to, on-site construction, maintenance and replacement, and material and product embodied acquisition, process and transportation energy, shall be assessed.
8. The complete *building* envelope, structural elements, inclusive of footings and foundations, and interior walls, floors and ceilings, including interior and exterior finishes, shall be assessed to the extent that data is available for the materials being analyzed in the selected *life cycle assessment* tool.

Reason:

The term "process loads" is defined in chapter 2, and is appropriate to use in Section 304.

COMMENT FORM

(See instructions on page 2)

DO NOT USE TRACK CHANGES

USE A SEPARATE FILE FOR EACH COMMENT THAT ADDRESSES UNRELATED SUBJECT MATTER

Comment #: 3-65

(To be filled in by ICC)

Section: 304.1

Commenter: Wayne Trusty, Athena Institute

Revise as follows:

304.1 Whole building life cycle assessment project elective. A whole *building life cycle assessment* shall be a *project elective*. The requirements for the execution of a whole *building life cycle assessment* shall be performed in accordance with the following. Where a whole *building life cycle assessment* is performed in accordance with Section 304.1, compliance with Section 503 shall not be required. The data and final report shall be included in the owner education manual required by Section 904.4.

1. The assessment shall demonstrate that the *building* project achieves not less than a 20 percent improvement in environmental performance for each of at least three of the following impact measures, one of which shall be *global warming potential*, as compared to a reference *building* of similar useable floor area, function and configuration that meets the minimum energy requirements of this code and the structural requirements of the *International Building Code*:
 - 1.1 Primary energy use
 - 1.2 *Global warming potential*
 - 1.3 Acidification potential
 - 1.4 Eutrophication potential
 - 1.5 Ozone depletion potential
 - 1.6 Smog potential
2. The reference and project *buildings* shall utilize the same *life cycle assessment* tool.
3. The *life cycle assessment* tool shall be approved by the code official.
4. *Building* operational energy shall be included.
5. *Building* process energy shall be permitted to be included.
6. The service life of the reference *building* shall be in accordance with Section 504.1 and shall be not less than 25 years.

Reason: This proposal requires the LCA to include global warming potential (GWP) as one of the impacts that must be considered. This measure is the most widely discussed and publically understood measure of environmental impact among the benchmarks. Requiring GWP be considered provides some level of assurance that individual LCAs will have one impact in common, and arguably, the impact of most importance.

Also, condition #3 has been added so the building official must approve the use of a life cycle assessment tool. This will provide the building officials with the ability to see that the tool which is used is compliant with the state-of-the-art and provides a level playing field. This is also beneficial to the user, since they will now have a discussion with building official prior to conducting the LCA to assure the program is acceptable.

COMMENT FORM

(See instructions on page 2)

DO NOT USE TRACK CHANGES

USE A SEPARATE FILE FOR EACH COMMENT THAT ADDRESSES UNRELATED SUBJECT MATTER

Comment #: 3-59

(To be filled in by ICC)

Section: 304.1

(If the comment is for a new section, indicate "NEW". If Table or Figure identify as such)

Commenter: Rodney A. McPhee

(Name, Company, Representing - Please do not use acronyms for your company or representation – please spell out)

Revise as follows: In section 304.1, make the following changes, which includes italicizing of some defined terms:

304.1 Whole building life cycle assessment project elective.

5. The *reference service life* of the reference building shall be in accordance with Section 504.1 and shall be not less than 25 years.

Reason:

In various places in the IgCC it refers to different concepts such as *building service life plan*, *design service life*, *service life* and *service life of the reference building*. Yet, there are no definitions in Chapter 2 for these concepts. Further, in service life planning, the term '*design life*' is preferred over '*design service life*'. Other related concepts used in service life planning include *in-use conditions*, *reference in-use condition*, *reference service life*, and *reference service life data*. In 505.5.1, the data required to provided by manufacturers and used as a basis for estimated service life of components must be designated relative to specific (reference) in-use conditions. Under another comment, it is suggested to introduce common terms and definitions for service life planning concepts.

This comment is part of a series of comments to modify text in different sections, including *italicising* of terms, to align with these terms and definitions.