

RECOMMENDATION FOR A HIGH-PERFORMANCE BUILDING DESIGN EVALUATION SYSTEM

PRESENTED TO

The State Energy Conservation Office

PREPARED BY

HIGH-PERFORMANCE BUILDING DESIGN EVALUATION SYSTEM
ADVISORY COMMITTEE

Fred Yebra, P.E., MBA

Advisory Committee Presiding Officer

September 10, 2021

Acknowledgements

With sincere gratitude and appreciation, I wish to thank the industry associations and individuals appointed to serve in the SECO High Performance Building Design Evaluation System Advisory Committee. This report acknowledges these individuals and recognizes this work would not be possible without their professionalism and expertise. An appreciation is also extended to the many other professionals who responded to the SECO Request for Information and contributed to this project – F.Y.

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Background

House Bill No. 51 of the 82nd Legislature (Attachment 1) directed the State Energy Conservation Office (SECO) to establish an advisory committee. The advisory committee is charged with providing recommendations to SECO in selecting one or more high-performance building design evaluation systems for Texas state agencies and institutions of higher education. In addition, the Texas Government Code, [Section 447.004\(4\)\(b-1\)](#), requires that new state buildings or major renovations be designed and constructed so the building achieves certification under a high-performance design evaluation system approved by SECO.

Pursuant to Texas Government Code requirements, SECO contacted specific building design organizations and industry construction trades associations to serve on the State of Texas High-Performance Building Design Evaluation System Advisory Committee (HPBDES). Selected individuals assisted SECO in reviewing existing high performance building standards and provided recommendations regarding these requirements.

The statute requires sustainable design flexibility and certification under a high-performance evaluation system that is based on nationally recognized, consensus-based building design standards that result in better indoor environments, lower impact on natural resources, and better overall connections to sustainable designs. SECO assembled the advisory committee when national consensus-based standards were developed, examined, and vetted by stakeholders in the building design and construction industry and by the associated codes and standards organizations.

Chronology of Events and Activities

Attachment E contains the advisory committee meeting notes and actions.

Introduction

The purpose of this report is to provide the results and recommendations of the HPBDES Advisory Committee to SECO for a High-Performance Building Design Evaluation System for new state agency buildings and institutions of higher education. The Texas Government Code requires SECO to establish and publish mandatory building design standards for new state buildings that encourage a comprehensive and environmentally sound approach to certification of high performance buildings.

SECO and the advisory committee have researched the U.S. market for whole building certification systems to identify the high performance building design evaluation systems currently available in the U.S. commercial buildings market. SECO also reviewed information published by other jurisdictions interested in a new whole building system approach to the design, construction, and operation of buildings, and monitored the new building standards development processes published by multiple entities.

1. American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE),
2. International Codes Council (ICC),
3. Examined the vetting and adoption procedures by the General Services Administration (GSA), and
4. U.S. Department of Energy ,

SECO then published a Request for Information (RFI) to gather information and public comments from building/construction industry professionals and environmental stakeholders, and from Texas state agencies and institutions of higher education regarding high-performance building design evaluation

systems. SECO received a total of seventeen (17) formal responses to the RFI, including input from the national building codes/standards bodies such as ASHRAE, USGBC, and ICC, and from the energy efficiency regional organization Southcentral Partnership for Energy Efficiency Resources (SPEER) and the Texas Lone Star Chapter of the Sierra Club. Per Texas Government Code Section 447.004, SECO appointed a high-performance building design evaluation system advisory committee comprised of members from the building construction and products industry.

1. One individual appointed by the comptroller who represents the SECO and who serves as the presiding officer of the committee.
2. Eight individuals with experience and expertise in high-performance buildings or related products, including experience and expertise in energy efficiency, water conservation, or low-impact site development, with one individual selected from each of the following organizations:
 - a) Texas Society of Architects (AIA)
 - b) Texas Council of Engineering Companies and Texas Society of Professional Engineers
 - c) Associated Builders and Contractors of Texas and the Associated General Contractors, Texas Building Branch
 - d) Texas chapter of the American Society of Landscape Architects
 - e) Texas Chemical Council
 - f) Texas State Building and Construction Trades Council
 - g) Texas chapter of the Urban Land Institute
 - h) Brick Industry Association
3. The director of facilities construction and space management.
4. One individual representing the Energy Systems Laboratory of the Texas Engineering Experiment Station of The Texas A&M University System.
5. One individual representing a state agency that has a substantial ongoing construction program.
6. One individual representing the interests of historically underutilized businesses.

Texas Government Code Section 447.004(b-1), requires the advisory committee to examine any proposed recommendation to meet certain requirements for any high-performance design evaluation system approved and that includes the following elements.

1. Is developed and revised through a nationally recognized consensus-based process or by a municipally owned utility in this state,
2. Provides minimum requirements for energy use, natural resources use, and indoor air quality,
3. Requires substantiating documentation for certification,
4. Requires on-site, third-party, post-construction review and verification for certification, or a third-party, post-construction, rigorous review of documentation and verification for certification; and
5. Encourages the use of materials or products manufactured or produced in this state.

Conclusions and Recommendations

The advisory committee held a total of five (5) monthly committee meetings from January 28, 2021 through May 15, 2021 to review the available and proposed high performance evaluation systems. During these meetings, the advisory committee examined information received from the SECO Request for Information (RFI) – published July 7, 2020 through August 31, 2020 - on high-performance building design evaluation systems. Currently available building standards documents and high-performance building certification systems to examine their compliance with the specific requirements of the Government Code 447.004 were

also reviewed by the advisory committee. From the review of these documents and subsequent discussions, the advisory committee developed the following adoption recommendations.

1. SECO should adopt a high-performance building design evaluation system that provides the option to a state agency to choose from a multiple of four choices:
 - a) International Green Construction Code (IGCC), published 2018 (or latest version) by the International Code Council in partnership with ASHRAE, ICC, and the U.S. Green Building Council (USGBC),
 - b) LEED BD+C; Leadership in Energy and Environmental Design; developed by the U.S. Green Building Council (USGBC),
 - c) The BREEAM (Building Research Establishment Environmental Assessment Methodology) rating and certification system for environmental sustainability, administered by the Building Research Establishment (BRE), or
 - d) Austin Energy Green Building (AEGB) Rating system developed by Austin Energy.

The advisory committee concluded that each of the four high-performance building design evaluation systems contains the requirements and options that align with the required criteria in the Texas Government Code and provide a sound approach to the certification of high-performance buildings.

2. The advisory committee also concluded that the recommended high-performance building design evaluation systems can apply not only to new state buildings or institutions of higher education, but also to the renovation of an existing state building, as referenced in the Texas Government Code, Section 447.004(b-1), and similarly in Section 55.115, Subchapter B, Chapter 55, Education Code.
3. The advisory committee recommends state agencies/institutions of higher education continue to meet the requirements of the latest energy conservation standards adopted by SECO, currently ASHRAE 90.1 and the IECC 2018, in addition to the new requirements of the selected high-performance standards.
4. The advisory committee also recommends that state agencies and institutions of higher education choose any of the recommended certification systems that best meets their mission and portfolio needs and certify to a level that promotes the high-performance sustainable building goals referenced in Code.
5. Pursuant to the Government Code, Section 447.004 (b-2), the advisory committee should reconvene in two years to review updates to the high-performance design evaluation systems and advise SECO on any updates for consideration and approval.

Committee Votes for Recommendations to SECO

The purpose of the fifth and final advisory committee meeting on May 13, 2021 was to view a demonstration of a fourth potential high-performance rating system and to determine if it could meet the requirements spelled out in the Texas Government Code. Following the meeting, the final task for the committee was to poll the members for their vote on a recommendation to SECO on a high-performance building design evaluation system. The desire was to get a consensus vote from the members of the committee for a high performance building design evaluation standard to meet the requirement of the government code. Each committee member responded via email and the votes are summarized in the following table. This completed the task for the advisory committee. The next committee meeting will take place in two years to review updates and changes to the high performance building design evaluation system for state agencies and institutions of higher education.

SECO High-Performance Evaluation System Advisory Committee Member Votes

Name of Association	Advisory Committee Members	Vote to Approve Recommendation to SECO
State Energy Conservation Office (SECO)	Fred Yebra - Presiding Officer	Yes
Texas Society of Architect	Beth Brant	Yes
Texas Council of Engineering Companies	Dirk Kestner	Yes
Texas Society of Professional Engineers	Jared Higgins	Yes
Associated Builders and Contractors of Texas	Justin Bowker	Yes
Associated General Contractors, Texas Building Branch	David Boram	Yes
Tx Chapter of American Society of Landscape Architects	Brent Luck	Yes
Texas Chemical Council	Douglas W. Brady	Yes
Texas State Building and Construction Trades Council	Robert "Chap" Thornton	Yes
Texas Chapter of the Urban Land Institute	Bungane Mehlomakulu	Yes
Brick Industry Association	Chip Clark	Yes
Texas Facilities Commission	Farshad Shahsavary	No
Texas A&M University Energy Systems Laboratory	Jeff Haberl Bahman Yazdani	Yes
University of Texas System	Doug Powell	Yes
HUB - Hispanic Contractors Assoc	John Martinez	Yes

ATTACHMENTS

Attachment 1. House Bill 51 of the 82nd Legislature (2011)

AN ACT

Relating to energy efficiency standards for certain buildings and to high-performance design, construction, and renovation standards for certain buildings and facilities of institutions of higher education.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

SECTION 1. Subchapter B, Chapter 55, Education Code, is amended by adding Section 55.115 to read as follows:

Sec. 55.115. HIGH-PERFORMANCE, SUSTAINABLE DESIGN, CONSTRUCTION, AND RENOVATION STANDARDS FOR CERTAIN FACILITIES.

- (a) This section applies to the construction of an institution of higher education building, structure, or other facility, or the renovation of a building, structure, or other facility the cost of which is more than \$2 million, or, if less than \$2 million, more than 50 percent of the value of the building, structure, or other facility, if any part of the construction or renovation is financed by revenue bonds issued under this subchapter.
- (b) A building, structure, or other facility to which this section applies must be designed and constructed or renovated so that the building, structure, or other facility complies with high-performance building standards, approved by the board of regents of the institution, that provide minimum requirements for energy use, natural resources use, and indoor air quality. In approving high-performance building standards, a board of regents shall consider, but is not subject to, the high-performance building evaluation system approved by the state energy conservation office under Section 447.004, Government Code, and may solicit and consider recommendations from the advisory committee appointed under that section.
- (c) Except as provided by this section, a building, structure, or other facility to which this section applies must be designed and constructed or renovated to comply with the applicable energy and water conservation design standards established by the state energy conservation office under Section 447.004, Government Code, unless the institution constructing the building determines that compliance with those standards is impractical and notifies the state energy conservation office of the determination and provides to the office documentation supporting the determination.

SECTION 2. Section 447.004, Government Code, is amended by amending Subsection (b) and adding Subsections (b-1), (b-2), and (b-3) to read as follows:

- (b) The standards established under Subsection (a) must:
 - (1) include performance and procedural standards for the maximum energy and water conservation allowed by the latest and most cost-effective technology that is consistent with the requirements of public health, safety, and economic resources;
 - (2) be stated in terms of energy and water consumption levels that meet energy standards adopted by the state energy conservation office and that:
 - (A) achieve a 15 percent reduction in water use when compared to water use based on plumbing fixtures selected in accordance with the Energy Policy Act of 1992 (Pub. L. No. 102-486); or
 - (B) comply with water conservation standards published by the state energy conservation office;
 - (3) consider the various types of building uses; and
 - (4) allow for design flexibility, including allowing for certification under any high-performance design evaluation system approved by the state energy conservation office.

- (b-1) A building to which this section applies must be designed and constructed or renovated so that the building achieves certification under any high-performance design evaluation system approved by the state energy conservation office that:
- (1) is developed and revised through a nationally recognized consensus-based process or by a municipally owned utility in this state;
 - (2) provides minimum requirements for energy use, natural resources use, and indoor air quality;
 - (3) requires substantiating documentation for certification;
 - (4) requires on-site, third-party, post-construction review and verification for certification, or a third-party, post-construction, rigorous review of documentation and verification for certification; and
 - (5) encourages the use of materials or products manufactured or produced in this state.
- (b-2) The state energy conservation office shall appoint an advisory committee to advise the office in selecting one or more high-performance building design evaluation systems to approve for use under Subsection (b-1). At least once every two years, the advisory committee shall review available high-performance building standards and make recommendations to the office. The advisory committee consists of:
- (1) one individual appointed by the comptroller who represents the state energy conservation office and who serves as the presiding officer of the committee;
 - (2) eight individuals with experience and expertise in high-performance buildings or related products, including experience and expertise in energy efficiency, water efficiency, or low-impact site development, with one individual selected from each of the following lists of nominees:
 - (A) a list submitted by the president of the Texas Society of Architects;
 - (B) a list submitted by the presidents of the Texas Council of Engineering Companies and Texas Society of Professional Engineers;
 - (C) a list submitted by the president of the Associated Builders and Contractors of Texas and the presiding officer of the executive committee of the Associated General Contractors, Texas Building Branch;
 - (D) a list submitted by the president of the Texas chapter of the American Society of Landscape Architects;
 - (E) a list submitted by the president of the Texas Chemical Council;
 - (F) a list submitted by the Texas State Building and Construction Trades Council;
 - (G) a list submitted by the president of the Texas chapter of the Urban Land Institute; and
 - (H) a list submitted by the chair of the Brick Industry Association;
 - (3) the director of facilities construction and space management appointed under Section 2152.104;
 - (4) one individual representing the Energy Systems Laboratory of the Texas Engineering Experiment Station of The Texas A&M University System;
 - (5) one individual representing a state agency that has a substantial ongoing construction program; and
 - (6) one individual representing the interests of historically underutilized businesses.
- (b-3) A contract between a state agency and a private design professional relating to services in connection with the construction or renovation of a building to which this section applies must provide that, for billing purposes, any service provided by the private design professional that is necessary to satisfy the certification requirements of Subsection (b-1) is considered an additional service rather than a basic service. A governmental entity may not disallow the allocation of federal deductions to eligible design professionals authorized by the Energy Policy Act of 2005 (Pub. L. No. 109-58).

SECTION 3. Sections 388.003(c) and (e), Health and Safety Code, are amended to read as follows:

(c) A municipality shall establish procedures:

- (1) for the administration and enforcement of the codes;
- (2) to ensure that code-certified inspectors shall perform inspections and enforce the code in the inspectors' jurisdictions; and
- (3) to track and report to the state energy conservation office on implementation of the codes.

(e) Local amendments may not result in less stringent energy efficiency requirements in nonattainment areas and in affected counties than the energy efficiency chapter of the International Residential Code or International Energy Conservation Code. Local amendments must comply with the National Appliance Energy Conservation Act of 1987 (42 U.S.C. Sections 6291-6309), as amended. The laboratory, at the request of a municipality or county, shall determine the relative impact of proposed local amendments to an energy code, including whether proposed amendments are substantially equal to or less stringent than the unamended code. For the purpose of establishing uniform requirements throughout a region, and on request of a council of governments, a county, or a municipality, the laboratory may recommend a climatically appropriate modification or a climate zone designation for a county or group of counties that is different from the climate zone designation in the unamended code. The laboratory shall:

(1) report its findings to the council, county, or municipality, including an estimate of any energy savings potential above the unamended [base] code from local amendments; and

(2) annually submit a report to the commission:

(A) identifying the municipalities and counties whose codes are more stringent than the unamended code, and whose codes are equally stringent or less stringent than the unamended code; and

(B) quantifying energy savings and emissions reductions from this program for consideration in the state implementation plan for emissions reduction credit.

SECTION 4. Section 388.007, Health and Safety Code, is amended by amending Subsection (c) and adding Subsection (d) to read as follows:

(c) The laboratory may provide local jurisdictions with technical assistance concerning implementation and enforcement of the International Energy Conservation Code and the energy efficiency chapter of the International Residential Code, including local amendments to those codes.

(d) The laboratory may conduct outreach to the real estate industry, including real estate agents, home builders, remodelers, appraisers, and financial institutions, on the value of energy code compliance and verified, above-code, high-performance construction.

SECTION 5. Section 55.115, Education Code, as added by this Act, and Section 447.004, Government Code, as amended by this Act, apply only to an institution of higher education building, structure, or other facility or a state building for which the contract for design services is entered into on or after September 1, 2013.

SECTION 6. This Act takes effect September 1, 2011.

Attachment 2. Texas Government Code Section 447.004(b-1)

GOVERNMENT CODE

TITLE 4. EXECUTIVE BRANCH

SUBTITLE D. HISTORY, CULTURE, AND EDUCATION

CHAPTER 447. STATE ENERGY CONSERVATION OFFICE

447.004

- (b-1) A building to which this section applies must be designed and constructed or renovated so that the building achieves certification under any high-performance design evaluation system approved by the state energy conservation office that:
- 1) Is developed and revised through a nationally recognized consensus-based process or by a municipally owned utility in this state.
 - 2) Provides minimum requirements for energy use, natural resources use, and indoor air quality.
 - 3) Requires substantiating documentation for certification.
 - 4) Requires on-site, third-party, post-construction review and verification for certification, or a third-party, post-construction, rigorous review of documentation and verification for certification.
 - 5) Encourages the use of materials or products manufactured or produced in this state.
- (b-2) The state energy conservation office shall appoint an advisory committee to advise the office in selecting one or more high-performance building design evaluation systems to approve for use under Subsection (b-1). At least once every two years, the advisory committee shall review available high-performance building standards and make recommendations to the office. The advisory committee consists of:
- 1) One individual appointed by the comptroller who represents the state energy conservation office and who serves as the presiding officer of the committee.
 - 2) Eight individuals with experience and expertise in high-performance buildings or related products, including experience and expertise in energy efficiency, water efficiency, or low-impact site development, with one individual selected from each of the following lists of nominees.
 - A. a list submitted by the president of the Texas Society of Architects.
 - B. a list submitted by the presidents of the Texas Council of Engineering Companies and Texas Society of Professional Engineers.

- C. a list submitted by the president of the Associated Builders and Contractors of Texas and the presiding officer of the executive committee of the Associated General Contractors, Texas Building Branch.
 - D. a list submitted by the president of the Texas chapter of the American Society of Landscape Architects.
 - E. a list submitted by the president of the Texas Chemical Council.
 - F. a list submitted by the Texas State Building and Construction Trades Council.
 - G. a list submitted by the president of the Texas chapter of the Urban Land Institute.
 - H. a list submitted by the chair of the Brick Industry Association.
-
- 3) The director of facilities construction and space management appointed under Section 2152.104I.
 - 4) One individual representing the Energy Systems Laboratory of the Texas Engineering Experiment Station of The Texas A&M University System.
 - 5) One individual representing a state agency that has a substantial ongoing construction program.
 - 6) one individual representing the interests of historically underutilized businesses.

Attachment 3. SECO High-Performance Building Design Evaluation System Advisory Committee

Name of Association	Advisory Committee Members	Address
State Energy Conservation Office (SECO)	Fred Yebra - Presiding Officer	Texas State Energy Conservation Office - SECO 111 E. 17th St. Austin, TX 78701
Texas Society of Architects	Beth Brant	Texas Society of Architects 500 Chicon St. Austin, TX 78702
Texas Council of Engineering Companies	Dirk Kestner	Texas Council of Engineering Companies 1001 Congress Ave., Suite 200 Austin, TX 78701
Texas Society of Professional Engineers	Jared Higgins	1001 Congress Ave. #260 Austin, TX 78701
Associated Builders and Contractors of Texas	Justin Bowker	Associated Builders and Contractors of Texas 823 Congress Ave #230 Austin, TX 78701
Associated General Contractors, Texas Building Branch	David Boram	Associated General Contractors, Texas Building Branch 221 E 9th St Ste 300 Austin, TX 78701
Tx Chapter of American Society of Landscape Architects	Brent Luck	Tx Chapter of American Society of Landscape Architects PO Box 170125 Austin, TX 78717
Texas Chemical Council	Douglas W. Brady	Texas Chemical Council 1402 Nueces Street Austin, TX 78701-1586

Name of Association	Advisory Committee Members	Address
Texas State Building and Construction Trades Council	Robert "Chap" Thornton	Tx State Building/Construction Trades Council 1106 Lavaca Street, Suite 201, Austin, Texas 78701-2171
Texas Chapter of the Urban Land Institute	Bungane Mehlomakulu	Texas Chapter of the Urban Land Institute 6926 N Lamar Blvd Austin, TX 78752
The Brick Industry Association	Chip Clark	Brick Industry Association 12007 Sunrise Valley Dr., Ste 430 Reston, VA 20191
Texas Facilities Commission	Farshad Shahsavary	Texas Facilities Commission P.O. Box 13047 Austin, TX 78711-3047
Texas A&M University Energy Systems Laboratory	Jeff Haberl Bahman Yazdani	Texas A&M University Engineering Experiment Station 7607 Eastmark Dr. College Station, TX 77840
University of Texas System	Doug Powell	The University of Texas System Office of Facilities Planning and Construction 210 West 7th Street Austin, TX 78701-2982
HUB - Hispanic Contractors Association	John Martinez	Regional Hispanic Contractors Association 2210 W Illinois Ave. Dallas, TX 75224

Attachment 4. Request For Information Response Summaries

RFI Question No. 1

Question #1. Does the 2018 edition of the International Green Construction Code (“IgCC-2018”) published by the International Code Council (“ICC”) meet the requirements in Section 447.004 of the Texas Government Code for a high-performance building evaluation system? (b-1) A building to which this section applies must be designed and constructed or renovated so that the building achieves certification under any high-performance design evaluation system approved by the state energy conservation office that: (1) is developed and revised through a nationally recognized consensus-based process or by a municipally owned utility in this state; (2) provides minimum requirements for energy use, natural resources use, and indoor air quality; (3) requires substantiating documentation for certification; (4) requires on-site, third-party, post-construction review and verification for certification, or a third-party, post-construction, rigorous review of documentation and verification for certification; and (5) encourages the use of materials or products manufactured or produced in this state.

Respondent Number 1

In general, IgCC addresses site sustainability, water use efficiency, energy use efficiency, indoor environmental quality (including IAQ), materials and resources (including natural resource use), and construction and plans for operation. Furthermore, it meets most of the requirements of Section 447.004 and the SECO Water Conservation Standards.

Respondent Number 2

SECO presented the Texas Government Code 447.004 adoption process to the Texas Energy Codes Collaborative Council, an organization of energy code inspectors, builders, utility companies, and environmental stakeholders, and received feedback from the group regarding the use of IgCC-2018 as a high-performance building standard. The initial research by SECO, comments were received from Texas A&M Energy Systems Lab (ESL) and Gerald Kettler (energy consultant). After reviewing the feedback, SECO determined that IgCC-2018 meets the requirements of Texas Government Code, Section 447.004(b-1).”

Respondent Number 3

We believe the answer to this question is yes. The 2018 code was adopted through a comprehensive and public process that not only involved the ICC, but also AHSRAE, since it incorporates by reference the 189.1-2017 ASHRAE standard. The code is unique in that it was approved by both bodies, the code has been reviewed and approved by multiple organizations including IES, ANSI, and USGBC. Through the public process multiple other organizations such as NHB, AIA and even environmental organizations have contributed to the development of this code as well.

We believe part of the strength of the 2018 IGCC is its flexibility, since it incorporates reference to other ICC and ASHRAE codes, and provides minimum standards, but also additional prescriptive and performance paths.

In terms of the specific requirements of 447.004 (b-1) , clearly the 2018 IGCC meets (1), as well as (2) through minimum requirements in Chapter 5 (Site Sustainability), 6 (Water Use Efficiency), 7 (Energy Efficiency), 8 (Indoor Environmental Quality) and 9 (Materials and Resources). All of these chapters do require some minimal requirements along with prescriptive and performance paths for trade-offs to meet

the requirements of the chapters. The 2018 IGCC does require, as laid out in 447.004 (b-1) (3) documentation and certification since documents are required to meet the International Building Code (see Section 104), and the IGCC provides a path for compliance and certification documents under Section 105. The 2018 IGCC also requires post-construction and operation certification through several specific requirements within the energy chapter and Chapter 10 (Construction and Plans for Operations). Finally, under both Chapter 5 (Site Selection) and Chapter 9 (Materials and Resources), there is a clear preference for the use of regionally-specific materials and building design which would benefit Texas suppliers.

Respondent Number 4

IGCC-2018 could be used to guide the development of and rate good high-performance buildings. However, its application would take extensive analysis and specific decisions for each building under consideration. IGCC is a good program but is complex and has many requirements and options some of which may not apply to the building or location. It would be better to adopt the IGCC-2021 issue that will be based on the 2020 issue of ASHRAE Standard 189.1 due to the extensive improvements being made.

Respondent Number 5

In a December 2019 article about environmental law and sustainability titled “2018 IgCC is Not in Use Anywhere, A Detailed Analysis of Why,” there is very good information about why the code should not be utilized to meet the requirements in Section 447.004 of the Texas Government Code for a high-performance building evaluation system. The question of “will the code meet the requirements of the Texas Government code,” and the best answer in our opinion is Not Practically. The primary take away of the article is “Many code officials have concluded the 2018 IgCC is not a good building code, green or otherwise. The drafting process was widely criticized resulting in a document that has never been enacted anywhere, and likely should not ever be adopted as code. It has been widely characterized as an unbuildable code.”

Further from the article- “Green building laws that promote innovation and create an environment rich for investment in real estate can save mankind and our current way of life. But the 2018 IgCC is flawed and will simply never be widely adopted to have any meaningful impact.” Jurisdictions will be better served adopting the 2015 version of the IgCC, the last consensus-based version. The small number of likely adopters will be the jurisdictions that today have an existing mandatory LEED or IgCC law (e.g., Washington DC, Baltimore City, Montgomery County, Maryland, etc.) that will be best served updating those mandates with required 2015 IgCC compliance. The 2015 IgCC (not the 2018 version) is a good standard in a crowded field of green building standards, rating systems and codes, best suited to be edited and revised for use as a voluntary compliance code (as the 2012 version has been adopted in Maryland) promoting sustainability and energy efficiency.

References: <https://www.greenbuildinglawupdate.com/2019/12/articles/igcc/2018-igcc-is-not-in-use-anywhere-a-detailed-analysis-of-why/>

Respondent Number 6

The IgCC-2018 addresses the majority of the items required in Section 447.004. The IgCC-2018 addresses site sustainability, water and energy efficiency, indoor environmental quality, materials, and resources, building commissioning, construction and plans for operations and maintenance for new and certain types of existing buildings, building sites, and building materials, components, equipment, and systems. The benefits of high-performance building projects constructed using the IgCC result in a reduction of energy and environmental impact through their design, construction, and operation. The IgCC-2018 includes

specific chapters that address performance and procedural standards for energy and water conservation. IgCC-2018 energy efficiency requirements found in Chapter 7 meet or exceed the minimum requirements of the International Energy Conservation Code (IECC-2018) as adopted by the State. Plumbing Fixtures and Fittings Requirements Table values (IgCC-2018 Table 601.3.2.1) meet the Water Conservation Design Standards for State Buildings and Institutions of Higher Education Facilities as updated in 2020. IgCC-2018 does not address this item. This can be addressed through an amendment. The Water Conservation Standards published by the State Energy Conservation Office are based on the IgCC-2018 Chapter 6 Water Use Efficiency. IgCC-2018 Sections 601.3.2.5 Commercial Food Service Operations, 601.3.2.6 Medical and Laboratory Facilities, 601.3.3 Special Water Features and 601.3.2.1 f, g, h, i - Residential fixtures are all considered. The IgCC-2018 is not intended to prevent the use of any material, method of construction, design, system, or innovative approach not specifically prescribed herein, provided that such construction, design, system, or innovative approach has been approved by the AHJ/SECO as meeting the intent of this code and other applicable laws, codes, and ordinances. The authority having jurisdiction (AHJ/SECO) shall be permitted to deem a national, state, or local program as meeting or exceeding this code. Buildings approved in writing by such a program shall be considered to be in compliance with this code.

Respondent Number 7

Yes, the IgCC 2018 meet the requirements in Section 447.004 of the Texas Government Code for a high-performance building evaluation system based on the following information in brief. A) Site Sustainability: Mandatory requirements include pre-design site assessment and selection; plant selection, wall shading, reflective and vegetative roofs, reduced exterior light pollution, pedestrian walkways, bicycle parking, electric vehicle charging station, building site waste management plan. B) Water Use Efficiency: Mandatory requirements include Improved landscape and irrigation system design, biodiverse planting, building plumbing, and other equipment water use reduction, energy star appliance, water consumption measurement and monitoring, changes to water softener and reverse osmosis systems. C) Energy Efficiency: Mandatory requirements include mandatory sections of ASHRAE 90.1 (current Texas Energy Code), provision for future renewable energy system, energy consumption management, automated demand response. Then building shall comply with either prescriptive or performance path just like current energy code. The technical section of this code is a copy of what it's in ASHRAE 189.1, 2017 (high performance buildings). D) Indoor Environmental Quality: Mandatory requirements include compliance with ASHRAE 62.1, ASHRAE 170 for healthcare facilities, outdoor air monitoring, humidity control, building entrance requirement, pre-occupancy ventilation, comply with ASHRAE 55, improved acoustical control, soil-gas control, lighting control, moisture control, fenestration glare control. Then building shall comply with either prescriptive or performance path requirements. E) Materials and Resources: Mandatory requirements include construction waste management plan to improve reuse, recycling, no chlorofluorocarbon-based refrigerant, areas for recycling, reduced mercury content levels of lamps. Then building shall comply with either prescriptive or performance path requirements, which include use of local products, life cycle assessment etc. F) Construction and plans for operation: Entire section is mandatory just like above sections a, and b. Mandatory requirements include functional and performance testing of all building systems, building project commissioning using ASHRAE method, documentation, IAQ construction management plan, high performance building operations plan and documentation to include site sustainability, water use eff, energy eff, outdoor air flow, IAQ, building green cleaning plan, maintenance plan, service life plan, and transportation management plan.

Respondent Number 8

I believe that the 2018 IgCC is a good fit for meeting these requirements. ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1, and the corresponding 2018 International Green Construction Code, set out the standard for high-performance buildings requirements. The technical content for the 2018 IgCC is solely based on ASHRAE Standard 189.1-2017 – Standard for the Design of High-Performance Green Buildings (Except Low-Rise Residential Buildings) and represents industry best-practice for green building design, construction and plans for operation. Much of the basis of the standard was enveloped from the LEED rating system, and in fact USGBC is a co-sponsor of Standard 189.1. However, Standard 189.1 has developed completely independently from the LEED rating system since before its first publication in 2009. The requirements of Standard 189.1-2017 go beyond the prerequisites of the LEED V4.0 rating system and is roughly equivalent to the basic certification level, or just shy of it. Standard 89.1-2017 is a consensus-based document under the ASHRAE standards continuous maintenance process. The ASHRAE standards process is ANSI-compliant and requires public reviews on proposed content. The standard is written in mandatory language for the purpose of adoption and code enforcement by the International Code Council (ICC). The ICC writes the regulatory administration portions of the IgCC while 189.1 focuses on the technical content. Standing Standard Project Committee (SSPC) 189.1 has worked since its inception to strike the proper balance between stringency and affordability. The standard is often considered complex, but multiple revisions have been made for the 2017 publication cycle in order to improve clarity and reduce unnecessary documentation. Overall, Standard 189.1 and the IgCC stand out as a rare combination of mandatory and prescriptive requirements for a best-practice document.

Respondent Number 9

We applaud SECO for looking to building codes and standards in furthering its important mission. At the same time, we also recognize the balance that the State of Texas is striving to achieve between increasing efficiencies in its buildings and keeping costs to taxpayers as low as possible. To help state projects achieve that balance, we encourage SECO to provide regulatory flexibility on state projects and consider the many other nationally recognized green construction programs for energy and water conservation design standards available for adoption as additional pathways for compliance. These standards include but are not limited to: LEED Green Building Rating System; The International Living Future Institute's Living Building Challenge or Core Green Building Certification; Green Globes by the Green Building Institute; ASHRAE's Building EQ; the Collaborative for High-Performance Schools (commonly known as "CHPS"); IAPMO's Water Efficiency and Sanitation Standard (WE•Stand); It must be noted that the development and maintenance of the IgCC in its current form has been misrepresented, as the IgCC is not developed by a nationally recognized consensus-based process. The platform upon which IgCC rests is ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1. This Standard is an ASHRAE Standard, originally developed and maintained for many years only by ASHRAE, that meets the criteria of the American National Standards Institute (ANSI). ANSI is recognized as the "premier authority" of the industry for openness, balance, consensus, and due process. The IgCC, on the other hand, is a document that uses the ASHRAE standard as the core requirement (such as referencing 189.1 in its entirety) but adds language at the beginning to make it a code. Therefore, the entire IgCC document is not ANSI approved and fails to achieve SECO's requirement of being "developed and revised through a nationally recognized consensus-based process."

Respondent Number 10

The 2018 IgCC is generally not a good building code for any purpose and it can be characterized as an 'unbuildable' code. We have been unable to identify if this code has been enacted anywhere to explore its effectiveness at achieving its intended purpose.

Respondent Number 11

Yes, we believe that the 2018 edition of the International Green Construction Code (IgCC-2018) published by the International Code Council (ICC) meets the requirements in Section 447.004 of the Texas Government Code for a high-performance building evaluation system. Yes. The code has been created by ICC and ASHRAE to combine code from LEED, ASHRAE standard 189.1, and all other ICC documentation. ICC and ASHRAE are both nationally recognized. Yes. IgCC-2018 does set minimum requirements for a high-performance building for energy use, natural resource use, and indoor air quality. Yes, Measures require pre-installment materials and technology approval, as well as, where necessary, post-performance testing. Yes. Depending on the measure, it requires review of correct installment as well as performance testing. Yes. Section 901.3.1.2 (9.4.1.2) states “a minimum of 15% of building materials or products used, based on cost, must be regionally extracted, harvested, recovered or manufactured within a radius of 500 miles of the project site.

Respondent Number 12

The opportunities to benefit from the wealth of knowledge that underscores the family of LEED green building rating systems are immense and provide a common framework that can be customized for individual projects to reflect the prioritized goals and objectives of the project, while also offering independent 3rd party verification to ensure that the established goals and objectives are, indeed, achieved. Underscoring the LEED rating system is a range of strategies that address site, water, energy, materials, and indoor environmental quality. For the latter, it is well established that designing buildings that ensure healthy indoor environments -- as a result of well-designed ventilation systems, and no- and low-emitting materials -- is an essential attribute of 21st century buildings. This is particularly important given the concerns about healthy indoor environments raised by the COVID-19 pandemic. For these reasons, I strongly recommend that LEED certification, perhaps in conjunction with Austin Energy Green Building rating, be included in the required scope for the State's design/construction projects. This is recommended in addition to and as a complement the IGCC, which lacks the more comprehensive breadth provided by LEED.

Respondent Number 13

We applaud SECOs interest in IgCC and in implementing the state building evaluation system required by 2011 HB 51. IgCC-2018's inclusion in the state building codes would benefit all Texans, as would enabling state buildings and state-supported institutions of higher education's building to achieve certification of a whole systems approach to the design, construction and operation of buildings. We commend SECO for taking steps to advance high-performance state buildings and recognizing that the IgCC plays an important role. Below we have addressed your RFI questions and provided additional recommendations. As stated explicitly in the RFI, SECO has determined that the IgCC-2018 meets the requirements of Section 447.004(b-1) of the Texas Government Code and is a candidate to serve as the “high performance design evaluation system” referenced therein. The IgCC is a national, consensus-based code that provides a whole systems approach including provisions covering energy use, natural resources use, site sustainability, water use efficiency, and indoor environmental quality. As part of ICC's suite of model codes (I-Codes), the IgCC is coordinated with other I-Codes including the International Energy Conservation Code (IECC) and International Plumbing Code (IPC). The IgCC is also coordinated with Standard 90.1 which is included as a compliance path in the IECC. ICC and ASHRAE also provide education resources and other tools that support implementation of the IgCC.

Respondent Number 14

We agree with the State Energy Conservation Office (SECO) determination that the 2018 edition of the International Green Construction Code (IgCC-2018) meets the requirements of Section 447.004(b-1) of Texas Government Code, and it is appropriate for use as a mandatory standard for state buildings and higher education institutions. The IgCC-2018 is indeed a high-performance code and its use will enable the state to “lead by example” in shifting the market toward high efficiency buildings, while also ensuring that the state can reap the benefits of lower energy, water, and operational costs. Regarding the referenced statutory requirements, we agree that (1) the IgCC is a nationally-recognized, consensus-based standard, (2) provides stringent minimum requirements for energy, fossil fuel, and water use and indoor air quality, (3) requires appropriate documentation for certification, and (4) enables third-party review and post-construction performance verification. Additionally, the energy efficiency requirements of the IgCC-2018 will encourage the use of high-performance HVAC equipment, such as water-cooled and air-cooled chillers manufactured at our York facility in San Antonio, TX, which helps address statutory requirement (5).

Respondent Number 15

Regarding alignment with Section 447.004, compliance with 2018 IGCC would result in a high-performance building. The IGCC standard comprehensively aligns with the scope, addressing: Site Sustainability, Water Use Efficiency, Energy Efficiency, Indoor Environmental Quality, Materials and Resources, and the Construction Process and Plans for Operations. It would take more time to comprehensively detail and analyze prescriptive alignment and outcomes with some of the performance-based requirements of the 2018 IgCC. There are areas of departure, examples include:

- 2018 IgCC does not require comprehensive on-site, third-party, post construction review and verification for certification. It does however require building commissioning of the energy using equipment and detailed plans for operation.
- 2018 IgCC does not define regional materials as those manufactured or produced within Texas
- 2018 IgCC requirements for renewable energy are based on roof space and may be difficult, particularly for one-story buildings

Respondent Number 16

1.) The IGCC is developed and revised through a nationally recognized consensus-based process or by a municipally owned utility in this state – The IgCC is developed and revised through a memorandum of understanding between ASHRAE, ICC, AIA, IES and USGBC. 2.) Provides minimum requirements for energy use, natural resources use, and indoor air quality – The IgCC includes chapters on Site Sustainability, Water Use Efficiency, Energy Efficiency, Indoor Environmental Quality, Materials and Resources, and Construction and Plans for Operation. Compliance with the IgCC will result in a building with low energy consumption, excellent indoor air quality, and one that has been built with minimum use of natural resources. 3.) Requires substantiating documentation for certification – As previously mentioned, the IgCC does not include any provisions for a certification process. However, there are numerous requirements in the code where production of specific substantiating documentation is required. 4.) Requires on-site, third-party, post-construction review and verification for certification or a third-party, post-construction, rigorous review of documentation and verification for certification – The IgCC does not include any provisions for a certification process. 5.) Encourages the use of materials or products manufactured or produced in this state

Respondent Number 17

In our opinion, yes, the 2018 IgCC does provide the specific design and building practices necessary to meet the intent of 447.004.

RFI Question No. 2

Question 2. How can the IgCC-2018 be used in conjunction with existing energy efficiency and water conservation minimum code standards to achieve higher levels of performance?

Respondent Number 1

a). The IgCC is intended to be used with other ICC model codes. Specifically, the Energy Efficiency section of IgCC references and requires energy performance that exceeds the minimum requirements of ASHRAE 90.1-2016, so compliance with the IgCC ensures compliance with ASHRAE Standard 90.1-2016. And though the body of the IgCC references ASHRAE 90.1-2016, Appendix H of the IgCC provides modifications if prescriptive path compliance to IECC-2018 is pursued. Finally, completion of COMCheck or a whole building energy model can be used to show compliance with the energy standard, similar to projects that aren't attempting to comply with IgCC. b).The SECO Water Conservation Design Standards share many of the same requirements as those in the IgCC, but there are several additional requirements in the SECO standards that are not included in IgCC. These distinctions have been identified in the response tables. Therefore, if IgCC is adopted, it may be beneficial to identify which of the SECO standards must be additionally achieved when compliance with IgCC is pursued.

Respondent Number 2

Some of the requirements of IgCC can benefit Texas and the environment, however, not all aspects are well thought out or reasonably applicable to all types of construction. The university will always strive to incorporate sustainable features into our buildings that benefit our campus community and are truly viable. 2018 IgCC is a good start however, it has a long way to go. Chapter 5 requiring bicycle parking will result in greater impervious surface leading to increased stormwater runoff as well as energy added to the heat island and expense. EV charging infrastructure will add significant cost, additional maintenance, and increased energy consumption. Building site Waste Management will lead to more on-site incineration and air pollution. Chapter 6 requiring reclaimed water usage will require the addition of storage creating less efficient land usage, add significant cost as well as require additional pumping energy to move the water around the site and pressurize the irrigation systems. SECO has the best current Plumbing Fixtures and Fittings section. HVAC Systems and Equipment section indicates condensate collection systems are required. This sound great to collect what is basically clean water with a bit of copper in it which is a natural mild biocide. What happens when you must clean the AHUs or Fan coil coils and the coil cleaner (acid or caustic) goes down the drain without neutralization. The added cost of constructing and maintaining the infrastructure to support this requirement will never be neutral or positive. Chapter 7 requires the construction of renewable energy on-site. As an institution captured by a municipal utility, self-generation will subject us to a stand-by charge that will raise our expenses from the municipality by as much as 100% of any savings generated from self-generation. In other words, we will pay for the renewable energy resource and pay the City additional fees for not buying their electricity. Furthermore, distributed generation at the building level is impracticable as well as expensive. Changing the design of a building, and the associated changes to the entire distribution grid of a large campus, to support this requirement will result in greater cost of construction with an uncertain result. Even for those institutions not held captive to

a municipal electric provider, better guidance would be to regionalize self-generation (i.e. district energy) rather than pursue it at the building level.

Respondent Number 3

While we have not performed an exhaustive review comparing the recently adopted energy and water standards by SECO with the provisions of Chapter, we would note that Chapter 7 of the IGCC is in fact built on the prescriptive framework of the 2015 and 2018 International Energy Conservation Code (and associated AHSRAE 90.1 provisions), and includes a performance path that is based on Normative Appendix G of Standard 90.1. Similarly, the requirements recently adopted by SECO for water conservation requirements appear to be very similar to many of the required provisions contained within Chapter 6 - Water Use Efficiency of the 2018 IGCC. Both require very similar limitations on fixture and fitting flow rates, and the use of low-flow fixtures and appliances. SECO may wish to consider whether a state or university building required to meet the high-performance standard adopted by SECO can utilize the same minimum water and energy requirements and process to meet those chapters of the high-performance standard which might ease compliance.

We do believe that the IgCC-2018 provides a whole systems approach to the design, construction and operation of buildings and also addresses site sustainability, water use efficiency, and indoor environmental quality.

Finally, we do believe the IgCC-2018 can be used with other model codes such as IECC (International Energy Conservation Code), 90.1 ASHRAE Standard, and other referenced standards.

We would urge SECO to schedule a meeting of an advisory committee to review comments and suggestions made as part of this RFI, and if possible, hold a public hearing on the potential adoption of the IGCC 2018 as the state high performance standard. We believe that SECO could begin rulemaking in late 2020 or early 2021 to finally implement the promise of HB 51.

Respondent Number 4

The IGCC can be used in conjunction with the IECC Energy Code and other codes and standards. The IgCC refers to many of these other codes but makes changes to some of the specific requirements in the other codes. Guidance would need to be provided as to the specific requirements to be utilized.

Respondent Number 5

It should not be used in conjunction with existing minimum code standards! It is seriously flawed, and Texas can do better! Texas and almost all other states deals with energy production separate from energy efficiency. Since energy efficiency is the largest and cheapest source of energy, Texas should maximize energy efficiency before producing more energy, even renewable energy! By far the best payback is Insulation Improvements. Imagine that dollars spent on insulation improvements pay for themselves then provide and over 150% return! The least insulated part of buildings is the glazing and now there is a way to retrofit glazing to outperform replacement windows, tints, or any window treatment. Texas needs to maximize energy efficiency, and this can be done with far greater results that by utilizing IgCC-2018 or earlier versions. A task force of SECO staff and Texas energy professional should be utilized on test projects with the goal of developing a self-funding energy efficiency program for state and commercial buildings in Texas. Thank you for your important work.

Respondent Number 6

The IgCC-2018 meets or exceeds the energy efficiency and water conservation minimum code provisions adopted by the State of Texas, which are the 2018 International Energy Conservation Code (IECC), ASHRAE

90.1-2016, and the State of Texas Water Conservation Design Standards. Use of the IgCC-2018 will demonstrate compliance with both the minimum State Energy Efficiency Code requirements and Water Conservation Design Standards allowing for one code book to be used for demonstrating compliance with several state requirements.

The IgCC-2018 and the IECC-2018 are developed by the International Code Council (ICC). They are designed with model code regulations that contain clear and specific requirements and provisions that promote safe and sustainable construction in an integrated fashion with all the International Codes (I-Codes).

The I-Codes were developed and are being maintained on a regular basis, through a consensus-based code development process that brings together building professionals, including building officials, inspectors, product manufacturers, contractors, researchers and other industry specialists, and is based on published research, justifications and professional judgment from outside experts. It provides an international forum for discussion and deliberation about building design, construction methods, safety performance requirements, technological advances, and innovative products. This process results in the publication of a new edition every three years and will ensure compliance with Texas Government Code 447.004 and the SECO requirements for energy efficiency. The IgCC-2018, as with all I-Codes, is readily available to the public. There are no registration or program fees associated with the use of the ICC codes.

Respondent Number 7

The IgCC contains both qualitative and quantitative items which are valuable but will increase the project and O&M cost substantially. Energy performance requirements will require a simulation software like Energy Plus, TRACE700 to demonstrate compliance. Other performance requirements will require to develop software to assist designers. Prescriptive requirements may require software like COMCHECK etc. Currently DOE supports COMCHECK and Energy plus with the help of the national labs. The entire technical section of IgCC is based on ASHRAE 189.1, which will require state to develop a new set of software suite to assist designers, otherwise it will be cost intensive and difficult to show compliance. IgCC 2018 can be used as a method for compliance for buildings that require high performance but will increase cost, and difficulty to demonstrate compliance. The current state energy and water codes as established by SECO should remain as a method of compliance with IgCC 2018 as an acceptable alternate.

Respondent Number 9

IgCC seems to have been selected as the only code to be considered. There appears to have been no public input in arriving at this decision and that is disturbing, given the wide assortment of energy and water conservation design standards available. The IgCC, in its current form, has not been adopted by any municipality in the country. Its efficacy as a green building construction code has never been verified and established, so its singular choice raises questions about fairness and the research conducted to arrive at this choice. IAPMO encourages SECO to conduct an open process to identify and consider all the high-performance building evaluation systems available for the state to use in this very worthwhile effort to make buildings more efficient.

Respondent Number 10

Compliance with this code would be prohibitively expensive, especially for projects built utilizing public funds.

Respondent Number 11

The IgCC-2018 is written in a manner to be used in conjunction with ICC, IECC, and ANSI/ASHRAE/IES. It can incorporate elements that go beyond the scope of the model energy codes for site sustainability, water use efficiency, energy efficiency, indoor air quality, materials and resources, and construction and plans for

operation. Appendix H of the IgCC-2018 illustrates when to refer back to ASHRAE and IECC. As an example, Section 701.3.1 states that energy system design must comply with ASHRAE 90.1 mandatory provisions sections 5.4, 6.4, 7.4, 8.4, 9.4, and 10.4. The IgCC-2018 was designed in conjunction with ASHRAE and is highly based on ASHRAE 90.1 and ASHRAE 189.1. The IgCC was designed to put codes and standards from multiple high energy efficiency and green programs to one comprehensive code. The IgCC takes into account not only high energy efficiency standards, but also sustainability, public health, and environmental impact. Where only high energy efficiency is taken into account the IgCC can be used as a guideline instead of an enforced code. The IgCC-2018 was designed to provide a whole systems approach as described in the above request. The IgCC is designed to be adopted as a whole code or as a partially code by the authoritative jurisdiction to create a standard for themselves.

Respondent Number 12

I strongly recommend that LEED certification, perhaps in conjunction with Austin Energy Green Building rating, be included in the required scope for the State's design/construction projects. This is recommended in addition to and as a complement to following IGCC, which lacks the more comprehensive breadth provided by LEED.

Respondent Number 13

As a model code, the IgCC is designed to be enforced by the adopting authority having jurisdiction (AHJ) or using a third-party enforcement scheme approved by the AHJ. As the AHJ for state high-performance building requirements, SECO can specify the enforcement mechanism based on current practice or by leveraging the infrastructure supporting verification of green building rating systems as outlined below. We recommend SECO provide a clear description of the verification process in its implementing documents and, for leadership projects, which are discussed below, how green building rating systems and verification mechanisms, like that used in LEED, can be used to demonstrate compliance. With IgCC as a minimum, SECO should also include a pathway for leadership projects that want to go beyond these minimum requirements to achieve LEED certification at Gold and Platinum levels. As identified above, IgCC-2018 was designed to align with LEED with the concept of a green code, and a beyond-code system, working together.

By recognizing LEED, SECO would help support high levels of sustainability achievement, backed by LEED's third-party certification process and infrastructure. In particular, Texas institutions of higher education may desire to achieve LEED certification as part of their sustainability commitments and leadership and create opportunities for increased recognition and celebration as well as a draw for students and faculty. SECO would enable project teams to benefit from the many resources available from USGBC and the USGBC community on LEED. This includes tips, guides, calculators, references, and education, as well as over 11,000 LEED credential holders in Texas.

Respondent Number 14

We supports the use of the IgCC-2018 for state and higher-education buildings in Texas. As a basis for its energy efficiency requirements, the IgCC-2018 references the 2018 International Energy Conservation Code (IECC) and ASHRAE Standard 90.1-2016, and then layers on additional performance requirements. This is done intentionally so that authorities having jurisdiction over construction could use the IgCC-2018 in conjunction with the 2018 IECC and ASHRAE Standard 90.1-2016. The 2018 IECC and ASHRAE Standard 90.1-2016 have been determined by the U.S. Department of Energy to save energy over their predecessor editions and be cost-effective, thus establishing them as model energy codes, and further bolstering the appropriateness of the IgCC-2018 for state-owned and higher education buildings.

Respondent Number 15

Use of the IgCC in conjunction with existing standards would be complimentary. In lieu of layered requirements, SECO could also provide accepted alternatives for rigorous, approved whole-building rating systems, such as LEED BD+C Certification throughout Texas or Austin Energy Green Building ratings in the Austin Energy service territory. LEED certification and Austin Energy Green Building ratings would have the additional benefit of third-party review, verification, and recognition that the building design meets the comprehensive green building standard, and in the case of Austin Energy Green Building, on-site verification of the green building practices. Austin Energy Green Building Ratings and LEED Certification also come with tools including forms and calculators that enable the building teams to simply demonstrate how the project complies with the standard. This streamlines the process, facilitates review, and provides more transparency. Without these assessments and tools, it is more difficult to verify that buildings comply with the standard.

Respondent Number 16

The use of the IgCC will provide the levels of performance desired by Section 447.004(b-1). It meets all the required characteristics with the possible exception of including a certification procedure. It is a matter of interpretation as to whether the intended application of code compliance procedures satisfy the requirement for certification procedures included in 447.004(b-1). If the purpose of including a requirement for certification is to have a mechanism for a third-party review of the building's performance characteristics, the IgCC is intended for the local code official to provide that review. There is no outside organization that will perform the role played by, for example, GBCI for LEED certification.

Respondent Number 17

The IGCC can utilize the normative and informative appendices to augment and supplement the mandatory code requirements of applicable sections of the ICC and IECC and related building codes. The result is we take our baseline engineering design solutions related to site, water use, energy efficiency, indoor environmental quality, materials and resources, and operational plans and improve them substantially and by at least 15% across the board to create a final solution for design and construction that is well above and beyond code requirement and yields a project that has a minimal impact on the local and global eco-system at a utility cost that approaches net zero.

Attachment 5. Chronology of the Advisory Committee Meetings (Notes & Actions)

1st meeting on January 25, 2021

January 25, 2021 initial meeting to request participation of select industry associations and trade organizations in the SECO advisory committee.

Initial letter dated: January 11, 2021

The Texas Comptroller of Public Accounts request assistance from your organization to advise our State Energy Conservation Office (SECO) on selecting a high-performance building evaluation system for new state buildings and state-supported institutions of higher education.

Section [447.004](#) of the Texas Government Code requires the SECO to establish and publish mandatory design standards for new state buildings, including allowing for design flexibility and certification under a high-performance design evaluation system(Section [447.004\(d\)](#)).

Appointees to the advisory committee will assist SECO in the approval of the State's high-performance building design evaluation system. The appointees will continue to work with SECO to review and make recommendations regarding the requirements on a biennial basis to identify future modifications to the evaluation system. One individual appointed by the comptroller will preside over the committee and will represent SECO. Other advisory committee members will represent the stakeholder organizations as referenced in the government code. Candidate individuals should have experience in high-performance buildings including experience and expertise in energy efficiency, water conservation, or low-impact site development.

We request that you appoint/nominate one member of your organization to serve on the advisory committee to assist SECO in selecting one or more high-performance building design evaluation system for use by Texas state agencies and institutions of higher education. Once you have determined the appointee to the state's High-Performance Building Standards Committee, please send a response to SECO with a description of the individual's expertise and their contact information. Please submit your appointee recommendation to Fred Yebra, SECO Energy Engineer, at fred.yebra@cpa.texas.gov. After reviewing all the committee appointments, SECO will contact your appointee to provide additional details regarding the advisory committee's roles and responsibilities and accompanying activities. We anticipate having our first meeting of the advisory committee later this month in January (possibly on January 28, 2021).

Fred Yebra, PE, MBA
State Energy Conservation Office

First Virtual meeting of the Advisory Committee on Thursday, January 28, 2021

Meeting agenda and discussion items:

1. Texas Government Code [Section 447.004](#) – High Performance Building Design Evaluation System
2. Current Design Standards for state agencies and high education facilities
3. SECO Request for Information (RFI) issued July 2020
4. Request to industry association and trades organizations for Advisory Committee members

2nd meeting held February 25, 2021

Attendance: Fred Yebra, Farshad Shahsavary, David Boram, Will McAdams, Justin Bowker, Brent Luck, Robert Thornton, Jeff Haberl, Shirley Ellis, Doug Powell, Debra Durda, John Martinez, Derrick Bailey, Bungane Mehlomakulu, Denise Brooks, Jared Higgins

At the second meeting of the advisory committee Fred Yebra informed the group that the advisory committee is formed with appointees from the various organizations. The following table summarizes the members of the advisory committee and their representation.

High Performance Building Design Evaluation System - Advisory Committee

Name of Association	Advisory Committee Members
Texas Society of Architect	Beth Brant
Texas Council of Engineering Companies	Dirk Kestner
Texas Society of Professional Engineers	Jared Higgins
Associated Builders and Contractors of Texas	Justin Bowker
Associated General Contractors, Texas Building Branch	David Boram
Tx Chapter of American Society of Landscape Architects	Brent Luck
Texas Chemical Council	Douglas W. Brady
Texas State Building and Construction Trades Council	<u>Robert "Chap" Thornton</u>
Texas Chapter of the Urban Land Institute	Bungane Mehlomakulu
Brick Industry Association	Chip Clark
SECO	Fred Yebra
Texas Facilities Commission	Farshad Shahsavary
Texas A&M Univ. Energy Systems Laboratory	Bahman Yazdani
University of Texas System	Doug Powell
HUB - Hispanic Contractors Association	John Martinez

At the advisory committee meeting, Fred Yebra also presented the responses of the Request for Information publish in July 2020 by the State Energy Conservation Office (SECO). RFI Review (see attached RFI for High-Performance Building Design Evaluation System)

The two specific questions of the RFI were the following:

Question 1: Does the 2018 edition of the International Green Construction Code (“IgCC-2018”) published

by the International Code Council (“ICC”) meet the requirements in Section 447.004 of the Texas Government Code for a high-performance building evaluation system? (b-1) A building to which this section applies must be designed and constructed or renovated so that the building achieves certification under any high-performance design evaluation system approved by the state energy conservation office that: (1) is developed and revised through a nationally recognized consensus-based process or by a municipally owned utility in this state; (2) provides minimum requirements for energy use, natural resources use, and indoor air quality, post-construction review and verification for certification, or a third-party, post-construction, rigorous review of documentation and verification for certification; and (5) encourages the use of materials or products manufactured or produced in this state.

Question 2: How can the IgCC-2018 be used in conjunction with existing energy efficiency and water conservation minimum code standards to achieve higher levels of performance?

The attached documents are the summarized responses for question 1 and 2. General observations:

- In general, respondents were mostly in favor of a high-performance building design evaluation system for state-owned buildings. Several viewed it as expensive or hard to implement for new building construction projects.
- The two main high-performance building design evaluation systems presented in the responses were: 1) the 2018- IgCC standards by the ICC (International Code Council), and 2) the LEED certification by the USGBC. Both seem to be good candidates meeting the SECO requirements and each has its pros and cons. For instance, LEED is a recognized standard that has been around for a number of years. However, there is a cost for the LEED certification. The IgCC is developed and revised through a nationally recognized consensus-based process; however, it is less recognized than LEED.
- A number of respondents were more in favor of having the option to choose from available high-performance standards. For example, the building designer could choose either the LEED Certification or the IgCC. This would be similar to how the energy efficiency performance standards allow the designer to demonstrate compliance using either the 2018 IECC or the ASHRAE standard 90.1-2016.
- A few respondents were not in favor of having a high-performance evaluation system; reasons range from more expensive to build and not a good use of public funds.
- A few respondents were in favor of adoption of a later version of IgCC (2021 version) as the 2018 version may have flaws.

Following the review of each of the 17 RFI responses, the committee discussed a number of different possible recommendations to SECO as possible high-performance building design evaluation systems.

Possible recommendation options for consideration for SECO adoption:

1. Adopt the 2018 IgCC (International Green Construction Code) as the high-performance building design evaluation system in conjunction with the existing SECO standards for energy efficiency (ASHRAE 90.1-2016 or 2018 IECC) and SECO existing Water Conservation Design Standards.
2. Allow the designer of new state buildings design projects to choose either the 2018 IgCC or the LEED Certification. Either one could be selected to demonstrate compliance with the requirement for a high-performance building design.
3. Allow the designer to choose from other less known high-performance evaluation standards (Austin Energy Green Building Rating System, IAPMO standard for plumbing)
4. Some respondents viewed the IgCC as not having all aspects of the IgCC are well thought out or reasonably applicable to all types of construction. The solution would be to conduct a more thorough review of the 2018 IgCC, on a section by section basis, and identify what to leave in and what to leave out. This could result in the incorporation of sustainable features into our state buildings that better benefit and viable to the community.
5. An alternate option is to established goals to be achieved (i.e., 15% above code) in the various elements of sustainability over and above the standard prescriptive code requirements.

Next Steps

The advisory committee will meet on March 25, 2021 to review the various options for recommendation to SECO. Depending on the discussion and recommendation, the advisory committee may consider scheduling an additional meeting before presenting a recommendation to SECO.

3rd meeting held March 25, 2021

The third and last meeting of the advisory committee will be to hear advisory committee recommendations for adopting a high-performance building evaluation system for state agencies and institutions of higher education.

Meeting notes of meeting held March 25, 2021.

Accepting meeting invite: Fred Yebra, Derick Bailey, Beth Brant, Dirk Kestner, Jared Higgins, Justin Bowker, David Boram, Douglas W. Brady, Chap Thornton, Bungane Mehlomakulu, Chip Clark, Bahman Yazdani, Doug Powell, John Martinez, Jeff Haberl, Eddy Trevino, Denise Brooks, Shirley Ellis, Etienne Cadestin, Debra Durda, Derrick Bailey.

At the third meeting of the advisory committee Fred Yebra informed the group that the advisory committee is formed with appointees from each of the various organizations as stated in the Texas Government Code 447.004.

The following table summarizes the members of the advisory committee and their representation.

Name of Association	Advisory Committee Members
Texas Society of Architect	Beth Brant
Texas Council of Engineering Companies	Dirk Kestner
Texas Society of Professional Engineers	Jared Higgins
Associated Builders and Contractors of Texas	Justin Bowker
Associated General Contractors, Texas Building Branch	David Boram
Tx Chapter of American Society of Landscape Architects	Brent Luck
Texas Chemical Council	Douglas W. Brady
Texas State Building and Construction Trades Council	Robert “Chap” Thornton
Texas Chapter of the Urban Land Institute	Bungane Mehlomakulu
Brick Industry Association	Chip Clark
SECO	Fred Yebra
Texas Facilities Commission	Farshad Shahsavary
Texas A&M Univ. Energy Systems Laboratory	Bahman Yazdani
University of Texas System	Doug Powell
HUB - Hispanic Contractors Association	John Martinez

Fred recapped the advisory committee meetings to date beginning with a review of the statute directing SECO to establish a high-performance building design evaluation system for state agencies and institutions of higher education. He also discussed the requirements for selecting a high-performance building design evaluation system as stated in statute. Fred introduced the appointed members of the advisory committee and together they completed the review of responses that SECO received following the Request for Information for high-performance evaluation systems.

Next, they discussed the SECO research that has gone into identifying possible high-performance building design evaluation systems. Included in the research was the review of the federal General Services Commission (GSA) report, “High-Performance Building Certification System Review – Findings Report.” The advisory committee received an overview of the work by SECO and by the GSA. The group completed the review of responses to the SECO RFI publish in July of 2020. Based on all the information discussed by the advisory committee so far, the group began to discuss possible recommendations for SECO.

General observations:

- In general, respondents were mostly in favor of a high-performance building design evaluation system for state-owned buildings. Several viewed it as expensive or hard to implement for new building construction projects.
- The two main high-performance building design evaluation systems presented in the responses were: 1) the 2018- IgCC standards by the ICC (International Code Council), and 2) the LEED certification by the USGBC. Both seem to be good candidates meeting the SECO requirements and each has its pros and cons. For instance, LEED is a recognized standard that has been around for a number of years. However, there is a cost for the LEED certification. The IgCC is developed and revised through a nationally recognized consensus-based process; however, it is less recognized than LEED.
- A number of respondents were more in favor of having the option to choose from available high-performance standards. For example, the building designer could choose either the LEED Certification or the IgCC. This would be similar to how the current energy efficiency performance standards allows the designer to demonstrate compliance using either the 2018 IECC or the ASHRAE standard 90.1-2016.
- A few respondents were not in favor of having a high-performance evaluation system; reasons range from more expensive to build and not a good use of public funds.
- A few respondents were in favor of adoption of a later version of IgCC (2021 version) as the 2018 version may have flaws.

Following the review of each of the 17 RFI responses, the committee discussed a number of different possible recommendations to SECO as possible high-performance building design evaluation systems.

Possible recommendations for consideration for SECO adoption:

1. Adopt the 2018 IgCC (International Green Construction Code) as the high-performance building design evaluation system in conjunction with the existing SECO standards for energy efficiency (ASHRAE 90.1-2016 or 2018 IECC) and SECO existing Water Conservation Design Standards.
2. Adopt the LEED Certification standards by the USGBC.
3. Allow the designer of new state buildings design projects to choose either the 2018 IgCC or the LEED Certification. Either one could be selected to demonstrate compliance with the requirement for a high-performance building design.
4. Allow the designer to choose from other less known high-performance evaluation standards (Austin Energy Green Building Rating System, Green Globes, BREEAM, IAPMO, BOMA Best).
5. Some respondents viewed the IgCC as not having all aspects of the IgCC well thought out or reasonably applicable to all types of construction. The solution would be to conduct a more thorough review of the 2018 IgCC, on a section by section basis, and identify what to leave in and what to leave out. This could result in the incorporation of sustainable features into our state buildings that are of better benefit and/or more viable to the community.
6. An alternate option is to established goals to be achieved (i.e., 15% above code) in the various elements of sustainability over and above the standard prescriptive code requirements.

Conformance with TGC 447.004 Criteria Findings			
Criteria requirement	2018 IgCC	LEED BD+C	AE GB Rating
Developed through naturally recognized consensus-based process or municipally owned utility	✓	✓	✓
Minimum requirements for energy use, natural resources, IAQ	✓	✓	✓
Substantiating documentation for certification	✓	✓	✓
on-site, third party, post-construction review and verification for certification	✓	✓	✓
encourage the use of materials and products manufactured in this state	✓	✓	✓

Based on the review of the requirements for the high-performance building design evaluation system as stated in the Texas Government Code Section 447.004, the following table summarizes the findings.

The members of the Advisory Committee are recommending that SECO adopt a high-performance building design evaluation system that provides the option to choose from a multiple of three choices:

1. 2018 International Green Construction Code (IgCC); or
2. LEED BD+C; Leadership in Energy and Environmental Design; developed by the U.S. Green Building Counsel (USGBC); or
3. Austin Energy Green Building Rating system.

Each of these high-performance building design evaluation systems contain the requirements and options that align to varying degrees with the required criteria and provide a sound approach to the certification of high-performance buildings. The advisory committee recommends state agencies use the certification system that best meets their mission and portfolio needs and certify to a level that promotes the high-performance sustainable building goals referenced in the Texas Government 447.004.

The proposed recommendation to adopt the above three high-performance evaluation systems and allow selection by the client agency and/or their design team will be discussed and voted on at the April 29, 2021 meeting of the advisory committee. The committee agreed to review the propose recommendation and provide their written comments of approval (or disapproval) for a high-performance building design evaluation system to SECO.

4th meeting on April 29, 2021

High Performance Building Design Evaluation System

The following table summarizes the members of the advisory committee and their representation.

High Performance Building Design Evaluation System - Advisory Committee

Name of Association	Advisory Committee Members
Texas Society of Architect	Beth Brant
Texas Council of Engineering Companies	Dirk Kestner
Texas Society of Professional Engineers	Jared Higgins
Associated Builders and Contractors of Texas	Justin Bowker
Associated General Contractors, Texas Building Branch	David Boram
Tx Chapter of American Society of Landscape Architects	Brent Luck
Texas Chemical Council	Douglas W. Brady
Texas State Building and Construction Trades Council	Robert "Chap" Thornton
Texas Chapter of the Urban Land Institute	Bungane Mehlomakulu
Brick Industry Association	Chip Clark
SECO	Fred Yebra
Texas Facilities Commission	Farshad Shahsavary
Texas A&M Univ. Energy Systems Laboratory	Bahman Yazdani
University of Texas System	Doug Powell
HUB - Hispanic Contractors Association	John Martinez

Fred recapped the advisory committee meetings to date beginning with a review of the statute directing SECO to establish a high-performance building design evaluation system for state agencies and institutions of higher education. He also discussed the requirements for selecting a high-performance building design evaluation system as stated in statute. Fred introduced the appointed members of the advisory committee and together they completed the review of responses that SECO received following the Request for Information for high-performance evaluation systems.

Next, they discussed the SECO research that has gone into identifying possible high-performance building design evaluation systems. Included in the research was the review of the federal General Services Commission (GSA) report, "High-Performance Building Certification System Review – Findings Report." The advisory committee received an overview of the work by SECO and by the GSA. The group completed the review of responses to the SECO RFI publish in July of 2020. Based on all the information discussed by the advisory committee so far, the group began to discuss possible recommendations for SECO.

General observations:

- In general, respondents were mostly in favor of a high-performance building design evaluation system for state-owned buildings. Several viewed it as expensive or hard to implement for new building construction projects.
- The two main high-performance building design evaluation systems presented in the responses were: 1) the 2018- IgCC standards by the ICC (International Code Council), and 2) the LEED certification by the USGBC. Both seem to be good candidates meeting the SECO requirements and each has its pros and cons. For instance, LEED is a recognize standard that has been around for a number of years. However, there is a cost for the LEED certification. The IgCC is developed and revised through a nationally recognized consensus-based process; however, it is less recognized than LEED.
- A number of respondents were more in favor of having the option to choose from available high-performance standards. For example, the building designer could choose either the LEED Certification or the IgCC. This would be similar to how the energy efficiency performance standards allows the designer to demonstrate compliance using either the 2018 IECC or the ASHRAE standard 90.1-2016.
- A few respondents were not in favor of having a high-performance evaluation system; reasons range from more expensive to build and not a good use of public funds.
- A few respondents were in favor of adoption of a later version of IgCC (2021 version) as the 2018 version may have flaws.

Following the review of each of the 17 RFI responses, the committee discussed a number of different possible recommendations to SECO as possible high-performance building design evaluation systems.

Possible recommendations for consideration for SECO adoption:

1. Adopt the 2018 IgCC (International Green Construction Code) as the high-performance building design evaluation system in conjunction with the existing SECO standards for energy efficiency (ASHRAE 90.1-2016 or 2018 IECC) and SECO existing Water Conservation Design Standards.
2. Adopt the LEED Certification standards by the USGBC.
3. Allow the designer of new state buildings design projects to choose either the 2018 IgCC or the LEED Certification. Either one could be selected to demonstrate compliance with the requirement for a high-performance building design.
4. Allow the designer to choose from other less known high-performance evaluation standards (Austin Energy Green Building Rating System, Green Globes, BREEAM, IAPMO, BOMA Best).
5. Some respondents viewed the IgCC as not having all aspects of the IgCC well thought out or reasonably applicable to all types of construction. The solution would be to conduct a more thorough review of the 2018 IgCC, on a section by section basis, and identify what to leave in and what to leave out. This could result in the incorporation of sustainable features into our state buildings that better benefit and more viable to the community.
6. An alternate option is to established goals to be achieved (i.e., 15% above code) in the various elements of sustainability over and above the standard prescriptive code requirements.

Based on the review of the requirements for the high-performance building design evaluation system as stated in the Texas Government Code Section 447.004, the following table summarizes the findings.

Conformance with TGC 447.004 Criteria Findings			
Criteria requirement	2018 IgCC	LEED BD+C	AE GB Rating
Developed through naturally recognized consensus-based process or municipally owned utility	✓	✓	✓
Minimum requirements for energy use, natural resources, IAQ	✓	✓	✓
Substantiating documentation for certification	✓	✓	✓
on-site, third party, post-construction review and verification for certification	✓	✓	✓
encourage the use of materials and products manufactured in this state	✓	✓	✓

The members of the Advisory Committee are recommending that SECO adopt a high-performance building design evaluation system that provides the option to choose from a multiple of three choices:

1. 2018 International Green Construction Code (IgCC); or
2. LEED BD+C; Leadership in Energy and Environmental Design; developed by the U.S. Green Building Counsel (USGBC); or
3. Austin Energy Green Building Rating system.

Each of these high-performance building design evaluation systems contain the requirements and options that align to varying degrees with the required criteria and provide a sound approach to the certification of high-performance buildings. The advisory committee recommends state agencies use the certification system that best meets their mission and portfolio needs and certify to a level that promotes the high-performance sustainable building goals referenced in the Texas Government 447.004.

The proposed recommendation to adopt the above three high-performance evaluation systems and allow selection by the client agency and/or their design team will be discussed and voted on at the April 29, 2021 meeting of the advisory committee. The committee agreed to review the propose recommendation and provide their written comments of approval (or disapproval) for a high-performance building design evaluation system to SECO.

High Performance Building Design Evaluation System

Proposed recommendation to SECO for adopting a high-performance evaluation system

The members of the Advisory Committee are recommending that SECO adopt a high-performance building design evaluation system that provides the option to choose from a multiple of four choices:

1. 2018 International Green Construction Code (IgCC); or

2. LEED BD+C; Leadership in Energy and Environmental Design; developed by the U.S. Green Building Counsel (USGBC);
3. The BREEAM building rating and certification system for environmental sustainability, administered by the Building Research Establishment (BRE); or
4. Austin Energy Green Building (AEGB) Rating system developed by Austin Energy.

The high-performance building design evaluation system will apply to the construction of a new state building, or institution of higher education building, structure, or other facility as referenced in Section 1. Subchapter B, Chapter 55, Education Code amendment adding Section 55.115 which reads as follows:

Sec. 55.115. HIGH-PERFORMANCE, SUSTAINABLE DESIGN,

CONSTRUCTION, AND RENOVATION STANDARDS FOR CERTAIN FACILITIES.

- (a) This section applies to the construction of a state building or an institution of higher education building, structure, or other facility, or the renovation of a building, structure, or other facility the cost of which is more than \$2 million, or, if less than \$2 million, more than 50 percent of the value of the building, structure, or other facility, if any part of the construction or renovation is financed by revenue bonds issued under this subchapter.
- (b) A building, structure, or other facility to which this section applies must be designed and constructed or renovated so that the building, structure, or other facility complies with high-performance building standards, approved by the board of regents of the institution, or the State Energy Conservation Office that provide minimum requirements for energy use, natural resources use, and indoor air quality. In approving high-performance building standards, a state agency or board of regents shall consider, but is not subject to, the high-performance building evaluation system approved by the state energy conservation office under Section 447.004, Government Code, and may solicit and consider recommendations from the advisory committee appointed under that section.
- (c) Except as provided by this section, a building, structure, or other facility to which this section applies must be designed and constructed or renovated to comply with the applicable energy and water conservation design standards established by the state energy conservation office under Section 447.004, Government Code, unless the institution constructing the building determines that compliance with those standards is impractical and notifies the state energy conservation office of the determination and provides to the office documentation supporting the determination.

Each of these high-performance building design evaluation systems contain the requirements and options that align to varying degrees with the required criteria and provide a sound approach to the certification of high-performance buildings. The advisory committee recommends state agencies use the certification system that best meets their mission and portfolio needs and certify to a level that promotes the high-performance sustainable building goals referenced in the Texas Government 447.004.

The proposed recommendation to adopt the above three high-performance evaluation systems and allow selection by the client agency and/or their design team will be discussed on at the April 29, 2021 meeting of the advisory committee. The committee reviewed the propose recommendation and provided additional language contain in this update. These additional recommendations will be voted on by the members at the next meeting of the advisory committee for recommendation of a high-performance building design evaluation system to SECO.

5th Meeting on May 13, 2021

At the April meeting of the advisory committee, the members of the High Performance Building Advisory Committee expressed interest in seeing a demonstration of the BREEAM assessment tool learn more about the BREEAM assessment tool for certifying high performance building design projects. We had agreed to view this demonstration before making a final recommendation to the State Energy Conservation Office (SECO). Breana Wheeler, with the BRE Group, Inc. was invited to present the BREEM software tool. She gave a complete overview and the system capabilities and including answers to all the member questions regarding meeting the requirements of the Texas government code.

The purpose of the meeting was to view a demonstration of the BREEAM rating system to determine if it can be used as a fourth option to certify high-performance building designs for state agencies and institutions of higher education. The presentation to the committee included a question and answer discussion to help determine whether the rating system meets the requirements of the [Texas Government Code 447.004\(b-1\)](#). All of the questions from the advisory committee members present were satisfactorily answered and there was agreement that BREEAM can meet the requirements in the Texas Government Code 447.004.

The next step for the advisory committee is to get each member's vote to approve the following advisory committee recommendation, and to prepare the full report to document all the research work gathered, all the advisory committee meetings notes and presentations.

Recommendation for a High Performance Building Design Evaluation System

The members of the Advisory Committee recommend SECO adopt a high-performance building design evaluation system that provides state agencies and institutions of higher education, the option to choose from a multiple of four choices:

1. 2018 International Green Construction Code (IgCC); developed by the ICC/ ASHRAE/ IES/ USGBC/ ANSI;
2. LEED BD+C version 4.1; Leadership in Energy and Environmental Design; developed by the U.S. Green Building Counsel (USGBC);
3. The BREEAM building rating and certification system for environmental sustainability, administered by the Building Research Establishment (BRE); or
4. Austin Energy Green Building (AEGB) Rating system developed by Austin Energy.

A follow up email to the members requested a vote to recommend that SECO adopt a high-performance building design evaluation system that provides state agencies and institutions of higher education, the option to choose from a multiple of the above four choices. The desire was to get a consensus vote from the members of the committee for the above SECO recommendation for a high performance building design evaluation standard to meet the requirement of the government code. Each committee member responded via email and the vote are summarize in the attached table. This completed the task for the advisory committee and the next committee meeting will take place in two years to review and updates and changes to the high performance building design evaluation system for state agencies and institutions of higher education.

Attachment 6. SECO Request for Information

High Performance Building Evaluation System Using the 2018 International Green Construction Code (IgCC)
For State Agencies and Institutions of Higher Education

TEXAS COMPTROLLER OF PUBLIC ACCOUNTS



State Energy Conservation Office

Data Analysis & Transparency Division

Request for Information for a
High Performance Building Evaluation System Using the 2018
International Green Construction Code (IgCC)
For State Agencies and Institutions of Higher Education

RFI No. 225j - July 7, 2020

Responses Due: 2:00 pm CT, Monday, August 31, 2020

Summary

- **Type of Document:** Request for Information (“RFI”)
- **Issuing Office:** Texas Comptroller of Public Accounts (“CPA”)

ATTN: Joseph Madden Contracts Attorney
Texas Comptroller of Public Accounts LBJ State Office Building
111 E. 17th Street, Room 201
Austin, Texas 78774
- **Responses Requested From:** Qualified Respondents are respondents that are experienced in building design and construction, or have expertise in high-performance buildings, including experience and expertise in energy efficiency, water efficiency, or low-impact site development
- **Type:** High performance building design, construction, and maintenance and operations
- **Responses to RFI:** Must be sent by email to: contracts@cpa.texas.gov in accordance with Section D of this RFI
- **Deadline for Submitting Questions** Questions regarding this RFI must be in writing and must be submitted by email to CPA’s designated Point-of-Contact no later than July 24, 2020 at 2:00 p.m. CT. Telephone inquiries will not be accepted. CPA intends to post answers to these questions on the Electronic State Business Daily (“ESBD”) located at <http://www.txsmartbuy.com/esbd> on or about July 31, 2020. Respondents are solely responsible for verifying CPA’s timely receipt of the questions by the deadline specified above.
- **Deadline for Responding to RFI:** Monday, August 31, 2020, 2:00 p.m., Central Time, (CT)
- **CPA Point of Contact for this RFI:** Joseph Madden, Contracts Attorney
Phone Number: 512-475-5602
Email: contracts@cpa.texas.gov
- **Respondent Presentations:** In CPA’s sole discretion and to assist in additional information gathering, CPA may invite one or more Qualified Respondents to present and explain in further detail its response to this RFI for a high- performance building evaluation system. Oral presentations, if any, may be conducted via WebEx and presentation dates and times will be arranged by CPA.

Introduction

Section [447.004](#) of the Texas Government Codes requires the State Energy Conservation Office (“SECO”) to establish and publish mandatory energy and water conservation design standards for new state buildings and state-supported institutions of higher education.

In 2011, House Bill 51 of the 82nd Texas Legislature, amended Section 447.004 to apply to the design and construction or renovation of state funded buildings such that the building achieves certification under any high-performance design evaluation system that is approved by SECO and that meets certain requirements.

Pursuant to the requirements of Section 447.004 of the Texas Government Code, CPA, on behalf of SECO issues this RFI to gather information for establishing a high-performance building evaluation system for state agency building design projects.

Requirements for Responding to RFI

Responses to this RFI should help SECO answer the following questions:

1. Does the 2018 edition of the International Green Construction Code (“IgCC-2018”) published by the International Code Council (“ICC”) meet the requirements in Section 447.004 of the Texas Government Code for a high-performance building evaluation system; and
2. How can the IgCC-2018 be used in conjunction with existing energy efficiency and water conservation minimum code standards to achieve higher levels of performance.

SECO has determined that IgCC-2018 meets the requirements of Section 447.004(b-1) of the Texas Government Code and is a candidate to serve as the “high performance design evaluation system” referenced therein. These requirements are set forth in Section 447.004(b-1) as follows:

“A building to which this section applies must be designed and constructed or renovated so that the building achieves certification under any high-performance design evaluation system approved by the state energy conservation office and,

- (1) is developed and revised through a nationally recognized consensus-based processor by a municipally owned utility in this state;
- (2) provides minimum requirements for energy use, natural resources use, and indoor air quality;
- (3) requires substantiating documentation for certification;
- (4) requires on-site, third-party, post-construction review and verification for certification, or a third-party, post-construction, rigorous review of documentation and verification for certification; and
- (5) encourages the use of materials or products manufactured or produced in this state.

SECO seeks responses to this RFI to augment its general understanding of the IgCC-2018 and to provide analysis and guidance on how to use this high-performance standard to complement the current SECO energy efficiency performance standard (2016 90.1P ASHRAE Standard) as well as the SECO water conservation design standards for state agencies and institutions of higher education.

SECO is seeking information on whether the IgCC-2018 provides a whole systems approach to the design, construction and operation of buildings and also address site sustainability, water use efficiency, and indoor environmental quality.

SECO is also seeking information on whether the IgCC-2018 can be used with other model codes such as IECC (International Energy Conservation Code), 90.1 ASHRAE Standard, and other referenced standards to establish the state agency high performance design evaluation system.

SECO is seeking input from qualified individuals, public sector organizations and industry stakeholder organizations with experience in high-performance building design and construction, or related products and services, including expertise in energy efficiency, waterconservation, or low-impact site development, to assist SECO in determining: 1) if the IgCC-2018 meets the requirements set forth in Section 447.004(b-1) of the Texas Government Code, and 2) how the IgCC-2018 can be used in conjunction with existing energy efficiency and water conservation minimum code standards to achieve higher levels of performance.

SECO will accept comments, data, and information regarding this RFI until August 31, 2020. SECO will send a follow-up email to announce summary results and may appoint an advisorycommittee to advise the office in selecting a high performance building evaluation system. Section 447.004(b-2) states, "The state energy conservation office shall appoint an advisorycommittee to advise the office in selecting one or more high-performance building design evaluation systems to approve."

Required RFI Response Materials

Respondents must send responses to this RFI via an email titled "Response to RFI No. 225j for High Performance Building Evaluation System" to contracts@cpa.texas.gov on or beforethe deadline specified in Section A (Summary) of this RFI. All attachments to the email mustbe in a format that is accessible to CPA (specific acceptable formats include Word, Excel, andpdf).

Responses to this RFI should include the items listed below and be organized in the followingorder:

- Company's name and address.
- Point of Contact information for Respondent, to include name, title, telephonenumber and email address.
- A summary, no more than five (5) to seven (7) pages, responding to each of the two (2) questions presented at the beginning of Section C of this RFI.
- Any other supporting information that the Respondent deems pertinent or relevant to this RFI (e.g., reports, research studies other case study literature).

Responses to this RFI must be submitted via email to contracts@cpa.texas.gov. Responses may NOT be submitted by mail, fax, or via hand delivery. CPA strongly encouragesrespondents to send the email with the attached Offer at least fifteen (15) minutes prior to the deadline for submission of responses as specified in this RFI in order to allow for any networking delays that may occur (e.g., firewalls, security scans, etc.). Respondents are solely responsible for ensuring timely receipt of their responses on or before the deadline; responses received after this time and date may not be considered.

No Contract Results from this RFI

This RFI is issued solely for the purpose of obtaining information that may assist CPA in further development of a high-performance building evaluation system for state agencies and state funded institution of higher education. This RFI is not a Request for Proposals (“RFP”), purchase, solicitation, commitment to conduct procurement, or an offer of a contract or potential contract. CPA is under no obligation whatsoever to issue a solicitation. Respondent submission of a response or participation in a presentation is voluntary. Failure to respond to this RFI will not disqualify a vendor from receipt of award of any future contract.

No Compensation or Cost Recovery

CPA shall pay no costs, expenses, or any other amounts to any Respondent or any other entity incurred under or related to this RFI.

Ownership of Responses and Open Records

Responses to this RFI will be the property of CPA and responses will not be returned to Respondents. Responses will be public information and available to any requestor; as a result, Respondent should not provide any information to CPA that Respondent believes to be confidential or proprietary information.

Copyrighted responses or responses marked “Confidential or Proprietary” are not acceptable and will be rejected as non-responsive.

Attachment 7. Vote Response of the Advisory Committee Vote Tally

SECO High-Performance Evaluation System Advisory Committee Member Votes

Name of Association	Advisory Committee Members	Vote to Approve Recommendation to SECO
State Energy Conservation Office (SECO)	Fred Yebra - Presiding Officer	Yes
Texas Society of Architect	Beth Brant	Yes
Texas Council of Engineering Companies	Dirk Kestner	Yes
Texas Society of Professional Engineers	Jared Higgins	Yes
Associated Builders and Contractors of Texas	Justin Bowker	Yes
Associated General Contractors, Texas Building Branch	David Boram	Yes
Tx Chapter of American Society of Landscape Architects	Brent Luck	Yes
Texas Chemical Council	Douglas W. Brady	Yes
Texas State Building and Construction Trades Council	Robert "Chap" Thornton	Yes
Texas Chapter of the Urban Land Institute	Bungane Mehlomakulu	Yes
Brick Industry Association	Chip Clark	Yes
Texas Facilities Commission	Farshad Shahsavary	No
Texas A&M University Energy Systems Laboratory	Jeff Haberl Bahman Yazdani	Yes
University of Texas System	Doug Powell	Yes
HUB - Hispanic Contractors Assoc	John Martinez	Yes