



DEVELOPMENT SERVICES

TO: Development Services Customers

SUBJECT: **INFORMATION BULLETIN 221**
Commercial 2021 IECC Submittal Requirements

DATE: August 30, 2024

CREATED BY: Plan Review Division

Purpose:

As a customer service initiative, the Development Services Department (DSD) created this bulletin to guide customers through the application process regarding compliance with the International Energy Conservation Code (IECC). This information bulletin defines, clarifies, and sets specific requirements and guidelines for both DSD customers and DSD employees. *This IB was modified to clarify requirements for plan review submittals and energy inspections.*

Scope:

This Information Bulletin consists of several parts:

Part I lists and describes the energy submittal documents needed (design elements, data, calculations, reports) to submit to Plan Review as part of a commercial building permit application package.

Part II describes the process of submitting Energy documents for remodels of existing buildings, phased shell and interior finish out phased permits, and how to submit for mixed use buildings that include both commercial and residential occupancies. Use of ASHRAE 90.1 should only be used for new commercial buildings.

Part III lists requirements to clear applicable energy inspections prior to obtaining a Certificate of Occupancy, the Inspections / Commissioning Agent requirements, who may conduct commissioning and provide the Preliminary Commissioning Report to the City of San Antonio.

The **Commercial Energy Compliance Systems Letter(s)** form (pages 12-17) are required to clear most of the Energy Inspections on a building permit. These forms and reports are submitted on the building permit record, not on the associated application record.

The **Energy Commissioning Checklist** form (pages 18-21) are required to clear the commissioning of the air barrier, mechanical systems, and the lighting controls. The first two pages of the form shall be filled out and submitted in the application. The last two pages, which contain the IECC Systems Commissioning Responsibilities/Checklist, shall be submitted to the building permit record along with the required documents specified in the checklist prior to the issuance of the Certificate of Occupancy.

PART I – ENERGY INFORMATION TO SUBMIT FOR PLAN REVIEW

COMPLIANCE PATH OPTIONS

Information to provide at Plan Review is dependent on the energy compliance path chosen at design. The 2021 International Energy Conservation Code and ASHRAE 90.1-2019 allows for the design professional to select the Energy Compliance Path and sub-options best suited for the building. The entire building and MEP design must be compliant under that path. The applicant must indicate which compliance path is chosen and the City will review under that chosen energy path. There are two main compliance paths with several sub-paths under each:

2021 International Energy Conservation Code

Prescriptive Path IECC Sections C402 through C406 with 2 sub-options

- a. C402.1.3 - Straight R-Value Method using Table C402.1.3
- b. C402.1.4 - U-Factor Method using Maximum U, C and F Factors Table C402.1.4

Total Building Performance Path using C407

- a. C402.1.5 - Component Performance Path using COMcheck

2019 ASHRAE 90.1

Prescriptive Path – Section 5.5

Energy Cost Budget – Performance Path – Section 11

Performance Rating Method – Appendix G

Each compliance Path and sub-path has mandatory provisions that must be met as follows:

ENERGY SUBMITTAL FOR PLAN REVIEW - A Building Permit Package shall include the following energy information for all new buildings, shells, interior finish outs, additions, and remodels where required by Chapter 5 of the 2021 IECC:

- A. **Energy Summary Sheet(s)** -Submitted as part of the design package as a PDF document. The Energy Summary Sheet should be included within the plans for review and inspection purposes. The Energy Summary Sheet(s) shall contain the following information:
 1. The **Energy Compliance Path Chosen.**
 2. The **Additional Energy Efficiency Package(s) chosen** if one of the three IECC Prescriptive Paths is chosen.
 3. The Energy Summary Sheet must also include the required information below OR must indicate in which sheet(s) or document the information is located.
- B. **Mandatory Information to be submitted** - required by either the 2021 IECC or ASHRAE 90.1-2019

2021 IECC - Required Submittals for all IECC compliance paths:

Building Systems – Generally located on Architectural Sheets

Energy System	Location of Information
Building thermal envelope	Show location on the plans
Insulation materials and their R-Values	Shown on the plans, section details or in tables – include the slab edge insulation if applicable
Fenestration U-Factors and their Solar Heat Gain Coefficients (SHGC)	Located on the plans – often in a table
Air Barrier and air sealing methods	Show on the plans – indicate materials used and the location of the air barrier
Roof solar Reflectance and Thermal Emittance values	Indicate in the plans in notes or table

Mechanical Systems – Generally on Mechanical Sheets

Energy System	Location of Information
Mechanical Load Calculations for heating and cooling loads	For Engineered Designs – provide basic climatic input data and output total BTU/H Cooling Heating and Hot Water For non-engineered – provide Manual N or equivalent calculations
Mechanical System Equipment - type, sizes and efficiencies	Show in notes or in a table
Economizer - provide description, indicate if fault detection and diagnostics are included	Show in notes or in a table
Mechanical Control System – general description for controls for a system/components	Show in notes or in a table related to the equipment/component
Mechanical Duct/HVAC Piping insulation – provide R-Values	Show in notes typically
HVAC System Fan Motor – horsepower, efficiencies and controls	Shown in tables or notes

Hot Water System – Generally on Plumbing Sheets

Energy System	Location of Information
Hot Water System Controls	Show in notes
Service Hot Water Equipment - type, sizes and efficiencies	Show in notes or in a table
Hot Water Piping insulation – provide R-Values	Show in notes typically

Electrical Power / Lighting Systems – Electrical / Architectural Sheets

Energy System	Location of Information
Daylight Zones – Primary and Secondary Daylight Zones	Shown on Floor Plans
Lighting Fixture Schedule – Fixture Wattage and Control narrative	Show in a table
Interior and Exterior Lighting Power Calculations – provide Building Area method or the Space by Space method	Show in notes or in a table, or may be in the COMcheck

COMchecks

- a. Mechanical COMcheck must indicate mechanical and hot water equipment and performance matching the equipment shown on the plans.
- b. Electrical Lighting COMcheck submitted showing the number and types of fixtures that match the lighting plans and site plans.

Commissioning and Lighting Control Testing plan

The plan(s) provided for the future Commissioning and Lighting Testing is intended to match the Pre-Final Commissioning report provided near the end of construction. The Commissioning / Lighting Testing plan may be provided by different design professionals, however it should be clear to match the future pre-final commissioning report.

The Commissioning Plan is normally submitted as separate pdf document(s).

Building Envelope Performance Verification:

- a. A review of the construction documents to verify compliance with C402.5.1
- b. Inspection of continuous air barrier components and assemblies shall be conducted during construction while the air barrier is still accessible for inspection and repair to verify compliance with the requirements of Sections C402.5.1.3 and C402.5.1.4
- c. A final commissioning report shall be provided for inspections completed by the registered design professional or approved agency to the building owner.

Commissioning Plan – Mechanical and Hot Water if required by C408.2 – Provide:

- a. Narrative of testing activities and who will perform them
- b. List of equipment to be tested
- c. Functions and controls to be tested
- d. Conditions required for the test
- e. Measurement criteria

Electrical Lighting Control Functional Testing – Indicate plan to test the following controls:

- a. Occupant Sensors
- b. Time Switch Controls
- c. Daylight Responsive Controls

Additional information is required for specific Energy Compliance Options/Paths:

Additional Submittal Requirements for the C402.1.3 – **Straight R-Value Method** using Table C402.1.3, the C402.1.4 **U-Factor Method**, or the C402.1.5 **Component Performance Alternative**

- a. Provide vertical fenestration area
- b. Provide skylight area
- c. Provide projection factor and show how the factor was calculated
- d. Clearly indicate the Additional Efficiency Package(s) chosen to achieve 10-points per Section C406. (Five points for Interior Finish Outs) May be provided in the COMchecks but must match the designs on the plans.

Additional Submittal Requirement for the C402.1.4 **U-Factor Method**

Provide the calculations for the areas-weighted U-Factors and the SHGC used in the design.

Additional Submittal Requirement for the C402.1.5 Component Performance Alternative

Provide calculations of alternative to compliance for the thermal envelope, vertical glazing and skylight area using equations in C402.1.5.

Additional Submittal Requirements for the Total Building Performance Path C407

Provide a third-party compliance report (see C407.5) showing:

- a. Building envelope values and fenestration areas are determined by the equation in Chapter 4
- b. Address of the project
- c. Inspection checklist that shows the estimated annual energy cost of the standard reference design and the proposed design
- d. Name of the individual completing the report
- e. Name and version of the compliance software
- f. Documentation of the DCV Demand Control Ventilation, ERV Energy Recovery Ventilator, or HRV Heat Recovery Ventilator

ASHRAE 90.1 Required Submittals for all ASHRAE Compliance Paths

Functional Performance Testing – Indication on the plans for functional testing of:

- a. Building continuous air barrier 5.9.1.2
- b. Mechanical controls and mechanical commissioning 6.9
- c. Hot water system controls 7.9
- d. Automatic receptacle controls, energy monitoring 8.9
- e. Controls of lighting devices – occupancy sensors, time switches, daylight controls 9.9
- f. Controls and monitoring testing other equipment 10.9

Construction plans shall identify/provide a narrative of the verification process and the performance requirements. See the list of forms below that provide clarification of requirements based on the compliance path and scope of work.

- [Compliance Forms—Building Envelope](#)
- [Compliance Forms—HVAC Systems](#)
- [Compliance Forms—Lighting](#)
- [Compliance Forms—Service Water Heating](#)
- [Compliance Forms—Energy Cost Budget Method](#)
- [Compliance Forms—Performance Rating Method](#)

Submittal Requirement for the ASHRAE Prescriptive Path includes:

Building Systems

- a. Building thermal envelope shown on the plans
- b. Insulation materials for each product and their R-Values – Shown on the plans, section details or in tables – include the slab edge insulation, if applicable
- c. Fenestration U-Factors and their Solar Heat Gain Coefficients (SHGC), including orientation, area and vertical Transmittance for each product/window – Generally presented in a table on the plans.
- d. Opaque door schedule that includes the U-Factor of each door
- e. Air Barrier and air sealing methods – show on the plans – indicating materials used and the location of the air barrier
- f. Location of Primary and Secondary Daylight Zones on the floor plans; Location of daylight areas under skylights and under roof monitors
- g. Label of space conditioning for either semi-heated or any unconditioned spaces

Mechanical and Hot Water

- h. Mechanical System Design Criteria – equipment type, sizes and efficiencies shown on the plan
- i. Economizer – description including controls and fault detection and diagnostics
- j. Documentation of the minimum compliant mechanical ventilation
- k. Mechanical and Hot Water System Controls shown on the plans
- l. Mechanical duct insulation and sealing shown on the plans
- m. Fan Motor horsepower and controls shown on the plans
- n. Service Hot Water System – equipment type, sizes and efficiencies shown on the plans
- o. Hot water piping insulation with locations shown on the plans

Electrical/Lighting/Power allowance

- p. Identification of all fixtures located in Daylight Zones (side primary and secondary, skylights and roof monitors)
- q. Lighting fixture schedule with wattage and control narrative shown on the plans
- r. Interior and exterior lighting power and associated controls
- s. Automatic receptacle controls and locations
- t. Description and information of the Electrical Energy Monitoring system

Other Equipment – Required in Section 10

- u. Electric Motors
- v. Service Water Pressure Booster Systems
- w. Elevators
- x. Escalators
- y. Energy Monitoring System if required under 10.4.5.2 Exceptions

Additional Submittal Requirement for the ASHRAE Energy Cost Budget Path:

Refer to Section 11.4.1 for the requirements of the report from the Simulation software to be provided. The details in the report must match the construction plans.

Additional Submittal Requirement for the ASHRAE Performance Rating Path:

Refer to Appendix G and G1.3.2 for the requirements of the submitted software report to be provided. The report details must match the construction plans.

PART II – APPLICABILITY OF THE COMMERCIAL 2021 IECC / ASHRAE 90.1

Applicability

The 2021 IECC Commercial Section/ASHRAE 90.1 is applicable for any new commercial building with conditioned space. This does not include one and two-family dwellings and townhomes covered under the provisions of the International Residential Code. It does not include any Group R-2, R-3 and R-4 buildings three stories or less in height above grade plane. These buildings are covered under the Residential provisions of the 2021 IECC.

Mixed Use with Residential

Where a building has mixed use of residential and commercial, the appropriate section of the IECC shall apply with appropriate submittal documents. Residential and Commercial information submittals are required as appropriate for applicable portions of the mixed-use building.

See [IB 167](#)

Remodels to Existing Buildings

For additions, remodel/alterations, repairs, change of occupancy or change in use of an existing commercial building, Chapter 5 of the 2021 IECC lists applicable requirements and exemptions. Generally, a Thermal Envelope COMcheck or printouts from other energy compliance software is not required unless a building is being brought down to the structural framing and being totally renovated. A Mechanical COMcheck and/or Electrical COMcheck may be required with design and installation of new systems.

A first-time tenant finish out should NOT be considered a remodel and must comply as a phase of a new building. An existing building is defined, for energy purposes, as a building where a Certificate of Occupancy was previously issued by a City or County Authority Having Jurisdiction (AHJ).

Phasing of Permits with Shell and Interior Finish Out Permits

Commercial buildings are often permitted in phases. In one case an owner is permitting a building for their own use but submitting a shell package and later submitting an interior finish out permit (IFO), often because the interior is still in design. In another case an owner is permitting a shell building with future multi suite tenants who will then submit for interior finish out permits when a space is leased.

As with any building system some portions of the mechanical, plumbing and electrical systems are constructed at the shell stage and others at the interior finish out stage. Energy systems at all phases of the project must comply with the 2021 IECC/ASHRAE 90.1-2019 and with applicable local amendments. Due to the complications of phasing energy systems, it is required the Architect design and install the full thermal envelope and air barrier with the shell permit. Other systems are as follows:

- A. Submit the IECC C402 or ASHRAE Section 5 building envelope energy system designed with the shell permit. Additional information or revisions to the design may be required with the interior finish out permit for a building wide system permitted under the IFO.
- B. Submit the proposed C406 Additional Energy Package at the shell permit (included in COMcheck, if the COMcheck is being used as the compliance software). Future tenant spaces will need to comply with the Additional Energy Efficiency Requirements of C406.1.1 at 5-points rather than the full 10-points.
- C. Provide a schedule regarding each energy system as proposed and under which permit it will be installed and inspected. Some MEP energy systems are building wide while other systems may be individual systems for each tenant suite, therefore some systems are required at the shell stage or some building wide IFO, while other systems may be submitted with a tenant IFO.
- D. Where a system may be partially constructed in separate permits, provide information in the schedule regarding who will be responsible for portions of a system in the case of multi-tenant buildings.

Warehouses are unique, especially where the percentage of tenant office space and type and height of materials to be stored are not entirely known. The thermal envelope must be designed and installed for conditioned rooms/spaces only.

PART III – INSPECTIONS AND SUBMITTALS PRIOR TO COO – Mandatory and project dependent inspections on the issued permit: Energy Compliance Letters, Preliminary Commissioning Report, Test Results:

Up to ten (10) energy related inspections may be inserted on a building permit dependent on the scope of the project. These inspections are required to be cleared by letters and/or reports submitted to Development Services prior to obtaining a Certificate of Occupancy. Forms are attached to this Information Bulletin.

ENERGY / COMMISSIONING SUBMITTALS

- A. Ten Inspections are cleared by **Energy Compliance Letter(s)** (details attached to this IB) from the Architect, Engineer, Contractor, Installer, Commissioning Agent or Owner’s Agent providing statements indicating acceptable installation as per the design and in compliance with the IECC or ASHRAE for the following energy related components/systems:
1. Type of insulation materials and R-Values as installed
 2. Type of reflective roof – Roof solar reflectance and thermal emittance as installed
 3. Fenestration (vertical and horizontal) U-Factors, SHGC, and VT as installed
 4. Mechanical system controls, R-Values and Mechanical equipment efficiencies, Plumbing Hot Water Service type of insulation and R-Values, and equipment efficiencies (if Hot Water Service is required or provided in the building)
 5. Electrical Lighting Controls and efficiencies of motors and transformers
- B. **Preliminary Report of Commissioning** that corresponds to the Commissioning Plan provided with the permit application if commissioning is required. This covers the preliminary functional testing of the Mechanical and Hot Water equipment for functionality and their controls as installed. **THIS PRELIMINARY REPORT MUST BE SUBMITTED TO THE CITY.** The Final Report of Commissioning is to be provided to the owner. The City form accompanying the Preliminary Commissioning Report is attached to this IB.

The preliminary report covering the testing of the Mechanical, Plumbing Hot Water, and Lighting Control Systems should include an itemization of deficiencies found that have not been corrected by the time of the report, list of deferred tests not accomplished because of climatic conditions, and conditions necessary for scheduling of deferred tests. The report should address the following in particular:

1. Mechanical, and service hot water commissioning – Air system balancing, hydronic systems balancing C408.2.2; 6.7.2.3.1
2. Functional Performance Testing of HVAC and Hot Water System Equipment and Controls C408.2.3; 6.7.2.4.

Lighting System Controls Functional Testing C408.3; 9.4.3

Under the 2021 IECC, lighting system controls testing is required for all commercial projects where new lighting controls are designed and installed AND where there is an electrical engineered design. A letter from the registered design professional or commissioning agent that follows the requirements in C408.3.1 will fulfill this requirement. This includes in particular:

1. Occupant sensor controls, where applicable C405.2.1
2. Time switch controls, where applicable C405.2.2
3. Daylight responsive controls, where applicable C405.2.3
4. Specific application controls, where applicable C405.2.4 (display lighting, displaycases and hotel, motel rooms)
5. Exterior lighting controls, where applicable C405.2.6

- C. **High Pressure Duct Leakage Test Results** – If applicable to the project. For ducts designed to operate in excess of 3 in. water gauge and all ductwork outside conditioned space 6.4.4.2.2, or Section C403.11.2.3. The Energy Systems Compliance Letter(s) form for this report is attached to this IB.

- D. **Pressure Testing of the Envelope (Air Barrier) Test Results** – (under Section C402.5) If applicable. The Commissioning checklist for this report is attached to this IB.

For apartment buildings and the individual dwelling units, where the Residential chapter applies, submittal of the Residential Energy Compliance Forms must be uploaded to the permit record through the [BuildSA Customer Portal](#)
See [IB 167](#)

Further Information: COMMISSIONING REQUIREMENTS During Construction and Pre-COO

An architect or engineer licensed under the Texas Board of Architectural Examiners, or the Texas Board of Professional Engineers may perform commissioning of installed systems and submit the **Preliminary Report of Commissioning**. Along with the reports, submit the Commissioning Checklist forms attached to this IB.

The Texas licensed design professional, contractor or owner may hire a certified commissioning agent to perform the commissioning and provide the **Preliminary Report of Commissioning** to the City of San Antonio. There are several organizations that train and certify commissioning agents. These certifications include:

CBCP – Certified Building Commissioning Professional – Association of Energy Engineers
CCP – Certified Commissioning Professional – Building Commissioning Association
CPMP – Certified Process Management Professional – ASHRAE
CxA – Certified Commissioning Authority – AABC Commissioning Group
BSC – Building System Commissioning Certification – National Environmental Balancing Bureau

This list is not exhaustive. Other options exist for nationally recognized certifications. To hire commissioning agents that have other certifications, these certification agency requirements must be sent to, reviewed and approved by the City of San Antonio.

If you have any questions on this process, please contact the Plan Review Staff at DSDPlansManagement@sanantonio.gov.

Summary:

Prepared by: Richard Chamberlin, PE, Development Services Engineer
Emmanuel Guerrero, Senior Energy Plans Examiner

Reviewed by: Crystal Gonzales, PE, CBO, Assistant Director

Authorized by: Michael Shannon, PE, CBO, Director

Directions for Submittal of Letters/Reports to Clear Inspections

Attached are two forms:

1. **Commercial Energy Compliance System Letter(s)** – this form (two pages) covers Six (6) different inspections. The form may be submitted once to cover all inspections, or up to six different forms submitted, one letter for each inspection.
2. **Commercial – Preliminary Commissioning Report / Testing Reports** – **This form may only be submitted by the architect, engineer, or the certified commissioning agent.**

Not every project requires all inspections or commissioning or other testing. These are dependent on the energy systems being installed. The online permit record will lists all the inspections required for your specific project.

The Energy Compliance System Letter(s) cover the following inspections:

Inspection on Permit:	Energy Conservation Letter Required to Clear Inspection
Commissioning Insulation Air Barrier	Wall Insulation R-values (above and below grade) Ceiling Insulation R-value Floors(R-value or U-factor) Opaque Doors(U-factor)
Commissioning Insulation Roof	Roof Insulation R-values Roof solar reflectance & thermal emittance
Commissioning Windows	Fenestration U-factors, SHGC, and VT (fixed, operable, and entrance doors) Skylights U-factor, SHGC, and Haze Factor
Commissioning High Pressure Ducts	Duct Leakage Testing for High Pressure Ducts – submit the report
Commercial Mechanical Systems Letters	Minimum Equipment Efficiencies (Required) HVAC System Controls (Required) Duct Insulation and Sealing (Required) Energy Recovery System, Kitchen Exhaust System, Demand Controlled Ventilation, Fan Efficiencies, Economizers, Walk-in Coolers Freezers/Refrigeration Water Heating Equipment Efficiencies, Hot Water Piping Insulation, Controls for Hot Water Recirculation
Electrical Systems Letter	Electrical Motor/ Transformer Efficiencies Vertical and Horizontal Transportation Systems and Equipment

The Preliminary Commissioning / Testing Reports Form covers the following inspections:

Inspection on Permit:	Commissioning Report and Testing Results
Commissioning Air Barrier	For the installation of the continuous air barrier- review of the construction documents, inspection of the continuous air barrier components and assemblies, and a final commissioning report.
Commissioning Mechanical Controls	For new mechanical systems and service water heating systems with cooling capacity 480,000 Btu/h or greater and combined service water heating and space heating capacity of 600,000 Btu/h or greater.
Commissioning Hot Water Recirculating	For new mechanical systems and service water heating systems with a combined service water heating and space heating capacity of 600,000 Btu/h or greater.
Commissioning Electrical Controls	For controls of automatic lighting systems - functional testing (occupant sensor controls, time switch controls, daylight responsive controls).



Commercial Energy Compliance Systems Letter(s)

The following Energy Conservation Letters section may be filled out by the Architect, Engineer, General Contractor, Installer, Commissioning Agent or Owner's Agent.

Project Name: _____ Date: _____

Permit #: _____

Project Address: _____

Building #/ Suite #: _____

Applicant

Name: _____

Company Name: _____

Company Address: _____

Phone: _____ Email: _____

Certification #: _____

(Check only the appropriate systems being submitted)

Thermal Envelope	">	Plumbing Systems	">
Opaque Thermal Envelope		Water Heating Equipment Efficiencies	
Roof Solar Reflectance		Hot Water Piping Insulation	
Installed Fenestration		Electrical Systems	
Skylights		Electrical Motor/ Transformer Efficiencies (Testing and report)	
Mechanical Systems		Vertical and Horizontal Transportation Systems and Equipment (Testing and report)	
		Residential Systems	
Equipment Efficiencies		Thermal Envelope Values	
Duct Leakage Testing for High Pressure Ducts (Testing and report)		Ducts	
Duct and Plenum Insulation and Sealing (Testing and report)		Mechanical System	
HVAC System Controls (Testing and report)		Hot water pipe insulation	
Energy Recovery Systems (Testing and report)		Equipment Efficiencies	
Kitchen Exhaust Systems (Testing and report)			
Demand Controlled Ventilation ((Testing and report)			
Fan Efficiencies (Testing and report)			
Economizers (Testing and report)			
Walk-in coolers/Walk-in freezers/Refrigeration (Testing and report)			

THERMAL ENVELOPE

Project Name:		
Contact Person:	Email:	Telephone:
Space Category <input type="checkbox"/> Nonresidential Conditioned Space <input type="checkbox"/> Residential Conditioned Space (complete separate forms for each space conditioning category)		Exceptions <input type="checkbox"/> Low-energy buildings and greenhouses (C402.1.1) <input type="checkbox"/> Equipment buildings (C402.1.2)

OPAQUE SURFACES

Assembly Name/Description	Class(pick one)						Pick One	Pick one	Installed Insulation R- value, U-, C-, or F-factor, Roof Solar Reflectance and Emittance
	Roof	Wall		Floor	Slab	Opaque Doors	R-value Option U-, C-, or F-Factor Option	Prescriptive Path Total Building Performance Component Performance Alternative	
	Insulation above deck Metal Buildings Attic and other	Mass Metal Buildings Metal Framed Wood Framed and other		Below Grade Walls	Mass Joists/Framing	Unheated Slab Heated Slabs			
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THERMAL ENVELOPE

Project Name:		
Contact Person:	Email:	Telephone:

FENESTRATION

Assembly Description/Name	Fenestration (Pick one)				NFRC Rating Default SHGC or VT	Installed Fenestration			
	Skylights	Fixed Vertical	Operable Vertical	Entrance Door		Area	U-factor	Solar Heat Gain Coefficient (SHGC)	Overhang
EXAMPLE (Window A)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/> <input type="radio"/>	21 FT ²	0.45	0.25	✓
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/> <input type="radio"/>				<input type="checkbox"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/> <input type="radio"/>				<input type="checkbox"/>
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Compliance Statement

By signing this form, I am confirming that at the time of this inspection all items checked and noted above were installed, and/ or inspected in accordance with the International Energy Conservation Code. I am affirming that this project is consistent with the City of San Antonio approved plans and the Energy Compliance Path chosen during design and permitting.

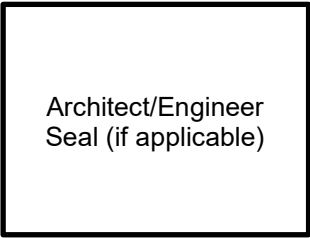
Upload these forms as a pdf document to the Commercial Permit Record within the BuildSA Customer Portal.

Name (Print): _____

Title/ Designation: _____

Date: _____

Signature: _____



MECHANICAL SYSTEMS

Project Name:		
Contact Person:	Email:	Telephone:

Mechanical Equipment Efficiencies (HVAC and Refrigeration Equipment)

Model #	Heating Capacity	Cooling Capacity	Efficiency

Duct and Plenum Insulation and Sealing

Unconditioned Space (R-value)	
Outside the building (R-value)	
Piping Insulation (Thickness inches)	
Outside the building (Thickness inches)	

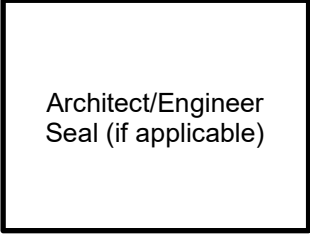
NOTES:

Compliance Statement

By signing this form, I am confirming that at the time of this inspection all items checked and noted above were installed, and/ or inspected in accordance with the International Energy Conservation Code. I am affirming that this project is consistent with the City of San Antonio approved plans and the Energy Compliance Path chosen during design and permitting.

Upload these forms as a pdf document to the Commercial Permit Record within the BuildSA Customer Portal.

Name (Print): _____
Title/ Designation: _____
Date: _____
Signature: _____



SERVICE WATER HEATING SYSTEMS

Project Name: _____		
Contact Person: _____	Email: _____	Telephone: _____

Water Heater Equipment Efficiencies

Model	Gas/Electric	Size category(input)	Sub-category/rating efficiency	Performance

Hot Water Lines Pipe Insulation

Nominal Pipe or Tube Size	Insulation thickness (inches)
< 1in	
1 to < 1.5 in	
1.5 to < 4 in	
4 to < 8 in	
>8 in	

NOTES:

Compliance Statement

By signing this form, I am confirming that at the time of this inspection all items checked and noted above were installed, and/ or inspected in accordance with the International Energy Conservation Code. I am affirming that this project is consistent with the City of San Antonio approved plans and the Energy Compliance Path chosen during design and permitting.

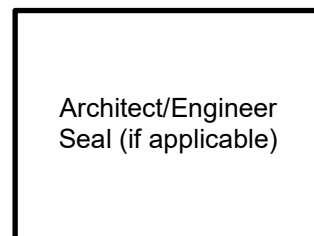
Upload these forms as a pdf document to the Commercial Permit Record within the BuildSA Customer Portal.

Name (Print): _____

Title/ Designation: _____

Date: _____

Signature: _____



ELECTRICAL SYSTEMS

Project Name: _____		
Contact Person: _____	Email: _____	Telephone: _____

Provide the testing reports for the Electrical Motor/ Transformer Efficiencies and/or Vertical and Horizontal Transportation Systems and Equipment.

Equipment Type	Required Documentation
<input type="checkbox"/> Electrical Motor	<input type="checkbox"/> Testing Report
	<input type="checkbox"/> Manufacturer Specifications
<input type="checkbox"/> Transformer	<input type="checkbox"/> Testing Report
	<input type="checkbox"/> Manufacturer Specifications
<input type="checkbox"/> Elevator Cab	<input type="checkbox"/> Testing Report
	<input type="checkbox"/> Manufacturer Specifications
<input type="checkbox"/> Escalator	<input type="checkbox"/> Testing Report
	<input type="checkbox"/> Manufacturer Specifications

NOTES:

Compliance Statement

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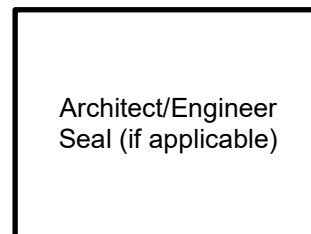
Upload these forms as a pdf document to the Commercial Permit Record within the BuildSA Customer Portal.

Name (Print): _____

Title/ Designation: _____

Date: _____

Signature: _____





Commercial Energy Commissioning Checklist

The following Energy Commissioning Checklist shall only be filled out by a Architect, Engineer, or Certified Commissioning Agent

Project Name: _____ Date: _____

Permit #: _____

Project Address: _____

Building #/ Suite #: _____

Design Professional in charge or certified commissioning agent

(Acting as the owner’s agent)

Name (Print): _____

Company: _____

Email: _____

Phone: _____

Owner Notification of Commissioning Agency

Owner to sign and designate hired agencies before a building permit is issued.

The **International Energy Conservation Code (IECC)** requires system commissioning for the following:

- For the installation of the continuous air barrier- review of the construction documents, inspection of the continuous air barrier components and assemblies, and a final commissioning report.
- For new mechanical systems and service water heating systems with cooling capacity 480,000 Btu/h or greater and combined service water heating and space heating capacity of 600,000 Btu/h or greater.
- For controls of automatic lighting systems - functional testing (occupant sensor controls, time switch controls, daylight responsive controls).

The Registered Design Professional in responsible charge, professional engineers independent from the design, a professional commissioning agency or any combination thereof are permitted to act as the approved commissioning agency on the project.

Note: For minor work, exceptions to independent commissioning are allowed per policy.

Owner

Name (Print): _____

Company: _____

Email: _____

Phone: _____

I, as owner, do hereby certify that I have retained the following commissioning agencies to be responsible for building commissioning services in accordance with the City of San Antonio adopted International Energy Conservation Code.

Owner’s Signature

COMMISSIONING AGENCIES

Representative (Print Name)	Certification #	Phone	Email

NOTE: Documentation outlining experience and copies of certifications or licenses shall be provided to the building official. Professional architects shall be licensed with the State of Texas. Professional engineers independent from the design conducting commissioning shall be licensed with the State of Texas in the applicable discipline for the type of work being commissioned. Professional commissioning agencies shall demonstrate competence, qualifications and experience including having certifications such as from AABC Commissioning Group (ACG), American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), National Environmental Balancing Bureau (NEBB), Association of Energy Engineers (AEE), Building Commissioning Association (BCXA) or equivalent.

Commissioning Agency Responsibilities

The commissioning agency shall develop and submit a commissioning plan, conduct commissioning work, and keep records. Reports shall be furnished to the owner, Registered Design Professional in responsible charge and, upon request, to the building official designee.

A **Preliminary Commissioning Report** and **Commissioning Compliance Checklist** shall be submitted to the building owner or owner’s authorized agent and to the building official for review and approval. This shall occur prior to final inspection/issuance of a Certificate of Occupancy for the building or tenants.

A **Final Commissioning Report** shall be provided to the owner within 90 days of the date of receipt of the Certificate of Occupancy and shall be made available to the building official upon request.

INTERNATIONAL ENERGY CONSERVATION CODE SYSTEM COMMISSIONING RESPONSIBILITIES PLAN/CHECKLIST

(Checked items shall be provided in the report)

☑ or N/A	Systems Requiring Commissioning Verification	Signature	Date
Building Envelope Performance Verification			
The installation of the continuous air barrier shall be verified by a registered design professional or an approved agency.			
<input type="checkbox"/>	Inspection of continuous air barrier components and assemblies shall be conducted during construction while air barrier is still accessible for inspection and repair to verify compliance with the requirements in Section C402.5.1.3 and C402.5.1.4		
<input type="checkbox"/>	A final commissioning report shall be provided for inspections completed by a Registered Design Professional or approved agency. The commissioning report shall be provided to the building owner or owner's authorized agent and the code official. The report shall identify deficiencies found during the review of the construction documents and inspection and details of corrective measures taken. (C402.5.1.5 Item #3)		
Mechanical System Commissioning and Completion			
Mechanical systems in buildings where the total mechanical equipment capacity is 480,000 Btu/h cooling capacity or greater and 600,000 Btu/h heating capacity or greater.			
<input type="checkbox"/>	Prior to the final mechanical and plumbing inspections, the Registered Design Professional or approved agency shall provide evidence of mechanical systems commissioning and completion.		
<input type="checkbox"/>	Commissioning Plan with checklist completed. (before functional testing)		
<input type="checkbox"/>	Commissioning Plan was used during construction and includes items required in Section C408.2.1		
<input type="checkbox"/>	System Adjusting and Balancing (C408.2.2) If applicable, deferred and follow up testing is scheduled to be completed on _____		
<input type="checkbox"/>	Air System Balancing (C408.2.2.1) If applicable, deferred and follow up testing is scheduled to be completed on _____		
<input type="checkbox"/>	Hydronic System Balancing (C408.2.2.2) If applicable, deferred and follow up testing is scheduled to be completed on _____		
<input type="checkbox"/>	Equipment Functional Performance Testing (C408.2.3.1) If applicable, deferred and follow up testing is scheduled to be completed on _____		
<input type="checkbox"/>	HVAC Controls Systems (C408.2.3.2) If applicable, deferred and follow up testing is scheduled to be completed on _____		
<input type="checkbox"/>	Service Water-Heating Control Systems (C408.2.3.2) If applicable, deferred and follow up testing is scheduled to be completed on _____		
<input type="checkbox"/>	Air Economizer Functional Testing (C408.2.3.3) If applicable, deferred and follow up testing is scheduled to be completed on _____		
<input type="checkbox"/>	A Preliminary Commissioning Report and Commissioning Compliance Checklist to the owner or owner's authorized agent and to the Building Official prior to final inspection/issuance of a Certificate of Occupancy.		
<input type="checkbox"/>	System Balancing Report to the owner or owner's authorized agent within 90 days of the date of receipt of the Certificate of Occupancy.		
NOTE	Final Commissioning Report to the owner or owner's authorized agent within 90 days of the date of receipt of the Certificate of Occupancy		

<input checked="" type="checkbox"/> or N/A	Systems Requiring Commissioning Verification	Signature	Date
Lighting Systems Automatic Controls- Functional Testing			
<input type="checkbox"/>	Prior to passing final inspection, the Registered Design Professional shall provide evidence that the lighting control systems have been tested to ensure that control hardware and software are calibrated, adjusted, programmed and in proper working condition in accordance with the construction documents and manufacturer's instructions.		
<input type="checkbox"/>	Occupancy Sensor Controls (C408.3.1.1) If applicable, deferred and follow up testing is scheduled to be completed on _____		
<input type="checkbox"/>	Time-switch Controls (C408.3.1.2) If applicable, deferred and follow up testing is scheduled to be completed on _____		
<input type="checkbox"/>	Daylight Responsive Controls (C408.3.1.3) If applicable, deferred and follow up testing is scheduled to be completed on _____		
<input type="checkbox"/>	Where applicable, a Preliminary Commissioning Report and Commissioning Compliance Checklist to the owner or owner's authorized agent and to the Building Official, prior to final inspection/issuance of a Certificate of Occupancy.		
NOTE	Drawings with location and catalogue number of each piece of equipment to the owner or owner's authorized agent within 90 days of the date of receipt of the Certificate of Occupancy.		
NOTE	Operating and maintenance manuals to the owner or owner's authorized agent within 90 days of the date of receipt of the Certificate of Occupancy.		
NOTE	A report of test results to the owner or owner's authorized agent within 90 days of the date of receipt of the Certificate of Occupancy		
Owner/Owner's Representative Acknowledgement			
<i>I hereby certify that the commissioning provider has provided me with evidence of air barrier, mechanical, service water heating, and lighting system commissioning in accordance with the 2021 IECC.</i>			
Signature (Owner/Owner's Representative): _____ Date: _____			