

# Florida Building Code, Fifth Edition (2014) - Energy Conservation

EnergyGauge Summit® Fla/Com-2015, Effective Date: June 30, 2015

IECC 2012 - Total Building Performance Compliance Option

## Check List

Applications for compliance with the Florida Building Code, Energy Conservation shall include:

- This Checklist
- An Input report generated from the software just after completing compliance calculations without any further changes
- The full compliance report generated by the software that contains the project summary, compliance summary, certifications and detailed component compliance reports
- Boxes appropriately checked in the Miscellaneous report generated by the software at the end of the compliance report

## PROJECT SUMMARY

**Short Desc:** Tampa Surgical

**Description:** Tampa Surgical Suites

**Owner:** Tampa Surgical Suites

**Address1:** Example Street

**City:** Tampa

**Address2:**

**State:** FL

**Zip:** 33615

**Type:** Healthcare-Clinic

**Class:** New Finished building

**Jurisdiction:** TAMPA, HILLSBOROUGH COUNTY, FL (391200)

**Conditioned Area:** 7500 SF

**Conditioned & UnConditioned Area:** 7500 SF

**No of Stories:** 1

**Area entered from Plans** 7500 SF

**Permit No:** 0

**Max Tonnage** 40

**If different, write in:** \_\_\_\_\_

## Compliance Summary

Component	Design	Criteria	Result
Gross Energy Cost (in \$)	4,131.0	4,247.0	<b>PASSED</b>
LIGHTING CONTROLS			<b>PASSES</b>
EXTERNAL LIGHTING			<b>PASSES</b>
HVAC SYSTEM			<b>PASSES</b>
PLANT			<b>No Entry</b>
WATER HEATING SYSTEMS			<b>PASSES</b>
PIPING SYSTEMS			<b>No Entry</b>
Met all required compliance from Check List?			<b>Yes/No/NA</b>
 <b>IMPORTANT MESSAGE</b>			
Info 5009 -- -- -- An input report of this design building must be submitted along with this Compliance Report			

## CERTIFICATIONS

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code

Prepared By: Thomas Tidwell

Building Official: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

I certify that this building is in compliance with the FLorida Energy Efficiency Code

Owner Agent: \_\_\_\_\_

Date: \_\_\_\_\_

If Required by Florida law, I hereby certify (\*) that the system design is in compliance with the Florida Energy Efficiency Code

Architect: Mrs. Good Architect

Reg No: F000000001

Electrical Designer: Mr. Good E. Engineer

Reg No: 55555

Lighting Designer: Mr. Good E. Engineer

Reg No: 55555

Mechanical Designer: Mr. Good M. Engineer

Reg No: 77777

Plumbing Designer: Mr. Good M. Engineer

Reg No: 77777

(\*) Signature is required where Florida Law requires design to be performed by registered design professionals. Typed names and registration numbers may be used where all relevant information is contained on signed/sealed plans.

Project: Tampa Surgical  
 Title: Tampa Surgical Suites  
 Type: Healthcare-Clinic  
 (WEA File: Tampa.tmy)

**Building End Uses**

	1) Proposed	2) Baseline
<b>Total</b>	<b>263.00</b>	<b>318.10</b>
	<b>\$4,131</b>	<b>\$4,996</b>
ELECTRICITY(MBtu/kWh/\$)	263.00	318.10
	77069	93218
	<b>\$4,131</b>	<b>\$4,996</b>
AREA LIGHTS	73.80	94.00
	21625	27556
	<b>\$1,159</b>	<b>\$1,477</b>
MISC EQUIPMT	61.30	61.30
	17967	17967
	<b>\$963</b>	<b>\$963</b>
PUMPS & MISC	0.10	0.10
	39	24
	<b>\$2</b>	<b>\$1</b>
SPACE COOL	105.30	108.80
	30867	31885
	<b>\$1,654</b>	<b>\$1,709</b>
SPACE HEAT	1.00	1.20
	284	357
	<b>\$15</b>	<b>\$19</b>
VENT FANS	21.50	52.70
	6287	15429
	<b>\$337</b>	<b>\$827</b>

Credits Applied: None  
 Passing Criteria = 4247  
 Design (including any credits) = 4131  
 Passing requires Proposed Building cost to be at most 85% of  
 Baseline cost. This Proposed Building is at 82.7%

<b>PASSES</b>
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**Project: Tampa Surgical**  
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**(WEA File: Tampa.tmy)**

**External Lighting Compliance**

Description	Category	Tradable?	Allowance (W/Unit)	Area or Length or No. of Units (Sqft or ft)	ELPA (W)	CLP (W)
Ext Light 1	Walkways more that 10 feet wide	Yes	0.20	800.0	160	91
Ext Light 2	Main entries	Yes	30.00	6.0	180	91

**Tradable Surfaces: 182.4 (W) Allowance for Tradable: 1640 (W)**

**PASSES**

**All External Lighting: 182.4 (W)**

**Compliance check includes a excess/Base allowance of 1300.00(W)**

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### Lighting Controls Compliance

Acronym	Ashrae ID	Description	Area (sq.ft)	Design CP	Min CP	Compliance
225 OR	10,007	Operating Room (Hospital)	575	1	1	PASSES
226 OR	10,007	Operating Room (Hospital)	575	1	1	PASSES
238 BioHaz	31,001	Workshop	30	1	1	PASSES
213 Exam	10,004	Exam/Treatment (Hospital)	250	1	1	PASSES
217 Nurse	10,003	Nurse Station (Hospital)	155	1	1	PASSES
218 PACU	10,002	Recovery (Hospital)	500	1	1	PASSES
237 Toilet	6	Toilet and Washroom	80	1	1	PASSES
214 Recovery	10,002	Recovery (Hospital)	134	1	1	PASSES
202 Hall	5	Corridor	100	1	1	PASSES
240 Linen	30,002	Medium/Bulky Material Storage	43	1	1	PASSES
228 Elect	1	Electrical Mechanical Equipment Room - General	75	1	1	PASSES
229 Elect	1	Electrical Mechanical Equipment Room - General	75	1	1	PASSES
230 Vacuum	1	Electrical Mechanical Equipment Room - General	205	1	1	PASSES
236 Toilet	6	Toilet and Washroom	104	1	1	PASSES
227 Corridor	5	Corridor	810	1	1	PASSES
221 Clean	31,001	Workshop	145	1	1	PASSES
222 Sterile	30,001	Fine Material Storage	96	1	1	PASSES
219 Recov	10,002	Recovery (Hospital)	140	1	1	PASSES
220 Soiled	30,002	Medium/Bulky Material Storage	145	1	1	PASSES
233 Dress	6	Toilet and Washroom	60	1	1	PASSES
234 Dress	6	Toilet and Washroom	60	1	1	PASSES
223 Storage	30,002	Medium/Bulky Material Storage	174	1	1	PASSES
231 Janitor	1	Electrical Mechanical Equipment Room - General	34	1	1	PASSES
210 Janitor	1	Electrical Mechanical Equipment Room - General	26	1	1	PASSES
211 Hall	5	Corridor	125	2	1	PASSES
212 Dict	17	Office - Enclosed	64	1	1	PASSES
215 Recovery	10,002	Recovery (Hospital)	116	1	1	PASSES
216 Hall	5	Corridor	245	1	1	PASSES
232 Med Gas	30,002	Medium/Bulky Material Storage	50	1	1	PASSES
224 Storage	30,002	Medium/Bulky Material Storage	174	1	1	PASSES
239 Hall	5	Corridor	289	1	1	PASSES
235 Hall	5	Corridor	130	1	1	PASSES
203 PreOp	10,002	Recovery (Hospital)	610	1	1	PASSES
201 Consult	10,004	Exam/Treatment (Hospital)	64	1	1	PASSES
200 Waiting	12	Lobby (General) - Reception and Waiting	363	1	1	PASSES
205 Office	17	Office - Enclosed	80	1	1	PASSES
206 Office	17	Office - Enclosed	80	1	1	PASSES
204 Recpt	12	Lobby (General) - Reception and Waiting	150	1	1	PASSES
209 Data	1	Electrical Mechanical Equipment Room - General	26	1	1	PASSES

207 Hall	5 Corridor	80	1	1	PASSES
208 Lounge	8 Food Service - Leisure Dining	263	1	1	PASSES
<b>PASSES</b>					

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### System Report Compliance

<b>RTU-2</b>	<b>5-ton RTU</b>	<b>Constant Volume Air Cooled Single Package System &lt; 65000 Btu/hr</b>	<b>No. of Units</b>
			<b>1</b>

Component	Category	Capacity	Design Eff	Eff Criteria	Design IPLV	IPLV Criteria	Compliance
Cooling System	Air Conditioners Air Cooled Single Pkg < 65000 Btu/h Cooling Capacity	49800	14.00	12.23	11.40		<b>PASSES</b>
Heating System	Electric Furnace	34120	1.00	1.00			<b>PASSES</b>
Air Handling System -Supply	Air Handler (Supply) - Constant Volume	1200	0.41	0.82			<b>PASSES</b>
Air Distribution System (Sup)	ADS System (Sup)		4.20				<b>PASSES</b>
Air Distribution System (Ret)	ADS System (Ret)		4.20				<b>PASSES</b>

<b>RTU-1</b>	<b>40-ton VAV Unit</b>	<b>Variable Air Volume Packaged System</b>	<b>No. of Units</b>
			<b>1</b>

Component	Category	Capacity	Design Eff	Eff Criteria	Design IPLV	IPLV Criteria	Compliance
Cooling System	Air Conditioners Air Cooled 240000 to 760000 Btu/h Cooling Capacity	480000	10.00	10.00	10.10	10.10	<b>PASSES</b>
Air Handling System -Supply	Air Handler (Supply) - Variable Volume	8290	0.87	1.12			<b>PASSES</b>
Air Distribution System (Sup)	ADS System (Sup)		4.20				<b>PASSES</b>
Air Distribution System (Ret)	ADS System (Ret)		4.20				<b>PASSES</b>

**PASSES**

Plant Compliance								
Description	Installed No	Size	Design Eff	Min Eff	Design IPLV	Min IPLV	Category	Compliance
								None

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Water Heater Compliance								
Description	Type	Category	Design Eff	Min Eff	Design Loss	Max Loss	Compliance	
WH-1	Electric water heater	<= 12 [kW]	0.94	0.90			PASSES	
								PASSES

Piping System Compliance								
Category	Pipe Dia [inches]	Is Runout?	Operating Temp [F]	Ins Cond [Btu-in/hr .SF.F]	Ins Thick [in]	Req Ins Thick [in]	Compliance	
								None



## Mandatory Requirements (as applicable)

Mandatory requirements compiled by US Department of Energy and Pacific Northwest National Laboratory. Adopted with permission

Topic	Section	Component	Description	Yes	N/A	Ex
<b>To be checked during Construction</b>						
Air Leakage	C402.4.1,C402.4.2	Envelope	The building envelope contains a continuous air barrier that is sealed in an approved manner and either constructed or tested in an approved manner. Air barrier penetrations are sealed in an approved manner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Leakage	C402.4.3,C402.4.4	Envelope	Factory-built fenestration and doors are labeled as meeting air leakage requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Leakage	C402.4.7	Envelope	Vestibules are installed on all building entrances. Doors have self-closing devices.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Leakage	C402.4.1.1	Envelope	All sources of air leakage in the building thermal envelope are sealed, caulked, gasketed, weather stripped or wrapped with moisture vapor-permeable wrapping material to minimize air leakage.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Leakage	C402.4.6	Envelope	Weatherseals installed on all loading dock cargo doors.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Leakage	C402.4.8	Envelope	Recessed luminaires in thermal envelope to limit infiltration and be IC rated and labeled. Seal between interior finish and luminaire housing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fenestration	C303.1.3	Envelope	Fenestration products rated in accordance with NFRC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fenestration	C303.1.3	Envelope	Fenestration products are certified as to performance labels or certificates provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fenestration	C402.2.7	Envelope	U-factor of opaque doors associated with the building thermal envelope meets requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C303.2	Envelope	Below-grade wall insulation installed per manufacturer's instructions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C303.2	Envelope	Slab edge insulation installed per manufacturer's instructions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C402.2.6	Envelope	Slab edge insulation depth/length. Slab insulation extending away from building is covered by pavement or $\geq 10$ inches of soil.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C403.2.7,C408.2.8,C40	Envelope	Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and equipment maintenance activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C402.4.2.1	Envelope	Roof R-value. For some ceiling systems, verification may need to occur during Framing Inspection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C303.2	Envelope	Roof insulation installed per manufacturer's instructions. Blown or poured loose-fill insulation is installed only where the roof slope is $\leq 3$ in 12.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C402.2.1	Envelope	Skylight curbs are insulated to the level of roofs with insulation above deck or R-5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C402.2.1.1	Envelope	High-albedo roofs satisfy one of the following: 3-year-aged solar reflectance $\geq 0.55$ and thermal emittance $\geq 0.75$ , 3-year-aged solar reflectance index $\geq 64.0$ , initial year solar reflectance $\geq 0.70$ and thermal emittance $\geq 0.75$ , or initial year solar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C303.2	Envelope	Above-grade wall insulation installed per manufacturer's instructions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C303.2	Envelope	Floor insulation installed per manufacturer's instructions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C303.1	Envelope	Building envelope insulation is labeled with R-value or insulation certificate providing R-value and other relevant data.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Insulation	C303.2.1	Envelope	Exterior insulation is protected from damage with a protective material. Verification for exposed foundation insulation may need to occur during Foundation Inspection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C402.2.1	Envelope	Insulation intended to meet the roof insulation requirements cannot be installed on top of a suspended ceiling. Mark this requirement compliant if insulation is installed accordingly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.4	Exterior Lighting	Automatic lighting controls for exterior lighting installed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wattage	C405.6	Exterior Lighting	Exterior grounds lighting over 100 W provides >60 lm/W unless on motion sensor or fixture is exempt from scope of code or from external LPD.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wattage	C405.6.2	Exterior Lighting	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.2.1	Interior Lighting	Automatic controls to shut off all building lighting installed in all buildings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.1.1	Interior Lighting	Independent lighting controls installed per approved lighting plans and all manual controls readily accessible and visible to occupants.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.1.2	Interior Lighting	Lighting controls installed to uniformly reduce the lighting load by at least 50%.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.2.3	Interior Lighting	Daylight zones provided with individual controls that control the lights independent of general area lighting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.3	Interior Lighting	Sleeping units have at least one master switch at the main entry door that controls wired luminaires and switched receptacles.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.2.2	Interior Lighting	Occupancy sensors installed in required spaces.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.2.3	Interior Lighting	Primary sidelighted areas are equipped with required lighting controls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.2.3	Interior Lighting	Enclosed spaces with daylight area under skylights and rooftop monitors are equipped with required lighting controls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.3	Interior Lighting	Separate lighting control devices for specific uses installed per approved lighting plans.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.3	Interior Lighting	Fluorescent luminaires within odd numbered lamp configurations that are with 10 feet center to center (if recess mounted) or are within 1 foot edge to edge (if pendant or surface mounted) shall be tandem wired.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wattage	C405.4	Interior Lighting	Exit signs do not exceed 5 watts per face.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wattage	C405.2.3	Interior Lighting	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wattage	C405.5.2	Interior Lighting	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.4.5	Mechanical	Freeze protection and snow/ice melting system sensors for future connection to controls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.3	Mechanical	HVAC equipment efficiency verified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Leakage	C402.4.5.1	Envelope	Stair and elevator shaft vents have motorized dampers that automatically close.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Leakage	C402.4.5.2	Envelope	Outdoor air and exhaust systems have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Check gravity dampers where allowed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.5.1	Mechanical	Demand control ventilation provided for spaces >500 ft <sup>2</sup> and >25 people/1000 ft <sup>2</sup> occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

HVAC	C403.2.8.1	Mechanical	Piping Insulation exposed to weather is protected from damage (due to sun, moisture, wind, etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.7	Mechanical	HVAC ducts and plenums insulated. Where ducts or plenums are installed in or under a slab, verification may need to occur during Foundation Inspection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.8	Mechanical	Thermally ineffective panel surfaces of sensible heating panels have insulation $\geq$ R-3.5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.7	Mechanical	Ducts and plenums sealed based on static pressure and location.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C408.2.2.1	Mechanical	Air outlets and zone terminal devices have means for air balancing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.6	Mechanical	Exhaust air energy recovery on systems meeting Table C403.2.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.11	Mechanical	Unenclosed spaces that are heated use only radiant heat.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.4.1	Mechanical	Heating and cooling to each zone is controlled by a thermostat control.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.4.2	Mechanical	Thermostatic controls have a 5 °F deadband.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.4.2	Mechanical	Temperature controls have setpoint overlap restrictions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.4.3	Mechanical	Each zone equipped with setback controls using automatic time clock or programmable control system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.4.3	Mechanical	Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.3	Mechanical	Temperature controls installed on service water heating systems (110 °F for dwelling units and lavatories in public restrooms and 90 °F for other occupancies.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.4	Mechanical	Automatic time switches installed to automatically switch off the recirculating hot-water system or heat trace.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.2	Mechanical	Heat traps installed on non-circulating storage water tanks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.3	Mechanical	PTAC and PTHP with sleeves 16 in. by 42 in. labeled for replacement only as per Footnote b to Table C403.2.3(3).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.2	Mechanical	VAV fan $\geq$ 7.5 hp are driven by mechanical or electrical variable speed drive, or driven by vane-axial with variable speed blades, or operate with motor demand $\leq$ 30% design kW at 50% design flow - calculations required	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.8	Mechanical	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.7.1.3	Mechanical	Ductwork operating $>$ 3 in. water column requires air leakage testing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.3.1,C403.3.1.1	Mechanical	Air economizers provided where required, meet the requirements for design capacity, control signal, ventilation controls, high-limit shut-off, integrated economizer control, and provide a means to relieve excess outside air during operation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.3.1,C403.4.1	Mechanical	Water economizers provided where required, meet the requirements for design capacity, maximum pressure drop and integrated economizer control.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.1.4	Mechanical	Economizer operation will not increase heating energy use during normal operation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.5	Mechanical	Zone controls can limit simultaneous heating and cooling and sequence heating and cooling to each zone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.3.1	Mechanical	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SYSTEM_SPECIFIC	C403.4.3.2	Mechanical	Two-pipe hydronic systems using a common distribution system have controls to allow a deadband $\geq 15$ °F, allow operation in one mode for at least 4 hrs before changeover, and have reset controls to limit heating and cooling supply temperature to $\leq 30$ °F.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.3.3.1	Mechanical	Hydronic heat pump systems connected to a common water loop meet heat rejection and heat addition requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C408.2.2.2	Mechanical	HVAC hydronic heating and cooling coils have means to balance and have pressure test connections.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.10.1	Mechanical	HVAC fan systems at design conditions do not exceed allowable fan system motor nameplate hp or fan system bhp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.10.2	Mechanical	HVAC fan motors not larger than allowable limits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.2	Mechanical	VAV fan motors $\geq 7.5$ hp to be driven by variable speed drive, have a vane-axial fan with variable pitch blades, or have controls to limit fan motor demand.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.2.1	Mechanical	VAV fans have static pressure sensors positioned so setpoint $\leq 1/3$ total design pressure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.2.2	Mechanical	Reset static pressure setpoint for DDC controlled VAV boxes reporting to central controller based on the zones requiring the most pressure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.5.4	Mechanical	Multiple zone HVAC systems have supply air temperature reset controls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.3.4	Mechanical	Hydronic systems greater than 300,000 Btu/h designed for variable fluid flow.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.3.5	Mechanical	Reduce flow in pumping systems $> 10$ hp to multiple chillers or boilers when others are shut down.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.3.4	Mechanical	Temperature reset by representative building loads in pumping systems for chiller and boiler systems $> 300,000$ Btu/h.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.3.3.3	Mechanical	Two-position automatic valve interlocked to shut off water flow when hydronic heat pump with pumping system $> 10$ hp is off.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.4	Mechanical	Fan systems with motors $\geq 7.5$ hp associated with heat rejection equipment to have capability to operate at $2/3$ of full-speed and auto speed controls to control the leaving fluid temperature or condensing temp/pressure of heat rejection device.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.6	Mechanical	Condenser heat recovery system that can heat water to 85 °F or provide 60% of peak heat rejection is installed for preheating of service hot water in 24/7 facility, water cooled systems reject $> 6$ MMBtu, SHW load $\geq 1$ MMBtu.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.7	Mechanical	Hot gas bypass limited to: $\leq 240$ kBtu/h – 50% $> 240$ kBtu/h – 25%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.2	Mechanical	Service water heating equipment meets efficiency requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.4.2	Mechanical	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.4.3.3	Mechanical	Systems include optimum start controls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.4.1.1	Mechanical	Heat pump controls prevent supplemental electric resistance heat from coming on when not needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.3	Mechanical	Public lavatory faucet water temperature $\leq 110$ °F.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.5	Mechanical	All piping in circulating system insulated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.5	Mechanical	First 8 ft of outlet piping is insulated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SYSTEM_SPECIFIC	C404.5	Mechanical	All heat traced or externally heated piping insulated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.6	Mechanical	Controls are installed that limit the operation of a recirculation pump installed to maintain temperature of a storage tank.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.7.1	Mechanical	Pool heaters are equipped with on/off switch and no continuously burning pilot light.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.7.3	Mechanical	Vapor retardant pool covers are provided for heated pools and permanently installed spas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.7.2	Mechanical	Time switches are installed on all pool heaters and pumps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.3	Mechanical	Centrifugal fan open-circuit cooling towers having combined rated capacity $\geq$ 1100 gpm meets minimum efficiency requirement: $\geq$ 38.2 gpm/hp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Testing	C408.2.3.2	Mechanical	HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mandatory Additional Eff	C406	Project	Efficient HVAC performance, efficient lighting system, or on-site supply of renewable energy consistent with what is shown the approved plans.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C402.2.8	Project	Bottom surface of floor structures incorporating radiant heating insulated to $\geq$ R-3.5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>To be checked during Plan Review</b>						
Plan Review	C103.2	Envelope	Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plan Review	C103.2	Exterior Lighting	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plan Review	C103.2	Interior Lighting	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plan Review	C103.2	Mechanical	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering st	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plan Review	C103.2	Mechanical	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the service water heating systems and equipment and document where exceptions to the standard are claimed. Hot water system sized per manufact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plan Review	C406	Project	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plan Review	C402.3.2.2	Envelope	Skylights in office, storage, automotive service, manufacturing, non-refrigerated warehouse, retail store, and distribution/sorting area have a measured haze value $>$ 90 percent unless designed to exclude direct sunlight.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>To be checked Post Construction Prior to Issuance of Certificate of Occupancy</b>						
Post Construction	C408.3	Exterior Lighting	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.5.1	Interior Lighting	Furnished as-built drawings for electric power systems within 30 days of system acceptance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Post Construction	C303.3,C408.2.5.2	Interior Lighting	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.3	Interior Lighting	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.5.1	Mechanical	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C303.3,C408.2.5.2	Mechanical	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.5.3	Mechanical	An air and/or hydronic system balancing report is provided for HVAC systems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.1	Mechanical	Commissioning plan developed by registered design professional or approved agency.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.4	Mechanical	Preliminary commissioning report completed and certified by registered design professional or approved agency.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.5.4	Mechanical	Final commissioning report due to building owner within 90 days of receipt of certificate of occupancy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.3.1	Mechanical	HVAC equipment has been tested to ensure proper operation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.3.3	Mechanical	Economizers have been tested to ensure proper operation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>