

Permit #
Permit Date



COMcheck Software Version 3.1 Release 1

Envelope Compliance Certificate

2001 IECC

Report Date: 02/21/07

Data filename: J:\- COMMERCIAL\Bell Boy\COMCHE~1.CCK

Section 1: Project Information

Project Title: Bell Boy Prpoerties

Construction Site:
Lot 13, Village Square S.D.
Slidell, LA 70458

Owner/Agent:

Designer/Contractor:
Dammon Engineering
1095 Florida Ave.
Slidell, LA 70458
(985) 649- 5832
dammoneng@bellsouth.net

Section 2: General Information

Building Location (for weather data): **Slidell, Louisiana**
 Climate Zone: **4b**
 Heating Degree Days (base 65 degrees F): **1674**
 Cooling Degree Days (base 65 degrees F): **2527**
 Project Type: **New Construction**
 Glazing Area Percentage: **8%**

<u>Building Type</u>	<u>Floor Area</u>
Office	1999

Section 3: Requirements Checklist

Envelope PASSES: Design 32% better than code.

Climate-Specific Requirements:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor
Roof 1: All-Wood Joist/Rafter/Truss	1999	30.0	30.0	0.017	0.072
Exterior Wall 1: Wood Frame, Any Spacing	688	13.0	13.0	0.042	0.217
Window 1: Metal Frame:Double Pane with Low-E, Tinted, SHGC 0.04	87	---	---	0.050	1.230
Door 2: Glass, Tinted, SHGC 0.04	40	---	---	0.050	1.230
Exterior Wall 2: Wood Frame, Any Spacing	256	13.0	13.0	0.042	0.217
Window 2: Metal Frame:Double Pane with Low-E, Tinted, SHGC 0.04	30	---	---	0.050	1.230
Exterior Wall 3: Wood Frame, Any Spacing	534	13.0	13.0	0.042	0.217
Window 3: Metal Frame:Double Pane with Low-E, Tinted, SHGC 0.04	6	---	---	0.050	1.230
Exterior Wall 4: Metal Frame, 16" o.c.	960	13.0	13.0	0.049	0.217
Window 4: Metal Frame:Double Pane with Low-E, Tinted, SHGC 0.04	30	---	---	0.050	1.230
Floor 1: Concrete Floor (over unconditioned space)	1999	---	0.0	0.322	0.170

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

Air Leakage, Component Certification, and Vapor Retarder Requirements:

- 1. All joints and penetrations are caulked, gasketed, weather-stripped, or otherwise sealed.
- 2. Windows, doors, and skylights certified as meeting leakage requirements.
- 3. Component R-values & U-factors labeled as certified.
- 4. Stair, elevator shaft vents, and other dampers integral to the building envelope are equipped with motorized dampers.
- 5. Cargo doors and loading dock doors are weather sealed.
- 6. Recessed lighting fixtures are: (i) Type IC rated and sealed or gasketed; or (ii) installed inside an appropriate air-tight assembly with a 0.5 inch clearance from combustible materials and with 3 inches clearance from insulation material.

Section 4: Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed envelope system has been designed to meet the 2001 IECC, Chapter 8, requirements in COMcheck Version 3.1 Release 1 and to comply with the mandatory requirements in the Requirements Checklist.

Principal Envelope Designer-Name

Signature

Date

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COMcheck Software Version 3.1 Release 1

Lighting Compliance Certificate

2001 IECC

Report Date: 02/21/07

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Section 1: Project Information

Project Title: Bell Boy Prpoerties

Construction Site:
 Lot 13, Village Square S.D.
 Slidell, LA 70458

Owner/Agent:

Designer/Contractor:
 Dammon Engineering
 1095 Florida Ave.
 Slidell, LA 70458
 (985) 649- 5832
 dammoneng@bellsouth.net

Section 2: General Information

Building Use Description by:
 Project Type: **New Construction**

<u>Building Type</u>	<u>Floor Area</u>
Office	1999

Section 3: Requirements Checklist

Interior Lighting:

1. Total actual watts must be less than or equal to total allowed watts.

Allowed Watts	Actual Watts	Complies
2599	790	YES

Exterior Lighting:

2. Efficacy greater than 45 lumens/W.

Exceptions:

Specialized lighting highlighting features of historic buildings; signage; safety or security lighting; low-voltage landscape lighting.

Controls, Switching, and Wiring:

3. Independent controls for each space (switch/occupancy sensor).

Exceptions:

Areas that must be continuously illuminated.

4. Master switch at entry to hotel/motel guest room.

5. Each space provided with a manual control to provide uniform light reduction capability.

Exceptions:

Only one luminaire in space;
 An occupant-sensing device controls the area;
 The area is a corridor, storeroom, restroom, public lobby or guest room;
 Areas that must be continuously illuminated;
 Areas greater than 250 sq.ft.

6. Automatic lighting shutoff control in spaces greater than 250 sq.ft in buildings larger than 5,000 sq.ft.

- 7. Photocell/astronomical time switch on exterior lights.
Exceptions:
Lighting intended for 24 hour use.
- 8. Tandem wired one-lamp and three-lamp ballasted luminaires (No single-lamp ballasts).
Exceptions:
Electronic high-frequency ballasts; Luminaires not on same switch.

Section 4: Compliance Statement

Compliance Statement: The proposed lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 2001 IECC, Chapter 8, requirements in COMcheck Version 3.1 Release 1 and to comply with the mandatory requirements in the Requirements Checklist.

Principal Lighting Designer-Name

Signature

Date

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COMcheck Software Version 3.1 Release 1

Lighting Application Worksheet

2001 IECC

Report Date:

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Section 1: Allowed Lighting Power Calculation

A	B Floor Area	C Allowed Watts / ft2	D Allowed Watts
Office	1999	1.3	2599
Total Allowed Watts =			2599

Section 2: Actual Lighting Power Calculation

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Linear Fluorescent 1: 48" T12 40W / Electronic	4	16	40	640
Incandescent 1: Incandescent 75W	2	2	75	150
Total Actual Watts =				790

Section 3: Compliance Calculation

If the Total Allowed Watts minus the Total Actual Watts is greater than or equal to zero, the building complies.

Total Allowed Watts =	2599
Total Actual Watts =	790
Project Compliance =	1809

Lighting PASSES: Design 70% better than code.

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COMcheck Software Version 3.1 Release 1

Mechanical Compliance Certificate

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Section 1: Project Information

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Construction Site:
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Section 2: General Information

Building Location (for weather data): **Slidell, Louisiana**
 Climate Zone: **4b**
 Heating Degree Days (base 65 degrees F): **1674**
 Cooling Degree Days (base 65 degrees F): **2527**
 Project Type: **New Construction**

Section 3: Mechanical Systems List

Quantity	System Type & Description
1	HVAC System 1: Heating: Central Furnace, Electric / Cooling: Split System, Capacity <65 kBtu/h, Air-Cooled Condenser / Multiple-Zone
1	HVAC System 2: Heating: Central Furnace, Electric / Cooling: Split System, Capacity <65 kBtu/h, Air-Cooled Condenser / Multiple-Zone

Section 4: Requirements Checklist

Requirements Specific To: HVAC System 1 :

- 1. Minimum one temperature control device per zone
- 2. Equipment minimum efficiency: Split System: 10.0 SEER
- 3. Systems serving more than one zone must be VAV systems
- 4. Controls capable of resetting supply air temp (SAT) by 25% of SAT-room temp difference

Requirements Specific To: HVAC System 2 :

- 1. Minimum one temperature control device per zone
- 2. Equipment minimum efficiency: Split System: 10.0 SEER
- 3. Systems serving more than one zone must be VAV systems
- 4. Controls capable of resetting supply air temp (SAT) by 25% of SAT-room temp difference

Generic Requirements: Must be met by all systems to which the requirement is applicable:

- 1. Load calculations per 1997 ASHRAE Fundamentals
- 2. Plant equipment and system capacity no greater than needed to meet loads
 - Exception: Standby equipment automatically off when primary system is operating
 - Exception: Multiple units controlled to sequence operation as a function of load

- 3. Minimum one temperature control device per system
- 4. Minimum one humidity control device per installed humidification/dehumidification system
- 5. Thermostatic controls has 5 degrees F deadband
 - Exception: Thermostats requiring manual changeover between heating and cooling
- 6. Automatic Controls: Setback to 55 degrees F (heat) and 85 degrees F (cool); 7-day clock, 2-hour occupant override, 10-hour backup
 - Exception: Continuously operating zones
 - Exception: 2 kW demand or less, submit calculations
- 7. Automatic shut-off dampers on exhaust systems and supply systems with airflow >3,000 cfm
- 8. Outside-air source for ventilation; system capable of reducing OSA to required minimum
- 9. R-5 supply and return air duct insulation in unconditioned spaces R-8 supply and return air duct insulation outside the building R-8 insulation between ducts and the building exterior when ducts are part of a building assembly
 - Exception: Ducts located within equipment
 - Exception: Ducts with interior and exterior temperature difference not exceeding 15 degrees F.
- 10. Ducts sealed - longitudinal seams on rigid ducts; transverse seams on all ducts; UL 181A or 181B tapes and mastics
- 11. Mechanical fasteners and sealants used to connect ducts and air distribution equipment
- 12. Hot water pipe insulation: 1 in. for pipes <=1.5 in. and 2 in. for pipes >1.5 in. Chilled water/refrigerant/brine pipe insulation: 1 in. for pipes <=1.5 in. and 1.5 in. for pipes >1.5 in. Steam pipe insulation: 1.5 in. for pipes <=1.5 in. and 3 in. for pipes >1.5 in.
 - Exception: Piping within HVAC equipment
 - Exception: Fluid temperatures between 55 and 105 degrees F
 - Exception: Fluid not heated or cooled
 - Exception: Runouts <4 ft in length
- 13. Operation and maintenance manual provided to building owner
- 14. Balancing devices provided in accordance with IMC 603.15
- 15. Stair and elevator shaft vents are equipped with motorized dampers

Section 5: Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2001 IECC, Chapter 8, requirements in COMcheck Version 3.1 Release 1 and to comply with the mandatory requirements in the Requirements Checklist.

Principal Mechanical Designer-Name

Signature

Date



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Mechanical Requirements Description

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The following list provides more detailed descriptions of the requirements in Section 4 of the Mechanical Compliance Certificate.

Requirements Specific To: HVAC System 1 :

1. Each zone of a multiple-zone system must have its own temperature control device.
2. The specified heating and/or cooling equipment is covered by ASHRAE 90.1 Code and must meet the following minimum efficiency: Split System: 10.0 SEER
3. Systems serving multiple thermostatic control zones must be variable-flow systems. Zone terminal controls must reduce the flow of primary supply air before reheating, recooling, or mixing air streams.
4. Multiple-zone systems must include controls capable of resetting the supply air temperature by at least 25% of the difference between the design supply air temperature and the design room temperature.

Requirements Specific To: HVAC System 2 :

1. Each zone of a multiple-zone system must have its own temperature control device.
2. The specified heating and/or cooling equipment is covered by ASHRAE 90.1 Code and must meet the following minimum efficiency: Split System: 10.0 SEER
3. Systems serving multiple thermostatic control zones must be variable-flow systems. Zone terminal controls must reduce the flow of primary supply air before reheating, recooling, or mixing air streams.
4. Multiple-zone systems must include controls capable of resetting the supply air temperature by at least 25% of the difference between the design supply air temperature and the design room temperature.

Generic Requirements: Must be met by all systems to which the requirement is applicable:

1. Design heating and cooling loads for the building must be determined using procedures equivalent to those in Chapters 27 and 28 of the ASHRAE Handbook of Fundamentals or an approved equivalent calculation procedure.
2. All equipment and systems must be sized to be no greater than needed to meet calculated loads. A single piece of equipment providing both heating and cooling must satisfy this provision for one function with the capacity for the other function as small as possible, within available equipment options.
 - Exception: The equipment and/or system capacity may be greater than calculated loads for standby purposes. Standby equipment must be automatically controlled to be off when the primary equipment and/or system is operating.
 - Exception: Multiple units of the same equipment type whose combined capacities exceed the calculated load are allowed if they are provided with controls to sequence operation of the units as the load increases or decreases.
3. Each heating or cooling system serving a single zone must have its own temperature control device.
4. Each humidification system must have its own humidity control device.
5. Thermostats controlling both heating and cooling must be capable of maintaining a 5 degrees F deadband (a range of temperature where no heating or cooling is provided).
 - Exception: Deadband capability is not required if the thermostat does not have automatic changeover capability between heating and cooling.
6. The system or zone control must be a programmable thermostat or other automatic control meeting the following criteria:a) capable of setting back temperature to 55 degrees F during heating and setting up to 85 degrees F during coolingb) capable of automatically setting back or shutting down systems during unoccupied hours using 7 different day schedulesc) have an accessible 2-hour occupant override) have a battery back-up capable of maintaining programmed settings for at least 10 hours without power.
 - Exception: A setback or shutoff control is not required on thermostats that control systems serving areas that operate continuously.
 - Exception: A setback or shutoff control is not required on systems with total energy demand of 2 kW (6,826 Btu/h) or less.
7. Outdoor-air supply systems with design airflow rates >3,000 cfm of outdoor air and all exhaust systems must have dampers that are automatically closed while the equipment is not operating.

8. The system must supply outside ventilation air as required by Chapter 4 of the International Mechanical Code. If the ventilation system is designed to supply outdoor-air quantities exceeding minimum required levels, the system must be capable of reducing outdoor-air flow to the minimum required levels.
9. Air ducts must be insulated to the following levels:
 - a) Supply and return air ducts for conditioned air located in unconditioned spaces (spaces neither heated nor cooled) must be insulated with a minimum of R-5. Unconditioned spaces include attics, crawl spaces, unheated basements, and unheated garages.
 - b) Supply and return air ducts and plenums must be insulated to a minimum of R-8 when located outside the building.
 - c) When ducts are located within exterior components (e.g., floors or roofs), minimum R-8 insulation is required only between the duct and the building exterior.
 - Exception: Duct insulation is not required on ducts located within equipment.
 - Exception: Duct insulation is not required when the design temperature difference between the interior and exterior of the duct or plenum does not exceed 15 degrees F.
10. All joints, longitudinal and transverse seams, and connections in ductwork must be securely sealed using weldments; mechanical fasteners with seals, gaskets, or mastics; mesh and mastic sealing systems; or tapes. Tapes and mastics must be listed and labeled in accordance with UL 181A or UL 181B.
11. Mechanical fasteners and seals, mastics, or gaskets must be used when connecting ducts to fans and other air distribution equipment, including multiple-zone terminal units.
12. All pipes serving space-conditioning systems must be insulated as follows: Hot water piping for heating systems: 1 in. for pipes \leq 1 1/2-in. nominal diameter 2 in. for pipes $>$ 1 1/2-in. nominal diameter. Chilled water, refrigerant, and brine piping systems: 1 in. insulation for pipes \leq 1 1/2-in. nominal diameter 1 1/2 in. insulation for pipes $>$ 1 1/2-in. nominal diameter. Steam piping: 1 1/2 in. insulation for pipes \leq 1 1/2-in. nominal diameter 3 in. insulation for pipes $>$ 1 1/2-in. nominal diameter.
 - Exception: Pipe insulation is not required for factory-installed piping within HVAC equipment.
 - Exception: Pipe insulation is not required for piping that conveys fluids having a design operating temperature range between 55 degrees F and 105 degrees F.
 - Exception: Pipe insulation is not required for piping that conveys fluids that have not been heated or cooled through the use of fossil fuels or electric power.
 - Exception: Pipe insulation is not required for runout piping not exceeding 4 ft in length and 1 in. in diameter between the control valve and HVAC coil.
13. Operation and maintenance documentation must be provided to the owner that includes at least the following information:
 - a) equipment capacity (input and output) and required maintenance actions
 - b) equipment operation and maintenance manuals
 - c) HVAC system control maintenance and calibration information, including wiring diagrams, schematics, and control sequence descriptions; desired or field-determined set points must be permanently recorded on control drawings, at control devices, or, for digital control systems, in programming comments
 - d) complete narrative of how each system is intended to operate.
14. Each supply air outlet or diffuser and each zone terminal device (such as VAV or mixing box) must have its own balancing device. Acceptable balancing devices include adjustable dampers located within the ductwork, terminal devices, and supply air diffusers.
15. Stair and elevator shaft vents must be equipped with motorized dampers capable of being automatically closed during normal building operation and interlocked to open as required by fire and smoke detection systems. All gravity outdoor air supply and exhaust hoods, vents, and ventilators must be equipped with motorized dampers that will automatically shut when the spaces served are not in use. Exceptions: - Gravity (non-motorized) dampers are acceptable in buildings less than three stories in height above grade. - Ventilation systems serving unconditioned spaces.