

Permit #
Permit Date



COMcheck Software Version 3.1 Release 1

Envelope Compliance Certificate

Standard 90.1-2001

Report Date: 05/11/07

Data filename: J:\- Hospitals - Medical - Dental\Slidell Memorial Hosp\Founders Building\New Dr Suite\Sub-Dividing Suite.CCK

Section 1: Project Information

Project Title: Dr. Office in Founders Bldg

Construction Site:
1150 Roberts Rd.
SLIDELL, LA 70458

Owner/Agent:
FRANK SCHAMBACH
SLIDELL MEMORIAL HOSPITAL
1001 GAUSE BLVD.
SLIDELL, LA 70458
(985) 649-8699
SchambachF@smhplus.org

Designer/Contractor:
David Dammon
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**
 Heating Degree Days (base 65 degrees F): **1674**
 Cooling Degree Days (base 50 degrees F): **6660**
 Building Type for Envelope Requirements: **Non-Residential**
 Project Type: **New Construction**
 Glazing Area Percentage: **0%**

Activity Type(s)	Floor Area
Common Space Types:Office - Enclosed	1340

Section 3: Requirements Checklist

Envelope PASSES: Design 67% 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
Interior Wall 1: Wood-Framed, 16" o.c.	1310	19.0	15.0	0.032	0.292
Exterior Wall 1: Wood-Framed, 16" o.c.	195	19.0	15.0	0.032	0.089

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

Insulation:

- 1. Open-blown or poured loose-fill insulation has not been used in attic roof spaces with ceiling slope greater than 3 in 12.
- 2. Wherever vents occur, they are baffled to deflect incoming air above the insulation.
- 3. Recessed lights, equipment and ducts are not affecting insulation thickness.
- 4. No roof insulation is installed on a suspended ceiling with removable ceiling panels.
- 5. All exterior insulation is covered with protective material.
- 6. Cargo and loading dock doors are equipped with weather seals.

Fenestration and Doors:

- 7. Windows and skylights are labeled and certified by the manufacturer for U-factor and SHGC.
- 8. Fixed windows and skylights unlabeled by the manufacturer have been site labeled using the default U-factor and SHGC.
- 9. Other unlabeled vertical fenestration, operable and fixed, that are unlabeled by the manufacturer have been site labeled using the default U-factor and SHGC. No credit has been given for metal frames with thermal breaks, low-emissivity coatings, gas fillings, or insulating spacers.

Air Leakage and Component Certification:

- 10. All joints and penetrations are caulked, gasketed, weather-stripped, or otherwise sealed.
- 11. Windows, doors, and skylights certified as meeting leakage requirements.
- 12. Component R-values & U-factors labeled as certified.

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 Standard 90.1-2001 requirements in COMcheck Version 3.1 Release 1 and to comply with the mandatory requirements in the Requirements Checklist.

David Dammon
Principal Envelope Designer-Name

David Dammon
Signature

May 11, 2007
Date

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COMcheck Software Version 3.1 Release 1

Lighting and Power Compliance Certificate

Standard 90.1-2001

Report Date: 05/11/07

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Section 2: General Information

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

<u>Activity Type(s)</u>	<u>Floor Area</u>
Common Space Types: Office - Enclosed	1340

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
2010	560	YES

Exterior Lighting:

2. Minimum efficacy of 60 lumen/watt for lamps greater than 100W.
3. Lighting power for canopies, entrances, and exits meets the following criteria (trade-offs allowed among these applications):
- (i) Lighting power for free-standing canopy areas or building entrances with canopies is less than or equal to 3 watts per square foot.
 - (ii) Lighting power for building entrances without a canopy is less than or equal to 33 watts per linear foot of door width.
 - (iii) Lighting power for building exits is less than or equal to 20 watts per linear foot of exit door width.
4. Lighting power for building facades is less than or equal to 0.25 watts per square foot of the illuminated area.
- Exceptions:*
Controlled by motion sensor, signal or advertising signage, highlighting features of historic monuments and buildings, or required for safety or security.

Controls, Switching, and Wiring:

5. Independent manual or occupancy sensing controls for each space (remote switch with indicator allowed for safety or security).
6. Automatic shutoff control for lighting in >5000 sq.ft buildings by time-of-day device, occupant sensor, or other automatic control.

Exceptions:

24 hour operation lighting.

- 7. Master switch at entry to hotel/motel guest room.
- 8. Separate control device for display/accent lighting, case lighting, task lighting, nonvisual lighting, lighting for sale, and demonstration lighting.
- 9. Photocell/astronomical time switch on exterior lights.

Exceptions:

Covered vehicle entrance/exit areas requiring lighting for safety, security and eye adaptation.

- 10. Tandem wired one-lamp and three-lamp ballasted luminaires (No single-lamp ballasts).

Exceptions:

Electronic high-frequency ballasts;
Luminaires not on same switch;
Recessed luminaires 10 ft. apart or surface/pendant not continuous;
Luminaires on emergency circuits.

Voltage Drop:

- 11. Feeder conductors have been designed for a maximum voltage drop of 2 percent.
- 12. Branch circuit conductors have been designed for a maximum voltage drop of 3 percent.

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 Standard 90.1-2001 requirements in COMcheck Version 3.1 Release 1 and to comply with the mandatory requirements in the Requirements Checklist.

David Damman David Damman May 11, 2007
Principal Lighting Designer-Name Signature Date

Section 5: Post Construction Compliance Statement

Record Drawings and Operating and Maintenance Manuals

Construction documents with record drawings and operating and maintenance manuals provided to the owner.

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COMcheck Software Version 3.1 Release 1 Lighting Application Worksheet

Standard 90.1-2001

Report Date:

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Section 1: Allowed Lighting Power Calculation

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B x C)
Common Space Types:Office - Enclosed	1340	1.5	2010
Total Allowed Watts =			2010

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 / Magnetic	4	14	40	560
Total Actual Watts =				560

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 = 2010
 Total Actual Watts = 560
 Project Compliance = 1450

Lighting PASSES: Design 72% better than code.

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COMcheck Software Version 3.1 Release 1

Mechanical Compliance Certificate

Standard 90.1-2001

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dammoneng@bellsouth.net

Section 2: General Information

Building Location (for weather data): **Slidell, Louisiana**
Heating Degree Days (base 65 degrees F): **1674**
Cooling Degree Days (base 50 degrees F): **6660**
Project Type: **New Construction**

Section 3: Mechanical Systems List

Quantity System Type & Description

- | Quantity | System Type & Description |
|----------|---|
| 1 | Plant 1: Heating: Hot Water Boiler, Capacity ≥ 300 - < 2500 kBtu/h, Gas / Cooling: Water Chiller, Capacity ≥ 150 - < 300 tons, Condenser Water-Cooled, with Waterloop Heatpump, Standard Centrifugal Chiller: leaving chilled water temperature = 44.0 deg. F, entering condenser water temperature = 85.0, condenser flow rate = 3 gpm/ton |

Section 4: Requirements Checklist

Requirements Specific To: Plant 1 :

- 1. Equipment minimum efficiency: Boiler Thermal Efficiency $\geq 75\%$ Et
- 2. Equipment minimum efficiency: Chiller: COP ≥ 5.55 , IPLV = 5.90
- 3. Loop temperature controlled with 20 degrees F deadband where neither cooling tower/fluid cooler nor boiler can operate
- 4. Two-position valve on each heat pump having total heat pump system power > 10 hp
- 5. Meets the condenser heat recovery requirement for service water heating
- 6. Hot gas bypass prohibited unless system has multiple steps of unloading or continuous capacity modulation
- 7. Common chilled and hot water piping prohibited

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

- 1. Load calculations per acceptable engineering standards and handbooks
- 2. Hot water distribution systems ≥ 300 kBtu/h must have one of the following: a) controls that reset supply water temperature by 25% of supply/return delta T b) mechanical or electrical adjustable-speed pump drive(s) c) two-way valves at all heating coils d) multiple-stage pumps e) other system controls that reduce pump flow by at least 50% based on load - calculations required
- 3. Chilled water distribution systems ≥ 300 kBtu/h must have one of the following: a) controls that reset supply water temperature by 25% of supply/return delta T b) mechanical or electrical adjustable-speed pump drive(s) c) two-way valves at all heating coils d) multiple-stage pumps e) other system controls that reduce pump flow by at least 50% based on load - calculations required

4. Pumping system balancing required. Means for measurement or testing pressure across each pump required

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 Standard 90.1-2001 requirements in COMcheck Version 3.1 Release 1 and to comply with the mandatory requirements in the Requirements Checklist.

David Dammon David Dammon May 11, 2007
Principal Mechanical Designer-Name Signature Date

Section 6: Post Construction Compliance Statement

- HVAC record drawings of the actual installation and performance data for each equipment provided to the owner within 90 days after system acceptance.
- HVAC O&M documents for all mechanical equipment and system provided to the owner within 90 days after system acceptance.
- Written HVAC balancing report provided to the owner.

The above post construction requirements have been completed.

Principal Mechanical Designer-Name Signature Date



COMcheck Software Version 3.1 Release 1

Mechanical Requirements Description

Standard 90.1-2001

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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: Plant 1 :

1. The specified heating and/or cooling equipment is covered by the ASHRAE 90.1-2001 Standard and must meet the following minimum efficiency: Boiler Thermal Efficiency $\geq 75\%$ Et
2. The specified heating and/or cooling equipment is covered by ASHRAE 90.1-2001 Standard and must meet the following minimum efficiency: Chiller: COP ≥ 5.55 , IPLV = 5.90
3. Loop temperature controlled with 20 degrees F deadband where neither cooling tower/fluid cooler nor boiler can operate.
4. Two-position valves must be provided on each heat pump where the total heat pump system power is greater than 10 hp.
5. Condenser heat recovery systems must be installed for heating or preheating of service hot water provided if: a) The facility operates 24 hours a day. b) The total installed heat rejection capacity of the water-cooled systems exceeds 6,000 kBtu/h of heat rejection. c) The design service water heating load exceeds 1,000 kBtu/h. The required heat recovery system must have the capacity to provide the smaller of: a) 60% of the peak heat rejection load at design conditions, or b) preheat of the peak service hot water draw to 85 degrees F. Exceptions: - Facilities that employ condenser heat recovery for space heating with a heat recovery design exceeding 30% of the peak water-cooled condenser load at design conditions. - Facilities that provide 60% of their service water heating from site solar or site recovered energy or from other sources.
6. Hot gas bypass or other evaporator pressure controls must be used on cooling equipment with multiple step or continuous capacity unloading. The maximum amount of hot gas bypass must be 50% of total capacity if ≤ 240 kBtu/h and 25% of total capacity if > 240 kBtu/h. Unitary packaged systems ≤ 90 kBtu/h are exempted from this requirement.
7. Hydronic systems that use a common return system for both hot water and chilled water must not be used.

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

1. Heating and cooling system design loads for sizing systems and equipment must be determined using generally accepted engineering standards and handbooks acceptable to the adopting authority (for example, ASHRAE Handbook of Fundamentals).
2. Hot water space-heating systems with a capacity exceeding 300 kBtu/h supplying heated water to comfort conditioning systems must include controls that automatically reset supply water temperatures by representative building loads (including return water temperature) or by outside air temperature. Exceptions: - Where the supply temperature reset controls cannot be implemented without causing improper operation of heating, cooling, humidification, or dehumidification systems. - Hydronic systems that use variable flow to reduce pumping energy.
3. Chilled water space-cooling systems with a capacity exceeding 300 kBtu/h supplying chilled water for comfort conditioning systems must include controls that automatically reset supply water temperatures by representative building loads (including return water temperature) or by outside air temperature. Exceptions: - Where the supply temperature reset controls cannot be implemented without causing improper operation of heating, cooling, humidification, or dehumidification systems. - Hydronic systems that use variable flow to reduce pumping energy.
4. Hydronic systems must be proportionately balanced in a manner to first minimize throttling losses, then the pump impeller must be trimmed or pump speed must be adjusted to meet design flow conditions. Each hydronic system must have either the ability to measure differential pressure increase across the pump or test ports at each side of each pump. Exceptions: - Pumps with pump motors of 10 hp or less. - When throttling results in no $> 5\%$ of the nameplate horsepower draw, or 3 hp, whichever is greater, above that required if the impeller was trimmed.