

STATE OF LOUISIANA
Department of Public Safety and Corrections
Office of State Fire Marshal Code Enforcement and Building Safety
8181 Independence Boulevard
Baton Rouge, Louisiana 70806
225-925-4920

H "BUTCH" BROWNING
FIRE MARSHAL

NEW CONSTRUCTION

ROBERT WILTSE
DAMMON ENGINEERING INC
554 OLD SPANISH TRAIL
SLIDELL, LA 70458-0000

RE: P0410783
LIVING THE WORD INTERNATIONAL (NEW
CHURCH)
2528 OLD SPANISH TRAIL
SLIDELL, LA 70458

NFPA 101, 2009
IBC, 2009 (CHAPTERS 9 & 10)

ASSEMBLY OVER 300 OCCUPANTS
BUSINESS
MERCANTILE CLASS C

Dear Applicant:

This is to advise that we have reviewed the drawings and specifications for the subject proposed construction and have determined that they appear to satisfactorily comply with the adopted laws, codes, rules and regulations of The State Fire Marshal subject to the following requirements:

1. **Scope of Work: This review is for the construction of a NEW 20,000 SQUARE FOOT LIVING WORD INTERNATIONAL CHURCH.**
2. **LAC 55:V:307 Periodic observation of construction shall be made by a licensed ARCHITECT or civil engineer. The enclosed Certificate of Completion containing the signature(s) of the responsible design professional(s) shall be presented to the Inspector at time of final inspection for occupancy.**
3. **A REVIEW FOR COMPLIANCE WITH THE FIRE PROTECTION AND EGRESS REQUIREMENTS OF CHAPTERS 9 AND 10 OF THE INTERNATIONAL BUILDING CODE IS INCLUDED IN THIS REVIEW. Review for compliance with all other requirements of the LOUISIANA STATE UNIFORM CONSTRUCTION CODE, in accordance with Act 12 of the 2005 First Extraordinary Session of the Louisiana Legislature, IS NOT INCLUDED IN THIS REVIEW. Contact the building official of the applicable political subdivision to coordinate compliance with these requirements. LRS 40:1730.23 mandates the enforcement of building codes by municipalities and parishes in Louisiana, as described by LRS 40:1730.28.**

Note: In accordance with LRS 40:1730.39.A, this office may establish contract agreements with municipalities and parishes in order to provide uniform construction code enforcement on their behalf, as provided in LRS 40:1730.24. Please visit our web site at <http://www.dps.state.la.us/sfm/index.htm> for a current list of jurisdictions requesting plan review by this office, a fee schedule, and a checklist of information required for review.

PROVIDE A DUPLICATE SET OF PLANS AND SPECIFICATIONS TO THE BUILDING OFFICIAL (OR THIRD-PARTY) FOR REVIEW AND/OR PERMITTING, THE STATE FIRE MARSHAL REVIEWED AND STAMPED DOCUMENTS SHALL NOT BE USED FOR THIS PURPOSE. ADDITIONAL MARKING OR ALTERATIONS MADE TO THE APPROVED STAMPED PLANS MAY CAUSE DELAYS IN FINAL ACCEPTANCE FOR OCCUPANCY.

4. **As per 28 CFR Part 36.102(e) of the September 15, 2011 Federal Register: Exemptions and exclusions. (Accessibility codes shall) not apply to any private club (except to the extent that the facilities of the private club are made available to customers or patrons of a place of public accommodation), or to any RELIGIOUS ENTITY or public entity.**

It appears that the facility is operated by a private club/religious entity, therefore a review for compliance with the ADA-ABA Accessibility Guidelines has not been performed on this submittal. Please return ALL reviewed documents with a written request for full ADA-ABA Accessibility Guidelines compliance review, if the exemption does NOT apply. A separate plan review application and fee will NOT be necessary.

5. **NOTE: This review applies to a "FULLY SPRINKLERED" building.**
6. **101:12.7.9.3 Occupant capacities will be set and posted by the inspecting officer upon final inspection. (...THE OCCUPANT LOAD AT THE "SANCTUARY", "STAGE", AND THE "AUDIO BOOTH" APPEARS TO BE APPROXIMATELY "586 PERSONS" -- THE OCCUPANT LOAD AT THE "MEDIA" ROOM, "BRIDAL SUITE", "CAFE", AND THE "BOOKSTORE" APPEARS TO BE APPROXIMATELY 101 PERSONS. THE "TOTAL OCCUPANT LOAD" AT THIS FACILITY APPEARS TO BE APPROXIMATELY "687 PERSONS" - INSPECTOR TO VERIFY).**
7. **101:6.1.14.3 and IBC 508.3.1 Where TWO OR MORE classes of occupancy occur in the same building or structure and are intermingled so that separate safeguards are impracticable, means of egress facilities, construction, protection, and other safeguards shall comply with the MOST RESTRICTIVE life safety requirements of the occupancies involved.**
8. **LRS 40:1730.45 and LAC 55:V:2601 The documentation provided for the subject facility appears to comply with The Commercial Building Energy Conservation Code based on ANSI/ASHRAE/IESNA 90.1- 2007, or the International Energy Conservation Code, 2009 edition, as applicable.**

NOTE: THE COMMENTS LISTED BELOW IDENTIFY APPARENT DEFICIENCIES DETECTED IN OUR REVIEW OF THE DOCUMENTS SUBMITTED.

9. **101:12.2.2.2 and IBC 1008.1.10 Doors in a required means of egress serving 100 OR MORE may be provided with a latch or lock only if it is PANIC HARDWARE.**
10. **101:7.2.2.4.1 and IBC 1009.12 Stairs and ramps shall have handrails on both sides and shall be provided within 30 inches of all portions of the required egress width of stair.**
11. **101:7.2.2.4.4.1 and IBC 1012.2 HANDRAILS shall be no lower than 34" nor higher than 38" above the leading edge of the tread surface.**
12. **101:7.2.2.4.4.7, 101:7.2.2.4.4.6(1) and IBC 1012.3 HANDRAILS shall be continuously graspable along the entire length and shall be from 1-1/4" to 2" in diameter.**
13. **101:7.2.2.4.4.5 Provide a minimum clearance of 2-1/4" between the HANDRAILS and the walls or guards to which they are attached.**

14. 101:12.2.10 and IBC 1011 EXIT SIGNS complying with 101:7.10 and IBC 1011 shall DEFINE EXITS and access to exits where the exit is not immediately apparent. (...SEE NOTES ON SHEETS "A-3" AND "E-2").
15. 101:12.2.8 and IBC 1006 Provide ILLUMINATION of means of egress in accordance with 101:7.8 and IBC 1006, including EXIT DISCHARGE (exterior).
16. 101:12.2.9 and IBC 1006.3 & 1006.4 Provide EMERGENCY LIGHTING according to 101:7.9 and IBC 1006, including EXIT DISCHARGE (exterior).
17. NFPA 10:6.2.1.2 Provide portable fire extinguishers within the following travel distances; rectilinear route measure:
 - a) Travel distance to a fire extinguisher shall not exceed 75 feet for Class A, C and D fires. See Table 10:6.2.1.1 and NFPA 10:6.4 and 10:6.5.
 - b) Travel distance to a fire extinguisher shall not exceed 30 feet for Class B fires (liquids). (May be increased to 50 feet for Light (low) Hazard fires with 10-B extinguisher, for Ordinary (moderate) Hazard fires with 20-B extinguisher, and for Extra (high) Hazard fires with 80-B extinguisher). See Table 10:6.3.1.1.
 - c) Travel distance to a fire extinguisher shall not exceed 30 feet for Class K fires (cooking appliances). See NFPA 10:6.6.

For classification of Hazards see NFPA 10:5.4.1.1 (Light/Low), 10:5.4.1.2 (Ordinary/Moderate): 10:5.4.1.3 (Extra/High).

NOTE: THE FOLLOWING COMMENTS IDENTIFY ISSUES FOR INFORMATIONAL AND CAUTIONARY PURPOSES OR ISSUES THAT COULD NOT BE VERIFIED IN THE SUBMITTED DOCUMENTS.

18. LAC 55:305 Insulation and insulation assemblies shall meet the requirements of Section 719, International Building Code, 2009 Edition.
 - a) Concealed and exposed insulation shall have a flame spread of 0-25 and a smoke developed of 0-450 in accordance with IBC 719.
 - b) Cellulose fiber thermal insulation shall meet the requirements of paragraph IBC 719.
 - c) Foam plastic insulation shall meet the requirements of IBC 719.
19. LRS 40:1711 Provide safety glazing in hazardous locations at STOREFRONT DOORS AND WINDOWS.
20. High hazard storage (including oxidizers) or processes are NOT included in this review. If this facility is planning to handle or store materials of this nature, then plans and details shall be resubmitted for review prior to starting construction.
21. 101:7.2.1.3 and IBC 1008.1.5 through 1008.1.7 Provide LEVEL LANDINGS outside exterior doors that are within 1/2" of the interior finish floor elevation.

22. 101:7.2.1.5.9 and IBC 1008.1.94 through 1008.1.9.5 Doors shall be openable with **ONLY** one releasing operation. A two-step release, such as a knob and an independent slide bolt, is **NOT** acceptable.
23. 101:7.2.1.5 and IBC 1008.1.9 Locks on doors in means of egress shall not require the use of a key, special device or special knowledge to open in the direction of egress.

Submit a "REQUEST FOR EXEMPTION" for special locking arrangements in accordance with Interpretive Memorandum 2009-03 available on our website at <http://www.dps.louisiana.gov/sfm/> under the PLAN REVIEW / FORMS section. Also see Interpretive Memorandum 2009-04 for clarification regarding "Magnetic Lock Releasing Devices & Electrified Locks/Latches", or Interpretive Memorandum 2009-05 for clarification regarding Special Healthcare Locking Arrangements.

NOTE: The "Life Safety and Property Protection Licensing Law" (LRS 40:1664 et seq.) requires locksmiths to be licensed. Contact the licensing section of this office at 225.925.7047 for guidance and assistance.

24. 101:7.5.2.1 and IBC 1014.2 Egress shall not be through a room subject to locking in the direction of egress.
25. 101:7.5.2.2 and IBC 1008.1 Exit and exit access doors shall be clearly recognizable. Decorative treatments, draperies or paneling which obscure doors are not permitted.
26. 101:7.2.2.3.3 Projections or lips at nosings of stair treads that are a tripping hazard are not permitted.
27. 101:12.4.5.2.3 PERMANENT PLATFORMS shall be of the materials required for the building construction type in which the permanent platform is located, except that the finish floor shall be permitted to be of wood in ALL types of construction.
28. 101:12.3.4 and IBC 907 Provide a FIRE ALARM system in accordance with 101:9.6 and IBC 907.5.
29. LRS 40:1574 and LAC 55:V:303 Submit FIRE ALARM system shop drawings with plan review application and fee prior to installation of any work of this section. Such work shall not commence until shop drawings have been found to be in compliance with applicable codes by this office. The submittal shall include a copy of this letter and shall be in accordance with the submittal requirements outlined in the memorandum dated June 24, 1993 which was distributed from this office to all state licensed fire alarm contractors, architects and engineers. Specify the "Type of Signaling System" to be utilized, identify the monitoring station, describe the evacuation system ("zoned" or "general"), and include information concerning the means of protecting fire command centers, circuitry, and other essential equipment, such as may be required for high-rise buildings, as applicable.
30. 101:12.3.5 and IBC 903 Provide supervised automatic SPRINKLER protection in accordance with 101:9.7 and the IBC.
31. LRS 40:1574 and LAC 55:V:303 Submit automatic SPRINKLER system shop drawings with plan review application and fee prior to installation of any work to this system.

Sprinkler shop drawing submittals are required to be reviewed by the professional of record/owner before being submitted to the Office of State Fire Marshal plan review section. Shop drawings reviewed by the professional of record shall bear his/her shop drawing review stamp indicating reviewed/no exceptions taken. See Interpretive Memorandum 2011-02. In order to expedite the review process, requests by the SFM reviewer for additional information will be sent both to the

professional of record/owner and the sprinkler contractor. Contractor will be permitted to respond back to the SFM reviewer and copy the professional of record/owner with their response. Additional information will not require a shop drawing review stamp. Note: this does not include the response sent as a result of Request for Information letter.

Be advised that a sprinkler system that satisfies the requirements of NFPA 101 Life Safety Code, NFPA 13, NFPA 13R and/or NFPA 13D may not necessarily be considered by the building insurance underwriters as "full coverage" or "fully sprinklered", for insurance purposes.

NFPA 13:4.3, 22.1.4 (2007 edition) Complete and submit owner's information certificate to system designer in order to identify special occupancies and commodity classifications before start of design. Form can be found in the SFM website/Building Safety/Sprinklers (<http://sfm.dps.louisiana.gov/>).

NFPA 13:10 Underground piping shall be installed in accordance with chapter 10. See 10.6 for specific requirements for piping run under buildings.

Fire Pump, if provided, to meet the requirements of NFPA 20, 2007 edition.

32. LRS 40:1664.4 All work and inspections of life safety and property protection systems and equipment shall be performed by a contractor licensed with the appropriate endorsement by the Office of the State Fire Marshal.
33. Compliance with the 2008 NFPA 70, National Electrical Code (NEC), is mandated by RS 40:1730.28.A(7). Contact the local Building Official of the applicable local political subdivision or a Louisiana State Uniform Construction Code Council registered third-party provider to verify plan review and inspection requirements of the proposed electrical work.
34. HVAC system shall be constructed in accordance with 101:9.2.
35. 101:9.2.1 Install smoke detectors to automatically stop the fan in HVAC duct systems OVER 2000 CFM in accordance with NFPA 90A:6.4.2(1). Where fire alarm system is required, duct detectors shall be connected to building alarm system.
36. Residential cooking equipment in the "WARMING KITCHEN" shall only be used for warming or limited cooking that produces no grease-laden vapors. Otherwise, cooking equipment shall be protected in accordance with NFPA 96. (See NFPA 96:1.1.4 and ANNEX statement A.1.1.4). (NOTE: Type "K" portable fire extinguishers shall NOT be installed in areas housing electrical cooking appliances, unless the appliance electrical system is shunted upon activation of an approved hood suppression system.)
37. RS 23:536 Boilers, Pressure Vessels, and WATER HEATERS of 50 gallon capacity or larger and/or 100,000 BTU/HR heat input shall conform with the provisions of the Louisiana Boiler Inspection Law in accordance with adopted rules and regulations. (Contact our Boiler Section (800-256-5452) with any questions concerning this requirement.)
38. 101:9.1.1 Install GAS piping in accordance with NFPA 54. (...WHERE / IF APPLICABLE).
39. 101:12.3.3 and 101:36.3.3 Interior walls and ceilings shall have a flame spread of 0-75 except in the "BATHROOMS", "BRIDAL SUITE", "MEDIA", "PASTOR", and "MEETING" rooms which shall have a flame spread of 0-200 and a smoke development rating of 0-450.
40. 101:8.2.2.3 Fire compartments shall be formed by fire barriers that are CONTINUOUS from foundation through all intervening construction to the roof deck or floor deck, from outside wall to

outside wall or from fire barrier to fire barrier, including continuity through all concealed spaces, such as those found above a ceiling, including interstitial spaces.

41. **101:8.3.5 Penetrations through rated construction shall be sealed by approved firestop systems or devices tested in accordance with ASTM E-814 or ANSI/UL 1479 or by assemblies of firestopping materials capable of preventing the passage of flames and hot gases when tested and rated in accordance with NFPA 251. (This requirement applies for elevator controls on shaft walls, electrical outlets, light switches, etc.).**
 - a) **Notify the District Office identified at the end of this letter for inspection of all completed fire and/or smoke barrier walls before any construction is installed that would conceal such construction and prevent a proper inspection. Access to randomly selected areas may be required by the inspector at time of final inspection if this notification is not given.**
 - b) **Provide detailed instructive cut sheets of the fire penetration sealing system used to the inspector at time of inspection. Random selective sampling by the contractor will be observed by the inspector.**
42. **NFPA 10:6.1.3.3.1 Fire extinguishers shall not be obstructed or obscured from view.**
43. **NFPA 10:6.1.3.1 Fire extinguishers shall be conspicuously located where they will be readily accessible and immediately available in the event of fire. Preferably they shall be located along normal paths of travel, including exits from areas.**
44. **NFPA 10:6.1.3.3.1 Fire extinguishers shall not be obstructed or obscured from view.**
45. **NFPA 10:6.1.3.8 Top of fire extinguisher, having a gross weight less than 40 lb, shall be not more than 5 feet above the floor; if gross weight 40 lbs or greater, 3-1/2 feet above the floor.**
46. **NOTE: Please ENCLOSE A COPY OF THIS LETTER WITH FUTURE SUBMITTALS OR OTHER CORRESPONDENCE pertaining to this project.**

Changes to construction in the field which are not consistent with the reviewed documents are not authorized unless reviewed by this office for compliance with Code. Modifications to reviewed plans must be submitted to this office by the Architect/Civil Engineer for review prior to final inspection. If an Architect or Civil Engineer is not required by RS 37:155, revisions shall be submitted by the Owner. Submittals shall include plans, completed application, a minimum \$55.00 review fee, and a copy of the most current plan review letter.

Compliance with code requirements for fire protection systems, such as Fire Alarm, Sprinkler and Suppression Systems, is determined by separate shop drawing submittal and is not included in this review.

This review shall in no way permit and/or authorize any omissions or deviations from the specific requirements of the adopted codes, rules and regulations in accordance with R.S. 40:1574.1(B).

This review is valid for 180 days from the date of this letter. Construction permits must be issued and/or construction must commence within this time period.

This office requires certification of the completed project in accordance with the approved documents (certificate enclosed).

Occupancy of the project will not be permitted until we receive the completed certificate and a satisfactory inspection of the completed construction has been made by this office.

To arrange for inspection of the project, please contact the District Office at the phone number below two (2) to three (3) weeks in advance. The plans stamped reviewed by this office must be available on job site at time of inspection. Certificate of completion must be provided to the inspecting Deputy for final inspection.

Fire Department access and water supplies within the scope of work shall be acceptable to the local fire department. Submit to the State Fire Marshal inspector, a review letter from the local fire department, stating that the access and water supply as proposed are acceptable. In lieu of a review letter, where the local fire department does not provide a formal review, the local fire department may indicate review of the access and water supplies by stating such on the plans bearing the State Fire Marshal review stamp.

REVIEWED BY:
JAMAR GARDNER
PLAN REVIEW DEPUTY

CC:
Living The Word International
St Tammany Fire Protection District No 1*
City Of Slidell*
New Orleans District* 5045688506
City Of Slidell*



STATE OF LOUISIANA
DEPARTMENT OF PUBLIC SAFETY AND CORRECTIONS
OFFICE OF STATE FIRE MARSHAL



CERTIFICATE OF COMPLETION

DATE: _____

SFM PROJECT PO _____ SYSTEM TYPE _____ CONTRACTOR SIGNATURE _____
 SFM PROJECT PO _____ SYSTEM TYPE _____ CONTRACTOR SIGNATURE _____
 SFM PROJECT PO _____ SYSTEM TYPE _____ CONTRACTOR SIGNATURE _____
 SFM PROJECT PO _____ SYSTEM TYPE _____ CONTRACTOR SIGNATURE _____

Please list all projects pertaining to the currently scheduled reviews of the building. System type refers to Architectural, Fire Alarm, Kitchen Hood/Wet Chemical Suppression, Fire Suppression, or Storage Tank.

To arrange for inspection of the project, please contact the district office two (2) to three (3) weeks in advance. To verify inspection district and phone number please refer to the "cc" list on the last page of the State Fire Marshal review letter. The plans stamped reviewed by this office must be available on job site at time of inspection. This Certificate Of Completion must be provided to the inspecting deputy at final inspection.

This is to certify the below project

PROJECT TITLE FROM APPLICATION		
PROJECT ADDRESS		
CITY	STATE	ZIP CODE

was periodically observed by me, by my consultants, and/or by others in my employ during construction and, to the best of my knowledge, information and belief, has been completed in accordance with the safety provisions which were shown in the plans and specifications previously reviewed by the Fire Marshal.

UNDER PENALTY OF LAW FOR FALSE STATEMENTS, I (NAME OF ARCHITECT/ENGINEER IF REQUIRED, OTHERWISE OWNER)

PRINT NAME _____ SIGNATURE _____

ARCHITECT/ CIVIL ENGINEER LICENSE NUMBER _____

CERTIFY ALL STATEMENTS CONTAINED HEREIN ARE, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, TRUE AND CORRECT.

LAC 55:V:307 OBSERVATION OF CONSTRUCTION

A. For a structure which by law may only be constructed with plans prepared and certified by a licensed architect or civil engineer, it shall be the duty of the owner of such a structure to provide for periodic observation of the construction of the structure to determine if the work is proceeding in accordance with the plans and specifications as approved by the fire marshal. The observations shall be performed by a registered architect or a registered civil engineer.

B. Upon completion of such work, where the law requires the owner to engage an architect or registered civil engineer, the owner shall furnish to the fire marshal a certificate signed by a registered architect or registered civil engineer stating that the periodic observations have been made and that to the best of the architect's or engineer's knowledge, information and belief, the work was completed in accordance with those fire safety standards and regulations stipulated in the plans and specifications previously approved by the fire marshal. When the owner has not engaged an architect or registered civil engineer, and the same is not required by law, the owner must submit the certificate of completion when appropriate, but always under his signature.

C. Occupancy of a structure, watercraft or movable prior to furnishing a certificate to the fire marshal as required under this regulation is expressly forbidden by the fire marshal, unless and until a satisfactory inspection has been made by the fire marshal or his certified representative.

D. In order to comply with the requirements of §307.B, the owner must submit to the fire marshal the following certificate completed by the architect, civil engineer, or, if neither is required by law, the owner.



Envelope Compliance Certificate

FEB 13 2012

410783

FEB 10 2012

90.1 (2004) Standard

Section 1: Project Information

Project Type: **New Construction**

Project Title : Living The Word International - New Church

Construction Site:
2528 Old Spanish Trl.
Slidell, LA 70461

Owner/Agent:
David Kaufmann
K.B. Kaufmann
Slidell, LA

Designer/Contractor:
Emmett Dammon
Dammon Engineering, Inc.
554 Old Spanish Trail
Slidell, LA 70458
985-649-5832
dammoneng@bellsouth.net

Section 2: General Information

Building Location (for weather data): **Slidell, Louisiana**
Climate Zone: **2a**
Building Type for Envelope Requirements: **Non-Residential**
Vertical Glazing / Wall Area Pct.: **5%**

Building Type **Floor Area**
Religious Building 20000

Section 3: Requirements Checklist

Envelope PASSES: Design 14% 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 ^(a)
Roof 1: Metal Building, Standing Seam	20000	19.0	19.0	0.029	0.065
Exterior Wall 1: Steel-Framed, 16" o.c.	6480	13.0	13.0	0.048	0.124
Window 1: Metal Frame:Double Pane with Low-E, Clear, Fixed, SHGC 0.10, PF 1.00	120	---	---	0.040	1.220
Door 1: Insulated Metal, Swinging	100	---	---	0.025	0.700
Door 2: Glass (> 50% glazing), Clear, SHGC 0.10, PF 1.00	200	---	---	0.050	1.220

(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 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:

410783

- 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.
- 13. 'Other' components have supporting documentation for proposed U-Factors.

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 90.1 (2004) Standard requirements in COMcheck Version 3.9.0 and to comply with the mandatory requirements in the Requirements Checklist.

Brandon Nowakowski



1-30-2012

Name - Title

Signature

Date



Interior Lighting and Power Compliance Certificate

90.1 (2004) Standard

Section 1: Project Information

Project Type: **New Construction**

Project Title : Living The Word International - New Church

Construction Site:
2528 Old Spanish Trl.
Slidell, LA 70461

Owner/Agent:
David Kaufmann
K.B. Kaufmann
Slidell, LA

Designer/Contractor:
Emmett Dammon
Dammon Engineering, Inc.
554 Old Spanish Trail
Slidell, LA 70458
985-649-5832
dammoneng@bellsouth.net

Section 2: Interior Lighting and Power Calculation

A	B Floor Area	C Allowed Watts / ft2	D Allowed Watts
Religious Building	20000	1.3	26000
Total Allowed Watts =			26000

Section 3: Interior Lighting Fixture Schedule

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Religious Building (20000 sq.ft.)				
Incandescent 1: Incandescent 25W	1	96	25	2400
Linear Fluorescent 1: 48" T8 32W (Super T8) / Electronic	2	12	64	768
Linear Fluorescent 2: 48" T8 32W (Super T8) / Electronic	3	61	96	5856
Linear Fluorescent 3: 48" T8 32W (Super T8) / Electronic	3	8	96	768
Linear Fluorescent 4: 48" T8 32W (Super T8) / Electronic	2	17	64	1088
Compact Fluorescent 2: Quad 4-pin 13W / Electronic	1	2	13	26
Total Proposed Watts =			10906	

Section 4: Requirements Checklist

Lighting Wattage:

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

Allowed Watts	Proposed Watts	Complies
26000	10906	YES

- 2. Exit signs 5 Watts or less per sign.

Controls, Switching, and Wiring:

- 3. Independent manual or occupancy sensing controls for each space (remote switch with indicator allowed for safety or security).
- 4. Occupant sensing control in class rooms, conference/meeting rooms, and employee lunch and break rooms.

Exceptions:

- Spaces with multi-scene control; shop classrooms, laboratory classrooms, and preschool through 12th grade classrooms.
- 5. 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; patient care areas; where auto shutoff would endanger safety or security.
- 6. Master switch at entry to hotel/motel guest room.
- 7. Separate control device for display/accent lighting, case lighting, task lighting, nonvisual lighting, lighting for sale, and demonstration lighting.
- 8. 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:

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

Interior Lighting PASSES: Design 58% better than code.

Section 5: 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 90.1 (2004) Standard requirements in COMcheck Version 3.9.0 and to comply with the mandatory requirements in the Requirements Checklist.

Brandon Nowakowski
Name - Title

[Signature]
Signature

1-30-2012
Date

Section 5: Post Construction Compliance Statement

Record Drawings and Operating and Maintenance Manuals:

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

Lighting Designer or Contractor Name

Signature

Date



COMcheck Software Version 3.9.0

Exterior Lighting Compliance Certificate

90.1 (2004) Standard

Section 1: Project Information

Project Type: **New Construction**

Project Title : Living The Word International - New Church

Construction Site:
2528 Old Spanish Trl.
Slidell, LA 70461

Owner/Agent:
David Kaufmann
K.B. Kaufmann
Slidell, LA

Designer/Contractor:
Emmett Dammon
Dammon Engineering, Inc.
554 Old Spanish Trail
Slidell, LA 70458
985-649-5832
dammoneng@bellsouth.net

Section 2: Exterior Lighting Area/Surface Power Calculation

A Exterior Area/Surface	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B x C)	F Proposed Watts
Illuminated area of wall or surface	4260 ft ²	0.2	No	852	500
Illuminated length of wall or surface	130 ft	5	No	650	600
Attached canopy	1200 ft ²	1.25	Yes	1500	336
Total Tradable Watts* =				1500	336
Total Allowed Watts =				3002	
Total Allowed Supplemental Watts** =				150	

* Wattage tradeoffs are only allowed between tradable areas/surfaces.

** A supplemental allowance equal to 5% of total allowed wattage may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Section 3: Exterior Lighting Fixture Schedule

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Illuminated area of wall or surface (4260 ft ²): Non-tradable Wattage HID 2: Metal Halide 100W / Standard	1	5	100	500
Illuminated length of wall or surface (130 ft): Non-tradable Wattage HID 1: Metal Halide 100W / Standard	1	6	100	600
Attached canopy (1200 ft ²): Tradable Wattage Compact Fluorescent 1: Quad 4-pin 42W / Electronic	1	8	42	336
Total Tradable Proposed Watts =				336

Section 4: Requirements Checklist

Lighting Wattage:

1. Within each non-tradable area/surface, total proposed watts must be less than or equal to total allowed watts. Across all tradable areas/surfaces, total proposed watts must be less than or equal to total allowed watts.

Compliance: Passes.

Controls, Switching, and Wiring:



COMcheck Software Version 3.9.0

Mechanical Compliance Certificate

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90.1 (2004) Standard

Section 1: Project Information

Project Type: **New Construction**

Project Title : Living The Word International - New Church

Construction Site:
2528 Old Spanish Trl.
Slidell, LA 70461

Owner/Agent:
David Kaufmann
K.B. Kaufmann
Slidell, LA

Designer/Contractor:
Emmett Dammon
Dammon Engineering, Inc.
554 Old Spanish Trail
Slidell, LA 70458
985-649-5832
dammoneng@bellsouth.net

Section 2: General Information

Building Location (for weather data):
Climate Zone:

Slidell, Louisiana
2a

Section 3: Mechanical Systems List

Quantity System Type & Description

- | | |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2 | HVAC System 2 (Single Zone) :
Heating: 1 each - Central Furnace, Electric, Capacity = 120000 kBtu/h
Cooling: 1 each - Split System, Capacity = 180000 kBtu/h, Efficiency = 13.00 EER, Air-Cooled Condenser |
| 3 | HVAC System 3 (Single Zone) :
Heating: 1 each - Central Furnace, Electric, Capacity = 75000 kBtu/h
Cooling: 1 each - Split System, Capacity = 90000 kBtu/h, Efficiency = 13.00 EER, Air-Cooled Condenser |
| 3 | HVAC System 4 (Single Zone) :
Heating: 1 each - Central Furnace, Electric, Capacity = 52000 kBtu/h
Cooling: 1 each - Split System, Capacity = 60000 kBtu/h, Efficiency = 13.00 EER, Air-Cooled Condenser |
| 1 | HVAC System 5 (Single Zone) :
Heating: 1 each - Central Furnace, Electric, Capacity = 36000 kBtu/h
Cooling: 1 each - Split System, Capacity = 48000 kBtu/h, Efficiency = 13.00 EER, Air-Cooled Condenser |

Section 4: Requirements Checklist

Requirements Specific To: HVAC System 2 :

- 1. Equipment minimum efficiency: Split System: 9.20 EER (9.4 IPLV)
- 2. Newly purchased equipment meets the efficiency requirements
- 3. Hot gas bypass prohibited unless system has multiple steps of unloading or continuous capacity modulation
- 4. Hot gas bypass limited to 25% of total cooling capacity
- 5. VAV fans with static pressure sensors are placed in a position such that the controller setpoint is no greater than one-third the total design fan static pressure. If placement results in the sensor being located downstream of major duct splits, multiple sensors are installed in each major branch.
Exception(s):
 - Systems with DDC of individual zone boxes reporting to the central control panel and reset of static pressure setpoint based on the zone requiring the most pressure.
- 6. Systems with DDC of individual zone boxes reporting to the central control panel has static pressure setpoint reset based on the zone requiring the most pressure.

Requirements Specific To: HVAC System 3 :

- 1. Equipment minimum efficiency: Split System: 9.20 EER (9.4 IPLV)

- 2. Newly purchased equipment meets the efficiency requirements
- 3. Hot gas bypass prohibited unless system has multiple steps of unloading or continuous capacity modulation
- 4. Hot gas bypass limited to 25% of total cooling capacity
- 5. VAV fans with static pressure sensors are placed in a position such that the controller setpoint is no greater than one-third the total design fan static pressure. If placement results in the sensor being located downstream of major duct splits, multiple sensors are installed in each major branch.

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Exception(s):

- Systems with DDC of individual zone boxes reporting to the central control panel and reset of static pressure setpoint based on the zone requiring the most pressure.
- 6. Systems with DDC of individual zone boxes reporting to the central control panel has static pressure setpoint reset based on the zone requiring the most pressure.

Requirements Specific To: HVAC System 4 :

- 1. Equipment minimum efficiency: Split System: 9.20 EER (9.4 IPLV)
- 2. Newly purchased equipment meets the efficiency requirements
- 3. Hot gas bypass prohibited unless system has multiple steps of unloading or continuous capacity modulation
- 4. Hot gas bypass limited to 25% of total cooling capacity
- 5. VAV fans with static pressure sensors are placed in a position such that the controller setpoint is no greater than one-third the total design fan static pressure. If placement results in the sensor being located downstream of major duct splits, multiple sensors are installed in each major branch.

Exception(s):

- Systems with DDC of individual zone boxes reporting to the central control panel and reset of static pressure setpoint based on the zone requiring the most pressure.
- 6. Systems with DDC of individual zone boxes reporting to the central control panel has static pressure setpoint reset based on the zone requiring the most pressure.

Requirements Specific To: HVAC System 5 :

- 1. Equipment minimum efficiency: Split System: 9.20 EER (9.4 IPLV)
- 2. Newly purchased equipment meets the efficiency requirements
- 3. Hot gas bypass prohibited unless system has multiple steps of unloading or continuous capacity modulation
- 4. Hot gas bypass limited to 25% of total cooling capacity
- 5. VAV fans with static pressure sensors are placed in a position such that the controller setpoint is no greater than one-third the total design fan static pressure. If placement results in the sensor being located downstream of major duct splits, multiple sensors are installed in each major branch.

Exception(s):

- Systems with DDC of individual zone boxes reporting to the central control panel and reset of static pressure setpoint based on the zone requiring the most pressure.
- 6. Systems with DDC of individual zone boxes reporting to the central control panel has static pressure setpoint reset based on the zone requiring the most pressure.

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

- 1. Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup

Exception(s):

- Continuously operating zones
- 2. 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(s):

- Piping within HVAC equipment.
- Fluid temperatures between 60 and 105°F.
- Fluid not heated or cooled.
- Runouts <4 ft in length.
- Pipe unions in heating systems.
- 3. Load calculations per acceptable engineering standards and handbooks
- 4. Thermostatic controls have 5°F deadband

Exception(s):

- Thermostats requiring manual changeover between heating and cooling
- Special occupancy or special applications where wide temperature ranges are not acceptable and are approved by the authority having jurisdiction.
- 5. Where separate thermostats are used for heating and cooling, acceptable measures are used to prevent simultaneous heating and cooling
- 6. Stair and elevator shaft vents are equipped with motorized dampers

Exception(s):

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- Ventilation systems serving unconditioned spaces.
 - Gravity (non-motorized) dampers are acceptable in buildings less than three stories in height above grade.
 - 7. Acceptable measures used to prevent simultaneous humidification and dehumidification
Exception(s):
 - Desiccant systems and systems for uses requiring specific humidity levels (approval required)
 - 8. Automatic controls for freeze protection systems present
 - 9. Automatic ventilation controls (e.g., CO2 controls) or exhaust air heat recovery present for high design occupancy areas (>100 person/1000 ft2) with >3,000 cfm outside air capacities
 - 10. Duct, plenum, and piping insulation surfaces suitably protected from weather, moisture, or likely damage
 - 11. Duct Sealing:
 - a) Pressure sensitive tape used as the primary sealant is certified to comply with UL-181A or UL-181B,
 - b) longitudinal and transverse seams for ducts in unconditioned spaces,
 - c) longitudinal and transverse seams and duct wall penetrations for ducts outside the building,
 - d) transverse seams on buried ducts
 - 12. Motorized, automatic shutoff dampers required on exhaust and outdoor air supply openings
Exception(s):
 - Gravity dampers acceptable in buildings <3 stories
 - Gravity dampers acceptable in systems with outside or exhaust air flow rates less than 300 cfm where dampers are interlocked with fan
 - 13. R-6 for supply air ducts located outside the building, in ventilated attics and in unvented attic above insulated ceiling
R-3.5 for supply air ducts in unvented attic with roof insulation, unconditioned and underground spaces
R-3.5 for return air ducts located outside the building, in ventilated attics and in unvented attic above insulated ceiling
 - 14. Humidistat controls prevent reheating, recooling, and mixing of mechanically heated air with mechanically cooled air
Exception(s):
 - Capability of first reducing supply air volume 50% or less of the design rate or minimum outdoor air ventilation, or per regulatory standard, whichever is larger, before combined heating/cooling occurs.
 - Cooling capacity <80 kBtu/h and capability to unload cooling equipment.
 - Cooling capacity <40 kBtu/h.
 - Rigid humidity requirements.
 - Site-recovered or site-solar energy sources or.
 - Use of a desiccant systems.
 - 15. Kitchen hoods >5,000 cfm provided with 50% makeup air that is uncooled and heated to no more than 60°F unless specifically exempted
Exception(s):
 - Where hoods are used to exhaust ventilation air that would otherwise exfiltrate or be exhausted by other fan systems.
 - Certified grease extractor hoods that require a face velocity no >60 fpm.
 - 16. Buildings with fume hood systems having an exhaust rate > 15,000 cfm has at least one of the following features:
 - a) VAV hood exhaust and room supply systems capable of reducing exhaust and makeup air volume to 50% or less of design values.
 - b) Direct makeup air supply equal to at least 75% of the exhaust rate, heated no warmer than 2°F below room setpoint, cooled to no cooler than 3°F above room setpoint, no humidification added, and no simultaneous heating and cooling used for dehumidification control.
 - c) Heat recovery systems to precondition makeup air from fume hood exhaust.
 - 17. Exhaust air heat recovery included for systems 5,000 cfm or greater with more than 70% outside air fraction or specifically exempted.
Exception(s):
 - Laboratory fume hood systems with a total exhaust rate <= 5000 cfm.
 - Systems serving spaces that are not cooled and heated to <60°F.
 - Systems with more than 60% of the outdoor heating energy is provided from site-recovered or site solar energy.
 - Systems exhausting toxic, flammable, paint, or corrosive fumes or dust.
 - Commercial kitchen hoods.
 - Systems requiring dehumidification with cooling coil energy recovery in series with the cooling coil.
 - Where the largest exhaust source is less than 75% of the design outdoor airflow.
 - Heating energy recovery.

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 90.1 (2004) Standard requirements in COMcheck Version 3.9.0 and to comply with the mandatory requirements in the Requirements Checklist.

Brandon Nowakowski

Name - Title



Signature

1-30-2012

Date

Section 6: Post Construction Compliance Statement

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- 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



Mechanical Requirements Description

90.1 (2004) Standard

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

Requirements Specific To: HVAC System 2 :

1. The specified heating and/or cooling equipment is covered by the ASHRAE 90.1 Code and must meet the following minimum efficiency:
Split System: 9.20 EER (9.4 IPLV)
2. The specified equipment is covered by Federal minimum efficiency requirements. New equipment of this type can be assumed to meet or exceed ASHRAE 90.1 Code requirements for equipment efficiency.
3. Cooling systems must not use hot gas bypass or other evaporator pressure control unless the equipment is designed with multiple steps (or continuous) capacity modulation.
4. For cooling systems > 240 kBtu/h, maximum hot gas bypass capacity must be no more than 25% of total cooling capacity.
5. VAV fans with static pressure sensors are placed in a position such that the controller setpoint is no greater than one-third the total design fan static pressure. If placement results in the sensor being located downstream of major duct splits, multiple sensors are installed in each major branch.

Exception(s):

- Systems with DDC of individual zone boxes reporting to the central control panel and reset of static pressure setpoint based on the zone requiring the most pressure.
6. Systems with DDC of individual zone boxes reporting to the central control panel has static pressure setpoint reset based on the zone requiring the most pressure.

Requirements Specific To: HVAC System 3 :

1. The specified heating and/or cooling equipment is covered by the ASHRAE 90.1 Code and must meet the following minimum efficiency:
Split System: 9.20 EER (9.4 IPLV)
2. The specified equipment is covered by Federal minimum efficiency requirements. New equipment of this type can be assumed to meet or exceed ASHRAE 90.1 Code requirements for equipment efficiency.
3. Cooling systems must not use hot gas bypass or other evaporator pressure control unless the equipment is designed with multiple steps (or continuous) capacity modulation.
4. For cooling systems > 240 kBtu/h, maximum hot gas bypass capacity must be no more than 25% of total cooling capacity.
5. VAV fans with static pressure sensors are placed in a position such that the controller setpoint is no greater than one-third the total design fan static pressure. If placement results in the sensor being located downstream of major duct splits, multiple sensors are installed in each major branch.

Exception(s):

- Systems with DDC of individual zone boxes reporting to the central control panel and reset of static pressure setpoint based on the zone requiring the most pressure.
6. Systems with DDC of individual zone boxes reporting to the central control panel has static pressure setpoint reset based on the zone requiring the most pressure.

Requirements Specific To: HVAC System 4 :

1. The specified heating and/or cooling equipment is covered by the ASHRAE 90.1 Code and must meet the following minimum efficiency:
Split System: 9.20 EER (9.4 IPLV)
2. The specified equipment is covered by Federal minimum efficiency requirements. New equipment of this type can be assumed to meet or exceed ASHRAE 90.1 Code requirements for equipment efficiency.
3. Cooling systems must not use hot gas bypass or other evaporator pressure control unless the equipment is designed with multiple steps (or continuous) capacity modulation.
4. For cooling systems > 240 kBtu/h, maximum hot gas bypass capacity must be no more than 25% of total cooling capacity.
5. VAV fans with static pressure sensors are placed in a position such that the controller setpoint is no greater than one-third the total design fan static pressure. If placement results in the sensor being located downstream of major duct splits, multiple sensors are installed in each major branch.

Exception(s):

- Systems with DDC of individual zone boxes reporting to the central control panel and reset of static pressure setpoint based on the zone requiring the most pressure.
6. Systems with DDC of individual zone boxes reporting to the central control panel has static pressure setpoint reset based on the zone requiring the most pressure.

Requirements Specific To: HVAC System 5 :

1. The specified heating and/or cooling equipment is covered by the ASHRAE 90.1 Code and must meet the following minimum efficiency:
Split System: 9.20 EER (9.4 IPLV)
2. The specified equipment is covered by Federal minimum efficiency requirements. New equipment of this type can be assumed to meet or exceed ASHRAE 90.1 Code requirements for equipment efficiency.
3. Cooling systems must not use hot gas bypass or other evaporator pressure control unless the equipment is designed with multiple steps (or continuous) capacity modulation.
4. For cooling systems > 240 kBtu/h, maximum hot gas bypass capacity must be no more than 25% of total cooling capacity.
5. VAV fans with static pressure sensors are placed in a position such that the controller setpoint is no greater than one-third the total design fan static pressure. If placement results in the sensor being located downstream of major duct splits, multiple sensors are installed in each major branch.

Exception(s):

- Systems with DDC of individual zone boxes reporting to the central control panel and reset of static pressure setpoint based on the zone requiring the most pressure.
6. Systems with DDC of individual zone boxes reporting to the central control panel has static pressure setpoint reset based on the zone requiring the most pressure.

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

1. 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°F during heating and setting up to 85°F during cooling,
 - b) capable of automatically setting back or shutting down systems during unoccupied hours using 7 different day schedules,
 - c) have an accessible 2-hour occupant override,
 - d) have a battery back-up capable of maintaining programmed settings for at least 10 hours without power.

Exception(s):

- A setback or shutoff control is not required on thermostats that control systems serving areas that operate continuously.
2. 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(s):
- Factory-installed piping within HVAC equipment.
 - Piping that conveys fluids having a design operating temperature range between 60°F and 105°F.
 - Piping that conveys fluids that have not been heated or cooled through the use of nonrenewable energy.
 - Runout piping not exceeding 4 ft in length between shutoff valve and coil and 1 in. in diameter between the control valve and HVAC coil.
 - Pipe unions in heating systems.
3. 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).
 4. Thermostats controlling both heating and cooling must be capable of maintaining a 5°F deadband (a range of temperature where no heating or cooling is provided).

Exception(s):

- Deadband capability is not required if the thermostat does not have automatic changeover capability between heating and cooling.
 - Special occupancy or special applications where wide temperature ranges are not acceptable and are approved by the authority having jurisdiction.
5. Where zone heating and cooling are controlled by separate zone thermostats, means (such as limit switches, mechanical stops, or, for DDC systems, software programming) must be provided to prevent simultaneous heating and cooling to the zone.
 6. 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.

Exception(s):

- Ventilation systems serving unconditioned spaces.
 - Gravity (non-motorized) dampers are acceptable in buildings less than three stories in height above grade.
7. Where a zone is served by a system(s) with both humidification and dehumidification capability, means (such as limit switches, mechanical stops, or software programming) must be provided to prevent simultaneous operation of humidification and dehumidification equipment.

Exception(s):

- Zones served by desiccant systems, used with direct evaporative cooling in series; Systems serving zones where specific humidity levels are required.
8. All freeze protection systems, including self-regulating heat tracing, must include automatic controls capable of shutting off the systems when outside air temperatures are above 40°F or when the conditions of the protected fluid will prevent freezing. Snow- and ice-melting systems must include automatic controls capable of shutting off the systems when the pavement temperature is above 50°F and no precipitation is falling, and an automatic or manual control that will allow shutoff when the outdoor temperature is above 40°F.
 9. Systems with design outside air capacities >3,000 cfm serving areas having an average design occupancy density exceeding 100 people per 1000 ft² must include means to automatically reduce outside air intake below design rates when spaces are partially occupied. Ventilation controls must be in compliance with ASHRAE Standard 62 and local standards.
 10. Duct and pipe insulation exposed to weather must be suitable for outdoor service; e.g., protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation must be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation that can cause degradation of the material. Insulation covering chilled water piping, refrigerant suction piping, or cooling ducts located outside the conditioned space must include a vapor retardant located outside the insulation (unless the insulation is inherently vapor retardant), all penetrations and joints of which must be sealed.
 11. Duct Sealing Requirements:
 - a) Pressure sensitive tape used as the primary sealant is certified to comply with UL-181A or UL-181B,
 - b) Longitudinal and transverse seams for ducts in unconditioned spaces,
 - c) Longitudinal and transverse seams and duct wall penetrations for ducts outside the building,
 - d) Transverse seams on buried ducts
 12. Outdoor air supply and exhaust systems must have motorized dampers that automatically shut when the systems or spaces served are not in use. Dampers must be capable of automatically shutting off during preoccupancy building warm-up, cool-down, and setback, except when ventilation reduces energy costs (e.g., night purge) or when ventilation must be supplied to meet code requirements. Both outdoor air supply and exhaust air dampers must have a maximum leakage rate of 3 cfm/ft² at 1.0 in w.g. when tested in accordance with AMCA Standard 500.

Exception(s):

- Gravity (non-motorized) dampers are acceptable in buildings less than three stories in height.
 - Systems with a design outside air intake or exhaust capacity of 300 cfm (140 L/s) or less.
13. All supply and return ducts and plenum installed as part of an HVAC air distribution system must be thermally insulated: R-6 for supply air ducts located outside the building, in ventilated attics and in unvented attic above insulated ceiling, R-3.5 for supply air duct insulation in unvented attic with roof insulation, unconditioned and underground spaces, R-3.5 for return air ducts located outside the building, in ventilated attics and in unvented attic above insulated ceiling.
 14. Where humidistatic controls are provided, such controls must prevent reheating, mixing of hot and cold air streams, or other means of simultaneous heating and cooling of the same air stream.

Exception(s):

- Capability of first reducing supply air volume 50% or less of the design rate or minimum outdoor air ventilation, or per regulatory standard, whichever is larger, before combined heating/cooling occurs.
 - Cooling capacity <80 kBtu/h and capability to unload cooling equipment.
 - Cooling capacity <40 kBtu/h.
 - Systems serving spaces where rigid humidity requirements exist. See code language for qualifying spaces.
 - Site-recovered or site-solar energy sources or.
 - Use of a desiccant systems.
15. Individual kitchen exhaust hoods larger than 5000 cfm must be provided with make-up air sized for at least 50% of exhaust air volume that is uncooled and either unheated or heated to no more than 60°F
- Exception(s):
- Where hoods are used to exhaust ventilation air that would otherwise exfiltrate or be exhausted by other fan systems.
 - Certified grease extractor hoods that require a face velocity no >60 fpm.
16. Buildings with fume hood systems having an exhaust rate > 15,000 cfm has at least one of the following features:
 - a) VAV hood exhaust and room supply systems capable of reducing exhaust and makeup air volume to 50% or less of design values.
 - b) Direct makeup (auxiliary) air supply equal to at least 75% of the exhaust rate, heated no warmer than 2°F below room setpoint, cooled to no cooler than 3°F above room setpoint, no humidification added, and no simultaneous heating and cooling used for dehumidification control.
 - c) Heat recovery systems to precondition makeup air from fume hood exhaust in accordance with Section 6.5.6.1, Exhaust Air Energy Recovery, without using any exception.
 17. Individual fan systems with a design supply air capacity of 5000 cfm or greater and minimum outside air supply of 70% or greater of the supply air capacity must have an energy recovery system with at least a 50% effectiveness. If an air economizer is also required, heat recovery must be bypassed or controlled to permit air economizer operation.

Exception(s):

- Laboratory fume hood systems with a total exhaust rate <= 5000 cfm.
- Systems serving spaces that are not cooled and heated to <60°F.

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- Systems with more than 60% of the outdoor heating energy is provided from site-recovered or site solar energy.
- Systems exhausting toxic, flammable, paint, or corrosive fumes or dust.
- Commercial kitchen hoods used for collecting and removing grease vapors and smoke.
- Systems requiring dehumidification that employ energy recovery in series with the cooling coil.
- Where the largest exhaust source is less than 75% of the design outdoor airflow.
- Heating energy recovery.

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SF8 T3 Site