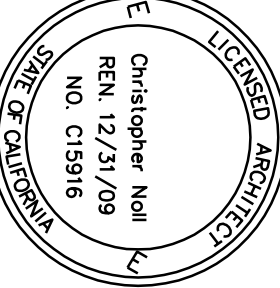




3/06/08

IDENTIFICATION STAMP  
DIVISION OF THE STATE ARCHITECT  
APPLICATION NUMBER OF: XXXXX  
AC: \_\_\_\_\_ FAS: \_\_\_\_\_ SS: \_\_\_\_\_  
DATE: \_\_\_\_\_



DSA SUBMITTAL

**COLLEGE OF SAN MATEO BUILDING 15 MODERNIZATION**

SMNCCD  
3401 CSM Drive  
San Mateo, CA 94402  
College of San Mateo  
1700 W. Hillside Blvd.  
San Mateo, CA 94402

**TITLE 24, GENERAL NOTES, & MANDATORY MEASURES**

REVISIONS  
NO. | DATE | DESCRIPTION

NO.	DATE	DESCRIPTION
-	03/09/09	DSA SUBMITTAL

DATE	MARCH 9, 2009
DRAWN	LA/RG
CHECKED	CR
SCALE	NONE
ACCO JOB NO.	6289955
SHEET NUMBER	

**ACO.01**

**TITLE 24 COMPLIANCE**

**CERTIFICATE OF COMPLIANCE**

(Part 2 of 3)

MECH-1-C

PROJECT NAME	COLLEGE OF SAN MATEO - BLDG. 15	DATE	03/09/09
DESIGNER:	This form is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for mechanical systems. The designer is required to check the boxes for all acceptance tests that apply and list all equipment that requires an acceptance test. If all equipment of a certain type requires a test, list the equipment descriptor and the number of systems to be tested in parentheses. The 'N/A' number designates the person responsible for performing the test. For the Mechanical Code Manual has describes the test. Also indicate the person responsible for performing part of the plans. completion of this section will allow the responsible party to budget for the scope of work appropriately.		

**Building Departments:**  
**Systems Acceptance:** Before occupancy permit is granted for a newly constructed building or space, or a new space-conditioning system serving a building or space is operated for normal use, all control devices serving the building or space shall be certified as meeting the Acceptance Requirements for Code Compliance.  
In addition a Certificate of Acceptance, MECH-1-A, Form shall be submitted to the building department that certifies plans, specifications, installation certificates, and operating and maintenance information meet the requirements of §10-102(B) and Title 24 Part 6.

Test Description	Test Performed By:
<input checked="" type="checkbox"/> MECH-2-A: Ventilation System Acceptance Document • Variable Air Volume Systems Outdoor Air Acceptance • Constant Air Volume Systems Outdoor Air Acceptance <i>Test required on all New Systems both New Construction and Retrofit.</i>	ACCO
Equipment requiring acceptance testing: <u>FAN COIL UNIT (1)</u>	
<input type="checkbox"/> MECH-3-A: Packaged HVAC Systems Acceptance Document <i>Test required on all New Systems both New Construction and Retrofit.</i>	
Equipment requiring acceptance testing: <u>N/A</u>	
<input type="checkbox"/> MECH-4-A: Air-Side Economizer Acceptance Document set required on all new packaged economizers that are installed at the factory and certified with the Commission do not require equipment testing but do require construction inspection.	N/A

Test Description	Test Performed By:
<input type="checkbox"/> MECH-5-A: Air Distribution Acceptance Document <i>This test is required if the unit serves 5,000/1/2 of space or less and 25% or more of the ducts are in non-conditioned space. New systems that meet the above requirements may still require the above requirements and either extend ducts, replace ducts or replace the packaged unit.</i>	N/A
Equipment requiring acceptance testing: <u>N/A</u>	
<input type="checkbox"/> MECH-6-A: Demand Control Ventilation Acceptance Document <i>All new DCV controls installed on new or existing packaged systems must be tested.</i>	
Equipment requiring acceptance testing: <u>N/A</u>	
<input type="checkbox"/> MECH-7-A: Supply Fan Variable Flow Control Acceptance Document <i>All new VAV fan volume controls installed on new or existing systems must be tested.</i>	
Equipment requiring acceptance testing: <u>N/A</u>	
<input type="checkbox"/> MECH-8-A: Hydronic System Control Acceptance Document • Variable Flow Controls; Applies to chilled and hot water systems. • Automatic Isolation Controls; Applies to new boilers and chillers and the primary pumps connected to a central chiller. • Variable Water Temperature Controls; Applies to new constant flow chilled and hot water systems that have a design capacity greater than or equal to 500,000 Btu/hr. • Water-loop Heat Pump Controls; Applies to all new waterloop heat pump systems where the combined loop pumps are greater than 5 hp. • Variable Frequency Control; Applies to all new distributed pumps on new variable flow or condenser water systems where the pumps motors are greater than 5 hp.	N/A

Test Description	Test Performed By:
<input type="checkbox"/> MECH-9-A: Hydronic System Control Acceptance Document • Variable Flow Controls; Applies to chilled and hot water systems. • Automatic Isolation Controls; Applies to new boilers and chillers and the primary pumps connected to a central chiller. • Variable Water Temperature Controls; Applies to new constant flow chilled and hot water systems that have a design capacity greater than or equal to 500,000 Btu/hr. • Water-loop Heat Pump Controls; Applies to all new waterloop heat pump systems where the combined loop pumps are greater than 5 hp. • Variable Frequency Control; Applies to all new distributed pumps on new variable flow or condenser water systems where the pumps motors are greater than 5 hp.	N/A

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January 2006

**MECHANICAL MANDATORY MEASURES**

**Equipment and Systems Enhancements**  
§1111 Any equipment for which there is a California standard established in the Appliance Efficiency Regulations will comply with the applicable standard.  
§1116(a) Fan type centrifugal fans shall not have a shut light.  
§123 Piping, except that conveying fluids at temperatures between 60 and 105 degrees Fahrenheit, or within HVAC equipment, shall be insulated in accordance with Standard Section 123.  
§124 Air handling duct systems shall be insulated and installed in compliance with Sections 601, 603 and 604 of the Uniform Mechanical Code.

**Controls**  
§122(a) Each space conditioning system shall be installed with one of the following:  
§122(a)1A Each space conditioning system serving building types such as offices and manufacturing facilities (and all others not explicitly exempt from the requirements of Section 112 (d)) shall be installed with an automatic time switch with an override function. The time switch shall be capable of programming different schedules for weekdays and weekends and have program loading capabilities that prevent the loss of the device's program and time setting for at least 10 hours if power is interrupted, or  
§122(a)1B An occupancy sensor to control the operating period of the systems; or  
§122(a)1C A 4-hour timer that can be manually operated to control the operating period of the systems.  
§122(a)2 Each space conditioning system shall be installed with controls that temporarily reset and temporarily operate the system as required to maintain a setback heating and/or a setback cooling thermostat setpoint.  
§122(a)3 Each space conditioning system serving multiple zones with a combined conditioned floor area more than 25,000 square feet shall be provided with isolation zones. Each zone shall not exceed 25,000 square feet; shall be provided with isolation devices, such as valves or dampers, that allow the supply of heating or cooling to be setback or shut off independently of other isolation devices, and shall be controlled by a time control device as described above.  
§122(a)4 Each space conditioning system shall be controlled by an individual thermostat that responds to temperature within the zone. Where used to control heating, the control shall be adjustable down to 55 degrees F or lower. For cooling, the control shall be capable of providing a dead band of at least 5 degrees F within which the supply of heating and cooling is shut off or reduced to 0 minimum.  
§122(a)5 Thermostat shall have numeric set points in degrees Fahrenheit (°F) and adjustable set point steps accessible only to authorized personnel.  
§122(b) Heat pumps shall be installed with controls to prevent electric resistance supplementary heater operation when the heating tool can be met by the heat pump alone.

**Ventilation**  
§121(a) Controls shall be provided to allow outside air dampers or devices to be operated at the ventilation rates as specified on these plans.  
§121(b) Gravity or automatic dampers, hinged and closed air fan shutlows shall be provided on the outside air intakes and discharge of all space conditioning and exhaust systems.  
§121(c) All gravity ventilating systems shall be provided with automatic or readily accessible manually operated dampers in all openings to the outside, except for combustion or openings.  
§121(d) Air Balancing: The system shall be balanced in accordance with the National Environmental Balancing Bureau (NEBB) Procedural Standards (1980), or associated Air Balance Council (ABC) National Standards (1989), or mechanical engineer (2) the installing licensed C-20 mechanical contractor, and certified by (1) the design responsibility for the design of the ventilation system or  
§121(e) Outside Air Certification: The system shall provide the minimum outside air as shown on the mechanical drawings, and shall be measured and certified by the installing licensed C-20 mechanical contractor and certified by (1) the design responsibility for the design of the ventilation system or  
§121(f) Air Measurement: The system shall be equipped with a calibrated local or remote device capable of measuring the quantity of outside air on a continuous basis and displaying that quantity on a readily accessible display device.  
§121(g) Another method approved by the Commission.

**GENERAL NOTES**

- REMOVABLE CEILING PANEL OR PANELS AT FACE OF ALL FIRE AND FIRE/SMOKE DAMPERS BY GENERAL CONTRACTOR (24" x 24" MIN.) UNLESS OTHERWISE NOTED.
- INCOMBUSTIBLE PLENUM ABOVE CEILING FOR RETURN/RECIRCULATING AIR BY GENERAL CONTRACTOR. SECTION 601 OF THE UNIFORM MECHANICAL CODE.
- ACCESS DOORS AND/OR ACCESS PANELS THROUGH FIRE RATED WALLS, SHAFTS, ETC., MUST EQUAL THE MATERIAL FENESTRATED.
- ALL AIR SHAFTS SHALL BE MADE AIR TIGHT BY GENERAL CONTRACTOR.
- ALL UNDERGROUT DOORS AND DOOR LOUVERS ARE BY GENERAL CONTRACTOR.
- ALL APPLIANCES DESIGNED TO BE FIXED IN POSITION SHALL BE SECURELY FASTENED IN PLACE.
- ALL SPACE CONDITIONING EQUIPMENT SHALL BE LABELED AS TO WHICH AREA IT SERVES.

**PIPE INSULATION REQUIREMENTS**  
(PER TABLE 123-A-2005 Building Energy Efficiency Standards)

FLUID TEMPERATURE RANGE (°F)	CONDUCTIVITY (in Btu-inch per foot per square foot per °F)	INSULATION THICKNESS (INCHES)		8 AND LARGER
		R/NO. OF R	1 AND LESS	
ABOVE 390	0.23-0.34	2.5	2.5	3.0
251-350	0.23-0.31	1.5	2.0	2.5
201-250	0.23-0.30	1.5	1.5	2.0
151-200	0.23-0.29	1.5	1.5	2.0
105-140	0.23-0.28	1.0	1.0	1.0

SPACE HEATING SYSTEMS (STEAM, STEAM CONDENSATE AND HOT WATER)	CONDUCTIVITY (in Btu-inch per foot per square foot per °F)	INSULATION THICKNESS (INCHES)		8 AND LARGER
		R/NO. OF R	1 AND LESS	
ABOVE 105	0.24-0.28	1.0	1.0	1.5
40-80	0.23-0.27	0.5	0.5	1.0
BELOW 40	0.23-0.27	0.5	0.5	1.0

SPACE COOLING SYSTEM (CHILLED WATER, REFRIGERANT AND BRINE)	CONDUCTIVITY (in Btu-inch per foot per square foot per °F)	INSULATION THICKNESS (INCHES)		8 AND LARGER
		R/NO. OF R	1 AND LESS	
ABOVE 105	0.24-0.28	1.0	1.0	1.5
40-80	0.23-0.27	0.5	0.5	1.0
BELOW 40	0.23-0.27	0.5	0.5	1.0

**CERTIFICATE OF COMPLIANCE**

(Part 1 of 3)

MECH-1-C

PROJECT NAME	COLLEGE OF SAN MATEO - BLDG. 15	DATE	03/09/09
PROJECT ADDRESS	1700 W. HILLSDALE BLVD. SAN MATEO, CA	TITLE/NO.	
ACCO ENGINEERED SYSTEMS		PROJECT NO.	5101 346-4300
GENERAL INSULATION		DATE OF PLAN	03/09/09
BUILDING TYPE	<input checked="" type="checkbox"/> NONRESIDENTIAL <input type="checkbox"/> HIGH RISE RESIDENTIAL	DATE OF CONSTRUCTION	<input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> ADDITION <input checked="" type="checkbox"/> ALTERATION (Be defined)

The Principal Mechanical Designer hereby certifies that the proposed building design represented in this set of construction documents is consistent with the other compliance forms and worksheets, with the specifications, and with any other calculations submitted with this permit application. The design complies with the mechanical requirements contained in the applicable parts of Sections 101, 91, 142, 119 through 115, 120 through 125, 142, 144 and 145.  
The plans & specifications meet the requirements of Part 1 (Sections 10-103a) .  
The installation certificates meet the requirements of Part 1 (10-103b) .  
The operation & maintenance information meets the requirements of Part 1 (10-103c).  
**Please check one:** (These sections of the Business and Professions Code are printed in full in the Nonresidential Manual)  
 I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person who prepared and sealed the plans and specifications and that I am licensed in the State of California as a civil engineer or mechanical engineer, or I am a registered architect.  
 I affirm that I am eligible under the exemption to Division 3 of the Business and Professions Code by Section 5537.2 or 6737.3 to sign this document as the person responsible for the preparation, and that I am a licensed contractor performing the work.  
 I affirm that I am eligible under the exemption to Division 3 of the Business and Professions Code to sign this document because I prepare to a specific type of work described pursuant to Business and Professions Code Sections 5537, 5538, and 6737.11.

REGISTERED PROFESSIONAL	SIGNATURE	DATE	DATE
LEO ABALOS		03/09/09	
REGISTERED PROFESSIONAL	SIGNATURE	DATE	DATE
CRAG RISTOW		03/09/09	MO30828

**INSTRUCTIONS TO APPLICANT: MECHANICAL COMPLIANCE & WORKSHEETS (check box if worksheet is included)**  
 MECH-1-C Certificate of Compliance, Part 1 of 3, 2 of 3, 3 of 3 are required on plans for all submittals.  
 MECH-2-C Air/Water/Servicewater Pools Requirements, Part 1 of 3, 2 of 3, 3 of 3 are required for all submittals, but may be on plans.  
 MECH-3-C Mechanical Ventilation and Exhaust is required for all submittals with mechanical ventilation, but may be on plans.  
 MECH-4-C HVAC Misc. Prescriptive Requirements is required for all prescriptive submittals, but may be on plans.

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