

TITLE 24 REPORT

Title 24 Report for:
ABC Building
2000 Avenue of the Stars
Century City, CA 90067

Project Designer:
Gensler

Report Prepared By:
Ali Danesh
SYSKA & HENNESSY, INC.
11500 WEST OLYMPIC BLVD., SUITE 680
LOS ANGELES, CA 90064-1524
(310) 312-0200

Job Number:
Cce01000

Date:
8/30/01

The EnergyPro computer program has been used to perform the calculations summarized in this compliance report. This program has approval and is authorized by the California Energy Commission for use with both the Residential and Nonresidential 2001 Building Energy Efficiency Standards.

This program developed by Gabel Dodd/EnergySoft, LLC (415) 883-5900.

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PERFORMANCE CERTIFICATE OF COMPLIANCE Part 1 of 3 **PERF-1**

PROJECT NAME ABC Building		DATE 8/30/01
PROJECT ADDRESS 2000 Avenue of the Stars Century City		
PRINCIPAL DESIGNER - ENVELOPE Gensler	TELEPHONE	Building Permit # Checked by/Date Enforcement Agency/Use
DOCUMENTATION AUTHOR SYSKA & HENNESSY, INC.	TELEPHONE (310) 312-0200	

GENERAL INFORMATION			
DATE OF PLANS 08/23/01	BUILDING CONDITIONED FLOOR AREA 776,440 Sq.Ft.	CLIMATE ZONE 9	
BUILDING TYPE	<input checked="" type="checkbox"/> NONRESIDENTIAL	<input type="checkbox"/> HIGH RISE RESIDENTIAL	<input type="checkbox"/> HOTEL/MOTEL GUEST ROOM
PHASE OF CONSTRUCTION	<input checked="" type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> ADDITION	<input type="checkbox"/> ALTERATION
		<input type="checkbox"/> ALTERATION	<input type="checkbox"/> EXISTING + ADDITION

STATEMENT OF COMPLIANCE		
This Certificate of Compliance lists the building features and performance specifications needed to comply with Title 24, Parts 1 and 6, of the State Building Code. This certificate applies only to a Building using the performance compliance approach.		
DOCUMENTATION AUTHOR Ali Danesh	SIGNATURE	DATE
The Principal Designers hereby certify that the proposed building design represented in the construction documents and modelled for this permit application are consistent with all other forms and worksheets, specifications, and other calculations submitted with this permit application. The proposed building as designed meets the energy efficiency requirements of the State Building Code, Title 24, Part 6.		
ENV. LTG. MECH.		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 1. 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 responsible for its preparation; and that I am licensed as a civil engineer, mechanical engineer, electrical engineer or architect.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 2. I affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code Section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor preparing documents for work that I have contracted to perform.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 3. I affirm that I am eligible under Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described as exempt pursuant to Business and Professions Code Sections 5537, 5538, and 6737.1. (These sections of the Business and Professions Code are printed in full in the Nonresidential Manual.)

ENVELOPE COMPLIANCE			
Indicate location on plans of Note Block for Mandatory Measures		Required Forms ENV-1	
PRINCIPAL ENVELOPE DESIGNER - NAME Gensler	SIGNATURE	LIC. NO.	DATE

LIGHTING COMPLIANCE			
Indicate location on plans of Note Block for Mandatory Measures		Required Forms Lighting Compliance Not In The Scope Of This Submittal	
PRINCIPAL LIGHTING DESIGNER - NAME	SIGNATURE	LIC. NO.	DATE

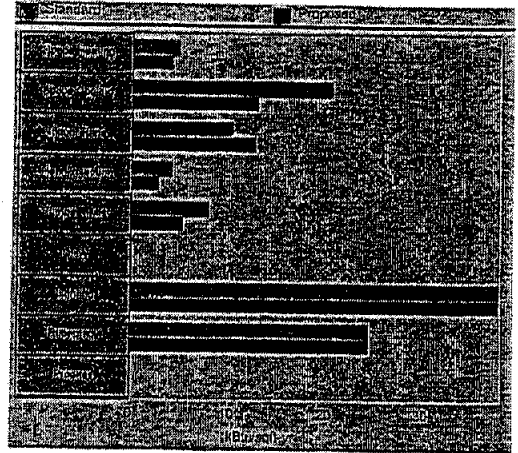
MECHANICAL COMPLIANCE			
Indicate location on plans of Note Block for Mandatory Measures		Required Forms MECH-1, MECH-2, MECH-3	
PRINCIPAL MECHANICAL DESIGNER - NAME Ali Danesh	SIGNATURE	LIC. NO.	DATE

PERFORMANCE CERTIFICATE OF COMPLIANCE Part 2 of 3 **PERF-1**

ABC Building DATE **8/30/01**

ANNUAL SOURCE ENERGY USE SUMMARY (kBtu/sqft-yr)

ENERGY COMPONENT	Standard Design	Proposed Design	Compliance Margin
Space Heating	4.75	4.08	0.67
Space Cooling	20.55	12.93	7.62
Indoor Fans	10.27	12.76	-2.49
Heat Rejection	4.08	2.72	1.36
Pumps & Misc.	7.78	5.26	2.52
Domestic Hot Water	0.00	0.00	0.00
Lighting	38.04	38.04	0.00
Receptacle	24.41	24.41	0.00
Process	0.00	0.00	0.00
TOTALS:	109.88	100.20	9.68



BUILDING COMPLIES

GENERAL INFORMATION

Building Orientation	(Southeast) 135 deg	Conditioned Floor Area	776,440 sqft.
Number of Stories	12	Unconditioned Floor Area	0 sqft.
Number of Systems	4	Conditioned Footprint Area	32,250 sqft.
Number of Zones	15		

	Orientation	Gross Area	Glazing Area	Glazing Ratio
Front Elevation	(Southeast)	46,680 sqft.	22,588 sqft.	48.4%
Left Elevation	(Southwest)	97,060 sqft.	49,228 sqft.	50.7%
Rear Elevation	(Northwest)	45,180 sqft.	21,488 sqft.	47.6%
Right Elevation	(Northeast)	97,060 sqft.	49,228 sqft.	50.7%
Total		285,980 sqft.	142,532 sqft.	49.8%
Roof		120,580 sqft.	0 sqft.	0.0%

	Standard	Proposed
Lighting Power Density	1.292 W/sqft.	1.292 W/sqft.
Prescriptive Env. Heat Loss	136,944	121,783
Prescriptive Env. Heat Gain	11,980,194	12,133,786

Remarks:

PERFORMANCE CERTIFICATE OF COMPLIANCE Part 3 of 3 PERF-1

PROJECT NAME: **ABC Building** DATE: **8/30/01**

ZONE INFORMATION

System Name	Zone Name	Occupancy Type	Floor Area (sqft.)	Inst. LPD (W/sf) ¹	Ctrl. Credits (W/sf) ²	Tailored		Proc. Loads (W/sf)
						LPD (W/sf) ³	Vent. (cfm/sf)	
BUILT UP Air Handler	Main Lobby	Lobby (Main Entry & Assembly	20,000	*1.500				
	street-Level	Comp Bldg Office	35,000	*1.200				
	cafe & restaurant	Comp Bldg Restaurant	15,800	*1.200				
	Mezz-Level	Comp Bldg Office	55,000	*1.200				
	2nd Level Office	Office	67,280	*1.300				
	3rd Level Office	Office	56,100	*1.300				
	4th Level Office	Office	56,100	*1.300				
	5th Level Office	Office	56,100	*1.300				
	6th Level Office	Office	56,100	*1.300				
	7th Level Office	Office	56,100	*1.300				
	8th Level Office	Office	56,100	*1.300				
	9th Level Office	Office	56,100	*1.300				
	10th Level Office	Office	56,100	*1.300				
	11th Level Office	Office	67,280	*1.300				
	12th Level Office	Office	67,280	*1.300				

Notes: 1. See LTG-1 (items marked with asterisk, see LTG-2 by others) 2. See LTG-3 3. See LTG-4 Items above require special documentation.

EXCEPTIONAL CONDITIONS COMPLIANCE CHECKLIST

The local enforcement agency should pay special attention to the items specified in this checklist. These items require special written justification and documentation, and special verification to be used with the performance approach. The local enforcement agency determines the adequacy of the justification, and may reject a building or design that otherwise complies based on the adequacy of the special justification and documentation submitted.

	Plan	Field
The HVAC System "2000 Avenue of the Stars" includes a Variable Speed Drive on the Fan.		
The HVAC System "2000 Avenue of the Stars" was manufactured prior to 10/29/2001 - provide date of manufacture.		
The Chiller "2000 Avenue Stars" was manufactured prior to 10/29/2001 - provide date of manufacture.		
The Chiller "PONY CHILLER" was manufactured prior to 10/29/2001 - provide date of manufacture.		
The Chilled Water Pump includes a Variable Speed Drive.		
The Cooling Tower "2000AVE OF STAR CT" includes a Variable Speed Drive on the fan motor.		
The Cooling Tower "2000AVE OF STAR CT" has an Approach Temperature of 5 degrees F.		

The exceptional features listed in this performance approach application have specifically been reviewed. Adequate written justification and documentation for their use have been provided by the applicant.

Authorized Signature or Stamp _____

ENVELOPE COMPLIANCE SUMMARY

Performance ENV-1

PROJECT NAME
ABC Building

DATE
8/30/01

OPAQUE SURFACES

#	Surface Type	Framing Type	Area	U-Fac.	Act. Azm.	Solar Gains		Form 3 Reference	Location / Comments
						Tilt	Y/N		
1	Wall	Metal	2,000	0.189	45	90	X	R-11 Metal Stud Wall	Main Lobby
2	Wall	Metal	2,000	0.189	225	90	X	R-11 Metal Stud Wall	Main Lobby
3	Wall	Metal	210	0.189	315	90	X	R-11 Metal Stud Wall	Main Lobby
4	Roof	Wood	12,000	0.051	0	0	X	R-19 Roof (R.19.2x8.16)	street-Level
5	Wall	Metal	1,960	0.189	135	90	X	R-11 Metal Stud Wall	street-Level
6	Wall	Metal	1,450	0.189	45	90	X	R-11 Metal Stud Wall	street-Level
7	Wall	Metal	1,450	0.189	225	90	X	R-11 Metal Stud Wall	street-Level
8	Wall	Metal	1,400	0.189	315	90	X	R-11 Metal Stud Wall	street-Level
9	Wall	Metal	700	0.189	135	90	X	R-11 Metal Stud Wall	street-Level
10	Wall	Metal	890	0.189	45	90	X	R-11 Metal Stud Wall	street-Level
11	Wall	Metal	890	0.189	225	90	X	R-11 Metal Stud Wall	street-Level
12	Wall	Metal	850	0.189	315	90	X	R-11 Metal Stud Wall	street-Level
13	Roof	Wood	9,800	0.051	0	0	X	R-19 Roof (R.19.2x8.16)	cafe & restaurant
14	Wall	Metal	920	0.189	0	90	X	R-11 Metal Stud Wall	cafe & restaurant
15	Wall	Metal	920	0.189	90	90	X	R-11 Metal Stud Wall	cafe & restaurant
16	Wall	Metal	920	0.189	270	90	X	R-11 Metal Stud Wall	cafe & restaurant
17	Wall	Metal	920	0.189	180	90	X	R-11 Metal Stud Wall	cafe & restaurant
18	Wall	Metal	920	0.189	135	90	X	R-11 Metal Stud Wall	cafe & restaurant
19	Wall	Metal	920	0.189	45	90	X	R-11 Metal Stud Wall	cafe & restaurant
20	Wall	Metal	920	0.189	225	90	X	R-11 Metal Stud Wall	cafe & restaurant

FENESTRATION SURFACES

Site Assembled Glazing Check box if Building is >= 100,000 sqft of CFA and >= 10,000 sqft vertical glazing then NFRC Follow NFRC 100-SB Procedures and submit NFRC Label Certificate Form.

#	Type	Area	U-Fac.	Act. Azm.	SHGC	Glazing Type	Location / Comments
1	Window	2,000	0.600	45	0.40	2000 Avenue of the Stars	Main Lobby
2	Window	2,000	0.600	225	0.40	2000 Avenue of the Stars	Main Lobby
3	Window	560	0.600	315	0.40	2000 Avenue of the Stars	Main Lobby
4	Window	1,400	0.600	135	0.40	2000 Avenue of the Stars	street-Level
5	Window	1,230	0.600	45	0.40	2000 Avenue of the Stars	street-Level
6	Window	1,230	0.600	225	0.40	2000 Avenue of the Stars	street-Level
7	Window	540	0.600	315	0.40	2000 Avenue of the Stars	street-Level
8	Window	750	0.600	135	0.40	2000 Avenue of the Stars	street-Level
9	Window	980	0.600	45	0.40	2000 Avenue of the Stars	street-Level
10	Window	980	0.600	225	0.40	2000 Avenue of the Stars	street-Level
11	Window	500	0.600	315	0.40	2000 Avenue of the Stars	street-Level
12	Window	400	0.600	0	0.40	2000 Avenue of the Stars	cafe & restaurant
13	Window	400	0.600	90	0.40	2000 Avenue of the Stars	cafe & restaurant
14	Window	400	0.600	270	0.40	2000 Avenue of the Stars	cafe & restaurant
15	Window	400	0.600	180	0.40	2000 Avenue of the Stars	cafe & restaurant

EXTERIOR SHADING

#	Exterior Shade Type	SHGC	Window Hgt. Wd.	Overhang Len. Hgt. LExt. RExt.	Left Fin Dist. Len. Hgt.	Right Fin Dist. Len. Hgt.
1	None	0.76				
2	None	0.76				
3	None	0.76				
4	None	0.76				
5	None	0.76				
6	None	0.76				
7	None	0.76				
8	None	0.76				
9	None	0.76				
10	None	0.76				
11	None	0.76				
12	None	0.76				
13	None	0.76				
14	None	0.76				
15	None	0.76				

Run Initiation Time: 08/29/01 08:28:00

Run Code: 999098880

ENVELOPE COMPLIANCE SUMMARY

Performance ENV-1

PROJECT NAME
ABC Building

DATE
8/30/01

OPAQUE SURFACES

#	Surface Type	Framing Type	Area	U-Fac.	Act. Azm.	Solar Gains		Form 3 Reference	Location / Comments
						Tilt	Y/N		
21	Wall	Metal	920	0.189	315	90	X	R-11 Metal Stud Wall	cafe & restaurant
22	Roof	Wood	6,000	0.051	0	0	X	R-19 Roof (R.19.2x8.16)	cafe & restaurant
23	Wall	Metal	575	0.189	0	90	X	R-11 Metal Stud Wall	cafe & restaurant
24	Wall	Metal	575	0.189	90	90	X	R-11 Metal Stud Wall	cafe & restaurant
25	Wall	Metal	575	0.189	270	90	X	R-11 Metal Stud Wall	cafe & restaurant
26	Wall	Metal	575	0.189	180	90	X	R-11 Metal Stud Wall	cafe & restaurant
27	Wall	Metal	575	0.189	135	90	X	R-11 Metal Stud Wall	cafe & restaurant
28	Wall	Metal	575	0.189	45	90	X	R-11 Metal Stud Wall	cafe & restaurant
29	Wall	Metal	575	0.189	225	90	X	R-11 Metal Stud Wall	cafe & restaurant
30	Wall	Metal	575	0.189	315	90	X	R-11 Metal Stud Wall	cafe & restaurant
31	Roof	Wood	12,000	0.051	0	0	X	R-19 Roof (R.19.2x8.16)	Mezz-Level
32	Wall	Metal	1,960	0.189	135	90	X	R-11 Metal Stud Wall	Mezz-Level
33	Wall	Metal	1,450	0.189	45	90	X	R-11 Metal Stud Wall	Mezz-Level
34	Wall	Metal	1,450	0.189	225	90	X	R-11 Metal Stud Wall	Mezz-Level
35	Wall	Metal	1,400	0.189	315	90	X	R-11 Metal Stud Wall	Mezz-Level
36	Wall	Metal	700	0.189	135	90	X	R-11 Metal Stud Wall	Mezz-Level
37	Wall	Metal	890	0.189	45	90	X	R-11 Metal Stud Wall	Mezz-Level
38	Wall	Metal	890	0.189	225	90	X	R-11 Metal Stud Wall	Mezz-Level
39	Wall	Metal	850	0.189	315	90	X	R-11 Metal Stud Wall	Mezz-Level
40	Wall	Metal	2,000	0.189	45	90	X	R-11 Metal Stud Wall	Mezz-Level

FENESTRATION SURFACES

Site Assembled Glazing Check box if Building is >= 100,000 sqft of CFA and >= 10,000 sqft vertical glazing then NFRC Follow NFRC 100-SB Procedures and submit NFRC Label Certificate Form.

#	Type	Area	U-Fac.	Act. Azm.	SHGC	Glazing Type	Location / Comments
16	Window	400	0.600	135	0.40	2000 Avenue of the Stars	cafe & restaurant
17	Window	400	0.600	45	0.40	2000 Avenue of the Stars	cafe & restaurant
18	Window	400	0.600	225	0.40	2000 Avenue of the Stars	cafe & restaurant
19	Window	400	0.600	315	0.40	2000 Avenue of the Stars	cafe & restaurant
20	Window	250	0.600	0	0.40	2000 Avenue of the Stars	cafe & restaurant
21	Window	250	0.600	90	0.40	2000 Avenue of the Stars	cafe & restaurant
22	Window	250	0.600	270	0.40	2000 Avenue of the Stars	cafe & restaurant
23	Window	250	0.600	180	0.40	2000 Avenue of the Stars	cafe & restaurant
24	Window	250	0.600	135	0.40	2000 Avenue of the Stars	cafe & restaurant
25	Window	250	0.600	45	0.40	2000 Avenue of the Stars	cafe & restaurant
26	Window	250	0.600	225	0.40	2000 Avenue of the Stars	cafe & restaurant
27	Window	250	0.600	315	0.40	2000 Avenue of the Stars	cafe & restaurant
28	Window	1,400	0.600	135	0.40	2000 Avenue of the Stars	Mezz-Level
29	Window	1,230	0.600	45	0.40	2000 Avenue of the Stars	Mezz-Level
30	Window	1,230	0.600	225	0.40	2000 Avenue of the Stars	Mezz-Level

EXTERIOR SHADING

#	Exterior Shade Type	SHGC	Window Hgt. Wd.	Overhang		Left Fin		Right Fin	
				Len.	Hgt.	Dist.	Len.	Hgt.	Dist.
16	None	0.76							
17	None	0.76							
18	None	0.76							
19	None	0.76							
20	None	0.76							
21	None	0.76							
22	None	0.76							
23	None	0.76							
24	None	0.76							
25	None	0.76							
26	None	0.76							
27	None	0.76							
28	None	0.76							
29	None	0.76							
30	None	0.76							

Run Initiation Time: 08/29/01 08:28:00

Run Code: 999098880

ENVELOPE COMPLIANCE SUMMARY

Performance ENV-1

PROJECT NAME
ABC Building

DATE
8/30/01

OPAQUE SURFACES

#	Surface Type	Framing Type	Area	U-Fac.	Act. Azm.	Tilt	Solar Gains Y/N	Form 3 Reference	Location / Comments
41	Wall	Metal	2,000	0.189	225	90	X	R-11 Metal Stud Wall	Mezz-Level
42	Wall	Metal	210	0.189	315	90	X	R-11 Metal Stud Wall	Mezz-Level
43	Floor	Wood	18,750	0.049	0	180	X	R-19 Floor (F.19.2x8.16)	2nd Level Office
44	Roof	Wood	13,500	0.051	0	0	X	R-19 Roof (R.19.2x8.16)	2nd Level Office
45	Wall	Metal	650	0.189	315	90	X	R-11 Metal Stud Wall	2nd Level Office
46	Wall	Metal	3,200	0.189	225	90	X	R-11 Metal Stud Wall	2nd Level Office
47	Wall	Metal	3,200	0.189	45	90	X	R-11 Metal Stud Wall	2nd Level Office
48	Wall	Metal	650	0.189	135	90	X	R-11 Metal Stud Wall	2nd Level Office
49	Wall	Metal	1,944	0.189	45	90	X	R-11 Metal Stud Wall	3rd Level Office
50	Wall	Metal	1,053	0.189	135	90	X	R-11 Metal Stud Wall	3rd Level Office
51	Wall	Metal	1,944	0.189	225	90	X	R-11 Metal Stud Wall	3rd Level Office
52	Wall	Metal	1,053	0.189	315	90	X	R-11 Metal Stud Wall	3rd Level Office
53	Wall	Metal	1,300	0.189	45	90	X	R-11 Metal Stud Wall	3rd Level Office
54	Wall	Metal	660	0.189	135	90	X	R-11 Metal Stud Wall	3rd Level Office
55	Wall	Metal	1,300	0.189	225	90	X	R-11 Metal Stud Wall	3rd Level Office
56	Wall	Metal	660	0.189	315	90	X	R-11 Metal Stud Wall	3rd Level Office
57	Wall	Metal	1,300	0.189	45	90	X	R-11 Metal Stud Wall	4th Level Office
58	Wall	Metal	660	0.189	135	90	X	R-11 Metal Stud Wall	4th Level Office
59	Wall	Metal	1,300	0.189	225	90	X	R-11 Metal Stud Wall	4th Level Office
60	Wall	Metal	660	0.189	315	90	X	R-11 Metal Stud Wall	4th Level Office

FENESTRATION SURFACES

Site Assembled Glazing Check box if Building is >= 100,000 sqft of CFA and >= 10,000 sqft vertical glazing then NFRC Follow NFRC 100-SB Procedures and submit NFRC Label Certificate Form.

#	Type	Area	U-Fac.	Act. Azm.	SHGC	Glazing Type	Location / Comments
31	Window	540	0.600	315	0.40	2000 Avenue of the Stars	Mezz-Level
32	Window	750	0.600	135	0.40	2000 Avenue of the Stars	Mezz-Level
33	Window	980	0.600	45	0.40	2000 Avenue of the Stars	Mezz-Level
34	Window	980	0.600	225	0.40	2000 Avenue of the Stars	Mezz-Level
35	Window	500	0.600	315	0.40	2000 Avenue of the Stars	Mezz-Level
36	Window	2,000	0.600	45	0.40	2000 Avenue of the Stars	Mezz-Level
37	Window	2,000	0.600	225	0.40	2000 Avenue of the Stars	Mezz-Level
38	Window	560	0.600	315	0.40	2000 Avenue of the Stars	Mezz-Level
39	Window	1,030	0.600	315	0.40	2000 Avenue of the Stars	2nd Level Office
40	Window	4,420	0.600	225	0.40	2000 Avenue of the Stars	2nd Level Office
41	Window	4,420	0.600	45	0.40	2000 Avenue of the Stars	2nd Level Office
42	Window	1,030	0.600	135	0.40	2000 Avenue of the Stars	2nd Level Office
43	Window	1,296	0.600	45	0.40	2000 Avenue of the Stars	3rd Level Office
44	Window	702	0.600	135	0.40	2000 Avenue of the Stars	3rd Level Office
45	Window	1,296	0.600	225	0.40	2000 Avenue of the Stars	3rd Level Office

EXTERIOR SHADING

#	Exterior Shade Type	SHGC	Window Hgt. Wd.	Overhang Len. Hgt. LExt.RExt.	Left Fin Dist. Len. Hgt.	Right Fin Dist. Len. Hgt.
31	None	0.76				
32	None	0.76				
33	None	0.76				
34	None	0.76				
35	None	0.76				
36	None	0.76				
37	None	0.76				
38	None	0.76				
39	None	0.76				
40	None	0.76				
41	None	0.76				
42	None	0.76				
43	None	0.76				
44	None	0.76				
45	None	0.76				

Run Initiation Time: 08/29/01 08:28:00

Run Code: 999098880

ENVELOPE COMPLIANCE SUMMARY

Performance ENV-1

PROJECT NAME
ABC Building

DATE
8/30/01

OPAQUE SURFACES

#	Surface Type	Framing Type	Area	U-Fac.	Act. Azm.	Solar Gains		Form 3 Reference	Location / Comments
						Tilt	Y/N		
61	Wall	Metal	1,944	0.189	45	90	X	R-11 Metal Stud Wall	4th Level Office
62	Wall	Metal	1,053	0.189	135	90	X	R-11 Metal Stud Wall	4th Level Office
63	Wall	Metal	1,944	0.189	225	90	X	R-11 Metal Stud Wall	4th Level Office
64	Wall	Metal	1,053	0.189	315	90	X	R-11 Metal Stud Wall	4th Level Office
65	Wall	Metal	1,944	0.189	45	90	X	R-11 Metal Stud Wall	5th Level Office
66	Wall	Metal	1,053	0.189	135	90	X	R-11 Metal Stud Wall	5th Level Office
67	Wall	Metal	1,944	0.189	225	90	X	R-11 Metal Stud Wall	5th Level Office
68	Wall	Metal	1,053	0.189	315	90	X	R-11 Metal Stud Wall	5th Level Office
69	Wall	Metal	1,300	0.189	45	90	X	R-11 Metal Stud Wall	5th Level Office
70	Wall	Metal	660	0.189	135	90	X	R-11 Metal Stud Wall	5th Level Office
71	Wall	Metal	1,300	0.189	225	90	X	R-11 Metal Stud Wall	5th Level Office
72	Wall	Metal	660	0.189	315	90	X	R-11 Metal Stud Wall	5th Level Office
73	Wall	Metal	1,300	0.189	45	90	X	R-11 Metal Stud Wall	6th Level Office
74	Wall	Metal	660	0.189	135	90	X	R-11 Metal Stud Wall	6th Level Office
75	Wall	Metal	1,300	0.189	225	90	X	R-11 Metal Stud Wall	6th Level Office
76	Wall	Metal	660	0.189	315	90	X	R-11 Metal Stud Wall	6th Level Office
77	Wall	Metal	1,944	0.189	45	90	X	R-11 Metal Stud Wall	6th Level Office
78	Wall	Metal	1,053	0.189	135	90	X	R-11 Metal Stud Wall	6th Level Office
79	Wall	Metal	1,944	0.189	225	90	X	R-11 Metal Stud Wall	6th Level Office
80	Wall	Metal	1,053	0.189	315	90	X	R-11 Metal Stud Wall	6th Level Office

FENESTRATION SURFACES

Site Assembled Glazing Check box if Building is >= 100,000 sqft of CFA and >= 10,000 sqft vertical glazing then NFRC Follow NFRC 100-SB Procedures and submit NFRC Label Certificate Form.

#	Type	Area	U-Fac.	Act. Azm.	SHGC	Glazing Type	Location / Comments
46	Window	702	0.600	315	0.40	2000 Avenue of the Stars	3rd Level Office
47	Window	1,920	0.600	45	0.40	2000 Avenue of the Stars	3rd Level Office
48	Window	1,020	0.600	135	0.40	2000 Avenue of the Stars	3rd Level Office
49	Window	1,920	0.600	225	0.40	2000 Avenue of the Stars	3rd Level Office
50	Window	1,020	0.600	315	0.40	2000 Avenue of the Stars	3rd Level Office
51	Window	1,920	0.600	45	0.40	2000 Avenue of the Stars	4th Level Office
52	Window	1,020	0.600	135	0.40	2000 Avenue of the Stars	4th Level Office
53	Window	1,920	0.600	225	0.40	2000 Avenue of the Stars	4th Level Office
54	Window	1,020	0.600	315	0.40	2000 Avenue of the Stars	4th Level Office
55	Window	1,296	0.600	45	0.40	2000 Avenue of the Stars	4th Level Office
56	Window	702	0.600	135	0.40	2000 Avenue of the Stars	4th Level Office
57	Window	1,296	0.600	225	0.40	2000 Avenue of the Stars	4th Level Office
58	Window	702	0.600	315	0.40	2000 Avenue of the Stars	4th Level Office
59	Window	1,296	0.600	45	0.40	2000 Avenue of the Stars	5th Level Office
60	Window	702	0.600	135	0.40	2000 Avenue of the Stars	5th Level Office

EXTERIOR SHADING

#	Exterior Shade Type	SHGC	Window		Overhang				Left Fin		Right Fin	
			Hgt.	Wd.	Len.	Hgt.	LExt.	RExt.	Dist.	Len.	Hgt.	Dist.
46	None	0.76	6.0	117.0	95.0	0.0	7.5	7.5				
47	None	0.76										
48	None	0.76	6.0	117.0	95.0	0.0	7.5	7.5				
49	None	0.76										
50	None	0.76										
51	None	0.76										
52	None	0.76	6.0	117.0	95.0	0.0	7.5	7.5				
53	None	0.76										
54	None	0.76										
55	None	0.76										
56	None	0.76										
57	None	0.76										
58	None	0.76	6.0	117.0	95.0	0.0	7.5	7.5				
59	None	0.76										
60	None	0.76										

Run Initiation Time: 08/29/01 08:28:00

Run Code: 999098880

ENVELOPE COMPLIANCE SUMMARY

Performance ENV-1

PROJECT NAME
ABC Building

DATE
8/30/01

OPAQUE SURFACES

#	Surface Type	Framing Type	Area	U-Fac.	Act. Azm.	Solar Gains		Form 3 Reference	Location / Comments
						Tilt	Y/N		
81	Wall	Metal	1,944	0.189	45	90	X	R-11 Metal Stud Wall	7th Level Office
82	Wall	Metal	1,053	0.189	135	90	X	R-11 Metal Stud Wall	7th Level Office
83	Wall	Metal	1,944	0.189	225	90	X	R-11 Metal Stud Wall	7th Level Office
84	Wall	Metal	1,053	0.189	315	90	X	R-11 Metal Stud Wall	7th Level Office
85	Wall	Metal	1,300	0.189	45	90	X	R-11 Metal Stud Wall	7th Level Office
86	Wall	Metal	660	0.189	135	90	X	R-11 Metal Stud Wall	7th Level Office
87	Wall	Metal	1,300	0.189	225	90	X	R-11 Metal Stud Wall	7th Level Office
88	Wall	Metal	660	0.189	315	90	X	R-11 Metal Stud Wall	7th Level Office
89	Wall	Metal	1,300	0.189	45	90	X	R-11 Metal Stud Wall	8th Level Office
90	Wall	Metal	660	0.189	135	90	X	R-11 Metal Stud Wall	8th Level Office
91	Wall	Metal	1,300	0.189	225	90	X	R-11 Metal Stud Wall	8th Level Office
92	Wall	Metal	660	0.189	315	90	X	R-11 Metal Stud Wall	8th Level Office
93	Wall	Metal	1,944	0.189	45	90	X	R-11 Metal Stud Wall	8th Level Office
94	Wall	Metal	1,053	0.189	135	90	X	R-11 Metal Stud Wall	8th Level Office
95	Wall	Metal	1,944	0.189	225	90	X	R-11 Metal Stud Wall	8th Level Office
96	Wall	Metal	1,053	0.189	315	90	X	R-11 Metal Stud Wall	8th Level Office
97	Wall	Metal	1,944	0.189	45	90	X	R-11 Metal Stud Wall	9th Level Office
98	Wall	Metal	1,053	0.189	135	90	X	R-11 Metal Stud Wall	9th Level Office
99	Wall	Metal	1,944	0.189	225	90	X	R-11 Metal Stud Wall	9th Level Office
100	Wall	Metal	1,053	0.189	315	90	X	R-11 Metal Stud Wall	9th Level Office

FENESTRATION SURFACES

Site Assembled Glazing Check box if Building is >= 100,000 sqft of CFA and >= 10,000 sqft vertical glazing then NFRC Follow NFRC 100-SB Procedures and submit NFRC Label Certificate Form.

#	Type	Area	U-Fac.	Act. Azm.	SHGC	Glazing Type	Location / Comments
61	Window	1,296	0.600	225	0.40	2000 Avenue of the Stars	5th Level Office
62	Window	702	0.600	315	0.40	2000 Avenue of the Stars	5th Level Office
63	Window	1,920	0.600	45	0.40	2000 Avenue of the Stars	5th Level Office
64	Window	1,020	0.600	135	0.40	2000 Avenue of the Stars	5th Level Office
65	Window	1,920	0.600	225	0.40	2000 Avenue of the Stars	5th Level Office
66	Window	1,020	0.600	315	0.40	2000 Avenue of the Stars	5th Level Office
67	Window	1,920	0.600	45	0.40	2000 Avenue of the Stars	6th Level Office
68	Window	1,020	0.600	135	0.40	2000 Avenue of the Stars	6th Level Office
69	Window	1,920	0.600	225	0.40	2000 Avenue of the Stars	6th Level Office
70	Window	1,020	0.600	315	0.40	2000 Avenue of the Stars	6th Level Office
71	Window	1,296	0.600	45	0.40	2000 Avenue of the Stars	6th Level Office
72	Window	702	0.600	135	0.40	2000 Avenue of the Stars	6th Level Office
73	Window	1,296	0.600	225	0.40	2000 Avenue of the Stars	6th Level Office
74	Window	702	0.600	315	0.40	2000 Avenue of the Stars	6th Level Office
75	Window	1,296	0.600	45	0.40	2000 Avenue of the Stars	7th Level Office

EXTERIOR SHADING

#	Exterior Shade Type	SHGC	Window Hgt.	Wd.	Overhang				Left Fin		Right Fin	
					Len.	Hgt.	L.Ext.	R.Ext.	Dist.	Len.	Hgt.	Dist.
61	None	0.76										
62	None	0.76	6.0	117.0	95.0	0.0	7.5	7.5				
63	None	0.76										
64	None	0.76	6.0	117.0	95.0	0.0	7.5	7.5				
65	None	0.76										
66	None	0.76										
67	None	0.76										
68	None	0.76	6.0	117.0	95.0	0.0	7.5	7.5				
69	None	0.76										
70	None	0.76										
71	None	0.76										
72	None	0.76										
73	None	0.76										
74	None	0.76	6.0	117.0	95.0	0.0	7.5	7.5				
75	None	0.76										

Run Initiation Time: 08/29/01 08:28:00

Run Code: 999098880

ENVELOPE COMPLIANCE SUMMARY

Performance ENV-1

PROJECT NAME
ABC Building

DATE
8/30/01

OPAQUE SURFACES

#	Surface Type	Framing Type	Area	U-Fac.	Act. Azm.	Solar Gains		Form 3 Reference	Location / Comments
						Tilt	Y/N		
101	Wall	Metal	1,300	0.189	45	90	X	R-11 Metal Stud Wall	9th Level Office
102	Wall	Metal	660	0.189	135	90	X	R-11 Metal Stud Wall	9th Level Office
103	Wall	Metal	1,300	0.189	225	90	X	R-11 Metal Stud Wall	9th Level Office
104	Wall	Metal	660	0.189	315	90	X	R-11 Metal Stud Wall	9th Level Office
105	Wall	Metal	1,300	0.189	45	90	X	R-11 Metal Stud Wall	10th Level Office
106	Wall	Metal	660	0.189	135	90	X	R-11 Metal Stud Wall	10th Level Office
107	Wall	Metal	1,300	0.189	225	90	X	R-11 Metal Stud Wall	10th Level Office
108	Wall	Metal	660	0.189	315	90	X	R-11 Metal Stud Wall	10th Level Office
109	Wall	Metal	1,944	0.189	45	90	X	R-11 Metal Stud Wall	10th Level Office
110	Wall	Metal	1,053	0.189	135	90	X	R-11 Metal Stud Wall	10th Level Office
111	Wall	Metal	1,944	0.189	225	90	X	R-11 Metal Stud Wall	10th Level Office
112	Wall	Metal	1,053	0.189	315	90	X	R-11 Metal Stud Wall	10th Level Office
113	Floor	None	13,500	0.153	0	180	X	2000 Avenue of the Stars	11th Level Office
114	Wall	Metal	650	0.189	315	90	X	R-11 Metal Stud Wall	11th Level Office
115	Wall	Metal	3,200	0.189	225	90	X	R-11 Metal Stud Wall	11th Level Office
116	Wall	Metal	3,200	0.189	45	90	X	R-11 Metal Stud Wall	11th Level Office
117	Wall	Metal	650	0.189	135	90	X	R-11 Metal Stud Wall	11th Level Office
118	Wall	Metal	778	0.189	315	90	X	R-11 Metal Stud Wall	12th Level Office
119	Wall	Metal	3,810	0.189	225	90	X	R-11 Metal Stud Wall	12th Level Office
120	Wall	Metal	3,810	0.189	45	90	X	R-11 Metal Stud Wall	12th Level Office

FENESTRATION SURFACES

Site Assembled Glazing Check box if Building is >= 100,000 sqft of CFA and >= 10,000 sqft vertical glazing then NFRC Follow NFRC 100-SB Procedures and submit NFRC Label Certificate Form.

#	Type	Area	U-Fac.	Act. Azm.	SHGC	Glazing Type	Location / Comments
76	Window	702	0.600	135	0.40	2000 Avenue of the Stars	7th Level Office
77	Window	1,296	0.600	225	0.40	2000 Avenue of the Stars	7th Level Office
78	Window	702	0.600	315	0.40	2000 Avenue of the Stars	7th Level Office
79	Window	1,920	0.600	45	0.40	2000 Avenue of the Stars	7th Level Office
80	Window	1,020	0.600	135	0.40	2000 Avenue of the Stars	7th Level Office
81	Window	1,920	0.600	225	0.40	2000 Avenue of the Stars	7th Level Office
82	Window	1,020	0.600	315	0.40	2000 Avenue of the Stars	7th Level Office
83	Window	1,920	0.600	45	0.40	2000 Avenue of the Stars	8th Level Office
84	Window	1,020	0.600	135	0.40	2000 Avenue of the Stars	8th Level Office
85	Window	1,920	0.600	225	0.40	2000 Avenue of the Stars	8th Level Office
86	Window	1,020	0.600	315	0.40	2000 Avenue of the Stars	8th Level Office
87	Window	1,296	0.600	45	0.40	2000 Avenue of the Stars	8th Level Office
88	Window	702	0.600	135	0.40	2000 Avenue of the Stars	8th Level Office
89	Window	1,296	0.600	225	0.40	2000 Avenue of the Stars	8th Level Office
90	Window	702	0.600	315	0.40	2000 Avenue of the Stars	8th Level Office

EXTERIOR SHADING

#	Exterior Shade Type	SHGC	Window Hgt.	Wd.	Overhang Len.	Hgt.	LExt.	RExt.	Left Fin Dist.	Len.	Hgt.	Right Fin Dist.	Len.	Hgt.
76	None	0.76												
77	None	0.76												
78	None	0.76	6.0	117.0	95.0	0.0	7.5	7.5						
79	None	0.76												
80	None	0.76	6.0	117.0	95.0	0.0	7.5	7.5						
81	None	0.76												
82	None	0.76												
83	None	0.76												
84	None	0.76	6.0	117.0	95.0	0.0	7.5	7.5						
85	None	0.76												
86	None	0.76												
87	None	0.76												
88	None	0.76												
89	None	0.76												
90	None	0.76	6.0	117.0	95.0	0.0	7.5	7.5						

Run Initiation Time: 08/29/01 08:28:00

Run Code: 999098880

ENVELOPE COMPLIANCE SUMMARY

Performance ENV-1

PROJECT NAME
ABC Building

DATE
8/30/01

OPAQUE SURFACES

#	Surface Type	Framing Type	Area	U-Fac.	Act. Azm.	Solar Gains		Form 3 Reference	Location / Comments
						Tilt	Y/N		
121	Wall	Metal	778	0.189	135	90	X	R-11 Metal Stud Wall	12th Level Office
122	Roof	Wood	67,280	0.051	0	0	X	R-19 Roof (R.19.2x8.16)	12th Level Office

FENESTRATION SURFACES

Site Assembled Glazing Check box if Building is >= 100,000 sqft of CFA and >= 10,000 sqft vertical glazing then NFRC Follow NFRC 100-SB Procedures and submit NFRC Label Certificate Form.

#	Type	Area	U-Fac.	Act. Azm.	SHGC	Glazing Type	Location / Comments
91	Window	1,296	0.600	45	0.40	2000 Avenue of the Stars	9th Level Office
92	Window	702	0.600	135	0.40	2000 Avenue of the Stars	9th Level Office
93	Window	1,296	0.600	225	0.40	2000 Avenue of the Stars	9th Level Office
94	Window	702	0.600	315	0.40	2000 Avenue of the Stars	9th Level Office
95	Window	1,920	0.600	45	0.40	2000 Avenue of the Stars	9th Level Office
96	Window	1,020	0.600	135	0.40	2000 Avenue of the Stars	9th Level Office
97	Window	1,920	0.600	225	0.40	2000 Avenue of the Stars	9th Level Office
98	Window	1,020	0.600	315	0.40	2000 Avenue of the Stars	9th Level Office
99	Window	1,920	0.600	45	0.40	2000 Avenue of the Stars	10th Level Office
100	Window	1,020	0.600	135	0.40	2000 Avenue of the Stars	10th Level Office
101	Window	1,920	0.600	225	0.40	2000 Avenue of the Stars	10th Level Office
102	Window	1,020	0.600	315	0.40	2000 Avenue of the Stars	10th Level Office
103	Window	1,296	0.600	45	0.40	2000 Avenue of the Stars	10th Level Office
104	Window	702	0.600	135	0.40	2000 Avenue of the Stars	10th Level Office
105	Window	1,296	0.600	225	0.40	2000 Avenue of the Stars	10th Level Office

EXTERIOR SHADING

#	Exterior Shade Type	SHGC	Window		Overhang				Left Fin		Right Fin		
			Hgt.	Wd.	Len.	Hgt.	LExt.	RExt.	Dist.	Len.	Hgt.	Dist.	Len.
91	None	0.76											
92	None	0.76											
93	None	0.76											
94	None	0.76	6.0	117.0	95.0	0.0	7.5	7.5					
95	None	0.76											
96	None	0.76	6.0	117.0	95.0	0.0	7.5	7.5					
97	None	0.76											
98	None	0.76											
99	None	0.76											
100	None	0.76	6.0	117.0	95.0	0.0	7.5	7.5					
101	None	0.76											
102	None	0.76											
103	None	0.76											
104	None	0.76											
105	None	0.76											

ENVELOPE COMPLIANCE SUMMARY

Performance ENV-1

PROJECT NAME: ABC Building DATE: 8/30/01

OPAQUE SURFACES

#	Surface Type	Framing Type	Area	U-Fac.	Act. Azm.	Solar Gains		Form 3 Reference	Location / Comments
						Tilt	Y/N		

FENESTRATION SURFACES

Site Assembled Glazing Check box if Building is >= 100,000 sqft of CFA and >= 10,000 sqft vertical glazing then NFRC Follow NFRC 100-SB Procedures and submit NFRC Label Certificate Form.

#	Type	Area	U-Fac.	Act. Azm.	SHGC	Glazing Type	Location / Comments
106	Window	702	0.600	315	0.40	2000 Avenue of the Stars	10th Level Office
107	Window	1,030	0.600	315	0.40	2000 Avenue of the Stars	11th Level Office
108	Window	4,420	0.600	225	0.40	2000 Avenue of the Stars	11th Level Office
109	Window	4,420	0.600	45	0.40	2000 Avenue of the Stars	11th Level Office
110	Window	1,030	0.600	135	0.40	2000 Avenue of the Stars	11th Level Office
111	Window	1,152	0.600	315	0.40	2000 Avenue of the Stars	12th Level Office
112	Window	4,940	0.600	225	0.40	2000 Avenue of the Stars	12th Level Office
113	Window	4,940	0.600	45	0.40	2000 Avenue of the Stars	12th Level Office
114	Window	1,152	0.600	135	0.40	2000 Avenue of the Stars	12th Level Office

EXTERIOR SHADING

#	Exterior Shade Type	SHGC	Window		Overhang				Left Fin		Right Fin	
			Hgt.	Wd.	Len.	Hgt.	LExt.	RExt.	Dist.	Len.	Hgt.	Dist.
106	None	0.76	6.0	117.0	95.0	0.0	7.5	7.5				
107	None	0.76										
108	None	0.76										
109	None	0.76										
110	None	0.76										
111	None	0.76										
112	None	0.76										
113	None	0.76										
114	None	0.76										

Run Initiation Time: 08/29/01 08:28:00 Run Code: 999098880

CERTIFICATE OF COMPLIANCE

Performance MECH-1

PROJECT NAME
ABC Building

DATE
8/30/01

SYSTEM FEATURES

SYSTEM NAME	MECHANICAL SYSTEMS						NOTES TO FIELD
	Chiller		Chiller		Cooling Tower		
TIME CONTROL	n/a		n/a		n/a		
SETBACK CONTROL	n/a		n/a		n/a		
ISOLATION ZONES	n/a		n/a		n/a		
HEAT PUMP THERMOSTAT?	n/a		n/a		n/a		
ELECTRIC HEAT?	n/a		n/a		n/a		
FAN CONTROL	n/a		n/a		n/a		
VAV MINIMUM POSITION CONTROL?	n/a		n/a		n/a		
SIMULTANEOUS HEAT/COOL?	n/a		n/a		n/a		
HEATING SUPPLY RESET	n/a		n/a		n/a		
COOLING SUPPLY RESET	n/a		n/a		Fixed-Temp		
HEAT REJECTION CONTROL	n/a		n/a		Variable-Speed-Fan		
VENTILATION	n/a		n/a		n/a		
OUTDOOR DAMPER CONTROL	n/a		n/a		n/a		
ECONOMIZER TYPE	n/a		n/a		n/a		
DESIGN AIR CFM (MECH-3, COLUMN I)	n/a		n/a		n/a		
HEATING EQUIPMENT TYPE	n/a		n/a		n/a		
HEATING EQUIPMENT EFFICIENCY	n/a		n/a		n/a		
COOLING EQUIPMENT TYPE	Centrifugal		Centrifugal		Tower w/50.0 bhp fan		
COOLING EQUIPMENT EFFICIENCY	0.590 kW/ton		0.590 kW/ton		6 F App		
MAKE AND MODEL NUMBER	2000 Avenue Stars		PONY CHILLER		2000 AVE OF STAR CT		
HEATING DUCT LOCATION	n/a	n/a	n/a	n/a	n/a	n/a	
R-VALUE	n/a	n/a	n/a	n/a	n/a	n/a	
COOLING DUCT LOCATION	n/a	n/a	n/a	n/a	n/a	n/a	
R-VALUE	n/a	n/a	n/a	n/a	n/a	n/a	
PIPE/DUCT INSULATION PROTECTED?	Yes		Yes		n/a		
PIPE TYPE (SUPPLY, RETURN, ETC.)	Supply & Return CHW		Supply & Return CHW		Supply & Return CW		
PIPE INSULATION REQUIRED?	Yes		Yes		No		
VERIFIED SEALED DUCTS IN CEILING/ROOF SPACE	n/a		n/a		n/a		

CODE TABLES: Enter code from table below into columns above.

HEAT PUMP THERMOSTAT?	Y: Yes N: No	TIME CONTROL	SETBACK CTRL.	ISOLATION ZONES	FAN CONTROL
ELECTRIC HEAT?		S: Prog. Switch	H: Heating	Enter Number of Isolation Zones.	I: Inlet Vanes
VAV MINIMUM POSITION CONTROL?		O: Occupancy Sensor	C: Cooling		P: Variable Pitch
SIMULTANEOUS HEAT / COOL?		M: Manual Timer	B: Both	V: VFD	O: Other C: Curve
HEAT AND COOL SUPPLY RESET?		VENTILATION	OUTDOOR DAMPER	ECONOMIZER	O.A. CFM
HIGH EFFICIENCY?		B: Air Balance	A: Auto	A: Air	Enter Outdoor Air CFM. Note: This shall be no less than Col. H on MECH-3.
PIPE INSULATION REQUIRED?		C: Outside Air Cert.	G: Gravity	W: Water	
PIPE/DUCT INSULATION PROTECTED?		M: Out. Air Measure		N: Not Required	
SEALED DUCTS IN CEILING/ROOF SPACE?	D: Demand Control		EC: Economizer		
	N: Natural		Control See Section 144(e)3		

NOTES TO FIELD - For Building Department Use Only

CERTIFICATE OF COMPLIANCE

Performance MECH-1

PROJECT NAME: **ABC Building** DATE: **8/30/01**

SYSTEM FEATURES

SYSTEM NAME	MECHANICAL SYSTEMS			NOTE TO FIELD
	Cooling Tower	Hot Water Boiler	BUILT UP Air Handler	
TIME CONTROL	n/a	n/a	Programmable Switch	
SETBACK CONTROL	n/a	n/a	No Setback Required	
ISOLATION ZONES	n/a	n/a		
HEAT PUMP THERMOSTAT?	n/a	n/a	n/a	
ELECTRIC HEAT?	n/a	n/a	n/a	
FAN CONTROL	n/a	n/a	Variable Speed	
VAV MINIMUM POSITION CONTROL?	n/a	n/a	Yes	
SIMULTANEOUS HEAT/COOL?	n/a	n/a	Yes	
HEATING SUPPLY RESET	n/a	n/a	OA Reset	
COOLING SUPPLY RESET	Fixed-Temp	n/a	OA Reset	
HEAT REJECTION CONTROL	Variable-Speed-Fan	n/a	n/a	
VENTILATION	n/a	n/a	Air Balance	
OUTDOOR DAMPER CONTROL	n/a	n/a	Auto	
ECONOMIZER TYPE	n/a	n/a	Fixed Temp (Integrated)	
DESIGN AIR CFM (MECH-3, COLUMN I)	n/a	n/a	164307 cfm	
HEATING EQUIPMENT TYPE	n/a	Gas Fired	Hot Water	
HEATING EQUIPMENT EFFICIENCY	n/a	81%	n/a	
COOLING EQUIPMENT TYPE	Tower w/50.0 bhp fan	2000AVE OF STAR	Built-Up VAV	
COOLING EQUIPMENT EFFICIENCY	1 F App N/A	n/a	n/a	
MAKE AND MODEL NUMBER		n/a	2000 Avenue of the Stars	
HEATING DUCT LOCATION	R-VALUE	n/a	n/a	Ducts in Attic 4.2
COOLING DUCT LOCATION	R-VALUE	n/a	n/a	Ducts in Attic 4.2
PIPE/DUCT INSULATION PROTECTED?	n/a	Yes	Yes	
PIPE TYPE (SUPPLY, RETURN, ETC.)	Supply & Return CW	Supply & Return HW	Supply, Return	
PIPE INSULATION REQUIRED?	No	Yes	Yes	
VERIFIED SEALED DUCTS IN CEILING/ROOF SPACE	n/a	n/a	No	

CODE TABLES: Enter code from table below into columns above.

HEAT PUMP THERMOSTAT?	Y: Yes N: No	TIME CONTROL	SETBACK CTRL.	ISOLATION ZONES	FAN CONTROL
ELECTRIC HEAT?			S: Prog. Switch O: Occupancy Sensor M: Manual Timer	H: Heating C: Cooling B: Both	Enter Number of Isolation Zones.
VAV MINIMUM POSITION CONTROL?		VENTILATION	OUTDOOR DAMPER	ECONOMIZER	O.A. CFM
SIMULTANEOUS HEAT / COOL?		B: Air Balance C: Outside Air Cert. M: Out. Air Measure D: Demand Control N: Natural	A: Auto G: Gravity	A: Air W: Water N: Not Required EC: Economizer Control See Section 144(e)3	Enter Outdoor Air CFM. Note: This shall be no less than Col. H on MECH-3.
HEAT AND COOL SUPPLY RESET?					
HIGH EFFICIENCY?					
PIPE INSULATION REQUIRED?					
PIPE/DUCT INSULATION PROTECTED?					
SEALED DUCTS IN CEILING/ROOF SPACE?					

NOTES TO FIELD - For Building Department Use Only

MECHANICAL EQUIPMENT SUMMARY

Part 1 of 2

MECH-2

PROJECT NAME

ABC Building

DATE

8/30/01

CHILLER AND TOWER SUMMARY

Equipment Name	Equipment Type	Qty.	Efficiency	Tons	PUMPS					
					Tot. Qty	GPM	BHP	Motor Eff.	Drive Eff.	Pump Control
2000 Avenue Stars	Centrifugal	2	0.590 kW/ton	900	2	1,350	25.00	91.7%	97.0%	One-Speed
PONY CHILLER	Centrifugal	1	0.590 kW/ton	400	1	600	50.00	93.0%	97.0%	One-Speed
Secondary CHW Pumps					2	1,350	60.00	93.6%	97.0%	Variable-Speed
2000AVE OF STAR CT	Tower w/50.0 bhp fan	2	6 F Approach	900	2	2,700	100.00	94.1%	97.0%	One-Speed

DHW / BOILER SUMMARY

System Name	System Type	Distribution Type	Qty.	Rated Input	Vol. (Gals.)	Energy Factor or Recovery Efficiency	Standby Loss or Pilot	TANK INSUL. Ext. R-Val.
2000AVE OF STAR	Large Gas	Hydronic Heating	1	8,000,000	100	0.81	0.0000	0.0

CENTRAL SYSTEM RATINGS

System Name	System Type	Qty.	HEATING			COOLING			Economizer Type
			Output	Aux. kW	Eff.	Output	Sensible	Efficiency	
2000 Avenue of the Stars	Built-Up VAV	4	1,800,000	0.0	n/a	6,600,000	4,500,000	n/a	Fixed Temp (Integrated)

CENTRAL SYSTEM FAN SUMMARY

System Name	Fan Type	SUPPLY FAN				RETURN FAN				
		Motor Location	CFM	BHP	Motor Eff.	Drive Eff.	CFM	BHP	Motor Eff.	Drive Eff.
2000 Avenue of the Stars	Variable Speed	Draw-Through	200,000	230.00	95.0%	97.0%	180,000	150.00	95.0%	97.0%

Run Initiation Time: 08/29/01 08:28:00

Run Code: 999098880

MECHANICAL EQUIPMENT SUMMARY

Part 1 of 2

MECH-2

PROJECT NAME

ABC Building

DATE

8/30/01

CHILLER AND TOWER SUMMARY

Equipment Name	Equipment Type	Qty.	Efficiency	Tons	PUMPS					
					Tot. Qty	GPM	BHP	Motor Eff.	Drive Eff.	Pump Control
N/A	Tower w/50.0 bhp fan	0	1 F Approach	0						

DHW / BOILER SUMMARY

System Name	System Type	Distribution Type	Qty	Rated Input	Vol. (Gals.)	Energy Factor or Recovery Efficiency	Standby Loss or Pilot	TANK INSUL.
								Ext. R-Val.

CENTRAL SYSTEM RATINGS

System Name	System Type	Qty.	HEATING			COOLING			
			Output	Aux. kW	Eff.	Output	Sensible	Efficiency	Economizer Type

CENTRAL SYSTEM FAN SUMMARY

System Name	Fan Type	SUPPLY FAN					RETURN FAN			
		Motor Location	CFM	BHP	Motor Eff.	Drive Eff.	CFM	BHP	Motor Eff.	Drive Eff.

Run Initiation Time: 08/29/01 08:28:00

Run Code: 999098880

MECHANICAL EQUIPMENT SUMMARY

Part 2 of 2

MECH-2

PROJECT NAME

ABC Building

DATE

8/30/01

ZONE TERMINAL SUMMARY

Zone Name	VAV TERMINAL BOX					TERMINAL FAN				BASEBOARD	
	System Type	Qty.	Min. CFM Ratio	Reheat Coil Type	DeltaT	CFM	BHP	Motor Eff.	Drive Eff.	Type	Output
Main Lobby	VAV Box	1	30%	Hot Water	50	none				none	n/a
street-Level	VAV Box	1	30%	Hot Water	50	none				none	n/a
cafe & restaurant	VAV Box	1	30%	Hot Water	50	none				none	n/a
Mezz-Level	VAV Box	1	30%	Hot Water	50	none				none	n/a
2nd Level Office	VAV Box	1	30%	Hot Water	50	none				none	n/a
3rd Level Office	VAV Box	1	30%	Hot Water	50	none				none	n/a
4th Level Office	VAV Box	1	30%	Hot Water	50	none				none	n/a
5th Level Office	VAV Box	1	30%	Hot Water	50	none				none	n/a
6th Level Office	VAV Box	1	30%	Hot Water	50	none				none	n/a
7th Level Office	VAV Box	1	30%	Hot Water	50	none				none	n/a
8th Level Office	VAV Box	1	30%	Hot Water	50	none				none	n/a
9th Level Office	VAV Box	1	30%	Hot Water	50	none				none	n/a
10th Level Office	VAV Box	1	30%	Hot Water	50	none				none	n/a
11th Level Office	VAV Box	1	30%	Hot Water	50	none				none	n/a
12th Level Office	VAV Box	1	30%	Hot Water	50	none				none	n/a

EXHAUST FAN SUMMARY

EXHAUST FAN					
Room Name	Qty.	CFM	BHP	Motor Eff.	Drive Eff.
lobby	1	700	0.50	77.0%	97.0%
SE Office	1	700	0.50	77.0%	97.0%
cultural	1	700	0.50	77.0%	97.0%

EXHAUST FAN					
Room Name	Qty.	CFM	BHP	Motor Eff.	Drive Eff.
RESTAURANT	1	10,000	15.00	91.0%	97.0%
cafe	1	5,000	7.50	88.5%	97.0%
SE Office	1	700	0.50	77.0%	97.0%

Run Initiation Time: 08/29/01 08:28:00

Run Code: 999098880

MECHANICAL EQUIPMENT SUMMARY

PROJECT NAME
ABC Building

DATE
8/30/01

ZONE TERMINAL SUMMARY

Zone Name	VAV TERMINAL BOX					TERMINAL FAN				BASEBOARD	
	System Type	Qty.	Min. CFM Ratio	Reheat Coil		CFM	BHP	Motor Eff.	Drive Eff.	Type	Output
				Type	DeltaT						

EXHAUST FAN SUMMARY

EXHAUST FAN						EXHAUST FAN					
Room Name	Qty.	CFM	BHP	Motor Eff.	Drive Eff.	Room Name	Qty.	CFM	BHP	Motor Eff.	Drive Eff.
Office	1	700	0.50	77.0%	97.0%	North Office	1	700	0.50	77.0%	97.0%
South Office	1	700	0.50	77.0%	97.0%	South Office	1	700	0.50	77.0%	97.0%
North Office	1	700	0.50	77.0%	97.0%	South Office	1	700	0.50	77.0%	97.0%

Run Initiation Time: 08/29/01 08:28:00 Run Code: 999098880

MECHANICAL EQUIPMENT SUMMARY

Part 2 of 2

MECH-2

PROJECT NAME
ABC Building

DATE
8/30/01

ZONE TERMINAL SUMMARY

Zone Name	VAV TERMINAL BOX					TERMINAL FAN				BASEBOARD	
	System Type	Qty.	Min. CFM Ratio	Reheat Coil		CFM	BHP	Motor Eff.	Drive Eff.	Type	Output
				Type	Delta T						

EXHAUST FAN SUMMARY

EXHAUST FAN						EXHAUST FAN					
Room Name	Qty.	CFM	BHP	Motor Eff.	Drive Eff.	Room Name	Qty.	CFM	BHP	Motor Eff.	Drive Eff.
North Office	1	700	0.50	77.0%	97.0%	South Office	1	700	0.50	77.0%	97.0%
North Office	1	700	0.50	77.0%	97.0%	North Office	1	700	0.50	77.0%	97.0%
South Office	1	700	0.50	77.0%	97.0%	North Office	1	700	0.50	77.0%	97.0%

Run Initiation Time: 08/29/01 08:28:00

Run Code: 999098880

MECHANICAL EQUIPMENT SUMMARY

Part 2 of 2

MECH-2

PROJECT NAME
c **ABC Building**

DATE **8/30/01**

ZONE TERMINAL SUMMARY

Zone Name	VAV TERMINAL BOX					TERMINAL FAN				BASEBOARD	
	System Type	Qty.	Min. CFM Ratio	Reheat Coil Type Delta T		CFM	BHP	Motor Eff.	Drive Eff.	Type	Output

EXHAUST FAN SUMMARY

EXHAUST FAN					
Room Name	Qty.	CFM	BHP	Motor Eff.	Drive Eff.
South Office	1	700	0.50	77.0%	97.0%
South Office	1	700	0.50	77.0%	97.0%
North Office	1	700	0.50	77.0%	97.0%

EXHAUST FAN					
Room Name	Qty.	CFM	BHP	Motor Eff.	Drive Eff.
North Office	1	700	0.50	77.0%	97.0%
South Office	1	500	0.50	77.0%	97.0%
Office	1	1,400	1.00	82.5%	97.0%

Run Initiation Time: 08/29/01 08:28:00

Run Code: 999098880

MECHANICAL EQUIPMENT SUMMARY

Part 2 of 2

MECH-2

PROJECT NAME
* ABC Building

DATE 8/30/01

ZONE TERMINAL SUMMARY

Zone Name	VAV TERMINAL BOX					TERMINAL FAN				BASEBOARD	
	System Type	Qty.	Min. CFM Ratio	Reheat Coil		CFM	BHP	Motor Eff.	Drive Eff.	Type	Output
				Type	Delta T						

EXHAUST FAN SUMMARY

EXHAUST FAN					
Room Name	Qty.	CFM	BHP	Motor Eff.	Drive Eff.
Office	1	1,400	1.00	82.5%	97.0%

EXHAUST FAN					
Room Name	Qty.	CFM	BHP	Motor Eff.	Drive Eff.

Run Initiation Time: 08/29/01 08:28:00

Run Code: 999098880

MECHANICAL VENTILATION

MECH-3

PROJECT NAME ABC Building	DATE 8/30/01
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MECHANICAL VENTILATION

A	B	C	D	E	F	G	H	I	J	K
ZONE/SYSTEM	AREA BASIS			OCCUPANCY BASIS			REQ'D O.A. (MAX OF D OR G)	DESIGN OUTDOOR AIR CFM	VAV MIN. RATIO	TRANSFER AIR
	COND. AREA (SF)	CFM PER SF	MIN. CFM (B x C)	NO. OF PEOPLE	CFM PER PERSON	MIN. CFM (ExF)				
Main Lobby	20,000	1.07	21,400				21,400	6,000	30%	15,400
street-Level	35,000	0.15	5,250				5,250	6,304	30%	
cafe & restaurant	15,800	0.38	6,004				6,004	15,000	30%	
Mezz-Level	55,000	0.15	8,250				8,250	6,875	30%	1,375
2nd Level Office	67,280	0.15	10,092				10,092	13,456	30%	
3rd Level Office	56,100	0.15	8,415				8,415	11,220	30%	
4th Level Office	56,100	0.15	8,415				8,415	11,220	30%	
5th Level Office	56,100	0.15	8,415				8,415	11,220	30%	
6th Level Office	56,100	0.15	8,415				8,415	11,220	30%	
7th Level Office	56,100	0.15	8,415				8,415	11,220	30%	
8th Level Office	56,100	0.15	8,415				8,415	11,220	30%	
9th Level Office	56,100	0.15	8,415				8,415	11,220	30%	
10th Level Office	56,100	0.15	8,415				8,415	11,220	30%	
11th Level Office	67,280	0.15	10,092				10,092	13,456	30%	
12th Level Office	67,280	0.15	10,092				10,092	13,456	30%	
BUILT UP Air Handler						Total	138,500	164,307		

- C Minimum Ventilation Rate per Section 121, Table 1-F.
- E Based on Expected Number of Occupants or at least 50% of Chapter 10 1997 UBC Occupant Density.
- I Must be greater than or equal to H, or use Transfer Air. Design Outdoor Air includes ventilation from Supply Air System & Room Exhaust Fans.
- K Must be greater than or equal to (H minus I), and, for VAV, greater than or equal to (H-J).

PROPOSED CONSTRUCTION ASSEMBLY

ENV-3

PROJECT NAME ABC Building	DATE 8/30/01
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COMPONENT DESCRIPTION

<div style="border: 1px solid black; width: 100%; height: 100%; position: relative;"> <div style="position: absolute; left: 0; top: 50%; transform: translateY(-50%);">OUTSIDE</div> <div style="position: absolute; right: 0; top: 50%; transform: translateY(-50%);">INSIDE</div> </div> <p style="text-align:center">SKETCH OF ASSEMBLY</p>	<p>ASSEMBLY NAME R-11 Metal Stud Wall</p> <p>ASSEMBLY TYPE (check one) <input type="checkbox"/> Floor <input checked="" type="checkbox"/> Wall <input type="checkbox"/> Ceiling / Roof</p> <p>FRAMING MATERIAL Metal</p> <p>FRAMING % 15%</p> <p style="text-align:right">Framing % 15% (16" o.c. Wall) 12% (24" o.c. Wall) 10% (16" o.c. Floor/Ceil.) 7% (24" o.c. Floor/Ceil.)</p>
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CONSTRUCTION COMPONENTS

DESCRIPTION	FRAMING	THICKNESS (in.)	R-VALUE		*HEAT CAPACITY (Optional)		
			CAVITY R-VALUE (Rc)	WOOD FRAME R-VALUE (Rf)	WALL WEIGHT (lbs/sf)	SPECIFIC HEAT (Btu/F-lb)	HC (A X B) (Btu/F-sf)
OUTSIDE SURFACE AIR FILM		—	0.170		—	—	—
1 Stucco	<input type="checkbox"/>	0.875	0.175		8.46	0.20	1.69
2 Plywood	<input type="checkbox"/>	0.438	0.543		1.24	0.29	0.36
3 Insulation, Mineral Fiber, R-11	<input checked="" type="checkbox"/>	3.500	11.000		0.18	0.17	0.03
4 Gypsum or Plaster Board	<input type="checkbox"/>	0.500	0.450		2.08	0.26	0.54
5	<input type="checkbox"/>						
6	<input type="checkbox"/>						
7	<input type="checkbox"/>						
8	<input type="checkbox"/>						
9	<input type="checkbox"/>						
INSIDE SURFACE AIR FILM		—	0.680		—	—	—
SUBTOTAL			13.02		12.0	TOTAL HC	2.6

*NOTE: Weight and Specific Heat values for materials penetrated by wood framing include the effects of the framing members.

$1 / R_c$	X	$1 - (Fr\% / 100)$	+	$1 / R_f$	X	$Fr\% / 100$	=	0.189	ASSEMBLY U-VALUE
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COMMENTS

This assembly contains metal framing. The Assembly U-Value has been calculated using the ASHRAE/CEC Zonal Cavity Method.

PROPOSED CONSTRUCTION ASSEMBLY

ENV-3

PROJECT NAME ABC Building	DATE 8/30/01
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COMPONENT DESCRIPTION

<div style="border:1px solid black; width:100%; height:100%; position:relative;"> <div style="position:absolute; left:-50px; top:50%; transform:translateY(-50%);">OUTSIDE</div> <div style="position:absolute; right:-50px; top:50%; transform:translateY(-50%);">INSIDE</div> </div> <p style="text-align:center">SKETCH OF ASSEMBLY</p>	ASSEMBLY NAME <input style="width:90%" type="text" value="2000 Avenue of the Stars"/>
	ASSEMBLY TYPE (check one) <input checked="" type="checkbox"/> Floor <input type="checkbox"/> Wall <input type="checkbox"/> Ceiling / Roof
	FRAMING MATERIAL <input style="width:50px" type="text" value="None"/>
	FRAMING % <input style="width:50px" type="text"/> % <div style="float:right; font-size:small;"> Framing % 15% (16" o.c. Wall) 12% (24" o.c. Wall) 10% (16" o.c. Floor/Ceil.) 7% (24" o.c. Floor/Ceil.) </div>

CONSTRUCTION COMPONENTS

	DESCRIPTION	FRAMING	THICKNESS (in.)	R-VALUE		*HEAT CAPACITY (Optional)		
				CAVITY R-VALUE (Rc)	WOOD FRAME R-VALUE (Rf)	WALL WEIGHT (lbs/sf)	SPECIFIC HEAT (Btu/F-lb)	HC (A X B) (Btu/F-sf)
	OUTSIDE SURFACE AIR FILM		—	0.170		—	—	—
1	Concrete, 60 lb	<input type="checkbox"/>	6.000	3.360		30.00	0.20	6.00
2	Flooring, Carpet and Fibrous Pad	<input type="checkbox"/>	0.250	2.080		0.08	0.34	0.03
3		<input type="checkbox"/>						
4		<input type="checkbox"/>						
5		<input type="checkbox"/>						
6		<input type="checkbox"/>						
7		<input type="checkbox"/>						
8		<input type="checkbox"/>						
9		<input type="checkbox"/>						
	INSIDE SURFACE AIR FILM		—	0.920		—	—	—
SUBTOTAL				6.53		30.1	TOTAL HC	6.0

*NOTE: Weight and Specific Heat values for materials penetrated by wood framing include the effects of the framing members.

$$\left[\frac{1}{R_c} \right] \times \left[\frac{Fr\%}{100} \right] + \left[\frac{1}{R_f} \right] \times \left[\frac{Fr\%}{100} \right] = \text{ASSEMBLY U-VALUE } 0.153$$

COMMENTS

ENVELOPE MANDATORY MEASURES

ENV-MM

PROJECT NAME
ABC Building

DATE
8/30/01

DESCRIPTION	Designer	Enforcement
<input type="checkbox"/> § 118(a) Installed Insulating Material shall have been certified by the manufacturer to comply with the California Quality Standards for insulating material, Title 20, Chapter 4, Article 3.		
<input type="checkbox"/> § 118(c) All Insulating Materials shall be installed in compliance with the flame spread rating and smoke density requirements of Sections 2602 and 707 of Title 24, Part 2.		
<input checked="" type="checkbox"/> § 117(a) All Exterior Joints and openings in the building that are observable sources of air leakage shall be caulked, gasketed, weatherstripped or otherwise sealed.		
<input checked="" type="checkbox"/> § 116(b) Site Constructed Doors, Windows and Skylights shall be caulked between the unit and the building, and shall be weatherstripped (except for unframed glass doors and fire doors).		
<input checked="" type="checkbox"/> § 116(a)1 Manufactured Doors and Windows installed shall have air infiltration rates not exceeding those shown in Table Number 1-E. of the Standards. Manufactured fenestration products must be labeled for U-value according to NFRC procedures.		
<input checked="" type="checkbox"/> § 118(e) Demising Walls in Nonresidential Buildings: The opaque portions of framed demising walls in nonresidential buildings shall have insulation with an installed R-value of no less than R-11 between framing members.		

MECHANICAL MANDATORY MEASURES

Part 1 of 2 **MECH-MM**

PROJECT NAME ABC Building	DATE 8/30/01
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DESCRIPTION	Designer	Enforcement
Equipment and Systems Efficiencies		
<input type="checkbox"/> § 111 Any appliance for which there is a California standard established in the Appliance Efficiency Regulations will comply with the applicable standard.		
<input type="checkbox"/> § 115(a) Fan type central furnaces shall not have a pilot light.		
<input type="checkbox"/> § 123 Piping, except that conveying fluids at temperatures between 60 and 105 degrees Fahrenheit, or within HVAC equipment, shall be insulated in accordance with Standards Section 123.		
<input type="checkbox"/> § 124 Air handling duct systems shall be installed and insulated in compliance with Sections 601, 603 and 604 of the Uniform Mechanical Code.		
Controls		
§ 122(e) Each space conditioning system shall be installed with one of the following:		
<input type="checkbox"/> § 122(e)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 accessible manual override that allows operation of the system during off-hours for up to 4 hours. The time switch shall be capable of programming different schedules for weekdays and weekends; incorporate an automatic holiday "shut-off" feature that turns off all loads for at least 24 hours, then resumes the normally scheduled operation; and has program backup capabilities that prevent the loss of the device's program and time setting for at least 10 hours if power is interrupted; or		
<input type="checkbox"/> § 122(e)1B An occupancy sensor to control the operating period of the system; or		
<input type="checkbox"/> § 122(e)1C A 4-hour timer that can be manually operated to control the operating period of the system.		
<input type="checkbox"/> § 122(e)2 Each space conditioning system shall be installed with controls that temporarily restart and temporarily operate the system as required to maintain a setback heating and/or a setup cooling thermostat setpoint.		
<input type="checkbox"/> § 122(g) 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 areas; and shall be controlled by a time control device as described above.		
<input type="checkbox"/> § 122(a&b) 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 adjustable up to 85 degrees F or higher. Where used for both heating and cooling, the control shall be capable of providing a deadband of at least 5 degrees F within which the supply of heating and cooling is shut off or reduced to a minimum.		
<input type="checkbox"/> § 122(c) Thermostats shall have numeric setpoints in degrees Fahrenheit (F) and adjustable setpoint stops accessible only to authorized personnel.		
<input type="checkbox"/> § 112(b) Heat pumps shall be installed with controls to prevent electric resistance supplementary heater operation when the heating load can be met by the heat pump alone.		

MECHANICAL MANDATORY MEASURES

Part 2 of 2 **MECH-MM**

PROJECT NAME ABC Building	DATE 8/30/01
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Description	Designer	Enforcement
Ventilation		
<input type="checkbox"/> § 121(e) Controls shall be provided to allow outside air dampers or devices to be operated at the ventilation rates as specified on these plans.		
<input type="checkbox"/> § 122(f) Gravity or automatic dampers interlocked and closed on fan shutdown shall be provided on the outside air intakes and discharges of all space conditioning and exhaust systems.		
<input type="checkbox"/> § 122(f) All gravity ventilating systems shall be provided with automatic or readily accessible manually operated dampers in all openings to the outside, except for combustion air openings.		
<input type="checkbox"/> § 121(f)1 Air Balancing: The system shall be balanced in accordance with the National Environmental Balancing Bureau (NEBB) Procedural Standards (1983), or Associated Air Balance Council (AABC) National Standards (1989); or		
<input type="checkbox"/> § 121(f)2 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 mechanical engineer, (2) the installing licenced C-20 mechanical contractor, or (3) the person with overall responsibility for the design of the ventilation system; or		
<input checked="" type="checkbox"/> § 121(f)3 Outside 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; or		
<input type="checkbox"/> § 121(f)4 Another method approved by the Commission.		
Service Water Heating Systems		
<input type="checkbox"/> § 113(b)2 If a circulating hot water system is installed, it shall have a control capable of automatically turning off the circulating pump(s) when hot water is not required.		
<input type="checkbox"/> § 113(b)3B Lavatories in restrooms of public facilities shall be equipped with controls to limit the outlet temperature to 110 degrees F.		
<input type="checkbox"/> § 113(b)3C Lavatories in restrooms of public facilities shall be equipped with one of the following: <p style="margin-left: 20px;">Outlet devices that limit the flow of hot water to a maximum of 0.5 gallons per minute.</p> <p style="margin-left: 20px;">Foot actuated control valves, and outlet devices that limit the flow of hot water to a maximum of 0.75 gallons per minute.</p> <p style="margin-left: 20px;">Proximity sensor actuated control valves, and outlet devices that limit the flow of hot water to a maximum of 0.75 gallons per minute.</p> <p style="margin-left: 20px;">Self-closing valves, and outlet devices that limit the flow of hot water to a maximum of 2.5 gallons per minute, and 0.25 gallons/cycle (circulating system).</p> <p style="margin-left: 20px;">Self-closing valves, and outlet devices that limit the flow of hot water to a maximum of 2.5 gallons per minute, and 0.50 gallons/cycle (non-circulating system).</p> <p style="margin-left: 20px;">Self-closing valves, and outlet devices that limit the flow of hot water to a maximum of 2.5 gallons per minute, and 0.75 gallons/cycle (foot switches and proximity sensor controls).</p>		

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

PROJECT NAME ABC Building	DATE 8/30/01
SYSTEM NAME BUILT UP Air Handler	FLOOR AREA 776,440

ENGINEERING CHECKS

Number of Systems	4
Heating System	
Output per System	1,800,000
Total Output (Btuh)	7,200,000
Output (Btuh/sqft)	9.3
Cooling System	
Output per System	6,600,000
Total Output (Btuh)	26,400,000
Total Output (Tons)	2,200.0
Total Output (Btuh/sqft)	34.0
Total Output (sqft/Ton)	352.9
Air System	
CFM per System	200,000
Airflow (cfm)	800,000
Airflow (cfm/sqft)	1.03
Airflow (cfm/Ton)	363.6
Outside Air (%)	20.5
Outside Air (cfm/sqft)	0.21

SYSTEM LOAD

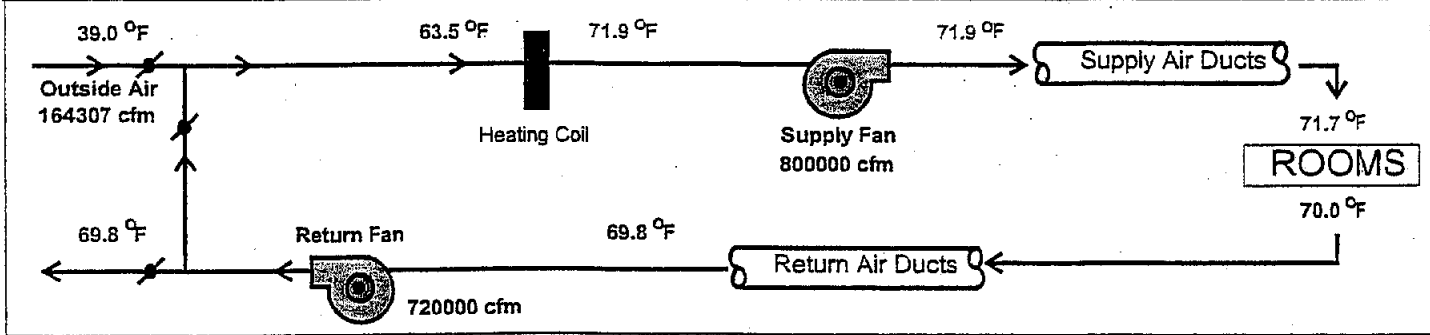
	COIL COOLING PEAK			COIL HTG. PEAK	
	CFM	Sensible	Latent	CFM	Sensible
Total Room Loads	889,474	15,817,293	1,573,337		3,775,261
Return Vented Lighting		0			
Return Air Ducts		790,865			188,763
Return Fan		0			0
Ventilation	164,307	2,192,079	1,117,015	164,307	5,408,229
Supply Fan		0			0
Supply Air Ducts		790,865			188,763
TOTAL SYSTEM LOAD	19,591,102	2,690,352			9,561,016

Note: values above given at ARI conditions

HVAC EQUIPMENT SELECTION

2000 Avenue of the Stars	18,000,000	8,400,000	7,200,000
Total Adjusted System Output (Adjusted for Peak Design Conditions)		18,000,000	8,400,000
TIME OF SYSTEM PEAK		Aug 4 pm	Jan 12 am

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)

