BUILDING HEATING LOADS, Btu/h

	S-1	S-2	S-3
System name			
Ventilation Load= c ρ [(OA-EA) (T_R-T_O) + EA (T_I-T_O)]	192,164	0	0
Sum of space heat losses	299,240	54,741	0
Total	491,404	54,741	0
Breakdown by equipment:			
Space heating units, SHU Load=line 7 or line 8-Σ(lines 11,12,13)	299,240	54,741	0
Heating coils	113,811	0	0
Heat gain from supply fans: HP_{SF} x 0.7457 x 3412	25,443	0	0
Heat gain from return fans: HP_{RF} x 0.7457 x 3412	7,633	0	0
Imbalance or Winter Reheat: line 8 -Σ(lines 10,11,12,13)	45,277	0	0
Fractional breakdown:			
SHU Load	61%	100%	0%
Heating coils	23%	0%	0%
Supply fans	5%	0%	0%
Return fans	2%	0%	0%
Imbalance or Winter Reheat	9%	0%	0%
Total	100%	100%	0%
Heating load density Btu/h per ft^2 of floor area			
Floor area	14,870	0	0
Ventilation heating: line 6/line 23	12.9	0.0	0.0
Space heating: line 7/line 23	20.1	0.0	0.0
Total: Σ(lines 24,25)	33.0	0.0	0.0

BOILER PLANT HEATING LOAD, Btu/h

Total heat for space heating units: Sum of line 10	353,980
Total heat for reheat coils in winter: Sum of line 14	45,277
Total heat for central heating coils: Sum of line 11	113,811
Heat for domestic hot water	
Total Plant Heating Load	513,068
Number of boilers, N	2
Redundancy R%= 2/3 or (N-1)/N	67%
One Boiler Output: Plant Heating Load x R%/(N-1)	342,046