



## Hot Water Plant Survey Form

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Facility Name:		Date:	
Location:		Engineer:	
Type of facility		Contact email:	
# of boiler plants		Contact Phone:	
# of buildings		Req'd payback:	_____ years

Load Profile Information	
Minimum heating load	_____ MBH
Maximum heating load	_____ MBH
Heating season length	_____ hours
Cost of gas	_____ \$/MCF
Cost of oil	_____ \$/gallon

Plant Delta T info (°F)	
Design $\Delta T$	_____
Actual $\Delta T$ : High	_____
Actual $\Delta T$ : Low	_____
Actual $\Delta T$ : Typical	_____

Boilers	# 1	# 2	# 3	# 4	# 5	# 6
<u>Condensing</u> or <u>Non-Condensing</u>						
Rating - MBH						
Rated flow - gpm						
Minimum flow - gpm						
Fan horsepower						
Age (yrs) / Condition						

HW Pump / Boiler Piping - check one	
Dedicated / one pump per boiler	<input type="checkbox"/>
Any pump can serve any boiler	<input type="checkbox"/>

Distribution Loop Configuration - check one	
CS pumps / 3 way valves	<input type="checkbox"/>
CS pumps / DP bypass valve	<input type="checkbox"/>
CS prim/VS second /2 way valves	<input type="checkbox"/>
VS primary only / 2 way valves	<input type="checkbox"/>

Known or Suspected Problems - check all that apply	
Max load near or above capacity	<input type="checkbox"/>
Boilers must be added for flow not heating	<input type="checkbox"/>
Possible thermal shock	<input type="checkbox"/>
Hard to get control system spares or support	<input type="checkbox"/>
Hard to get equipment spares or support	<input type="checkbox"/>
Other	<input type="checkbox"/>



## Hot Water Plant Load Profile

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### A. Load Profile from logged data

Tables A and B below contain excerpts from actual plant logs for a full cooling season.

Table A: excerpt from a sample data log								
Date/Time	OAT	flow	MCF	RT	ST	B-1	B-2	B-3
2/26-15:00	29	220	550	163	180	ON	ON	OFF
2/26-16:00	30	215	538	164	180	ON	ON	OFF
2/26-17:00	28	203	515	165	180	ON	ON	OFF
2/26-18:00	26	215	535	164	180	ON	ON	OFF
2/26-19:00	25	220	550	163	180	OFF	ON	OFF
2/26-20:00	23	230	575	161	180	OFF	ON	OFF
2/26-21:00	23	250	625	160	180	OFF	ON	OFF
2/26-22:00	23	270	675	158	180	OFF	ON	OFF
2/26-23:00	23	300	750	157	180	OFF	ON	OFF
2/27-0:00	23	325	803	155	180	ON	OFF	OFF
↓	↓	↓	↓	↓	↓	↓	↓	↓

B: annual load profile		
OAT	hours	MBH
65	10	1,200
60	100	39,300
55	150	115,600
50	200	231,100
45	350	570,000
35	450	770,100
30	500	1,039,800
25	600	1,845,300
20	550	1,465,200
↓	↓	↓

### B. Load Profile using estimated data

If logged data is not available, data can be estimated using either Table C or Table D.

Table C - Temperature BIN Method			
OAT - °F	Load (MBH)	hours	# of boilers
< 20			
20 - 24			
25 - 29			
30 - 34			
35 - 39			
40 - 44			
45 - 49			
50 - 54			
55 - 59			
60 - 64			
60+			

Table D – estimated % of season/capacity		
% of full capacity*	% of total season **	# of boilers
10%		
20%		
30%		
40%		
50%		
60%		
70%		
80%		
90%		
100%		

\* Full capacity (MBH): \_\_\_\_\_

\*\* Total season (hrs): \_\_\_\_\_