



ECO³ Performance Review

This Performance Review was arranged, managed and supervised by Energy Conservation Systems (ECS) to confirm the accuracy and Authenticity of the trial.

Pine Rivers Health Facility

Business Type:

Health Facility

Location:

Pine Rivers, QLD

A/C or Refrigeration:

Air Conditioning

Brand:

APAC

Evaluation period:

10 days

5 Days OFF & 5 Days ON (operational)

KEY RESULTS

KWh Reduction	4,207 kWh
Energy Saving	18.4%
Greenhouse Gas Reduction	4,727 kg

Client Information

Cost Per kWh	\$0.13	\$
AC Unit Capacity (Electrical KW)	12	Kw
Annual kWh Use	22,819	kWh
Hours Per day of AC operation	12	hrs
Days Per week of AC operation	5	days
Weeks Per Year of AC operation	52	weeks
Cost to operate AC per year (with no ESM)	\$2,966.46	\$
Cost to operate AC per year (with ESM)	\$2,419.55	\$
% of kWh Savings per year	18.4%	%
Savings Per Year (\$ average over 5 years)	\$668	\$
Total savings over 5 years (10% power cost increase per year)	\$3,339	\$

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Project cost	\$2,500
Return Of Investment and Payback periods	
Average Annual Savings	\$668
Total savings over 5 years (10% power cost increase per year)	\$3,339
ROI %v (when using average yearly savings)	27%
Payback period	Months 45

kWh Recorded Over Trial Period					
ESM OFF			ESM ON		
Total Amp Consumption	10,554	Amps	Total Amps Consumption	8,608	Amps
Total Consumption	506	kWh	Total Consumption	412	kWh
Fan Consumption	N/A	kWh	Fan Consumption	N/A	kWh
Compressor Consumption	506	kWh	Compressor Consumption	412	kWh
Weekly Consumption	506	kWh	Weekly Consumption	412	kWh

Projected Annual Consumption and Savings		
Projected Annual Consumption (NO ESM)	22,819	kWh (incorporating seasonal load factors)
Projected Annual Consumption (with ESM)	18,612	kWh (incorporating seasonal load factors)
Projected Annual Savings	4,207	kWh (incorporating seasonal load factors)
Projected kVa Savings	\$0	
SAVINGS	18.4%	
1st Year Projected Annual	\$547	Savings incorporate a 10% cost in electricity yearly
2nd Year Projected Annual Savings	\$602	
3rd Year Projected Annual Savings	\$662	
4th Year Projected Annual Savings	\$728	
5th Year Projected Annual Savings	\$801	
Average Annual Savings	\$668	over 5 years
Average Monthly savings	\$56	over 5 years
Total 5 year Projected Savings	\$3,339	

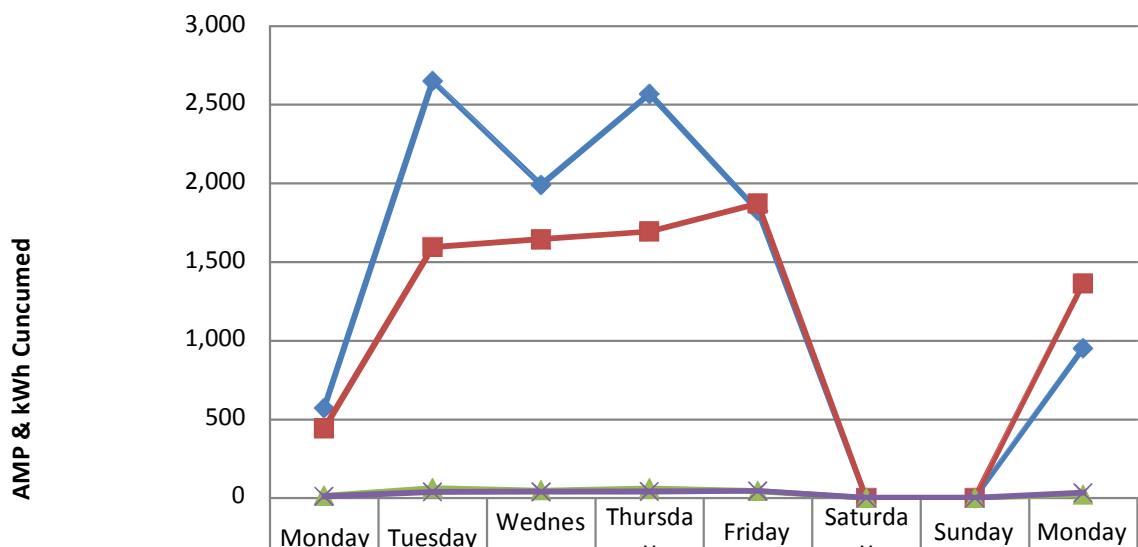
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Environmental Impact Projections		
kWh reduction Per Year	4,207	kWh
Total Greenhouse gas reduction per year	4,727	Kg
Saving CO2 Contributions to global warming	n/a	Kg
Saving SO2 Contributions to global warming	n/a	Kg
Saving NO2 Major contributor to smog	n/a	Kg
Savings Particulate pollution (Solids, Soot, Etc..)	n/a	Kg
Energy saved is Equivalent To Planting X number of trees per year	33.1	Trees
Energy saved is Equivalent amount of power to power x number of houses per year per year	1	Houses

Power Consumption Trial Period							
NO ESM				WITH ESM			
	DATE	AMPS	kWh		DATE	AMPS	kWh
day 1	28/02/2011	572	14	day 1	7/03/2011	443	11
day 2	1/03/2011	2,650	63	day 2	8/03/2011	1,594	38
day 3	2/03/2011	1,990	48	day 3	9/03/2011	1,644	39
day 4	3/03/2011	2,567	62	day 4	10/03/2011	1,694	41
day 5	4/03/2011	1,824	44	day 5	11/03/2011	1,871	45
day 6	5/03/2011	0	0	day 6	12/03/2011	0	0
day 7	6/03/2011	0	0	day 7	13/03/2011	0	0
day 8	7/03/2011	951	23	day 8	14/03/2011	1,363	33
AVERAGE		1,759	51	AVERAGE		1,435	41

Daily Power Consumption

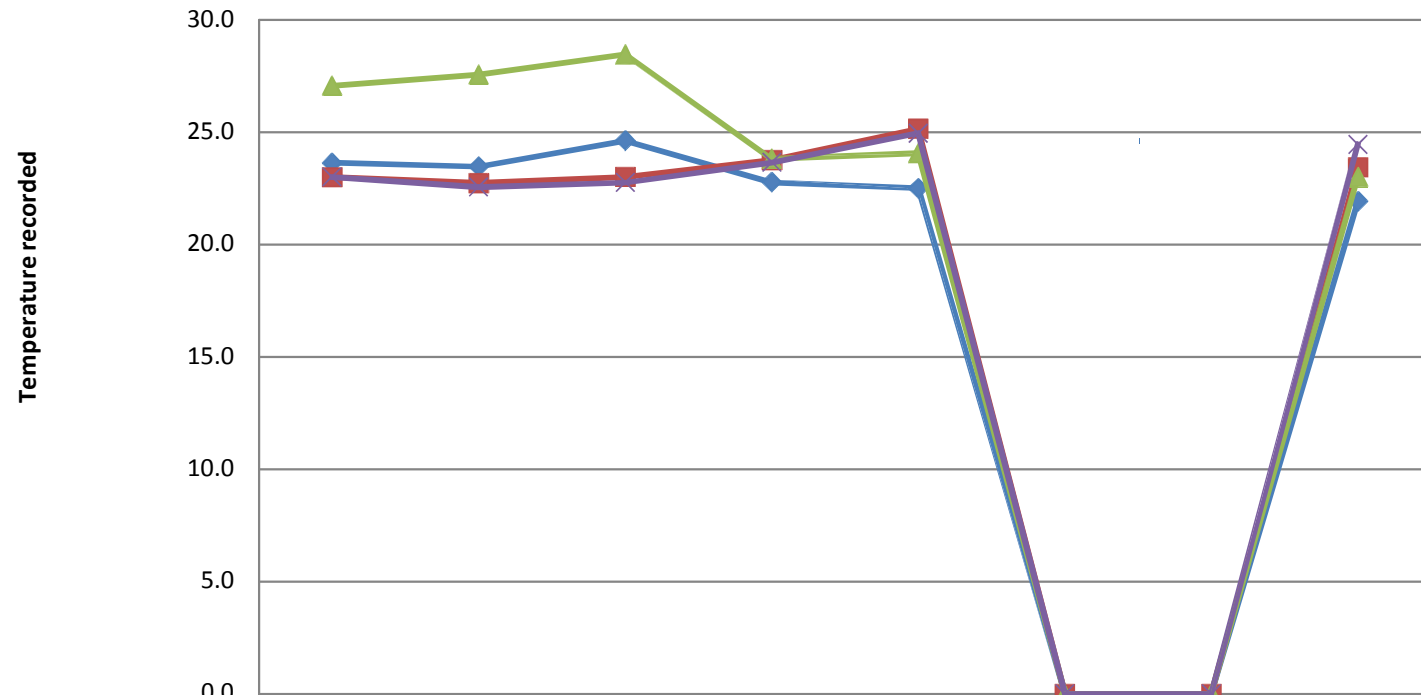


amp consumption no eco3	572	2,650	1,990	2,567	1,824	0	0	951
amp consumption with eco3	443	1,594	1,644	1,694	1,871	0	0	1,363
kWh consumption no ECO3	14	63	48	62	44	0	0	23
kWh consumption with ECO3	11	38	39	41	45	0	0	33

Return Air Temperature Trial Period					
NO ESM			WITH ESM		
	DATE	TEMP		DATE	TEMP
day 1	28/02/2011	23.6	day 1	7/03/2011	23.0
day 2	1/03/2011	23.5	day 2	8/03/2011	22.7
day 3	2/03/2011	24.6	day 3	9/03/2011	23.0
day 4	3/03/2011	22.8	day 4	10/03/2011	23.8
day 5	4/03/2011	22.5	day 5	11/03/2011	25.1
day 6	5/03/2011	0.0	day 6	12/03/2011	0.0
day 7	6/03/2011	0.0	day 7	13/03/2011	0.0
day 8	7/03/2011	21.9	day 8	14/03/2011	23.4
AVERAGE		23.1	AVERAGE		23.5

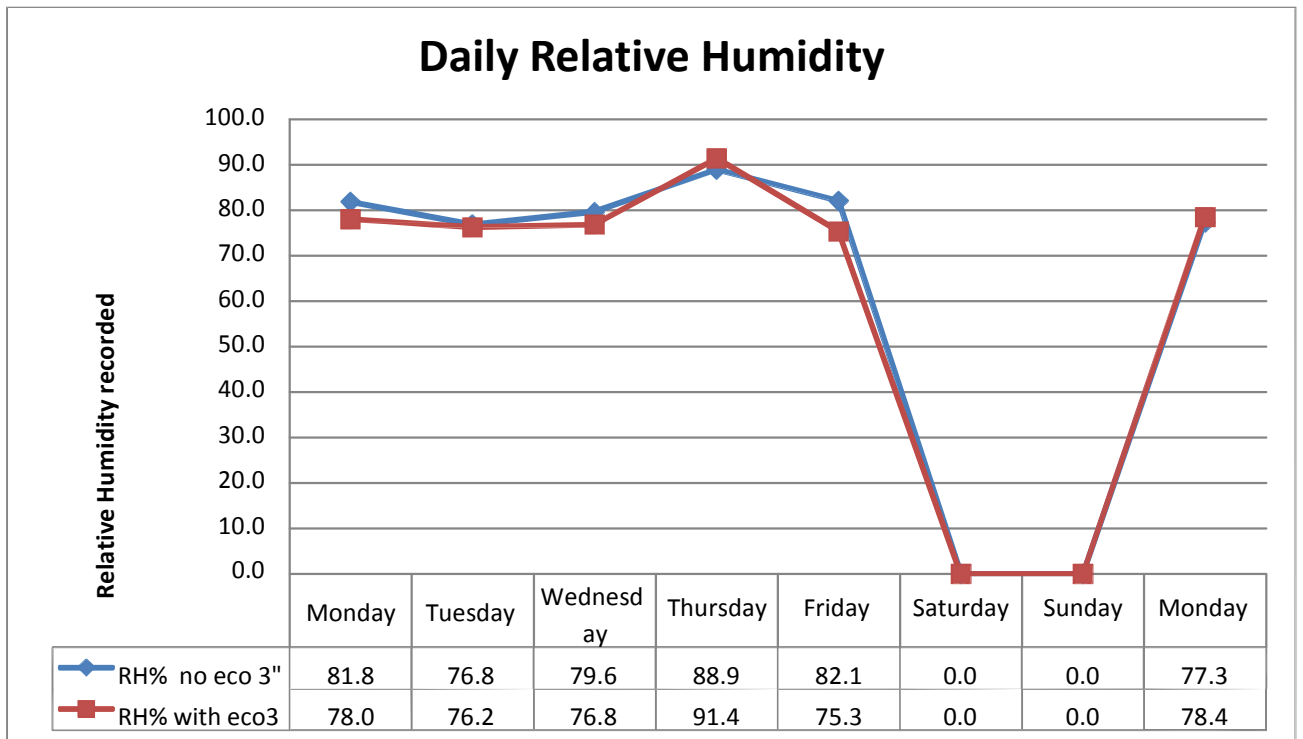
Ambient Air Temperature Trial Period									
NO ESM					WITH ESM				
	DATE	MIN	MAX	AVERAGE		DATE	MIN	MAX	AVERAGE
day 1	28/02/2011	22.1	32.0	27.1	day 1	7/03/2011	18.5	27.5	23.0
day 2	1/03/2011	21.9	33.2	27.6	day 2	8/03/2011	18.1	27.0	22.6
day 3	2/03/2011	23.8	33.1	28.5	day 3	9/03/2011	18.4	27.1	22.8
day 4	3/03/2011	22.6	25.0	23.8	day 4	10/03/2011	19.7	27.6	23.7
day 5	4/03/2011	21.1	27.0	24.1	day 5	11/03/2011	20.7	29.2	25.0
day 6	5/03/2011	0.0	0.0	0.0	day 6	12/03/2011	0.0	0.0	0.0
day 7	6/03/2011	0.0	0.0	0.0	day 7	13/03/2011	0.0	0.0	0.0
day 8	7/03/2011	18.5	27.5	23.0	day 8	14/03/2011	19.8	29.1	24.5
AVERAGE				25.7	AVERAGE				23.6

Daily temperature Air On & Ambient



	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday
air on the coil temperature no eco3	23.6	23.5	24.6	22.8	22.5	0.0	0.0	21.9
air on the coil temperature with eco3	23.0	22.7	23.0	23.8	25.1	0.0	0.0	23.4
Ambiant temp NO ECO3	27.1	27.6	28.5	23.8	24.1	0.0	0.0	23.0
Ambiant Temp With ECO3	23.0	22.6	22.8	23.7	25.0	0.0	0.0	24.5

RELATIVE HUMIDITY TRIAL PERIOD					
NO ESM			WITH ESM		
	DATE	AVERAGE RH		DATE	AVERAGE RH
day 1	28/02/2011	81.8	day 1	7/03/2011	78.0
day 2	1/03/2011	76.8	day 2	8/03/2011	76.2
day 3	2/03/2011	79.6	day 3	9/03/2011	76.8
day 4	3/03/2011	88.9	day 4	10/03/2011	91.4
day 5	4/03/2011	82.1	day 5	11/03/2011	75.3
day 6	5/03/2011	0.0	day 6	12/03/2011	0.0
day 7	6/03/2011	0.0	day 7	13/03/2011	0.0
day 8	7/03/2011	77.3	day 8	14/03/2011	78.4
AVERAGE		81.1	AVERAGE		79.4

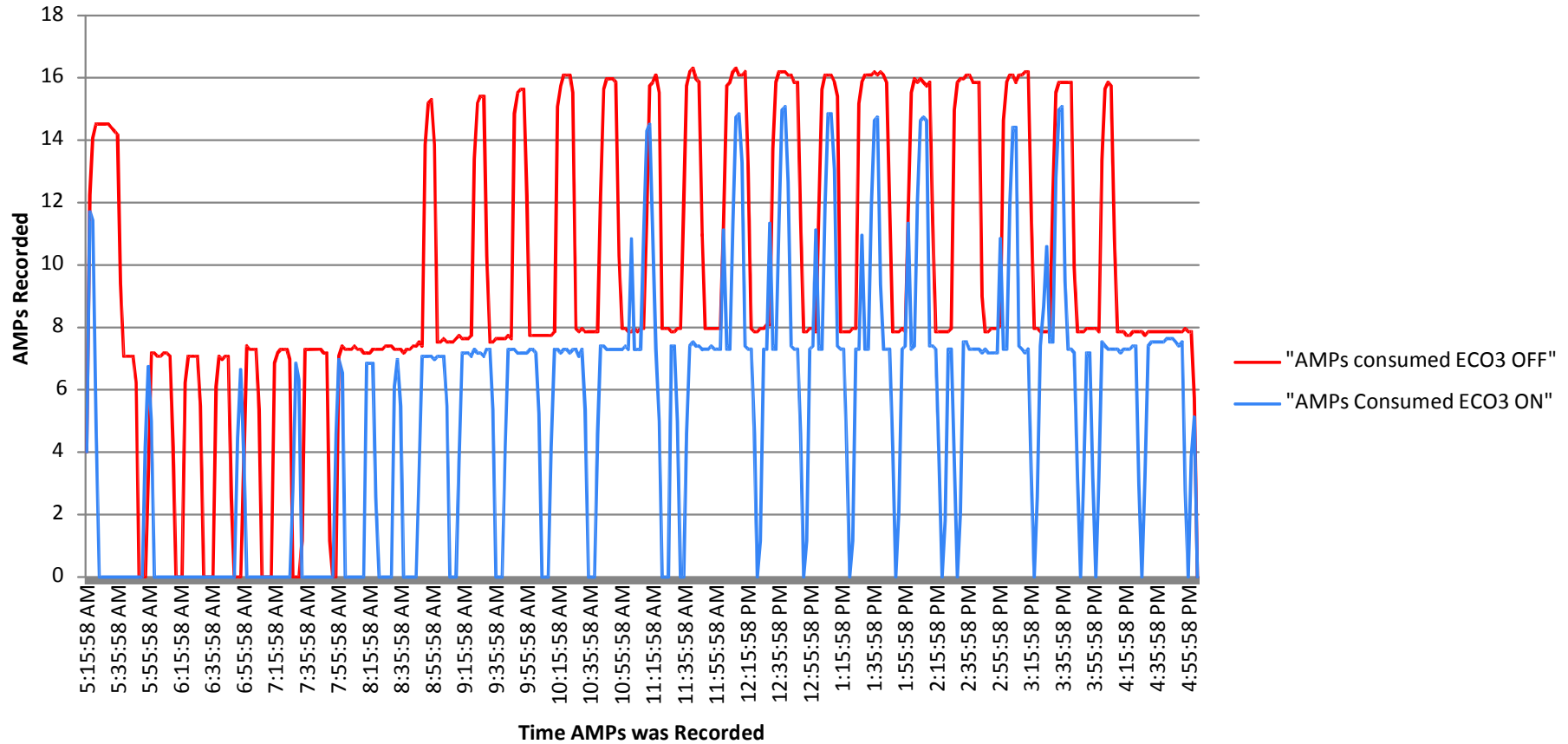




ONE DAY COMPARRISON EQUIVALENT DAYS

THE FOLLOWING GRAPHS ARE OF 2 SELECTED DAYS 3 March 2011 and 10 March 2011 WITH EQUIVALENT AMBIENT CONDITIONS TO OBTAIN A MORE REALISTIC COMPARRISON OF THE SMARTCOOL ECO3 TO SAVE ENERGY

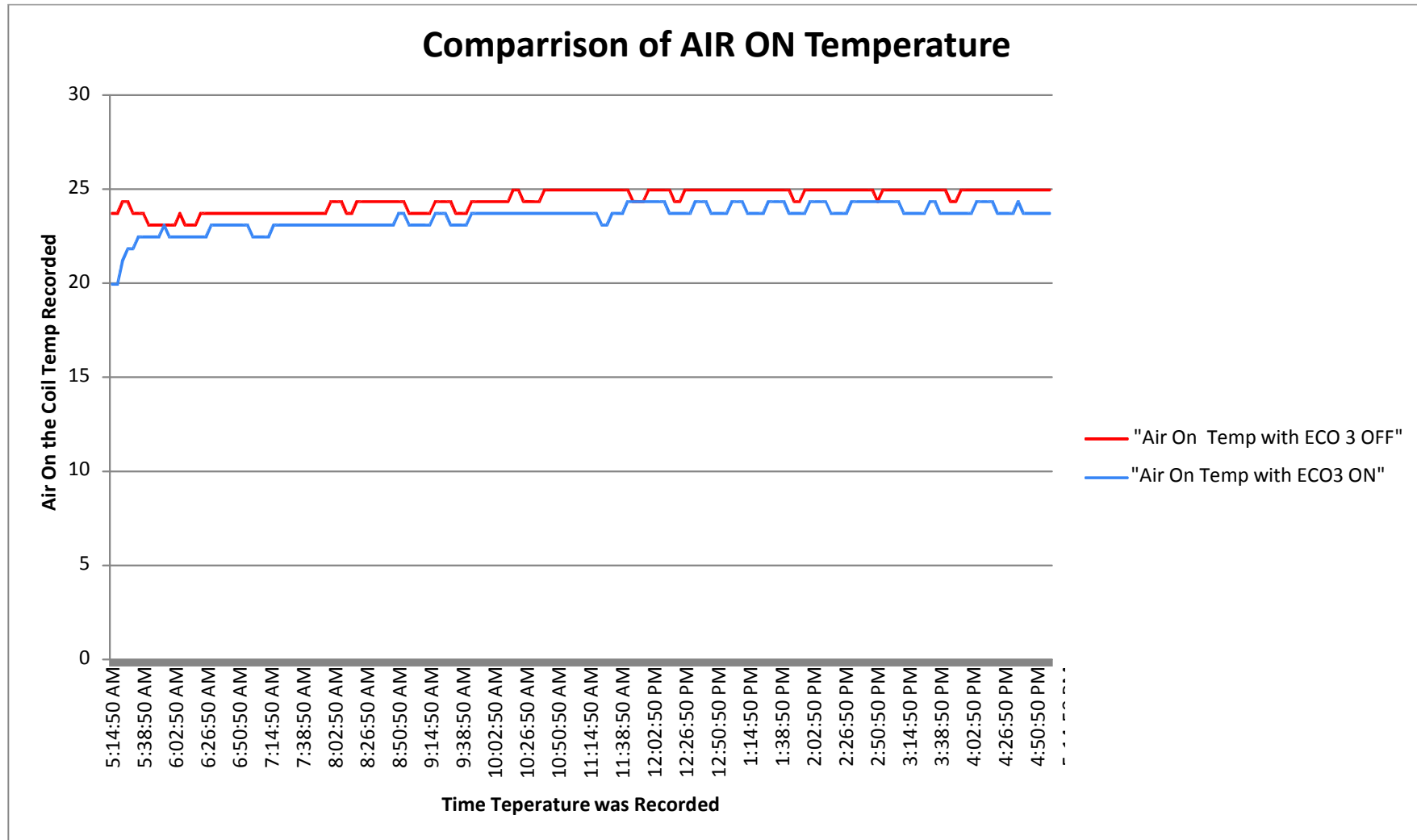
Comparison of AMP Consumption



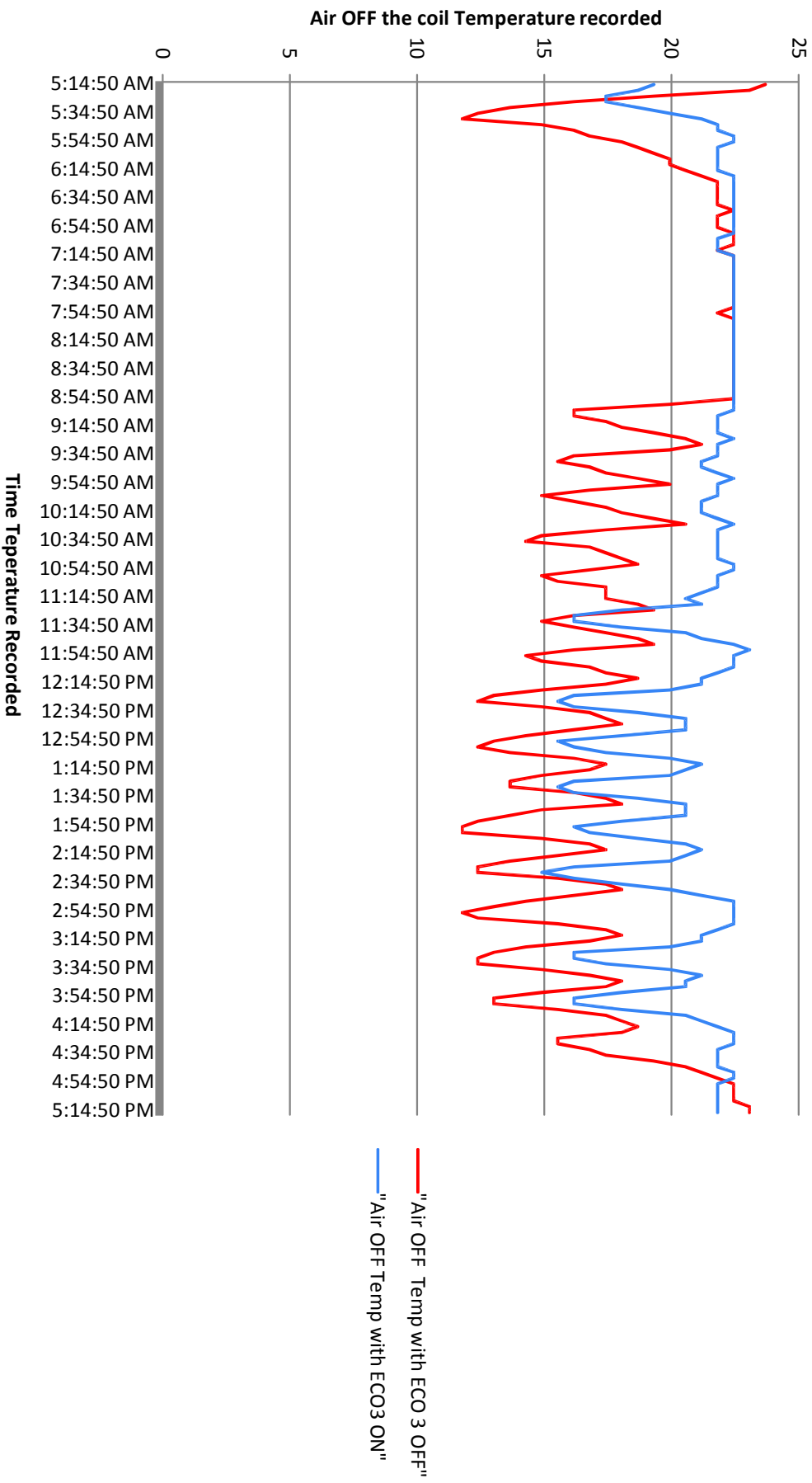
3 March 2011 – Total Amps 2,567, Total kWh 62.0

10 March 2011 – Total Amps 1,694, Total kWh 41.0

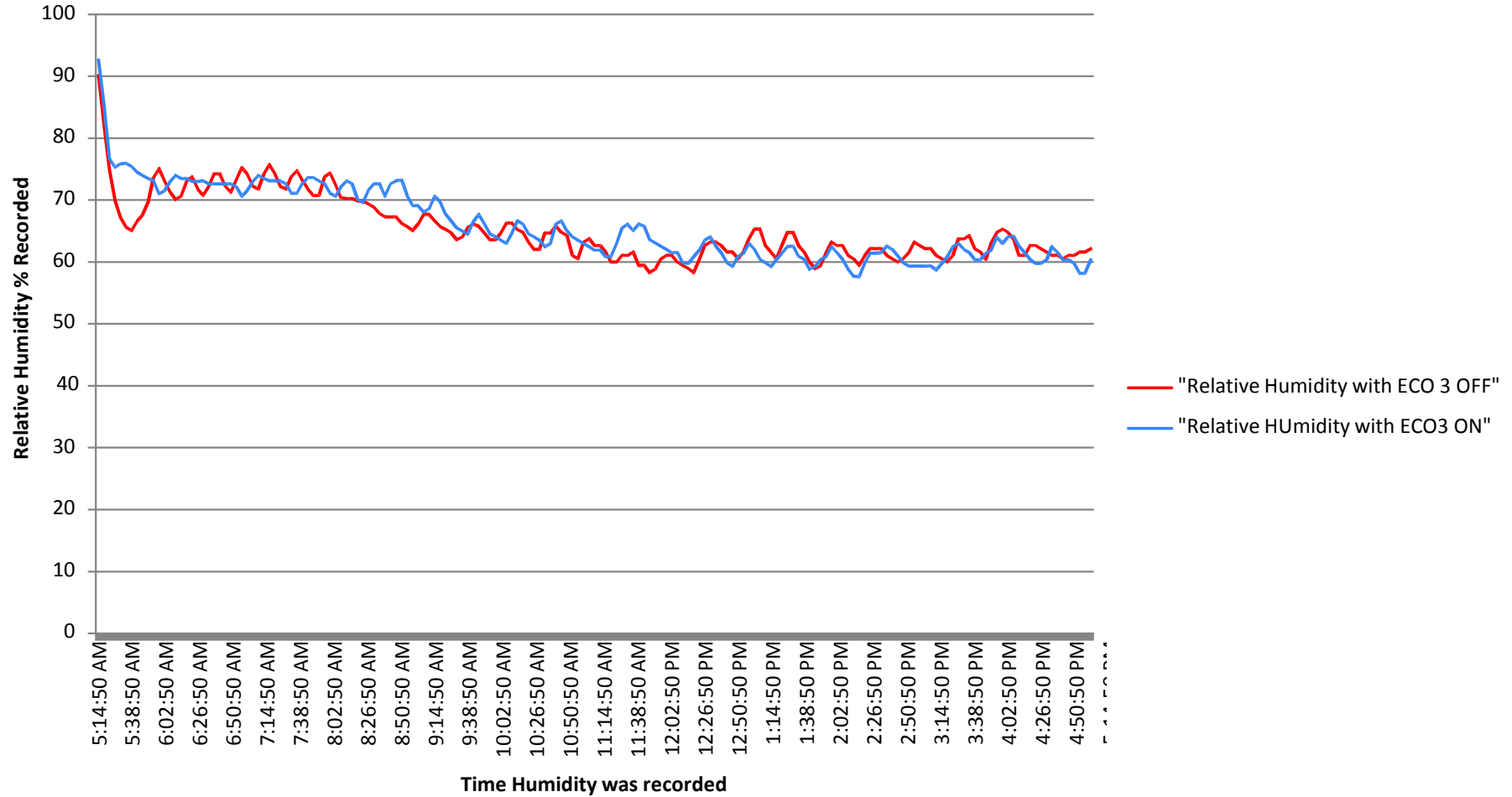
Comparison of AIR ON Temperature



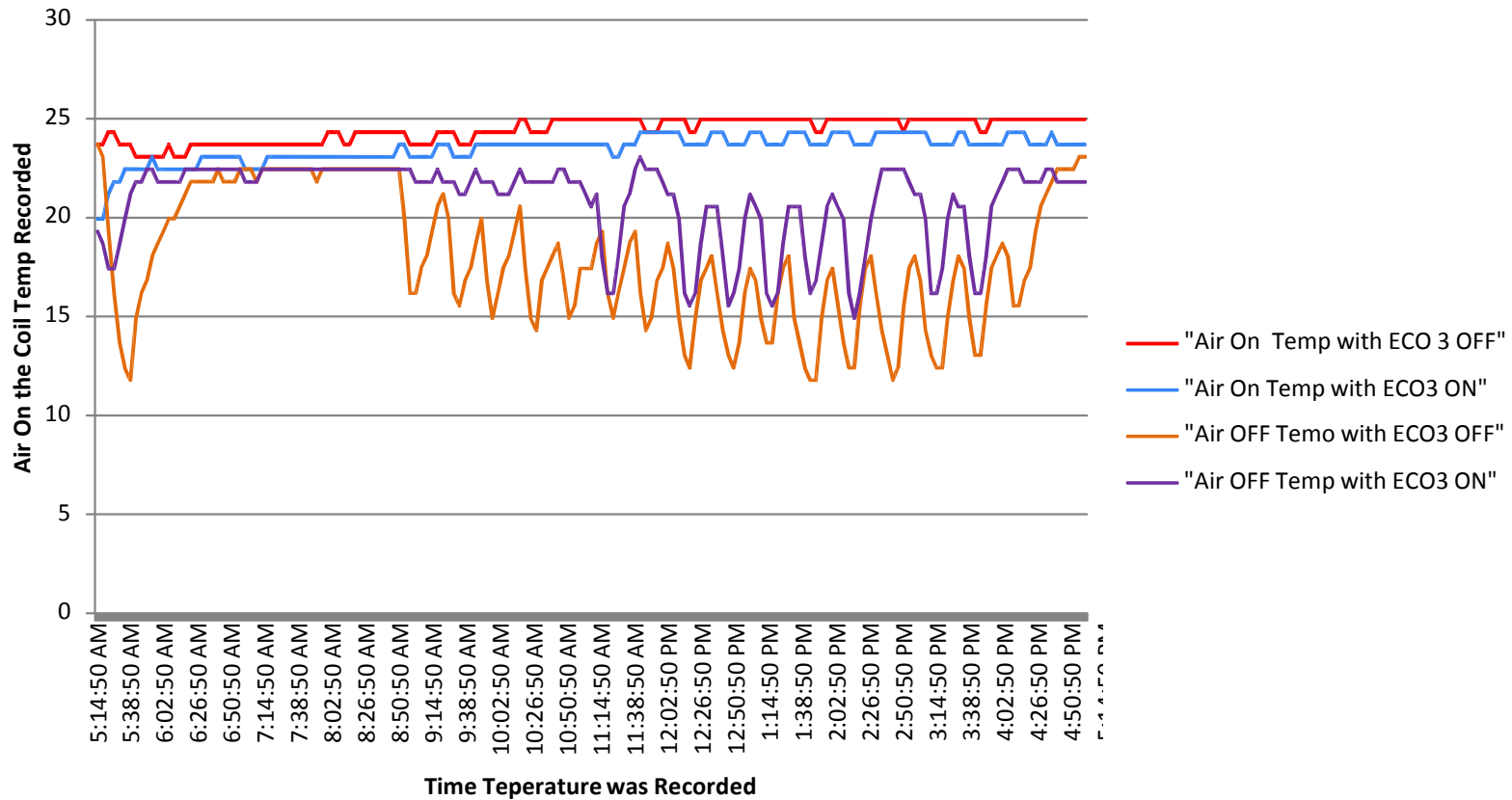
Comparison of AIR OFF Temperature



Comparrison of Relative Humidity



Comparrison of AIR ON & AIR OFF Temperature



Comparison of AIR ON & AIR OFF Temperature with humidity

