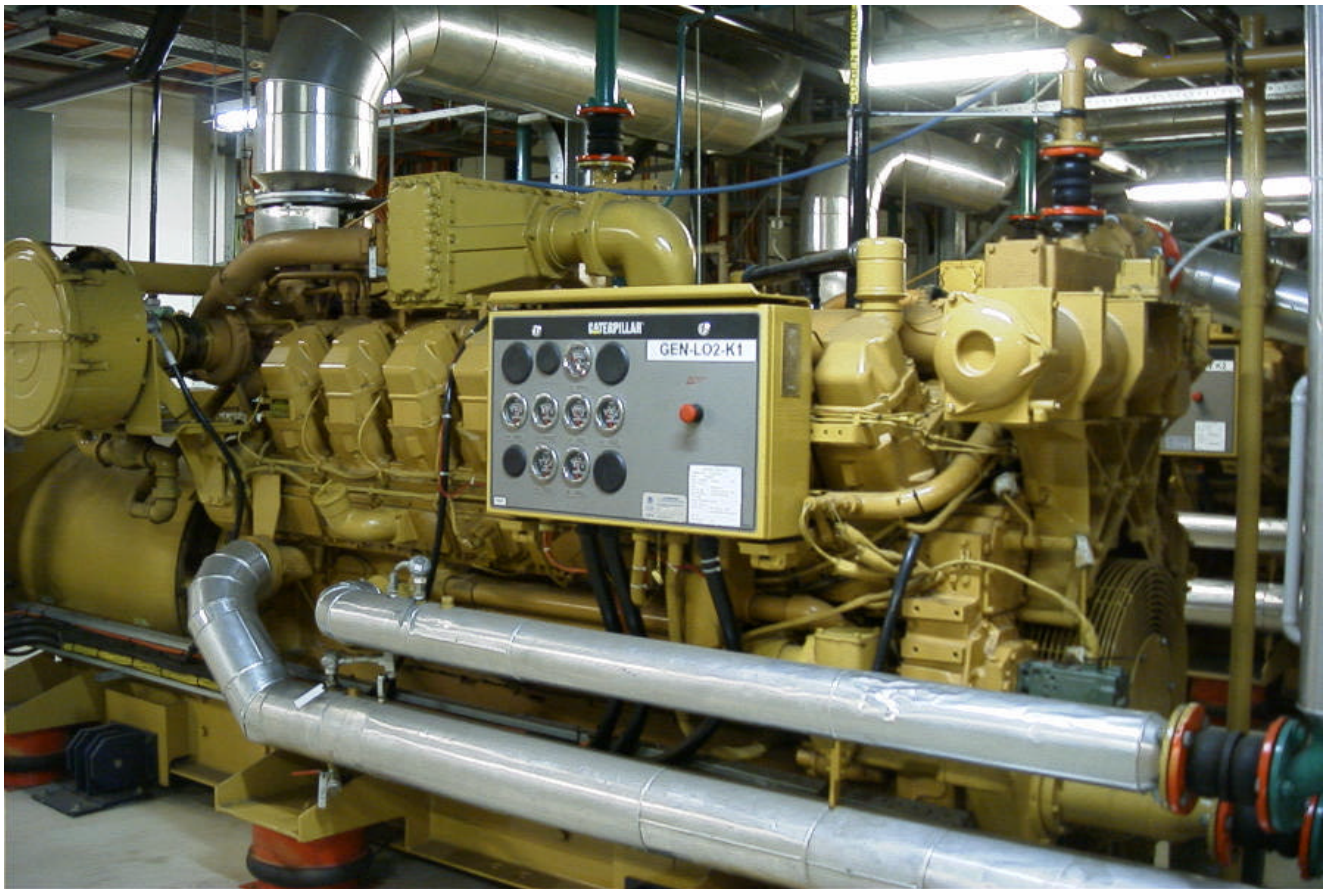


# ***Co Generation System***

Monthly Report for July 2002



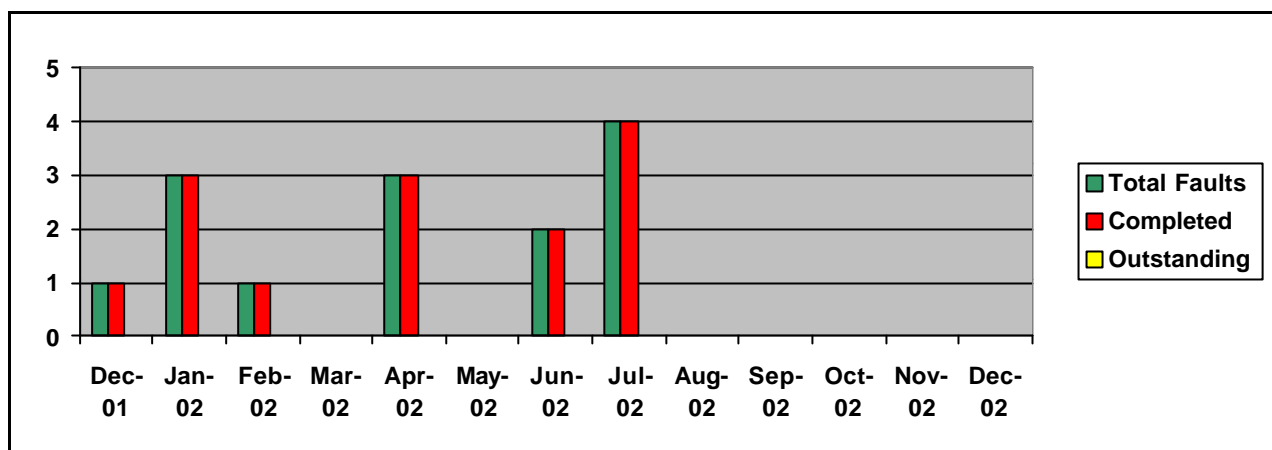
**Systems Insight**  
TAILORED CONTROL SOLUTIONS

# Maintenance Report Index

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	Page No.
Fault Report	3
Fault Cost Report	4
Fault History Record	5
Maintenance Report	7
Maintenance Cost Report	8
Units operating Hours	9
Service Interval Report	11
General Items and Issues	12
Parts Life Coverage	13

# Fault Report



	Critical Less than 4Hrs	Urgent Less than 24Hrs	High 1 week	Medium During next visit	Low As agreed	Total
Priority	1	2	3	4	5	N/A
Quantity	1	1	2	0	0	4

## Fault Details Previous outstanding faults - 0

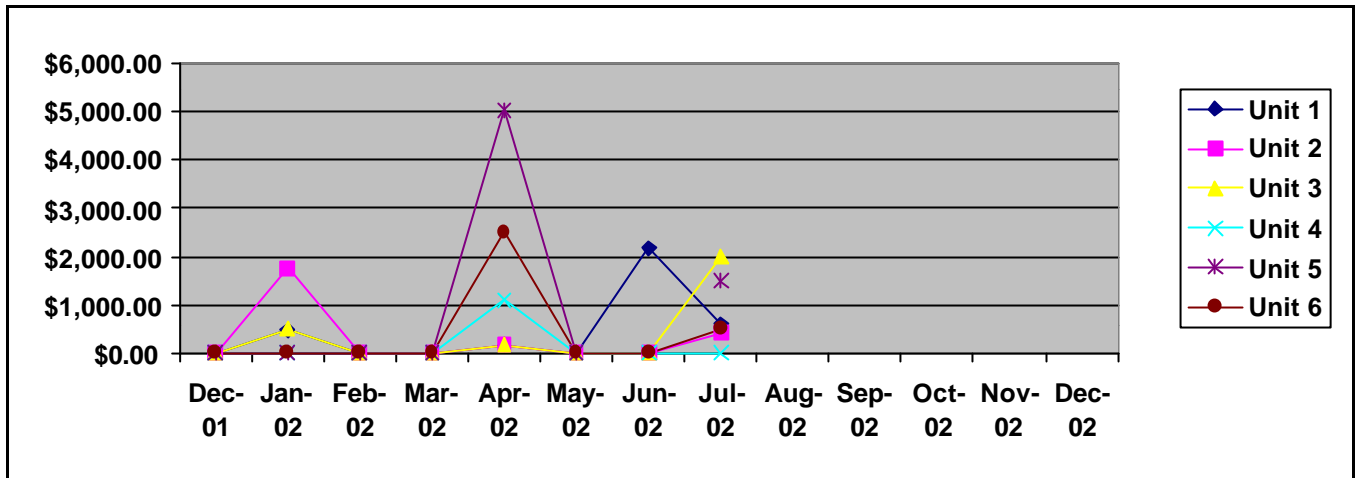
Work Order	Job Description	Priority	Status	Comp Date

## New Fault for July

Work Order	Job Description	Priority	Status	Comp Date
2156	Carried out vibration tests Planned to be done during service	5	Completed	18/7/02
2201	Unit 1 Alternator heater Planned repair during service	5	Completed	18/7/02
2203	Unit 2 Coolant heater	2	Completed	18/7/02
2211	Unit 3 Ignition Wiring Harness	3	Completed	26/7/02
2214	Unit 5 Coolant Thermostats and heater hoses	2	Completed	19/7/02
2218	Unit 5 Detonation sensor	2	Completed	19/7/02

# Fault Cost Report

The total cost to carry out fault repairs in July was \$ 8,000.00 (ex GST)



## Fault Cost Details

Work Order	Fault Description	Resolution	Cost (ex GST)
2156	Carried out vibration tests (All Units)	Filed	1,000.00
2201	Unit 1 Alternator heater	Replaced with new part	600.00
2203	Unit 2 Coolant Heater wiring	Replaced wiring	400.00
2211	Unit 3 Ignition Wiring Harness	Repair	2,000.00
2214	Unit 5 Coolant Thermostats and heater hoses	Replaced with new parts	1,500.00
2318	Unit 5 Detonation sensor	Recalibrate / test	500.00

# Fault History Record Report

---

## Unit 1

Downtime Faults	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Years Total
Engine						1	2						3
Alternator				1			1N						2
Heat Recovery Controls	1												1
Others													
By Others						1N							1
Non – Downtime													
												<b>Years Total</b>	7

## Unit 2

Downtime Faults	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Years Total
Engine	1						1						2
Alternator				1									1
Heat Recovery Controls													
Others													
By Others													
Non – Downtime													
												<b>Years Total</b>	3

## Unit 3

Downtime Faults	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Years Total
Engine													
Alternator				1									1
Heat Recovery Controls													
Others	1												1
By Others													
Non – Downtime													
												<b>Years Total</b>	2

# Fault History Record Report cont'd

## Unit 4

Downtime Faults	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Years Total
Engine							1						1
Alternator				1									1
Heat Recovery		1											1
Controls													
Others													
By Others													
Non – Downtime													
<b>Years Total</b>													3

## Unit 5

Downtime Faults	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Years Total
Engine				1			1						2
Alternator				1									1
Heat Recovery													
Controls													
Others													
By Others													
Non – Downtime													
<b>Years Total</b>													3

## Unit 6

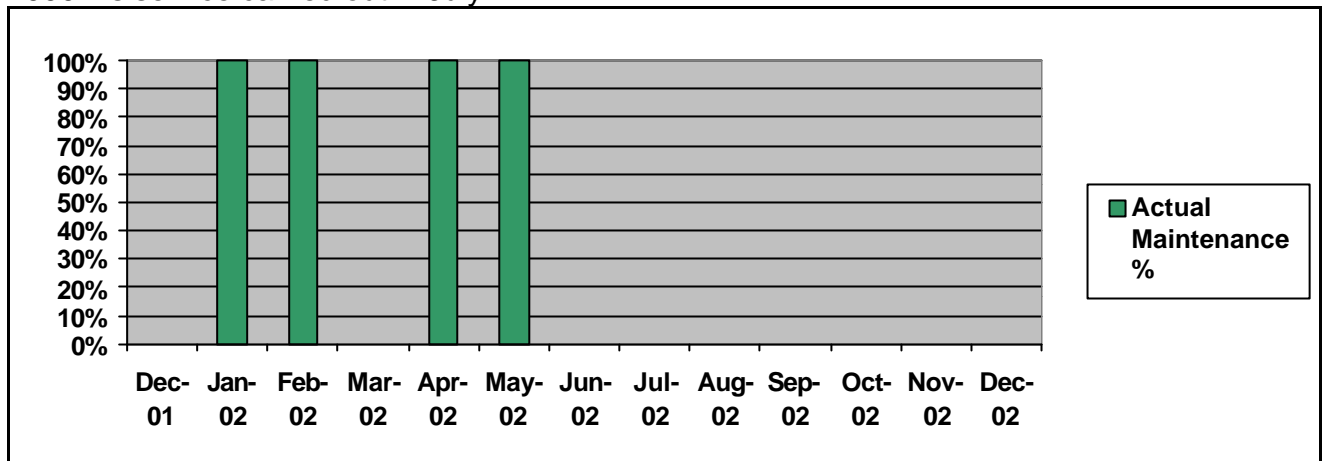
Downtime Faults	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Years Total
Engine				1			4						5
Alternator				1									1
Heat Recovery				1N									1
Controls													
Others													
By Others													
Non – Downtime													
<b>Years Total</b>													6

**N = Non-Downtime fault (Done in-conjunction with another fault or at time of service).**

# Maintenance Report

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1000Hrs service carried out in July.



## Service plan for August

- 500 Service Point

## Service plan for September

- Nil

## Service plan to January 2003 forecast

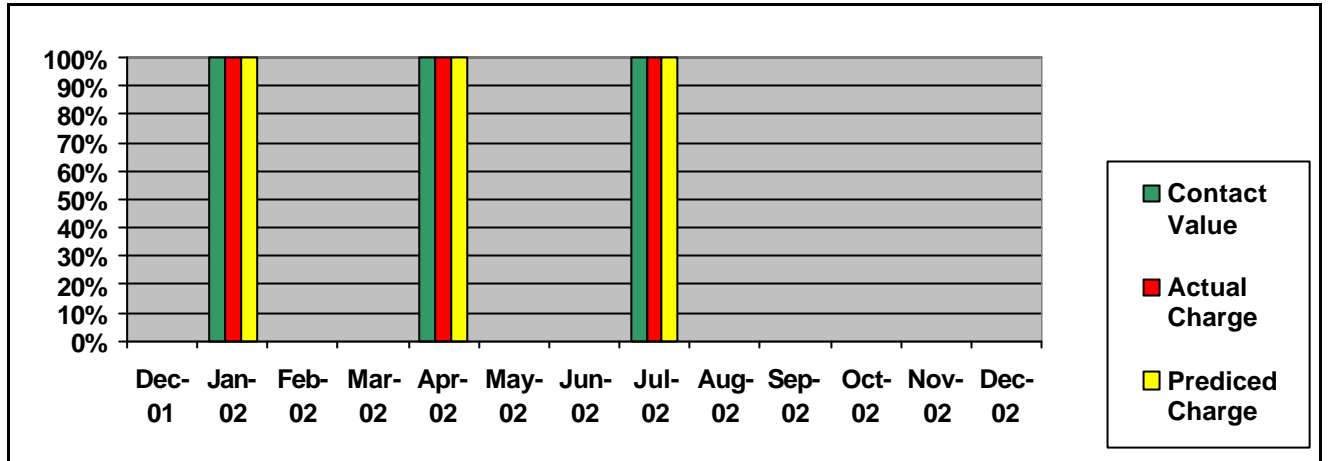
- Top End O/Hauls.

## Service Items to be included in next service contact

# Maintenance Cost Report

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Based on service contract values and 80Hrs operation per week for 12 months



- July 1000 Hrs Service Interval complete

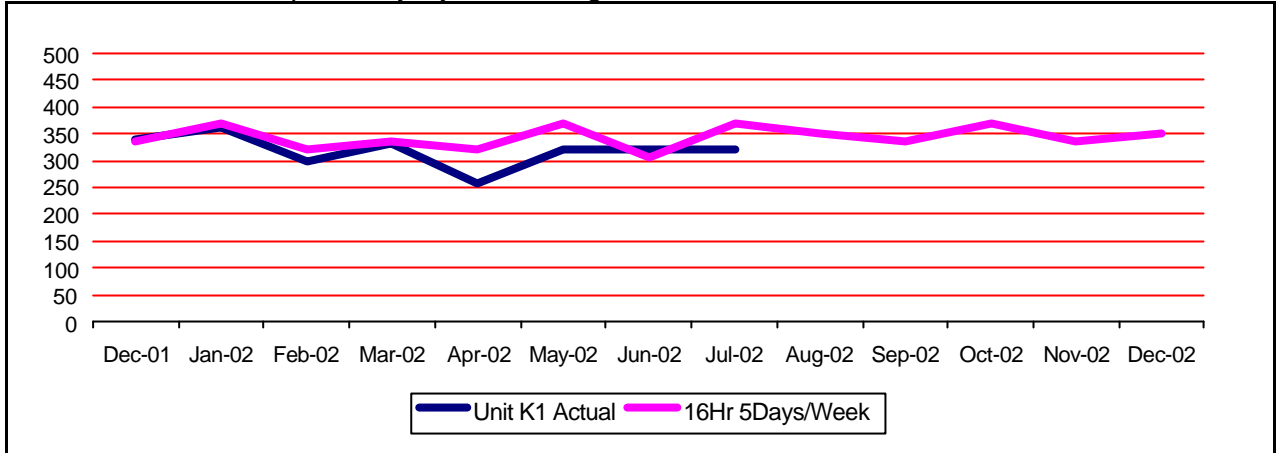
\* Works rescheduled.

# Unit Operating Hours Meter Reading

## Unit 1 – Current Hours 14,009 on 31/7/02

Downtime due to service works by Systems Insight for this month = 12 Hrs

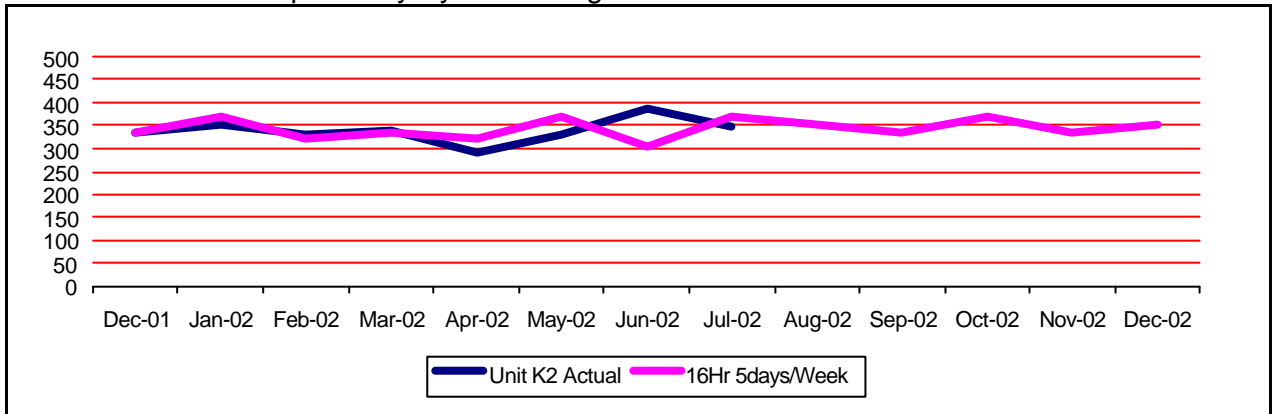
Downtime for faults repaired by Systems Insight for this month = 4 Hrs



## Unit 2– Current Hours 14,003 on 31/7/02

Downtime due to service works by Systems Insight for this month = 10 Hrs

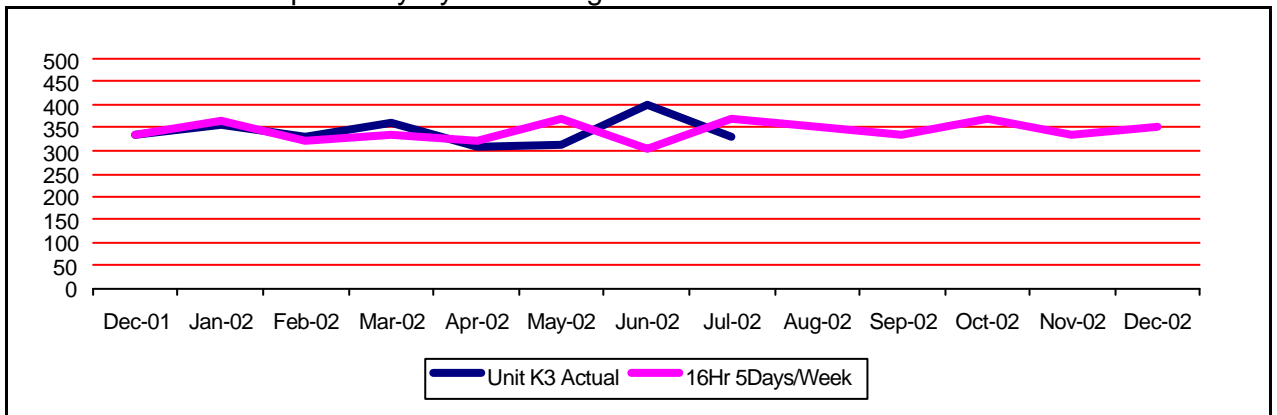
Downtime for faults repaired by Systems Insight for this month = 4 Hrs



## Unit 3 – Current Hours 14,042 on 31/7/02

Downtime due to service works by Systems Insight for this month = 10 Hrs

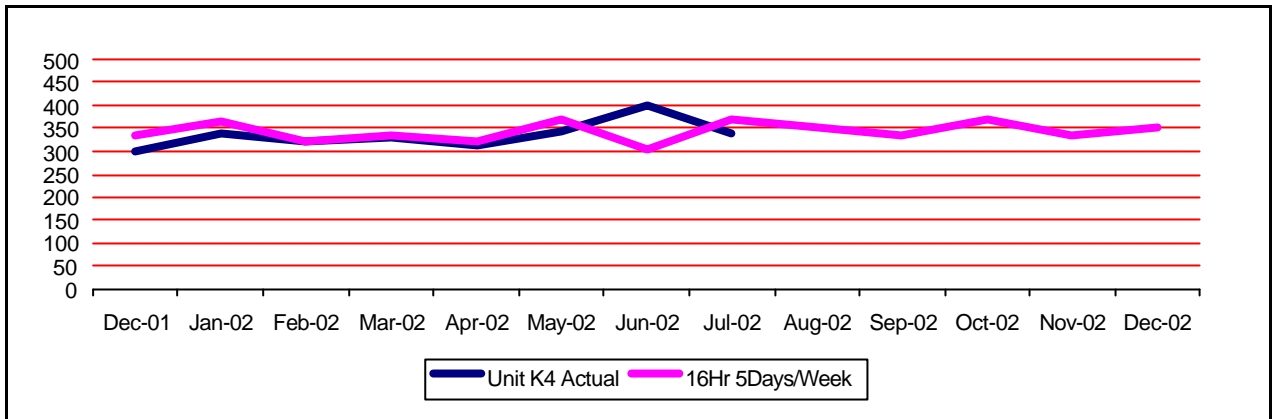
Downtime for faults repaired by Systems Insight for this month = 4 Hrs



**Unit 4 – Current Hours 14,347 on 31/7/02**

Downtime due to service works by Systems Insight for this month = 12 Hrs

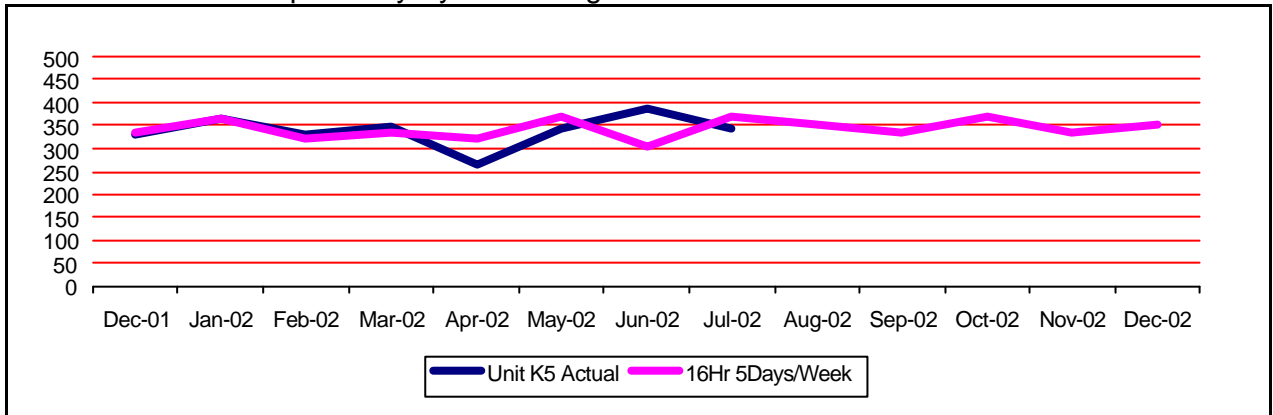
Downtime for faults repaired by Systems Insight for this month = 0 Hrs



**Unit 5 – Current Hours 14,192 on 31/7/02**

Downtime due to service works by Systems Insight for this month = 14 Hrs

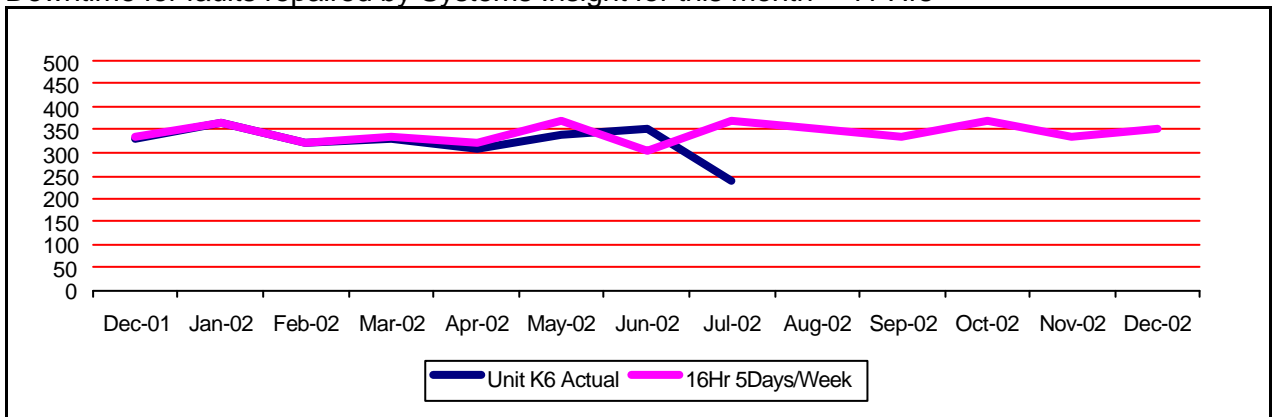
Downtime for faults repaired by Systems Insight for this month = 0 Hrs



**Unit 6 – Current Hours 14,101 on 31/7/02**

Downtime due to service works by Systems Insight for this month = 12 Hrs

Downtime for faults repaired by Systems Insight for this month = 41 Hrs



# Service Interval Reports

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Service works finding, observation and results.

- Note valve recession charts for each engine showing head / exhaust valve life approaching critical area where overhaul is required.

Our aim is to do Top End and Turbo's o/hauls at 16,000Hrs this will require early overhauls on some cylinders pending valve recession, site history and customer risk requirement.

## **Last 1000 hrs Service interval Findings – July 2002**

- Cooling system hoses require replacing, scheduled to be replace at 16000 hrs service intervals.
- Coolant requires replacing at 16000 service hours.
- Found oil leak on governor drive unit 4.

# General Items and Issues

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## New Works -

Work Order	Job Description	Priority	Status	Comp Date
2257	Replace Engine Coolant Flex's	5	Awaiting supplier	Completed 18/7/02
2401	Recondition single cylinder head unit 5	5	July 1000 Service	Completed 18/7/02
2402	Repairs to SCADA software	5		Completed 18/7/02
2403	Upgrade to Unit K4	5		

## Note.

- TBA

## Safety issues

Nil

## Staff Issues

Nil

## Issues awaiting advice from Client

# Parts Life Coverage

Parts Life Coverage is offered by Systems Insight on items of equipment where failures occur more than once in 12 months or the service life periods for equipment are not available to allow for planned scheduled maintenance.

The following part life coverage of equipment on this list would continue until the coverage period ends or work is carried out by others that may effect this coverage period or the Cogeneration Maintenance is not by Systems Insight.

Unit No.	Job Description & "T" Number	Coverage Period	Start	Coverage No.	Comments
6	Alternator Space Heater	10,000Hrs/24 Months	12/4/02 – 11,860Hrs	010	
1	JWP Shaft Seal	5000Hrs/12 Months	28/6/01 – 8035Hrs	002	Expired
4	Alternator Space Heater	10,000Hrs/24 Months	12/4/02 – 11,960Hrs	011	
3	Alternator Space Heater	10,000Hrs/24 Months	6/7/01 – 8958Hrs	004	
6	Exhaust Diverter Actuator	10,000Hrs/24 Months	28/9/01 – 9797Hrs	005	
5	Engine Ignition Flywheel Sensor	5000Hrs/12 Months	12/9/01 – 9571Hrs	006	
4	Engine Thermostats	5000Hrs/12 Months	18/07/02– 13,287Hrs	015	Replaced under this warranty
2	Engine Thermostats	5000Hrs/12 Months	3/1/02 – 11057Hrs	008	
5	Cylinder Head No. 10 Unit 5	5000Hrs/12 Months	8/4/02 – 11807Hrs	009	
5	Alternator Space Heater	10,000Hrs/24 Months	12/4/02 – 11,857Hrs	012	
5	Cylinder Head No. 7 Unit 5	5000Hrs/12 Months	8/7/02 – 12,897Hrs	013	
1	Alternator Space Heater	10,000Hrs/24 Months	2/7/02 – 12,045Hrs	014	
3	Engine Thermostats	5000Hrs/12 Months	16/7/02- 12,917Hrs	015	
1	LHS Front Air Bag	10,000Hrs/24 Months	2/7/02 – 12,045Hrs	016	

Coverage period ends when either the hours or date is exceeded.