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**ENGINEERING REPORT**

KOE 2 0907 A

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**V-Services FINAL REPORT (Part 1&2)**  
**Leak Detection on Unit 2 Conventional Island**

**ESKOM**  
**KOEBERG NUCLEAR POWER STATION**  
**2 x 965 MW**

DATE	NOM <i>Name</i>	SIGNATURE		M.M.C  <a href="http://www.mmc-controle.fr">www.mmc-controle.fr</a>
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V-Services Final Report (Part 1&2)  
**KOEBERG NUCLEAR POWER STATION – Unit 2**

KOE 2 0907 A (URS)

**CONTENT**

<b>1</b>	<b><u>EXECUTIVE SUMMARY</u></b> .....	<b>2</b>
1.1	STUDY PURPOSE .....	2
1.2	MAIN RESULTS .....	2
1.3	RECOMMENDATIONS.....	2
<b>2</b>	<b><u>INTRODUCTION</u></b> .....	<b>3</b>
2.1	POWER STATION DESCRIPTION.....	3
2.2	SURVEY .....	4
<b>3</b>	<b><u>RESULTS AND COMMENTS</u></b> .....	<b>5</b>
3.1	LEAKAGE ASSESSMENT .....	5
3.2	LOSSES SUMMARY TABLE.....	6



# V-Services Final Report (Part 1&2)

## KOEBERG NUCLEAR POWER STATION – Unit 2

KOE 2 0907 A (URS)

### 1 EXECUTIVE SUMMARY

#### 1.1 STUDY PURPOSE

This report contains analysis of the leak detection survey performed in Unit 2 of KOEBERG Power Station from July 6<sup>th</sup> to July 10<sup>th</sup>, 2009.

The main objectives of the study on KOEBERG Power Station were:

- To identify problems of the critical valves and associated systems and their root.

#### 1.2 MAIN RESULTS

49 valves were found leaking out of 89 valves controlled (refer to page 27).

17 Valves have a Large or a Medium Leak → need to be repaired,  
32 Valves have a Small Leak → need to continue monitoring,  
40 Valves are Tight.

The maintenance in so far as valves are concerned is correct but a bit "heavy" : valves are systematically overhauled according to a planned programme which implies that not leaking valves may be overhauled whereas leaking valves may also not be repaired.

Anyway because of OPS refusal some tests could not be performed such as tests requiring pumps change-over (e.g. CEX and ATE).

Hence 38 valves could not be tested (refer to page 30 ).

The most significant valve problems concern 3 applications:

- Drain valves to drain flash tank 02 AHP 003 BA and to condenser,
- Steam traps ,
- Turbine bypass valves ,

A decrease of pressure test on GCT Valves to condenser was planned on 31<sup>st</sup> August, but the Unit trip on 28<sup>th</sup> August 09. So the efficiency study will not include the Leak Rate on the GCT Valves, instead of a quantification MMC has proposed an estimation of the leak rate on GCT valves using his feedback on similar units and using the signatures taken during the online survey but it has been refused by the nuclear power plant.

#### 1.3 RECOMMENDATIONS

- Develop predictive maintenance in so far as valves are concerned. This can be done in several surveys and tools:
  - 1- **Survey before outage**, consisting in acoustic measurements to identify the leaking valves (especially normally closed valves) to be overhauled during Outage. The survey shall be performed about 2/3 months before the outage in order to allow the proper preparation of works (order of spare parts, preparation of schedule of works...). The valves to be tested are only the critical valves (including especially the Turbine bypass valves GCT). The following outage will therefore be prepared in accordance with survey results.
  - 2- **Actuator & accessories analysis before repair during outage**, consisting in dynamic analysis (e.g. FlowScanner™) of pneumatic actuators in order to set valves for optimal performance. It may also validate acoustic measurements performed during pre-outage survey.
  - 3- **Repair of leaking valves**, consisting mainly in lapping operation, replacement of spare parts. The purpose of predictive maintenance is to eliminate on one hand heavy operations (such like valve replacement or too many replacement of spare parts) and on the other hand to avoid useless operations on non-leaking valves
  - 4- **Measurement and final setting during unit start-up**, consisting in acoustic measurements on the repaired valves. Hence an adjustment of pneumatic actuator setting may be carried out if necessary.
- Steam trap maintenance policy should be reviewed. Predictive maintenance should be carried out.



# V-Services Final Report (Part 1&2) KOEBERG NUCLEAR POWER STATION – Unit 2

KOE 2 0907 A (URS)

## 2 INTRODUCTION

### 2.1 POWER STATION DESCRIPTION

The plant is a 2 x 965 MW (gross output) Nuclear Power Station located near Cape Town, Republic of South Africa. The unit concerned by survey (Unit 1) was commissioned in 1984 and is of ALSTOM type in so far as conventional part is concerned. The Facility is operated by ESKOM the South African electric utility company. The Power Station is always operated at its maximum load.

Each unit includes one steam turbine generator set (impulse tandem compound 1 double flow HP, 3 double flow LP).

Characteristics :

#### **Turbine (impulse tandem compound 1 double flow HP, 3 double flow LP):**

The superheated steam conditions at the turbine inlet (at 210 MW rated operating conditions) are :

- main steam :
  - . 55 bar,
  - . 270°C bar,
  - . 5441 t/h,
- single reheat,
- 1500 rpm

#### **Generator (Direct drive-four poles)**

- Rating : 1072 MVA
- Power factor : 0.9
- Frequency : 50 Hz
- Terminal voltage : 24 kV
- Excitation system : Brushless bearingless – Rotating diodes

#### **Fuel**

- Uranium,

#### **Balance of Plant**

- Motor driven condensate pumps : 3,
- Nominal flowrate per pump : 1882 t/h
- Turbine driven feedwater pumps : 2
- Nominal flowrate per pump : 2728 t/h
- Motor driven feedwater pumps : 1
- Nominal flowrate per pump : 2427 t/h
- Motor driven drain recovery pumps : 2
- Nominal flowrate per pump : 1691 t/h
- Condenser exchange surface : 57 426 m<sup>2</sup>,
- Motor driven circulating water pumps : 3
- Circulating water flow per pump : 20.47m<sup>3</sup>/s,
- Cooling fluid : sea water.



# V-Services Final Report (Part 1&2) KOEBERG NUCLEAR POWER STATION – Unit 2

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## 2.2 SURVEY

### 2.2.1 Scope of work

A list of 127 critical valves to be tested has been received by KOEBERG.



# V-Services Final Report (Part 1&2)

## KOEBERG NUCLEAR POWER STATION – Unit 2

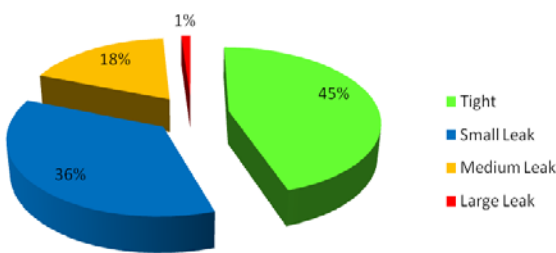
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### 3 RESULTS AND COMMENTS

#### 3.1 LEAKAGE ASSESSMENT

SYS	Tag Number	Application	Results	Comments
ABP	019 VL	Heater 301 Emergency Drain	SMALL LEAK	CONTINUE MONITORING
ABP	021 VL	Heater 302 Emergency Drain	SMALL LEAK	
ABP	023 VL	Heater 102 Emergency Drain	SMALL LEAK	
ABP	024 VL	Heater 102 Emergency Drain	SMALL LEAK	
ABP	032 VL	Heater 401 Emergency Drain	SMALL LEAK	
AHP	023 VL	Heater 502 Drain	SMALL LEAK	
AHP	030 VL	Heater 602 Emergency Drain	SMALL LEAK	
AHP	296 VL	01 AHP 12 VL Isolating Valve	SMALL LEAK	
APP	009 VL	TFWP 001 Outlet To AHP (F1A5)	SMALL LEAK	
CVI	001 VV		SMALL LEAK	
GCT	125 VL	S W On Desuperheating	SMALL LEAK	
GCT	126 VL	S W On Desuperheating	SMALL LEAK	
GCT	127 VL	S W On Desuperheating	SMALL LEAK	
GPV	051 VV	Up S Steam Valves Drain	SMALL LEAK	
GSS	106 VL	Separator - Reheater Emergency Drain	SMALL LEAK	
GSS	107 VL	Separator - Reheater Emergency Drain	SMALL LEAK	
GSS	206 VL	Separator - Reheater Emergency Drain	SMALL LEAK	
GSS	207 VL	Separator - Reheater Emergency Drain	SMALL LEAK	
GSS	306 VL	Separator - Reheater Emergency Drain	SMALL LEAK	
GSS	407 VL	Separator - Reheater Emergency Drain	SMALL LEAK	
VVP	001 PU		SMALL LEAK	
9 SVA	127 VL		SMALL LEAK	
GCT	118 VV	Turbine by pass valve - Steam dump to condenser	SMALL LEAK	
GCT	111 VV	Turbine by pass valve - Steam dump to condenser	SMALL LEAK	
GCT	115 VV	Turbine by pass valve - Steam dump to condenser	SMALL LEAK	
GCT	122 VV	Turbine by pass valve - Steam dump to condenser	SMALL LEAK	
GCT	123 VV	Turbine by pass valve - Steam dump to condenser	SMALL LEAK	
GCT	120 VV	Turbine by pass valve - Steam dump to condenser	SMALL LEAK	
GCT	121 VV	Turbine by pass valve - Steam dump to condenser	SMALL LEAK	
GCT	113 VV	Turbine by pass valve - Steam dump to condenser	SMALL LEAK	
GCT	116 VV	Turbine by pass valve - Steam dump to condenser	SMALL LEAK	
GCT	117 VV	Turbine by pass valve - Steam dump to condenser	SMALL LEAK	
AHP	022 VL	Heater 502 Drain	MEDIUM LEAK	NEED TO BE REPAIRED
AHP	025 VL	Heater 601 Emergency Drain	MEDIUM LEAK	
AHP	029 VL	Heater 602 Emergency Drain	MEDIUM LEAK	
APP	001 PU		MEDIUM LEAK	
CAP	002 VL		MEDIUM LEAK	
STR	002 VD	Demineralised Water Tank Make Up	MEDIUM LEAK	
VVP	003 PU	Steam Trap on Steam Feed Line to APP	MEDIUM LEAK	
CEX	011 VL	Min Flow Of 002 PO	MEDIUM LEAK	
GPV	052 VV	Down S HP Steam Valves Drain	MEDIUM LEAK	
GPV	053 VV	Down S HP Steam Valves Drain	MEDIUM LEAK	
GCT	119 VV	Turbine by pass valve - Steam dump to condenser (Estimation of the Leak Rate can be performed on request)	MEDIUM LEAK	
GCT	110 VV	Turbine by pass valve - Steam dump to condenser (Estimation of the Leak Rate can be performed on request)	MEDIUM LEAK	
GCT	114 VV	Turbine by pass valve - Steam dump to condenser (Estimation of the Leak Rate can be performed on request)	MEDIUM LEAK	
GCT	112 VV	Turbine by pass valve - Steam dump to condenser (Estimation of the Leak Rate can be performed on request)	MEDIUM LEAK	
GCT	108 VV	Turbine by pass valve - Steam dump to condenser (Estimation of the Leak Rate can be performed on request)	MEDIUM LEAK	
GCT	109 VV	Turbine by pass valve - Steam dump to condenser (Estimation of the Leak Rate can be performed on request)	MEDIUM LEAK	
VVP	002 PU		LARGE LEAK	NEED TO BE REPLACED

Leak Severity



**-Large leak:**

The damages are severe, the soft metal is damaged. Important repairs are expected (replacement of internal parts or even replacement of complete valve)

**-Medium leak:**

The damages are important, hard metal is damaged. A lapping operation is expected in most of the cases.

**-Small leak :**

No important damage. No specific actions are to be taken on valves.



# V-Services Final Report (Part 1&2)

## KOEBERG NUCLEAR POWER STATION – Unit 2

KOE 2 0907 A (URS)

### 3.2 LOSSES SUMMARY TABLE

SYSTEM	VALVE TAG	APPLICATION	LEAKAGE FLOW IN KG/SEC
ABP	019 VL	Heater 301 Emergency Drain	0,569
ABP	021 VL	Heater 302 Emergency Drain	0,71
ABP	023 VL	Heater 102 Emergency Drain	1,1431
ABP	024 VL	Heater 102 Emergency Drain	0,517
ABP	032 VL	Heater 401 Emergency Drain	0,06
AHP	022 VL	Heater 502 Drain	0,107
AHP	023 VL	Heater 502 Drain	0,01
AHP	025 VL	Heater 601 Emergency Drain	0,1888
AHP	029 VL	Heater 602 Emergency Drain	0,083
AHP	030 VL	Heater 602 Emergency Drain	0,047
AHP	296 VL	01 AHP 12 VL Isolating Valve	0,132
APP	009 VL	TFWP 001 Outlet To AHP (F1A5)	0,03
APP	001 PU		0,005
CAP	002 VL		0,12
CEX	011 VL	Min Flow Of 002 PO	0,733
CVI	001 VV		0,009
GCT	125 VL	S W On Desuperheating	0,169
GCT	126 VL	S W On Desuperheating	0,186
GCT	127 VL	S W On Desuperheating	0,11
GPV	051 VV	Up S Steam Valves Drain	0,022
GPV	052 VV	Down S HP Steam Valves Drain	0,492
GPV	053 VV	Down S HP Steam Valves Drain	0,784
GSS	106 VL	Separator - Reheater Emergency Drain	0,201
GSS	107 VL	Separator - Reheater Emergency Drain	0,122
GSS	206 VL	Separator - Reheater Emergency Drain	0,292
GSS	207 VL	Separator - Reheater Emergency Drain	0,084
GSS	306 VL	Separator - Reheater Emergency Drain	0,243
GSS	407 VL	Separator - Reheater Emergency Drain	0,07
STR	002 VD	Demineralised Water Tank Make Up	0,07
VVP	003 PU	Steam Trap On Steam Feed Line To APP	0,015
VVP	002 PU		0,02
VVP	001 PU		0,003
9 SVA	127 VL		0,002

### 3.3 CONCLUSION AND RECOMMENDATIONS

Tag Number	Application	Leak Flow kg/s	Losses kWe	Cumulated Losses kWe	influence on output %	Severity
GPV 053 VV	Down S HP Steam Valves Drain	0,784	695,669	695,669	-0,0749%	1
GPV 052 VV	Down S HP Steam Valves Drain	0,492	436,568	1132,237	-0,0470%	2
GSS 206 VL	Separator - Reheater Emergency Drain	0,292	99,183	1231,420	-0,0107%	3
GSS 306 VL	Separator - Reheater Emergency Drain	0,243	82,539	1313,959	-0,0089%	4
ABP 021 VL	Heater 302 Emergency Drain	0,71	71,947	1385,906	-0,0078%	5
GSS 106 VL	Separator - Reheater Emergency Drain	0,201	68,273	1454,179	-0,0074%	6
ABP 023 VL	Heater 102 Emergency Drain	1,1431	57,917	1512,096	-0,0062%	7
ABP 019 VL	Heater 301 Emergency Drain	0,569	57,659	1569,754	-0,0062%	8
AHP 025 VL	Heater 601 Emergency Drain	0,1888	48,459	1618,213	-0,0052%	9
AHP 296 VL	01 AHP 12 VL Isolating Valve	0,132	35,948	1654,161	-0,0039%	10
ABP 024 VL	Heater 102 Emergency Drain	0,517	26,195	1680,356	-0,0028%	11



## V-Services Final Report (Part 1&2)

# KOEBERG NUCLEAR POWER STATION – Unit 2

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GSS 107 VL	Separator - Reheater Emergency Drain	0,122	25,335	1705,691	-0,0027%	12
AHP 022 VL	Heater 502 Drain	0,107	23,255	1728,946	-0,0025%	13
AHP 029 VL	Heater 602 Emergency Drain	0,083	21,303	1750,249	-0,0023%	14
GPV 051 VV	Up S Steam Valves Drain	0,022	19,521	1769,770	-0,0021%	15
VVP 002 PU		0,02	17,747	1787,517	-0,0019%	16
GSS 207 VL	Separator - Reheater Emergency Drain	0,084	17,444	1804,961	-0,0019%	17
GSS 407 VL	Separator - Reheater Emergency Drain	0,07	14,537	1819,498	-0,0016%	18
VVP 003 PU	Steam Trap On Steam Feed Line To APP	0,015	13,310	1832,808	-0,0014%	19
ABP 032 VL	Heater 401 Emergency Drain	0,06	13,040	1845,848	-0,0014%	20
AHP 030 VL	Heater 602 Emergency Drain	0,047	12,063	1857,911	-0,0013%	21
CVI 001 VV		0,009	7,965	1865,876	-0,0009%	22
APP 009 VL	TFWP 001 Outlet To AHP (F1A5)	0,03	6,560	1872,436	-0,0007%	23
CEX 011 VL	Min Flow Of 002 PO	0,733	3,909	1876,345	-0,0004%	24
VVP 001 PU		0,003	2,662	1879,007	-0,0003%	25
AHP 023 VL	Heater 502 Drain	0,01	2,173	1881,181	-0,0002%	26
9 SVA 127 VL		0,002	1,770	1882,951	-0,0002%	27
GCT 126 VL	S W On Desuperheating	0,186	0,992	1883,943	-0,0001%	28
GCT 125 VL	S W On Desuperheating	0,169	0,901	1884,844	-0,0001%	29
GCT 127 VL	S W On Desuperheating	0,11	0,587	1885,431	-0,0001%	30
APP 001 PU		0,005	0,000	1885,431	0,0000%	31
CAP 002 VL		0,12	0,000	1885,431	0,0000%	32
STR 002 VD	Demineralised Water Tank Make Up	0,07	0,000	1885,431	0,0000%	33

An Estimation of the Leak Rate on GCT Valves to condenser (16 Valves) can be performed on request.

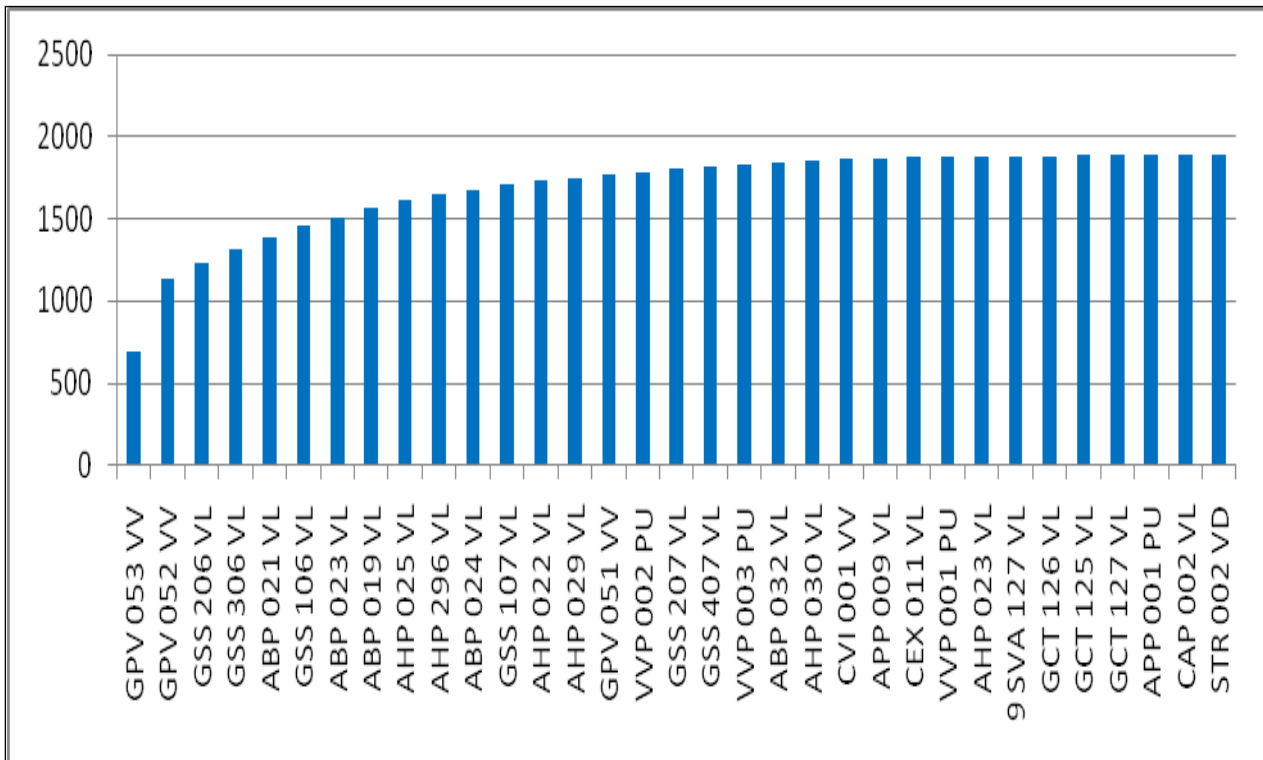




# V-Services Final Report (Part 1&2) KOEBERG NUCLEAR POWER STATION – Unit 2

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## CUMULATIVE LOSS IN KWe





# V-Services Final Report (Part 1&2)

## KOEBERG NUCLEAR POWER STATION – Unit 2

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### 3.4 LIST OF VALVES CONTROLLED

N° OF VALVES	SYS	Tag Number	diameter	System	Application	Fluid
1	ABP	019 VL	4"	LP Heaters	Heater 301 Emergency Drain	Water
2	ABP	020 VL		LP Heaters	Heater 301 Emergency Drain	Water
3	ABP	021 VL	4"	LP Heaters	Heater 302 Emergency Drain	Water
4	ABP	022 VL		LP Heaters	Heater 302 Emergency Drain	Water
5	ABP	023 VL	8"	LP Heaters	Heater 102 Emergency Drain	Water
6	ABP	024 VL		LP Heaters	Heater 102 Emergency Drain	Water
7	ABP	025 VL	8"	LP Heaters	Heater 202 Emergency Drain	Water
8	ABP	026 VL		LP Heaters	Heater 202 Emergency Drain	Water
9	ABP	031 VL	6"	LP Heaters	Heater 401 Emergency Drain	Water
10	ABP	032 VL		LP Heaters	Heater 401 Emergency Drain	Water
11	ABP	033 VL	6"	LP Heaters	Heater 402 Emergency Drain	Water
12	ABP	034 VL		LP Heaters	Heater 402 Emergency Drain	Water
13	ABP	035 VL		LP Heaters	Steam Line Drain From TV	Water
14	ABP	036 VL		LP Heaters	Steam Line Drain From TV	Water
15	AHP	011 VL		HP Heaters	Bypass Of HP Heater	Water
16	AHP	016 VL	6"	HP Heaters	Heater 501 Drain	Water
17	AHP	017 VL		HP Heaters	Heater 501 Drain	Water
18	AHP	022 VL	6"	HP Heaters	Heater 502 Drain	Water
19	AHP	023 VL		HP Heaters	Heater 502 Drain	Water
20	AHP	025 VL	6"	HP Heaters	Heater 601 Emergency Drain	Water
21	AHP	026 VL		HP Heaters	Heater 601 Emergency Drain	Water
22	AHP	029 VL	6"	HP Heaters	Heater 602 Emergency Drain	Water
23	AHP	030 VL		HP Heaters	Heater 602 Emergency Drain	Water
24	AHP	296 VL		HP Heaters	01 AHP 12 VL Isolating Valve	Water
25	AHP	297 VL		HP Heaters	Bypass Valve of 1 AHP 296 VL	Water
26	APP	007 VL	6"	Turbo - FWP	TFWP 001 Min Flow Valve	Water
27	APP	009 VL	4"	Turbo - FWP	TFWP 001 Outlet To AHP (F1A5)	Water
28	APP	017 VL	6"	Turbo - FWP	TFWP 002 Min Flow Valve	Water
29	APP	019 VL	4"	Turbo - FWP	TFWP 002 Outlet To AHP (F1A5)	Water
30	APP	001 PU				
31	ATE	905 VL	6"	Polishing Plant	Bypass 901 PO To Condenser	Water
32	ATE	908 VL		Polishing Plant		Water
33	ATE	914 VL		Polishing Plant		Water
34	CAP	002 VL		Condenser Make Up		Water
35	CAP	004 VL		Condenser Make Up	Emergency Make Up	Water
36	CAP	005 VL		Condenser Make Up	Manual Make Up	Water
37	CEX	005 VL	4"	Condensate Extraction	Min Flow Of 001 PO	Water
38	CEX	011 VL	4"	Condensate Extraction	Min Flow Of 002 PO	Water
39	CEX	014 VL		Condensate Extraction		Water
40	CVI	001 VV		Vacuum System		
41	CVI	002 VV		Vacuum System		



# V-Services Final Report (Part 1&2)

## KOEBERG NUCLEAR POWER STATION – Unit 2

KOE 2 0907 A (URS)

### 3.4 LIST OF VALVES CONTROLLED

N° OF VALVES	SYS	Tag Number	diameter	System	Application	Fluid
42	CVI	003 VV		Vacuum System	Steam Inlet Nb 3 Ejector From SVA Barrel	Steam
43	CVI	005 VA	24"	Vacuum System	Suction At Nb 3 Ejector	Air/Steam
44	CVI	053 VL		Vacuum System	Spray Water For Desuperheating	Water
45	CVI	060VL		Vacuum System	Spray Water For Desuperheating (by pass)	Water
46	CVI	059 VL		Vacuum System	Spray Water For Desuperheating	Water
47	GCT	125 VL	3"	Turbine Bypass	S W On Desuperheating	Water
48	GCT	126 VL	3"	Turbine Bypass	S W On Desuperheating	Water
49	GCT	127 VL	3"	Turbine Bypass	S W On Desuperheating	Water
50	GPV	051 VV	100 mm	ST Drain Valves	Up S Steam Valves Drain	Steam
51	GPV	052 VV	100 mm	ST Drain Valves	Down S HP Steam Valves Drain	Steam
52	GPV	053 VV	65 mm	ST Drain Valves	Down S HP Steam Valves Drain	Steam
53	GPV	054 VV	50 mm	ST Drain Valves	LP Steam Valves Drain	Steam
54	GPV	055 VV	200 mm	ST Drain Valves	HP Exhaust Pipe & Safety Valves Barrel Drain	Steam
55	GSS	106 VL	4"	Separator - Reheater	Separator - Reheater Emergency Drain	Water
56	GSS	107 VL	4"	Separator - Reheater	Separator - Reheater Emergency Drain	Water
57	GSS	206 VL	4"	Separator - Reheater	Separator - Reheater Emergency Drain	Water
58	GSS	207 VL	4"	Separator - Reheater	Separator - Reheater Emergency Drain	Water
59	GSS	306 VL	4"	Separator - Reheater	Separator - Reheater Emergency Drain	Water
60	GSS	307 VL	4"	Separator - Reheater	Separator - Reheater Emergency Drain	Water
61	GSS	406 VL	4"	Separator - Reheater	Separator - Reheater Emergency Drain	Water
62	GSS	407 VL	4"	Separator - Reheater	Separator - Reheater Emergency Drain	Water
63	STR	002 VD	2"	Steam Transformer	Deminerilised Water Tank Make Up	Water
64	VVP	185 VL		Main Steam System	Bypass Of VVP 003 PU	Water
65	VVP	003 PU	25 mm	Main Steam System	Steam Trap On Steam Feed Line To APP	Water
66	VVP	189 VL		Main Steam System	Bypass Of VVP 004 PU	Water
67	VVP	004 PU	25 mm	Main Steam System	Steam Trap On Steam Feed Line To STR SVA	Water
68	VVP	002 PU		Main Steam System		Water
69	VVP	165 VL		Main Steam System	Bypass of VVP 02 PU	Water
70	VVP	163 VL		Main Steam System		Water
71	VVP	001 PU		Main Steam System		Water
72	SVA	022 PU				
73	SVA	127 VL				
74	GCT	118 VV	8"	Turbine Bypass	Turbine by pass valve - Steam dump to condenser	Steam
75	GCT	119 VV	8"	Turbine Bypass	Turbine by pass valve - Steam dump to condenser	Steam
76	GCT	110 VV	8"	Turbine Bypass	Turbine by pass valve - Steam dump to condenser	Steam
77	GCT	111 VV	8"	Turbine Bypass	Turbine by pass valve - Steam dump to condenser	Steam



# V-Services Final Report (Part 1&2)

## KOEBERG NUCLEAR POWER STATION – Unit 2

KOE 2 0907 A REV 1

### 3.4 LIST OF VALVES CONTROLLED

N° OF VALVES	SYS	Tag Number	diameter	System	Application	Fluid
78	GCT	114 VV	8"	Turbine Bypass	Turbine by pass valve - Steam dump to condenser	Steam
79	GCT	115 VV	8"	Turbine Bypass	Turbine by pass valve - Steam dump to condenser	Steam
80	GCT	122 VV	8"	Turbine Bypass	Turbine by pass valve - Steam dump to condenser	Steam
81	GCT	123 VV	8"	Turbine Bypass	Turbine by pass valve - Steam dump to condenser	Steam
82	GCT	120 VV	8"	Turbine Bypass	Turbine by pass valve - Steam dump to condenser	Steam
83	GCT	121 VV	8"	Turbine Bypass	Turbine by pass valve - Steam dump to condenser	Steam
84	GCT	112 VV	8"	Turbine Bypass	Turbine by pass valve - Steam dump to condenser	Steam
85	GCT	113 VV	8"	Turbine Bypass	Turbine by pass valve - Steam dump to condenser	Steam
86	GCT	108 VV	12"	Turbine Bypass	Turbine by pass valve - Steam dump to condenser	Steam
87	GCT	109 VV	12"	Turbine Bypass	Turbine by pass valve - Steam dump to condenser	Steam
88	GCT	116 VV	8"	Turbine Bypass	Turbine by pass valve - Steam dump to condenser	Steam
89	GCT	117 VV	8"	Turbine Bypass	Turbine by pass valve - Steam dump to condenser	Steam

### 3.5 LIST OF VALVES NOT CONTROLLED

N° of Valves	SYS	Tag Number	System	Application	Comments
1	ACO	013 VL	Drain Recovery System	Drain Recovery 002 PO Min Flow	OPEN at 100%
2	ACO	015 VL	Drain Recovery System	Drain Recovery 001 PO Min Flow	LAGGING NOT REMOVED , NEED TO BE REPLANNED
3	ACO	017 VL	Drain Recovery System	Drains Coming From AHP	REGULATING , NEED TO BE REPLANNED
4	ACO	018 VL	Drain Recovery System	Drains Coming From AHP	REGULATING , NEED TO BE REPLANNED
5	AHP	012 VL	HP Heaters	Recirculation To Condenser	Upstream isolation ( AHP 296 /297VL)
6	ATE	901 VL	Polishing Plant	901 PO Inlet	Valve always opened so no delta P
7	ATE	902 VL	Polishing Plant	901 PO	CHECK VALVE in opened position ( Pump 901 PO in Operation)
8	ATE	907 VL	Polishing Plant	902 PO Inlet	Valve always opened so no delta P
9	ATE	911 VL	Polishing Plant	Bypass 902 PO To Condenser	no pressure impossible to switch pump
10	ATE	913 VL	Polishing Plant	903 PO Inlet	Valve always opened so no delta P
11	ATE	917 VL	Polishing Plant	Bypass 903 PO To Condenser	no pressure impossible to switch pump
12	CEX	001 VL	Condensate Extraction	Suction Of 001 PO	Valve always opened so no delta P
13	CEX	007 VL	Condensate Extraction	Suction Of 002 PO	Valve always opened so no delta P
14	CEX	013 VL	Condensate Extraction	Suction Of 003 PO	Valve always opened so no delta P
15	CEX	017 VL	Condensate Extraction	Min Flow Of 003 PO	Pump 3 wasn't in operation, no possibility to swap pump
16	GCT	131 VV	Turbine Bypass	Main Steam Pipe From SG 1 Drain	HEAT STRESS AREA
17	GCT	132 VV	Turbine Bypass	Main Steam Pipe From SG 2 Drain	HEAT STRESS AREA
18	GCT	133 VV	Turbine Bypass	Main Steam Pipe From SG 3 Drain	HEAT STRESS AREA
19	VVP	274 VL	Main Steam System	Steam Barrel Drain	LAGGING NOT REMOVED , NEED TO BE REPLANNED
20	GCT	100 VV	Turbine Bypass	Isolating valves of bypass valves	Survey cancelled ( trip of the Unit)
21	GCT	101 VV	Turbine Bypass	Isolating valves of bypass valves	Survey cancelled ( trip of the Unit)
22	GCT	102 VV	Turbine Bypass	Isolating valves of bypass valves	Survey cancelled ( trip of the Unit)
23	GCT	103 VV	Turbine Bypass	Isolating valves of bypass valves	Survey cancelled ( trip of the Unit)
24	GCT	104 VV	Turbine Bypass	Bypass valve of 2 GCT 100 VV	Survey cancelled ( trip of the Unit)
25	GCT	105 VV	Turbine Bypass	Bypass valve of 2 GCT 101 VV	Survey cancelled ( trip of the Unit)
26	GCT	106 VV	Turbine Bypass	Bypass valve of 2 GCT 102 VV	Survey cancelled ( trip of the Unit)
27	GCT	107 VV	Turbine Bypass	Bypass valve of 2 GCT 103 VV	Survey cancelled ( trip of the Unit)
28	GCT	033 VV	Turbine Bypass	Drain Valve	Survey cancelled ( trip of the Unit)
29	GCT	034 VV	Turbine Bypass	Drain Valve	Survey cancelled ( trip of the Unit)
30	GCT	035 VV	Turbine Bypass	Drain Valve	Survey cancelled ( trip of the Unit)
31	GCT	036 VV	Turbine Bypass	Drain Valve	Survey cancelled ( trip of the Unit)
32	CET	00 VV	Turbine Seal System	Main Steam Feeding	Upstream Isolation ( CET 001 VV)
33	CET	012 VV	Turbine Seal System	Auxiliary Steam Feeding	Upstream Isolation ( CET 010 VV)
34	APP	004 VV	Turbo FWP	001 Turbine Exhaust	Valve always opened so no delta P
35	VVP	186 VL	Main Steam System	Bypass of VVP 003 PU	Preset Valve
36	VVP	190 VL	Main Steam System	Bypass of VVP 004 PU	Preset Valve
37	VVP	166 VL	Main Steam System	Bypass of VVP 002 PU	Preset Valve
38	SVA	128 VL		Bypass of SVA 022 PU	Preset Valve

### 4 DETAILED RESULTS PER VALVE



# ACOUSTIC MEASUREMENT RESULTS

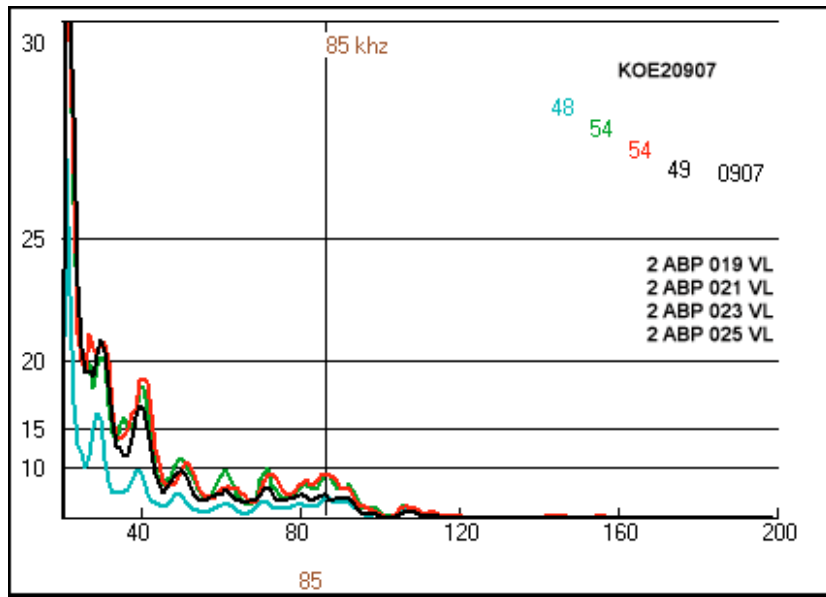


Customer : <b>ESKOM</b>	System : <b>ABP LP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>019 VL</b>	Application : <b>Heater 301 Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Control Valve</b>	Nominal diameter : <b>4"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>300 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class V</b>	Model : <b>37-40411</b>	Pipe : <b>273 x 6,35</b>

### Signature



### Analysis

**SMALL LEAK 6dB**

### Comment

**CONTINUE MONITORING**



# ACOUSTIC MEASUREMENT RESULTS

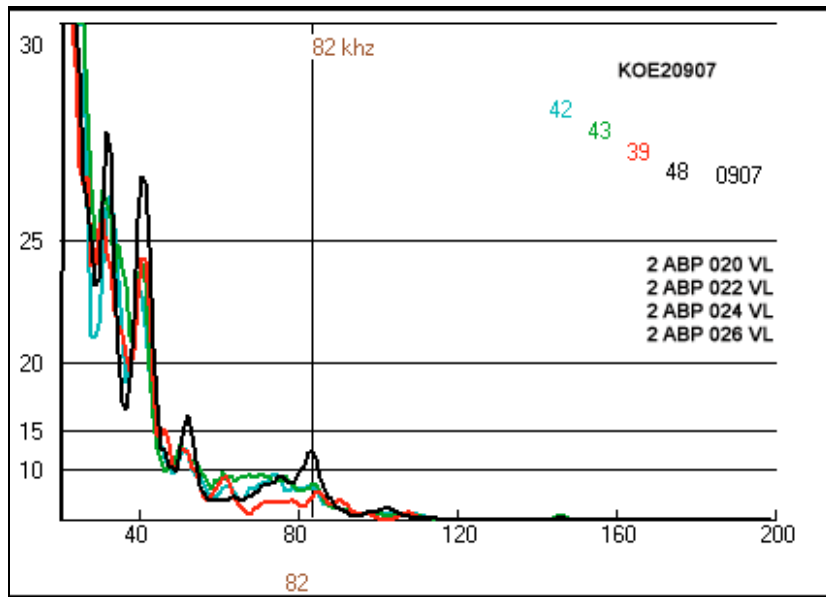


Customer : <b>ESKOM</b>	System : <b>ABP LP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>020 VL</b>	Application : <b>Heater 301 Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type : <b>Safety Valve</b>	Nominal pressure : <b>300 lbs</b>	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**TIGHT**  
**Comment**

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

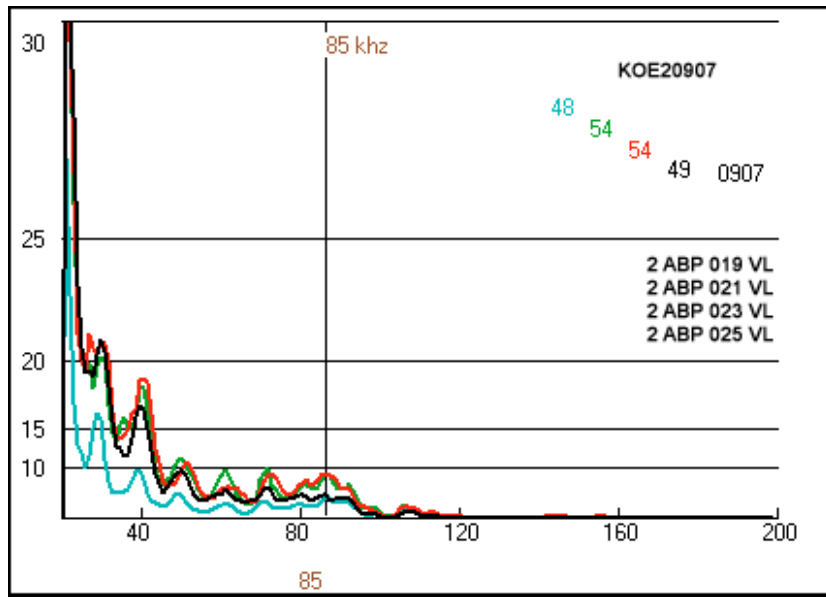


Customer : <b>ESKOM</b>	System : <b>ABP LP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>021 VL</b>	Application : <b>Heater 302 Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Control Valve</b>	Nominal diameter : <b>4"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>300 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class V</b>	Model : <b>37-40411</b>	Pipe : <b>273 x 6,35</b>

### Signature



### Analysis

**SMALL LEAK 8dB**

### Comment

**CONTINUE MONITORING**



# ACOUSTIC MEASUREMENT RESULTS

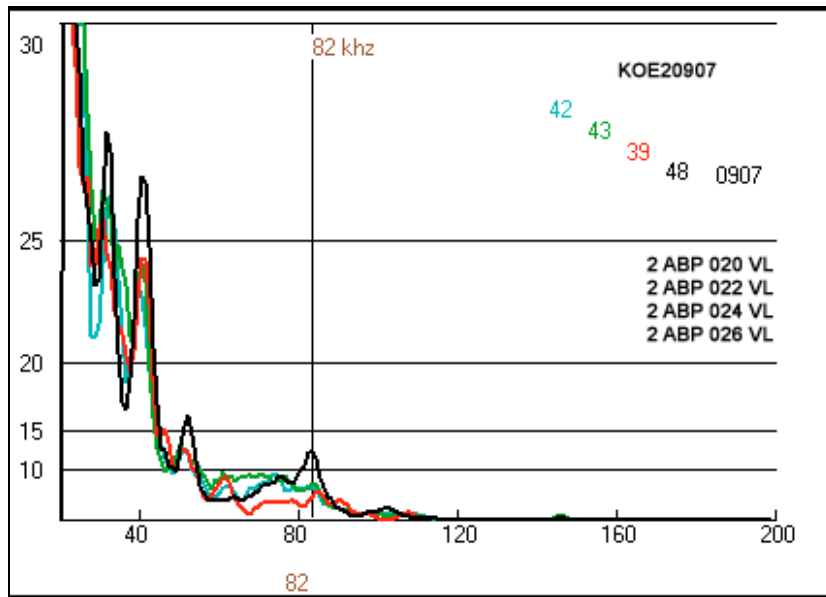


Customer : <b>ESKOM</b>	System : <b>ABP LP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>022 VL</b>	Application : <b>Heater 302 Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type : <b>Safety Valve</b>	Nominal pressure : <b>300 lbs</b>	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**





# ACOUSTIC MEASUREMENT RESULTS

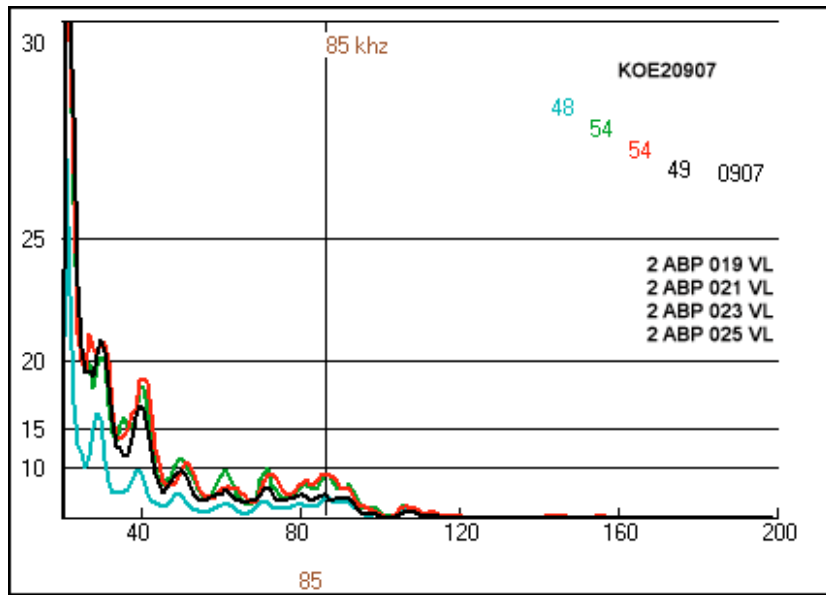


Customer : <b>ESKOM</b>	System : <b>ABP LP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>023 VL</b>	Application : <b>Heater 102 Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Control Valve</b>	Nominal diameter : <b>8"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>300 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class V</b>	Model : <b>37-40411</b>	Pipe : <b>355,6 x 6,35</b>

### Signature



### Analysis

**SMALL LEAK 9dB**

### Comment

**CONTINUE MONITORING**



# ACOUSTIC MEASUREMENT RESULTS

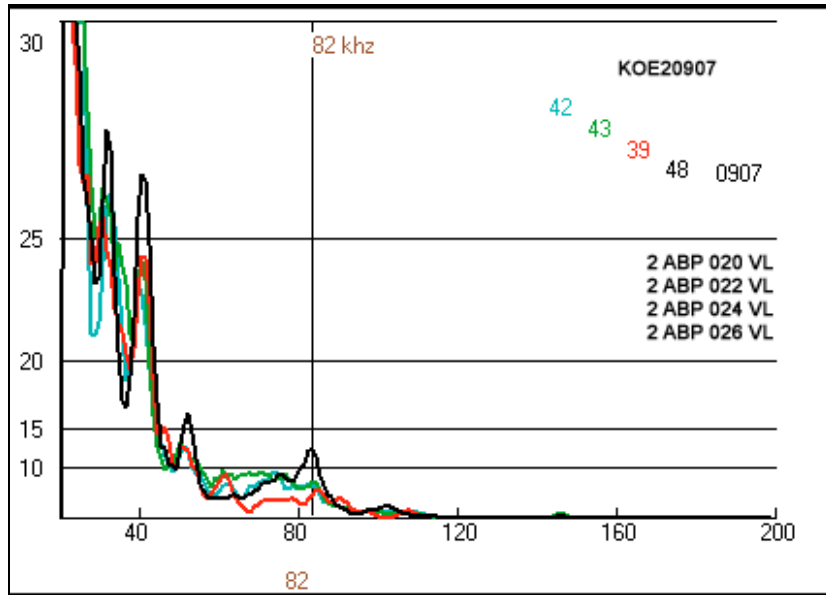


Customer : <b>ESKOM</b>	System : <b>ABP LP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>024 VL</b>	Application : <b>Heater 102 Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type : <b>Safety Valve</b>	Nominal pressure : <b>300 lbs</b>	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**SMALL LEAK 3dB**

### Comment

**CONTINUE MONITORING**



# ACOUSTIC MEASUREMENT RESULTS

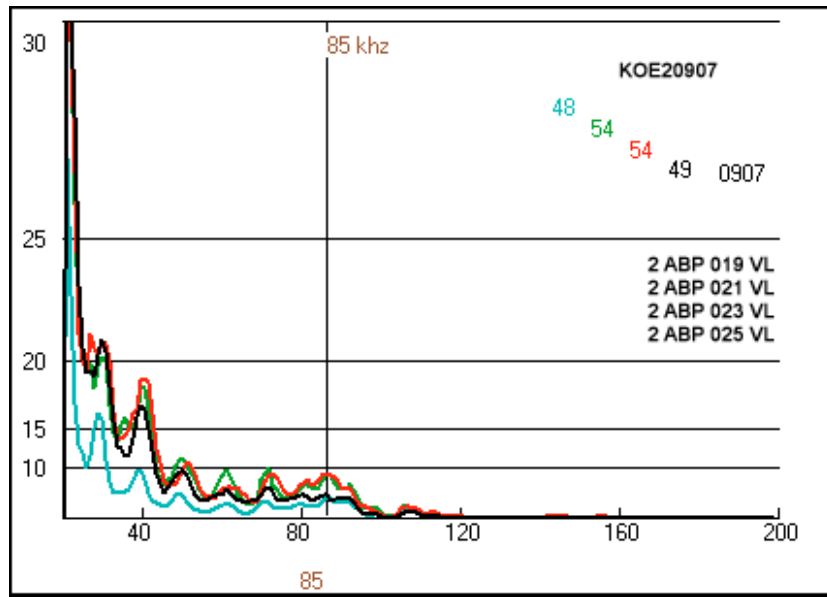


Customer : <b>ESKOM</b>	System : <b>ABP LP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>025 VL</b>	Application : <b>Heater 202 Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Control Valve</b>	Nominal diameter : <b>8"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>300 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class V</b>	Model : <b>37-40411</b>	Pipe : <b>355,6 x 6,35</b>

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

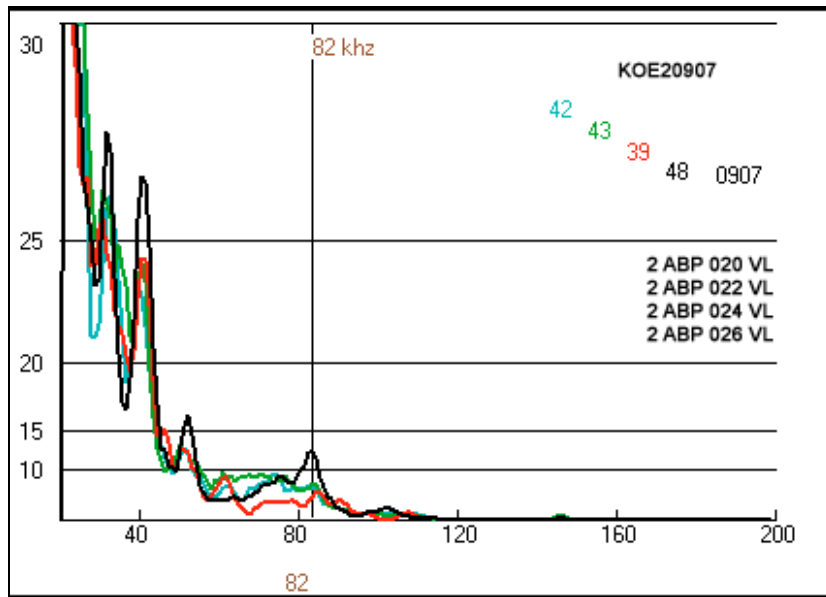


Customer : <b>ESKOM</b>	System : <b>ABP LP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>026 VL</b>	Application : <b>Heater 202 Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type : <b>Safety Valve</b>	Nominal pressure : <b>300 lbs</b>	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

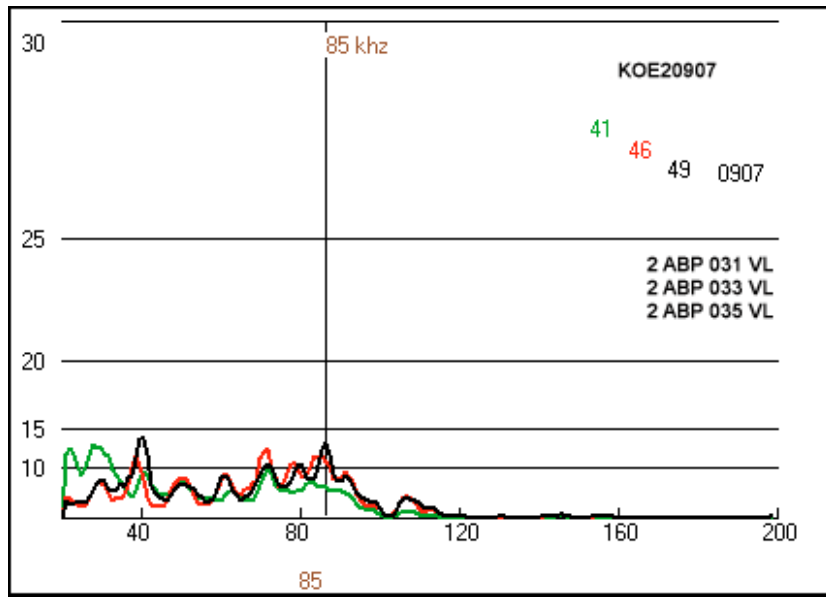


Customer : <b>ESKOM</b>	System : <b>ABP LP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>031 VL</b>	Application : <b>Heater 401 Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Control Valve</b>	Nominal diameter : <b>6"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>300 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class V</b>	Model : <b>37-40411</b>	Pipe : <b>355,6 x 6,35</b>

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

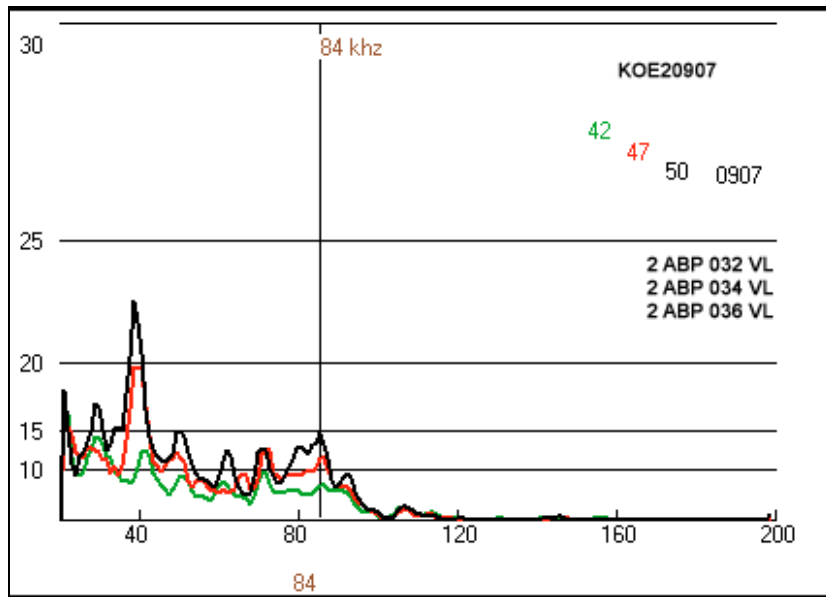


Customer : <b>ESKOM</b>	System : <b>ABP LP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>032 VL</b>	Application : <b>Heater 401 Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type : <b>Safety Valve</b>	Nominal pressure : <b>300 lbs</b>	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**SMALL LEAK 2db**

### Comment

**CONTINUE MONITORING**



# ACOUSTIC MEASUREMENT RESULTS

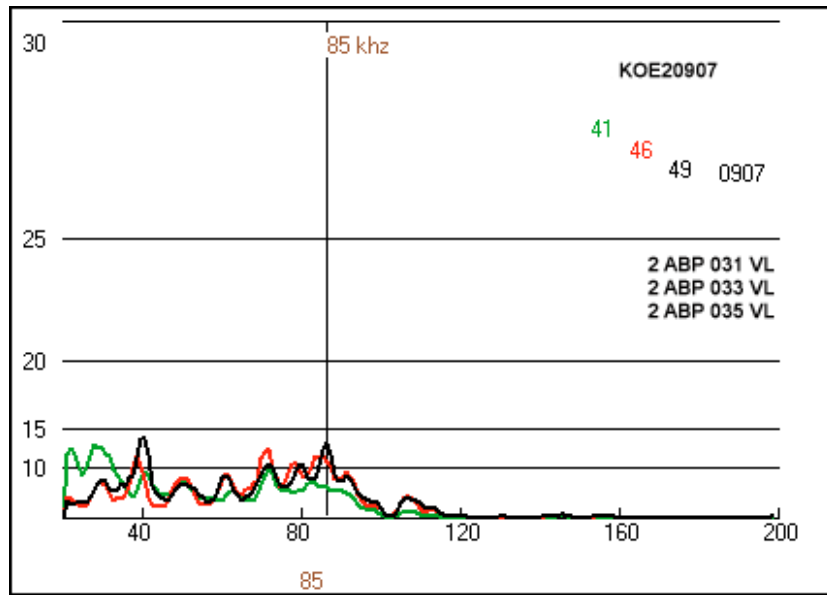


Customer : <b>ESKOM</b>	System : <b>ABP LP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>033 VL</b>	Application : <b>Heater 402 Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Control Valve</b>	Nominal diameter : <b>6"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>300 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class V</b>	Model : <b>37-40411</b>	Pipe : <b>355,6 x 6,35</b>

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

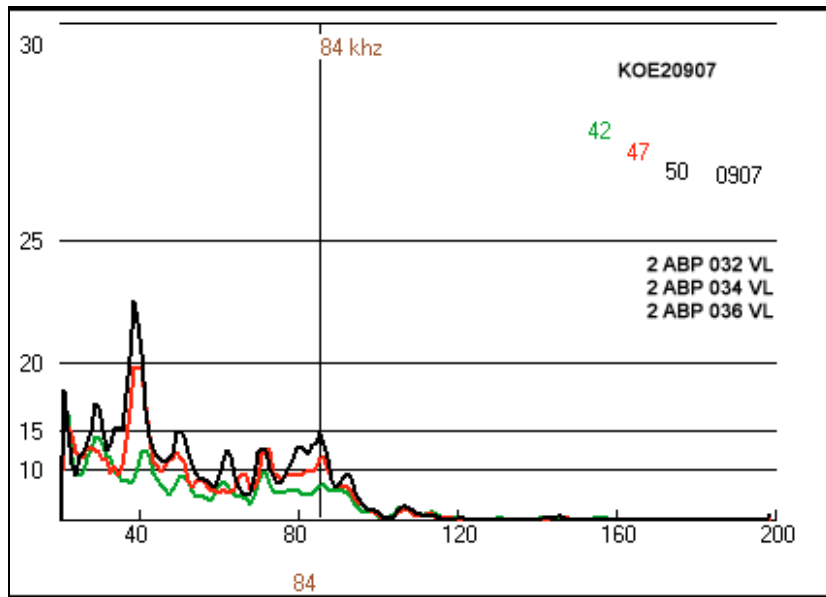


Customer : <b>ESKOM</b>	System : <b>ABP LP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>034 VL</b>	Application : <b>Heater 402 Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type : <b>Safety Valve</b>	Nominal pressure : <b>300 lbs</b>	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**





# ACOUSTIC MEASUREMENT RESULTS

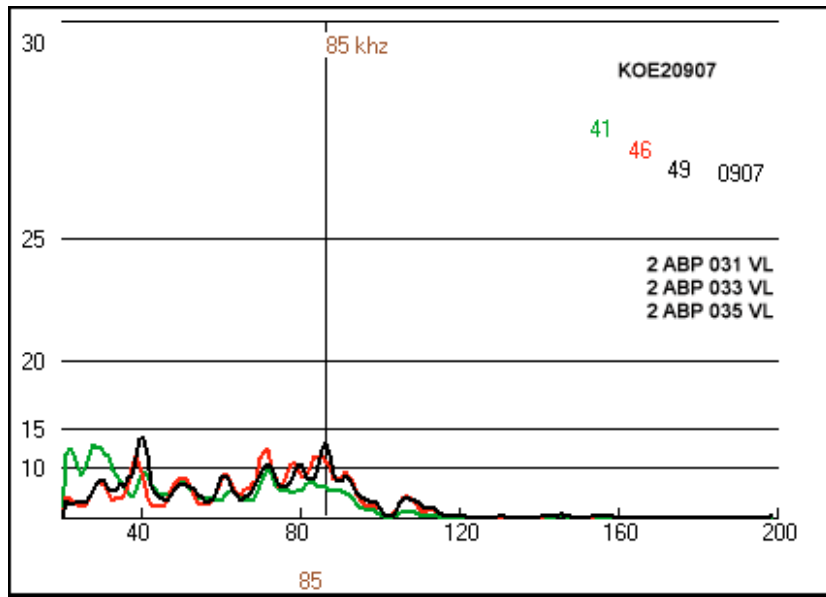


Customer : <b>ESKOM</b>	System : <b>ABP LP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>035 VL</b>	Application : <b>Steam Line Drain From TV</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

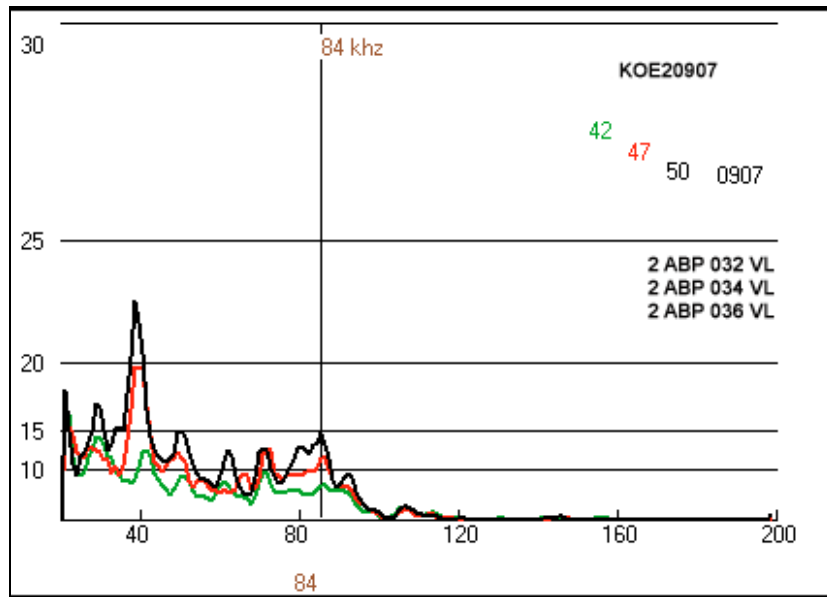


Customer : <b>ESKOM</b>	System : <b>ABP LP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>036 VL</b>	Application : <b>Steam Line Drain From TV</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>ACO</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Drain Recovery System</b>	
Tag number : <b>013 VL</b>	Application : <b>Drain Recovery 002 PO Min Flow</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>6"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class V</b>	Model :	Pipe :

### Signature

### Analysis

**NOT TESTED**

### Comment

**OPEN at 100% (NORMAL POSITION)**  
**VALVE NOT TESTED → PUMP 2 ACO 001 PO IS ON STAND BY**



# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>ACO</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Drain Recovery System</b>	
Tag number : <b>015 VL</b>	Application : <b>Drain Recovery 001 PO Min Flow</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>6"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class V</b>	Model :	Pipe :

### Signature

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### Analysis

**NOT TESTED**

### Comment

**LAGGING NOT REMOVED , NEED TO BE REPLANNED**



# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>ACO</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Drain Recovery System</b>	
Tag number : <b>017 VL</b>	Application : <b>Drains Coming From AHP</b>	<b>KOEBERG</b>
<b>Valve characteristics</b>		
Utilisation : <b>Control Valve</b>	Nominal diameter : <b>12"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>300 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class V</b>	Model : <b>37-40411</b>	Pipe : <b>660,3 x 6,35</b>

## Signature

## Analysis

**NOT TESTED**

## Comment

**REGULATING , NEED TO BE REPLANNED**



# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>ACO</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Drain Recovery System</b>	
Tag number : <b>018 VL</b>	Application : <b>Drains Coming From AHP</b>	<b>KOEBERG</b>
<b>Valve characteristics</b>		
Utilisation : <b>Control Valve</b>	Nominal diameter : <b>12"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>300 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class V</b>	Model : <b>37-40411</b>	Pipe : <b>660,3 x 6,35</b>

## Signature

## Analysis

**NOT TESTED**

## Comment

**REGULATING , NEED TO BE REPLANNED**



# ACOUSTIC MEASUREMENT RESULTS

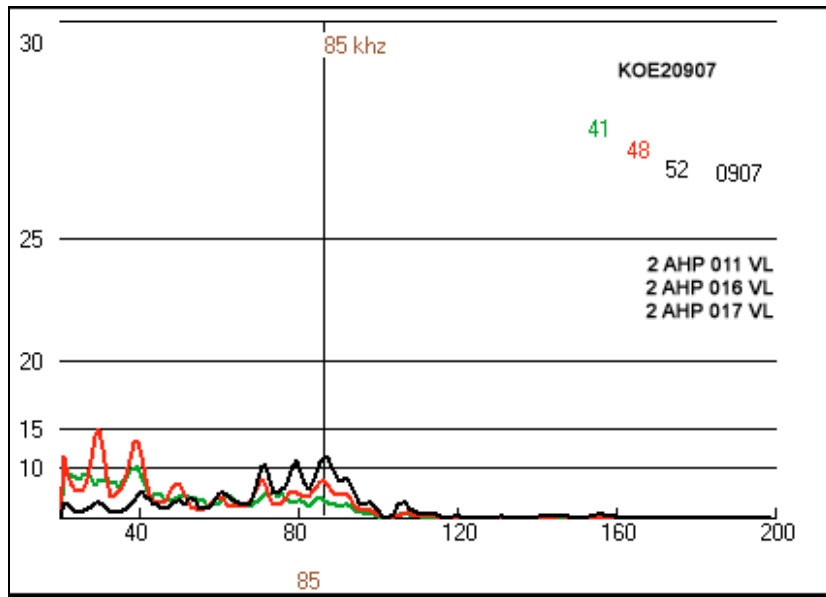


Customer : <b>ESKOM</b>	System : <b>AHP HP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>011 VL</b>	Application : <b>Bypass Of HP Heater</b>	<b>KOEBERG</b>

## Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

## Signature



## Analysis

**TIGHT**

## Comment

**NEED TO VERIFY ΔP**



# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>AHP</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>HP Heaters</b>	
Tag number : <b>012 VL</b>	Application : <b>Recirculation To Condenser</b>	<b>KOEBERG</b>
<b>Valve characteristics</b>		
Utilisation :	Nominal diameter : <b>12"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>900 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class IV</b>	Model : <b>38-40411</b>	Pipe : <b>406,4 x 30,96</b>
<b>Signature</b>		

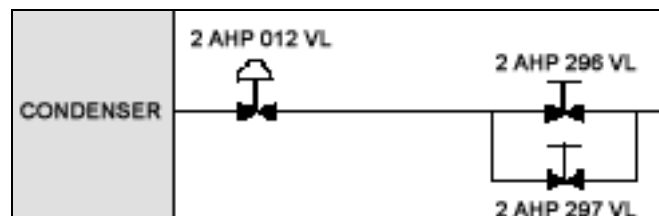
## Analysis

**Not Tested**

## Comment

**Upstream isolation ( AHP 296 /297VL)**

**To control 2 AHP 012 VL We need to open 2 AHP 296 or 297 VL to ensure differential pressure on the valve ( Operation not allowed by control room).**







# ACOUSTIC MEASUREMENT RESULTS

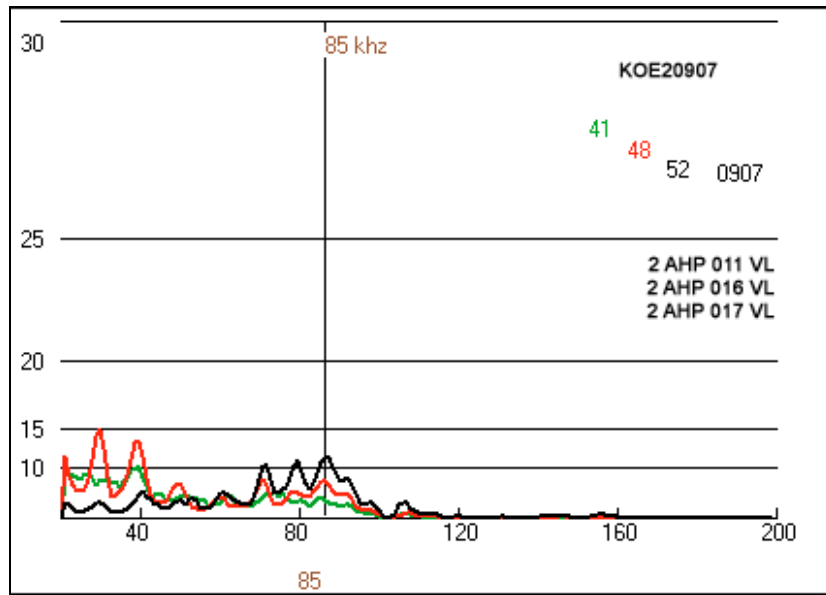


Customer : <b>ESKOM</b>	System : <b>AHP HP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>016 VL</b>	Application : <b>Heater 501 Drain</b>	<b>KOEBERG</b>

## Valve characteristics

Utilisation : <b>Control Valve</b>	Nominal diameter : <b>6"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class IV</b>	Model : <b>37-40411</b>	Pipe : <b>406,4 x 7,92</b>

## Signature



## Analysis

**TIGHT**

## Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

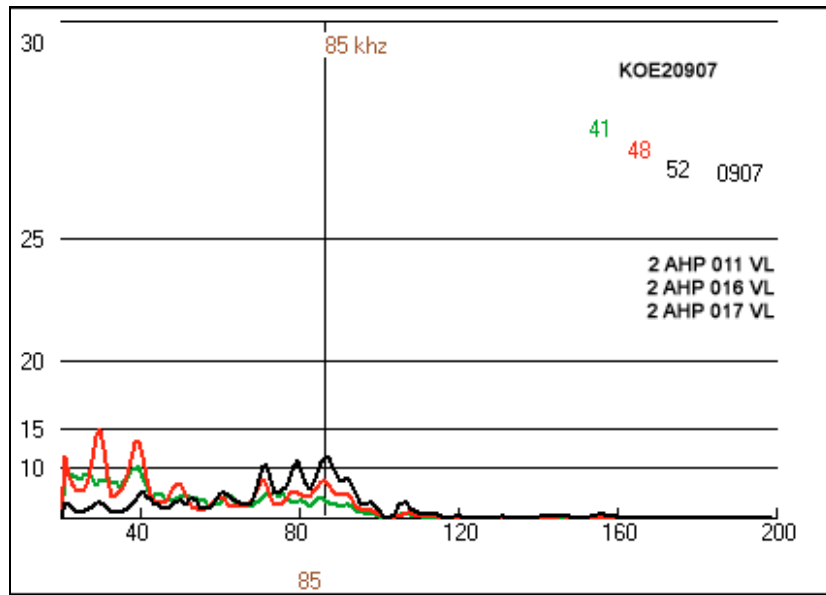


Customer : <b>ESKOM</b>	System : <b>AHP HP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>017 VL</b>	Application : <b>Heater 501 Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type : <b>Safety Valve</b>	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

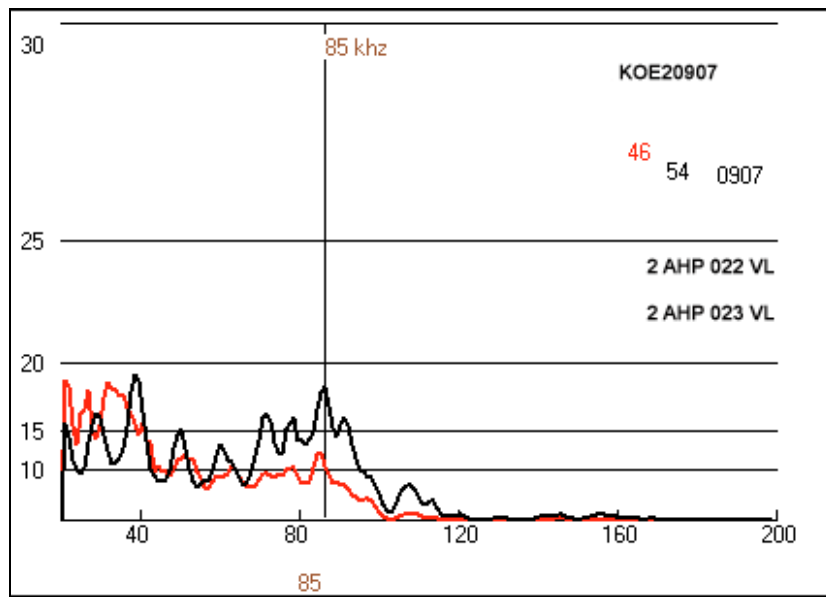


Customer : <b>ESKOM</b>	System : <b>AHP HP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>022 VL</b>	Application : <b>Heater 502 Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Control Valve</b>	Nominal diameter : <b>6"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class IV</b>	Model : <b>37-40411</b>	Pipe : <b>406,4 x 7,92</b>

### Signature



### Analysis

**MEDIUM LEAK 10dB**

### Comment

**NEED TO BE REPAIRED**



# ACOUSTIC MEASUREMENT RESULTS

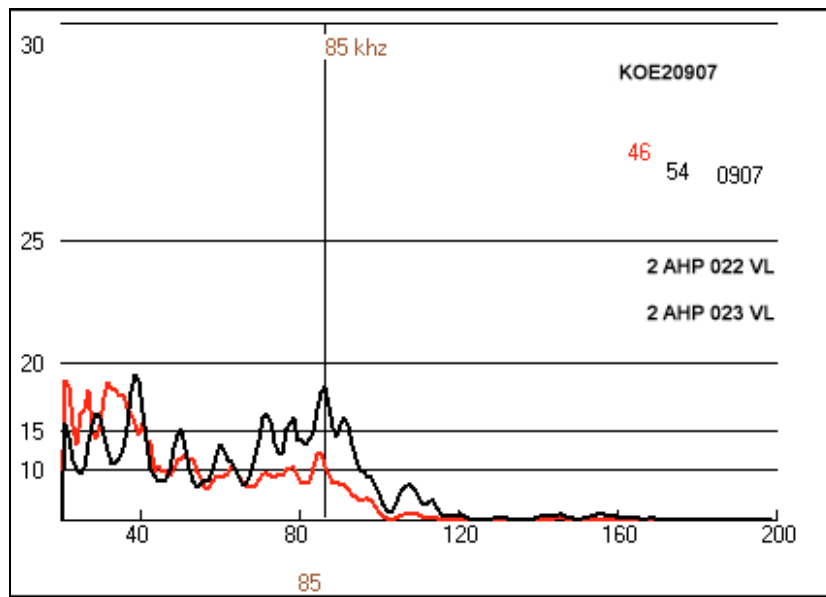


Customer : <b>ESKOM</b>	System : <b>AHP HP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>023 VL</b>	Application : <b>Heater 502 Drain</b>	<b>KOEBERG</b>

## Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type : <b>Safety Valve</b>	Nominal pressure : <b>600 lbs</b>	Supplier :
Leakage :	Model :	Pipe :

## Signature



## Analysis

**SMALL LEAK 2dB**

## Comment

**CONTINUE MONITORING**



# ACOUSTIC MEASUREMENT RESULTS

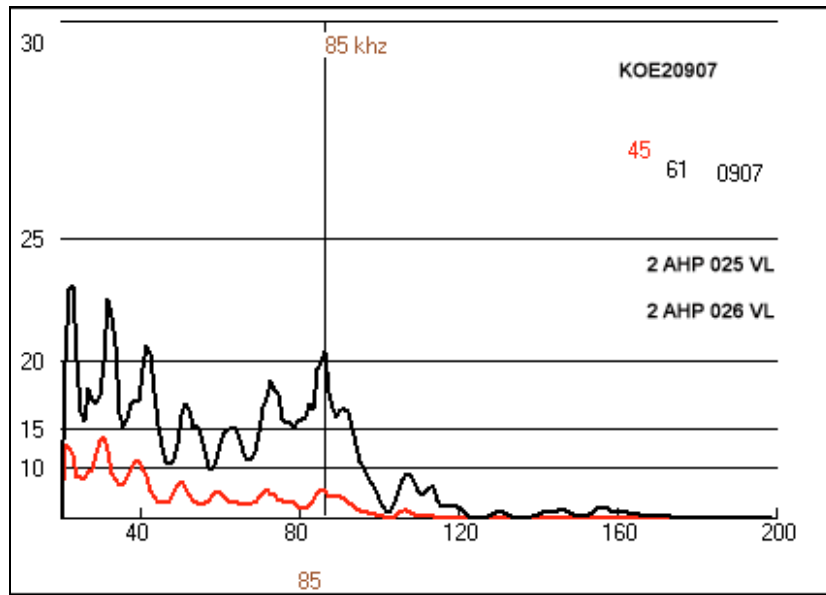


Customer : <b>ESKOM</b>	System : <b>AHP HP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>025 VL</b>	Application : <b>Heater 601 Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter : <b>6"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class IV</b>	Model : <b>37-40411</b>	Pipe : <b>355,6 x 9,52</b>

### Signature



### Analysis

**MEDIUM LEAK 15dB**

### Comment

**NEED TO BE REPAIRED**



# ACOUSTIC MEASUREMENT RESULTS

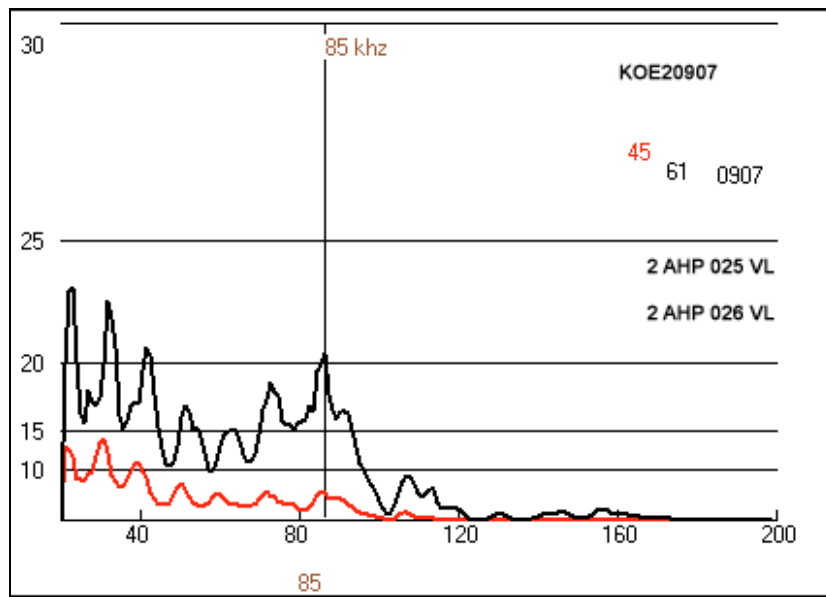


Customer : <b>ESKOM</b>	System : <b>AHP HP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>026 VL</b>	Application : <b>Heater 601 Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type : <b>Safety Valve</b>	Nominal pressure : <b>600 lbs</b>	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

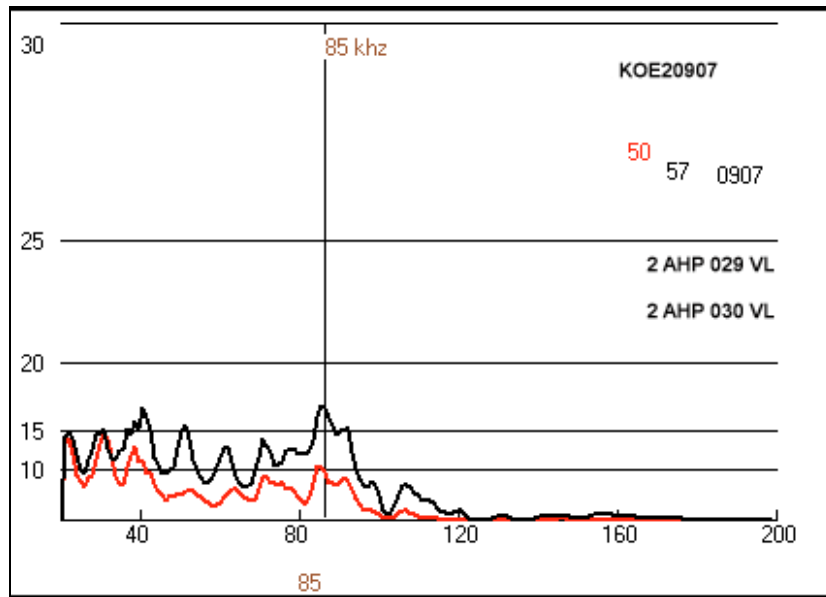


Customer : <b>ESKOM</b>	System : <b>AHP HP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>029 VL</b>	Application : <b>Heater 602 Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter : <b>6"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class IV</b>	Model : <b>37-40411</b>	Pipe : <b>355,6 x 9,52</b>

### Signature



### Analysis

**MEDIUM LEAK 13dB**

### Comment

**NEED TO BE REPAIRED**



# ACOUSTIC MEASUREMENT RESULTS

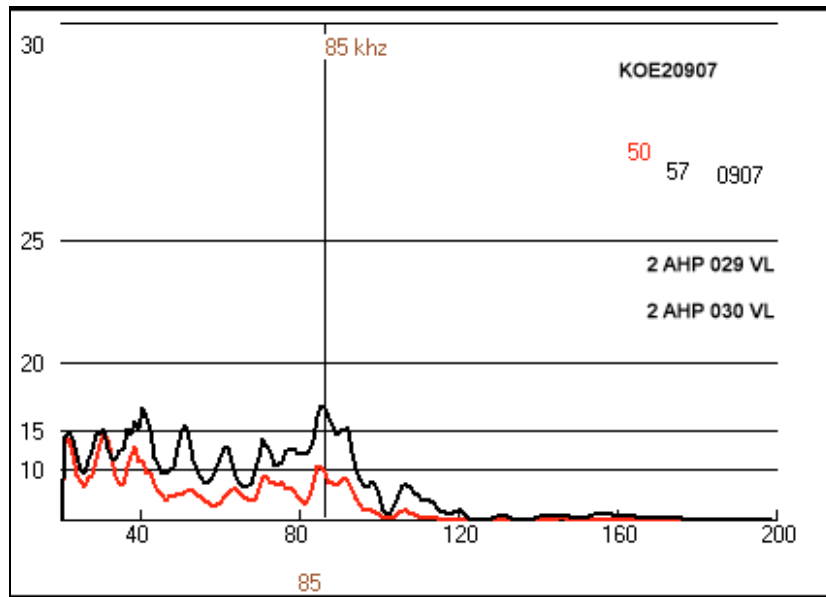


Customer : <b>ESKOM</b>	System : <b>AHP HP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>030 VL</b>	Application : <b>Heater 602 Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type : <b>Safety Valve</b>	Nominal pressure : <b>600 lbs</b>	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**SMALL LEAK 3dB**

### Comment

**CONTINUE MONITORING**





# ACOUSTIC MEASUREMENT RESULTS

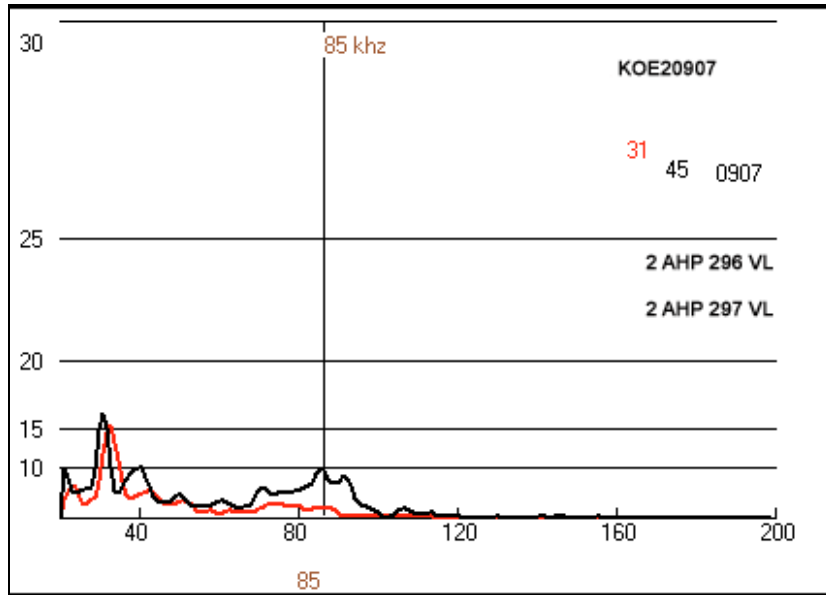


Customer : <b>ESKOM</b>	System : <b>AHP HP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>296 VL</b>	Application : <b>01 AHP 12 VL Isolating Valve</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**SMALL LEAK 9db**

### Comment

**CONTINUE MONITORING**



# ACOUSTIC MEASUREMENT RESULTS

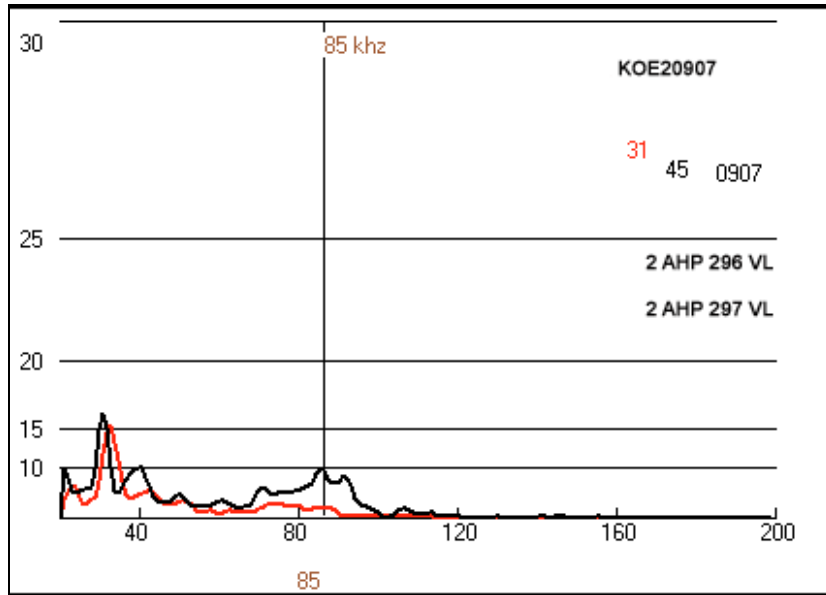


Customer : <b>ESKOM</b>	System : <b>AHP HP Heaters</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>297 VL</b>	Application : <b>Bypass Valve of 1 AHP 296 VL</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

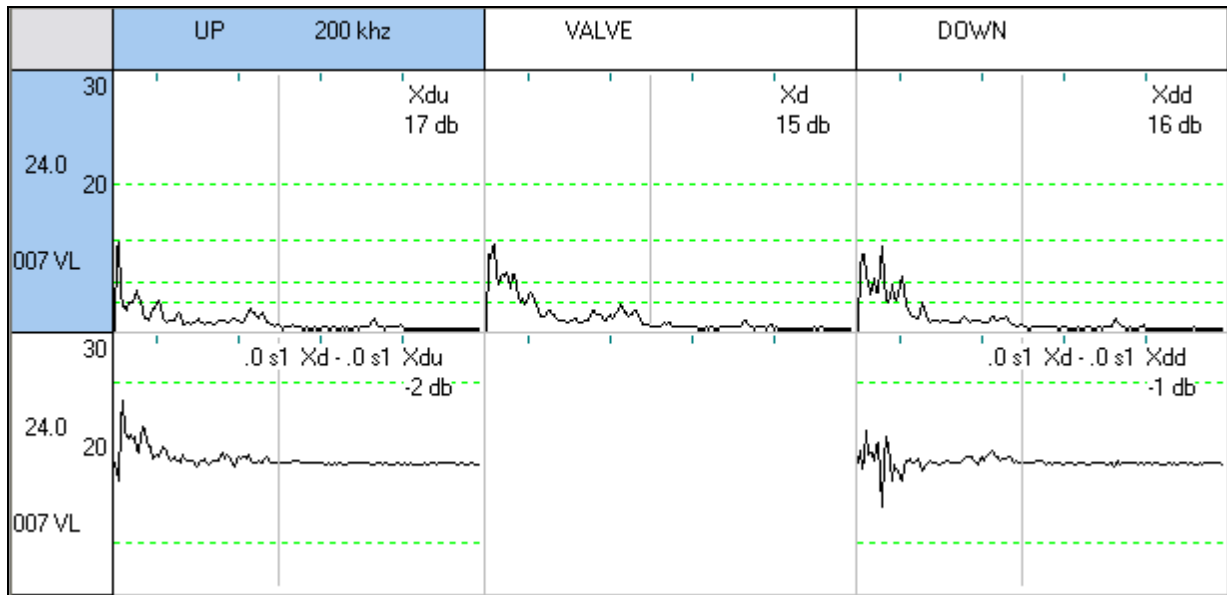


Customer : <b>ESKOM</b>	System : <b>APP</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Turbo - FWP</b>	
Tag number : <b>007 VL</b>	Application : <b>TFWP 001 Min Flow Valve</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>6"</b>	Fluid : <b>Water</b>
Type : <b>Multi-stage</b>	Nominal pressure : <b>1500 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class VI</b>	Model :	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

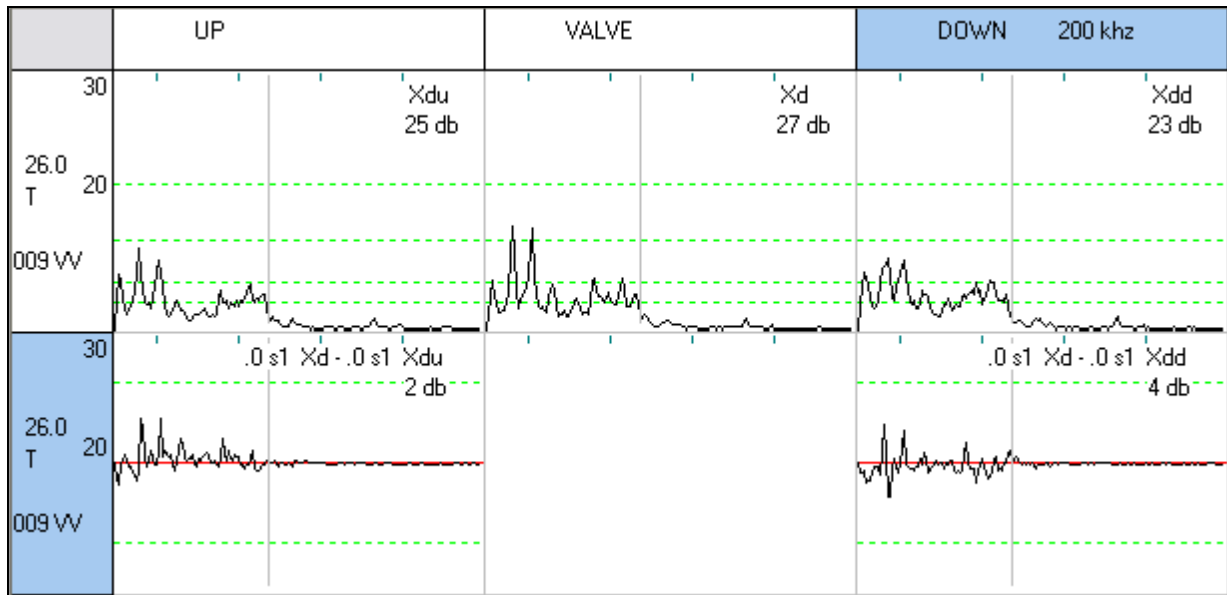


Customer : <b>ESKOM</b>	System : <b>APP</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Turbo - FWP</b>	
Tag number : <b>009 VL</b>	Application : <b>TFWP 001 Outlet To AHP (F1A5)</b>	<b>KOEBERG</b>

## Valve characteristics

Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>4"</b>	Fluid : <b>Water</b>
Type : <b>Multi-stage</b>	Nominal pressure : <b>1500 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class VI</b>	Model :	Pipe :

## Signature



## Analysis

**SMALL LEAK 2dB**

## Comment

**CONTINUE MONITORING**



# ACOUSTIC MEASUREMENT RESULTS

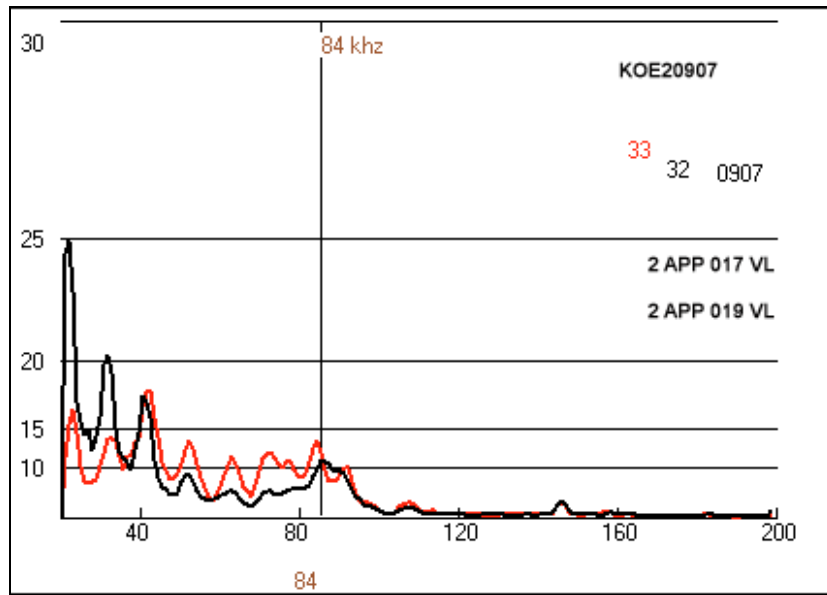


Customer : <b>ESKOM</b>	System : <b>APP Turbo - FWP</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>017 VL</b>	Application : <b>TFWP 002 Min Flow Valve</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>6"</b>	Fluid : <b>Water</b>
Type : <b>Multi-stage</b>	Nominal pressure : <b>1500 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class VI</b>	Model :	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

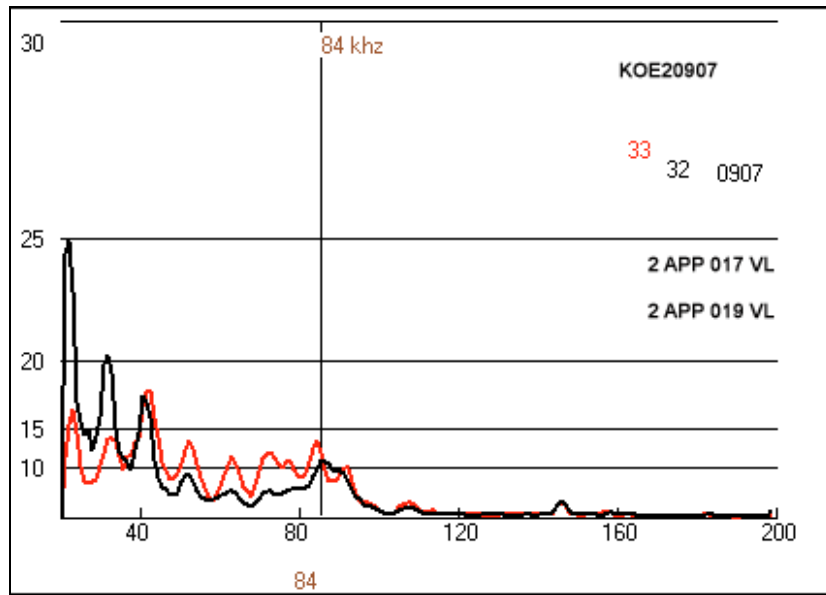


Customer : <b>ESKOM</b>	System : <b>APP Turbo - FWP</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>019 VL</b>	Application : <b>TFWP 002 Outlet To AHP (F1A5)</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>4"</b>	Fluid : <b>Water</b>
Type : <b>Multi-stage</b>	Nominal pressure : <b>1500 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class VI</b>	Model :	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

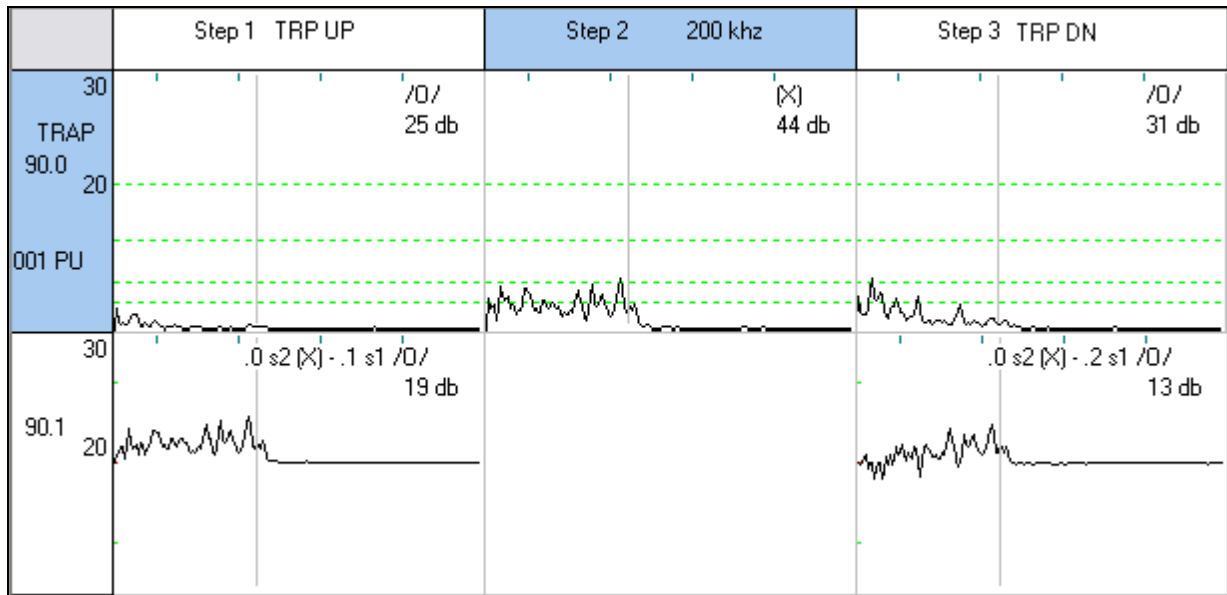


Customer : <b>ESKOM</b>	System : <b>APP</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>001 PU</b>	Application :	<b>KOEBERG</b>

## Valve characteristics

Utilisation :	Nominal diameter :	Fluid :
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

## Signature



## Analysis

**MEDIUM LEAK 13dB**

## Comment

**NEED TO BE REPAIRED**



# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>ATE</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Polishing Plant</b>	
Tag number : <b>901 VL</b>	Application : <b>901 PO Inlet</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Shut Off</b>	Nominal diameter : <b>32"</b>	Fluid : <b>Water</b>
Type : <b>Butterfly</b>	Nominal pressure : <b>150 lbs</b>	Supplier : <b>Pont à Mousson</b>
Leakage :	Model : <b>QK 11,02</b>	Pipe :

### Signature

### Analysis

**NOT TESTED**

### Comment

**Valve always opened so no delta P**





# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>ATE</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Polishing Plant</b>	
Tag number : <b>902 VL</b>	Application : <b>901 PO</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type : <b>Check Valve</b>	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe : <b>457,2 x 6,35</b>

### Signature

### Analysis

**NOT TESTED**

### Comment

**CHECK VALVE valve in opened position ( Pump 901 PO in Operation)**

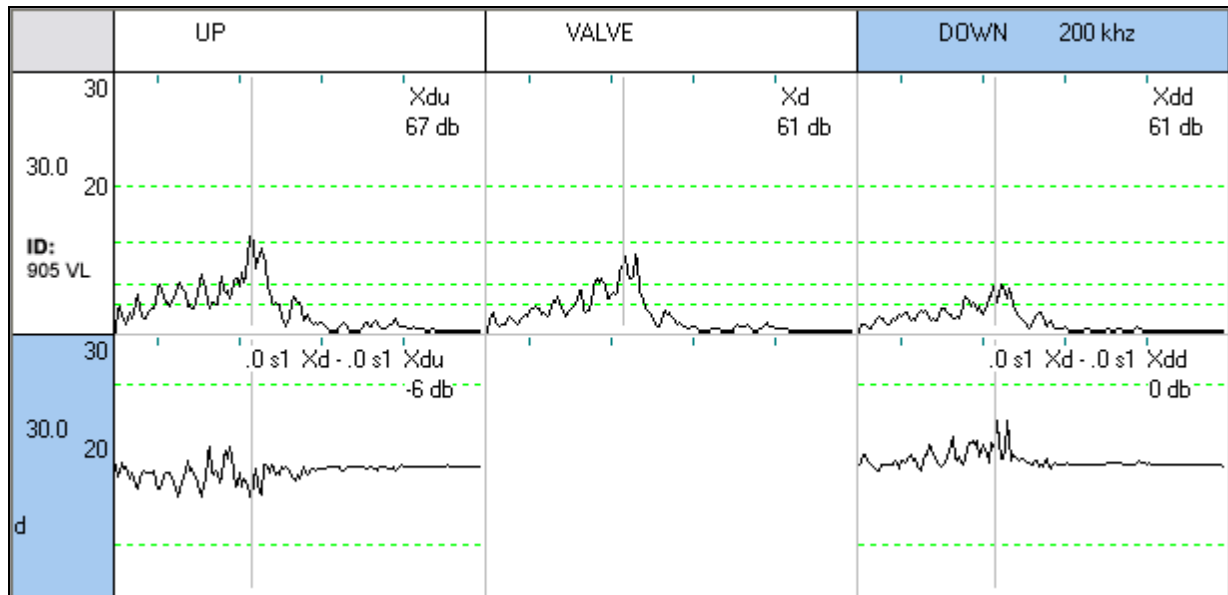


# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>ATE</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Polishing Plant</b>	
Tag number : <b>905 VL</b>	Application : <b>Bypass 901 PO To Condenser</b>	<b>KOEBERG</b>
<b>Valve characteristics</b>		
Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>6"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>150 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class V</b>	Model :	Pipe :

## Signature



## Analysis

**TIGHT**

## Comment

**VALVE OK**  
**PUMP 2 ATE 901 PO → IN OPERATION**  
**PUMPS 2 ATE 902 & 903 PO → STAND BY**



# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>ATE</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Polishing Plant</b>	
Tag number : <b>907 VL</b>	Application : <b>902 PO Inlet</b>	<b>KOEBERG</b>
<b>Valve characteristics</b>		
Utilisation : <b>Shut Off</b>	Nominal diameter : <b>32"</b>	Fluid : <b>Water</b>
Type : <b>Butterfly</b>	Nominal pressure : <b>150 lbs</b>	Supplier : <b>Pont à Mousson</b>
Leakage :	Model : <b>QK 11,02</b>	Pipe :

## Signature

## Analysis

**NOT TESTED**

## Comment

**Valve always opened so no delta P**



# ACOUSTIC MEASUREMENT RESULTS

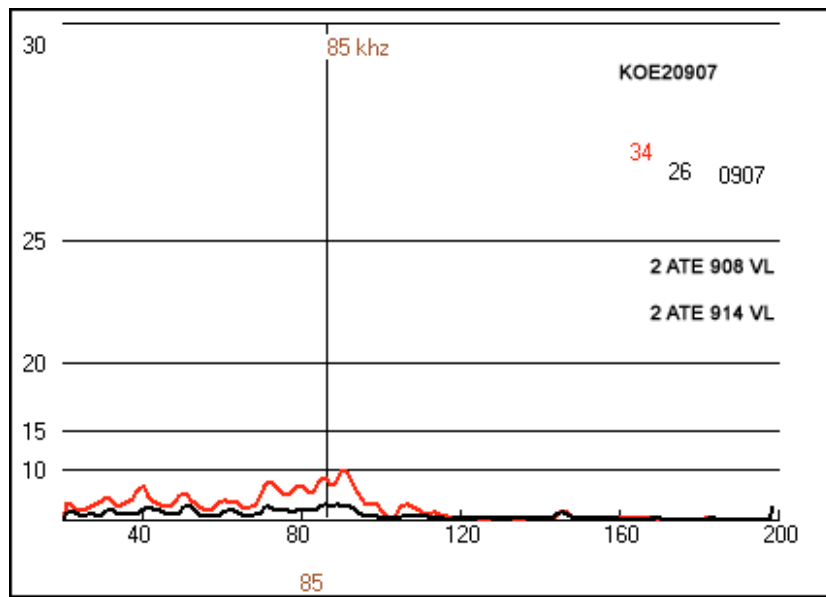


Customer : <b>ESKOM</b>	System : <b>ATE Polishing Plant</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>908 VL</b>	Application :	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type : <b>Check Valve</b>	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe : <b>457,2 x 6,35</b>

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**  
**PUMP 2 ATE 901 PO → IN OPERATION**  
**PUMPS 2 ATE 902 & 903 PO → STAND BY**



# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>ATE Polishing Plant</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>911 VL</b>	Application : <b>Bypass 902 PO To Condenser</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>On/Off Valve</b>	Nominal diameter : <b>6"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>150 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class V</b>	Model :	Pipe :

### Signature

### Analysis

**NOT TESTED**

### Comment

**no pressure impossible to switch pump**



# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>ATE</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Polishing Plant</b>	
Tag number : <b>913 VL</b>	Application : <b>903 PO Inlet</b>	<b>KOEBERG</b>
<b>Valve characteristics</b>		
Utilisation : <b>Shut Off</b>	Nominal diameter : <b>32"</b>	Fluid : <b>Water</b>
Type : <b>Butterfly</b>	Nominal pressure : <b>150 lbs</b>	Supplier : <b>Pont à Mousson</b>
Leakage :	Model : <b>QK 11,02</b>	Pipe :

## Signature

## Analysis

**NOT TESTED**

## Comment

**Valve always opened so no delta P**



# ACOUSTIC MEASUREMENT RESULTS

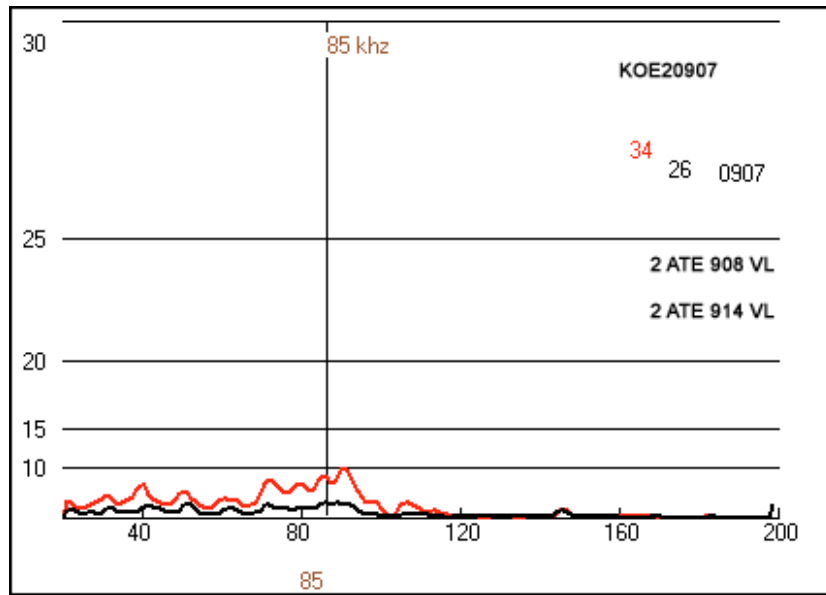


Customer : <b>ESKOM</b>	System : <b>ATE Polishing Plant</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>914 VL</b>	Application :	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type : <b>Check Valve</b>	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe : <b>457,2 x 6,35</b>

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**  
**PUMP 2 ATE 901 PO → IN OPERATION**  
**PUMPS 2 ATE 902 & 903 PO → STAND BY**



# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>ATE</b> <b>Polishing Plant</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>917 VL</b>	Application : <b>Bypass 903 PO To Condenser</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>6"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>150 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class V</b>	Model :	Pipe :

### Signature

### Analysis

**NOT TESTED**

### Comment

**No pressure. Impossible to switch pump.**





# ACOUSTIC MEASUREMENT RESULTS

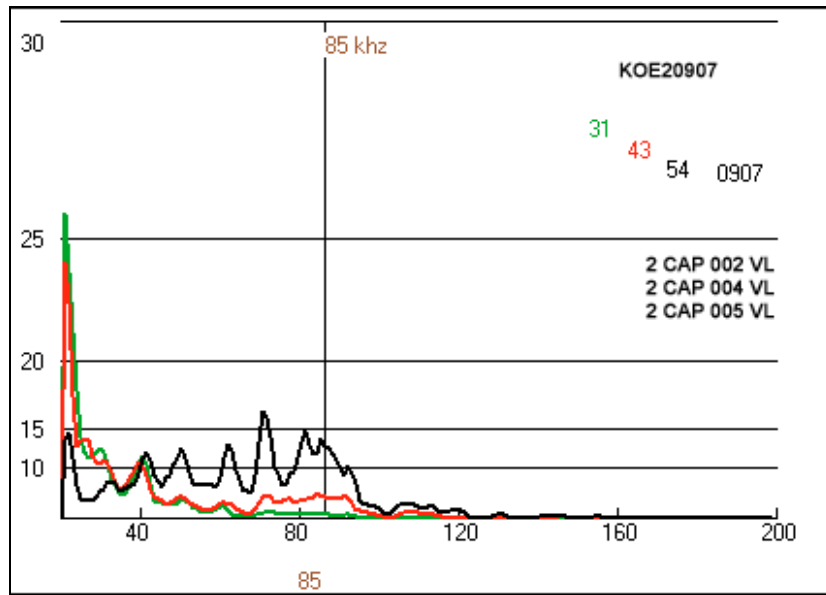


Customer : <b>ESKOM</b>	System : <b>CAP Condenser Make Up</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>002 VL</b>	Application :	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**MEDIUM LEAK 14dB**

### Comment

**NEED TO BE REPAIRED**



# ACOUSTIC MEASUREMENT RESULTS

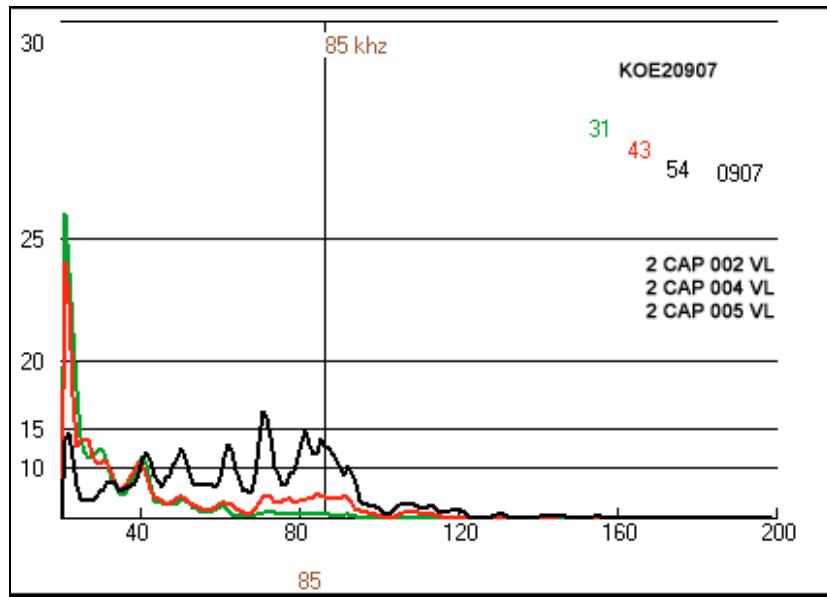


Customer : <b>ESKOM</b>	System : <b>CAP Condenser Make Up</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>004 VL</b>	Application : <b>Emergency Make Up</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

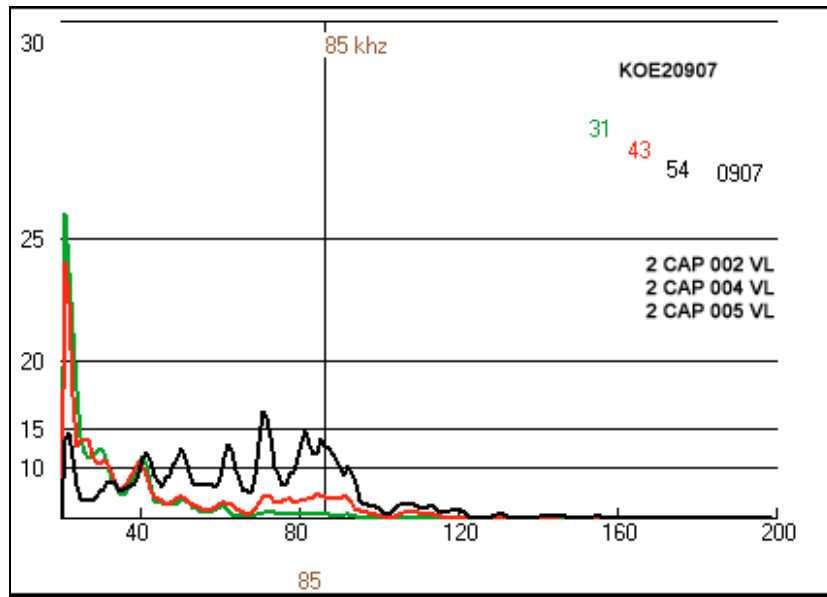


Customer : <b>ESKOM</b>	System : <b>CAP Condenser Make Up</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>005 VL</b>	Application : <b>Manual Make Up</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>CEX</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Condensate Extraction</b>	
Tag number : <b>001 VL</b>	Application : <b>Suction Of 001 PO</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Shut Off</b>	Nominal diameter : <b>32"</b>	Fluid : <b>Water</b>
Type : <b>Butterfly</b>	Nominal pressure : <b>150 lbs</b>	Supplier : <b>Pont à Mousson</b>
Leakage :	Model : <b>QK 11,02</b>	Pipe :

### Signature

### Analysis

**NOT TESTED**

### Comment

**Valve always opened so no delta P**



# ACOUSTIC MEASUREMENT RESULTS

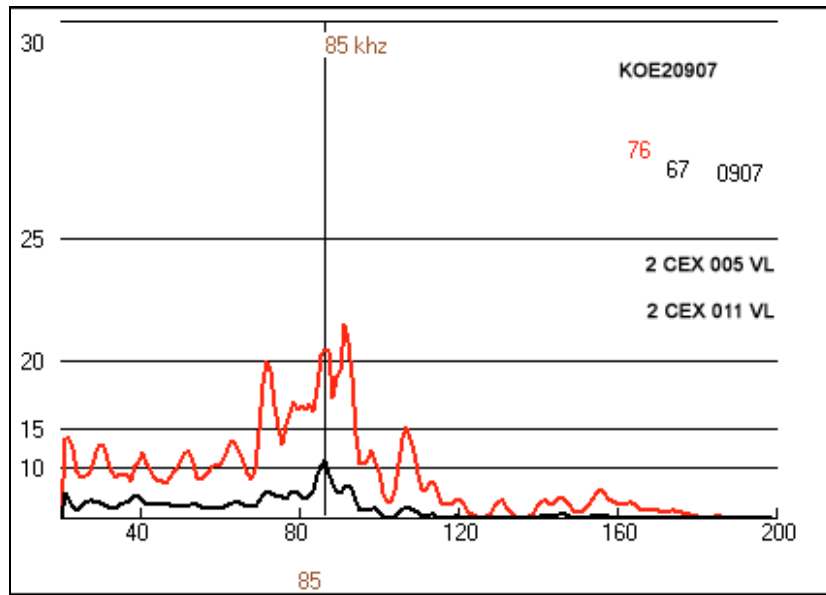


Customer : <b>ESKOM</b>	System : <b>CEX</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Condensate Extraction</b>	
Tag number : <b>005 VL</b>	Application : <b>Min Flow Of 001 PO</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>4"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class V</b>	Model :	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>CEX</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Condensate Extraction</b>	
Tag number : <b>007 VL</b>	Application : <b>Suction Of 002 PO</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Shut Off</b>	Nominal diameter : <b>32"</b>	Fluid : <b>Water</b>
Type : <b>Butterfly</b>	Nominal pressure : <b>150 lbs</b>	Supplier : <b>Pont à Mousson</b>
Leakage :	Model : <b>QK 11,02</b>	Pipe :

### Signature

### Analysis

**NOT TESTED**

### Comment

**Valve always opened so no delta P**



# ACOUSTIC MEASUREMENT RESULTS

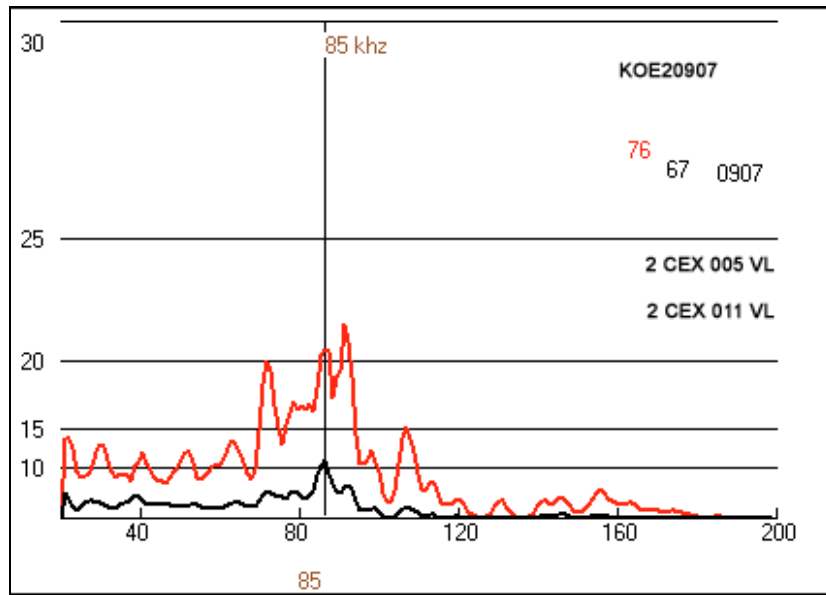


Customer : <b>ESKOM</b>	System : <b>CEX</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Condensate Extraction</b>	
Tag number : <b>011 VL</b>	Application : <b>Min Flow Of 002 PO</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>4"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class V</b>	Model :	Pipe :

### Signature



### Analysis

**MEDIUM LEAK 18dB**

### Comment

**NEED TO BE REPAIRED**



# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>CEX</b> <b>Condensate Extraction</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>013 VL</b>	Application : <b>Suction Of 003 PO</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Shut Off</b>	Nominal diameter : <b>32"</b>	Fluid : <b>Water</b>
Type : <b>Butterfly</b>	Nominal pressure : <b>150 lbs</b>	Supplier : <b>Pont à Mousson</b>
Leakage :	Model : <b>QK 11,02</b>	Pipe :

### Signature

### Analysis

**NOT TESTED**

### Comment

**Valve always opened so no delta P**





# ACOUSTIC MEASUREMENT RESULTS

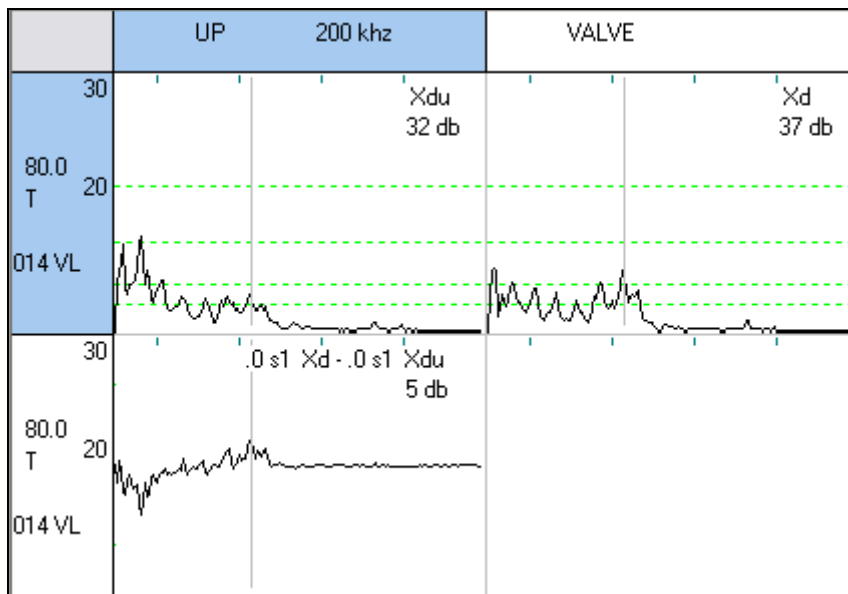


Customer : <b>ESKOM</b>	System : <b>CEX</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Condensate Extraction</b>	
Tag number : <b>014 VL</b>	Application :	<b>KOEBERG</b>

## Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

## Signature



## Analysis

**TIGHT**

## Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>CEX</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Condensate Extraction</b>	
Tag number : <b>017 VL</b>	Application : <b>Min Flow Of 003 PO</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>4"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class V</b>	Model :	Pipe :

### Signature

### Analysis

**NOT TESTED**

### Comment

**Pump 3 wasn't in operation, no possibility to swap pump.**



# ACOUSTIC MEASUREMENT RESULTS

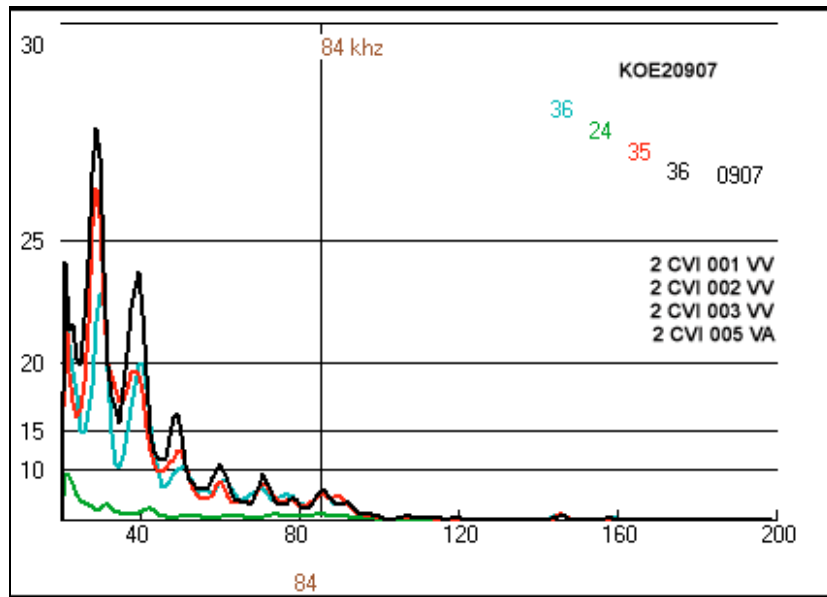


Customer : <b>ESKOM</b>	System : <b>CVI Vacuum System</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>001 VV</b>	Application :	<b>KOEBERG</b>

## Valve characteristics

Utilisation :	Nominal diameter :	Fluid :
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

## Signature



## Analysis

**SMALL LEAK 4dB**

## Comment

**CONTINUE MONITORING**



# ACOUSTIC MEASUREMENT RESULTS

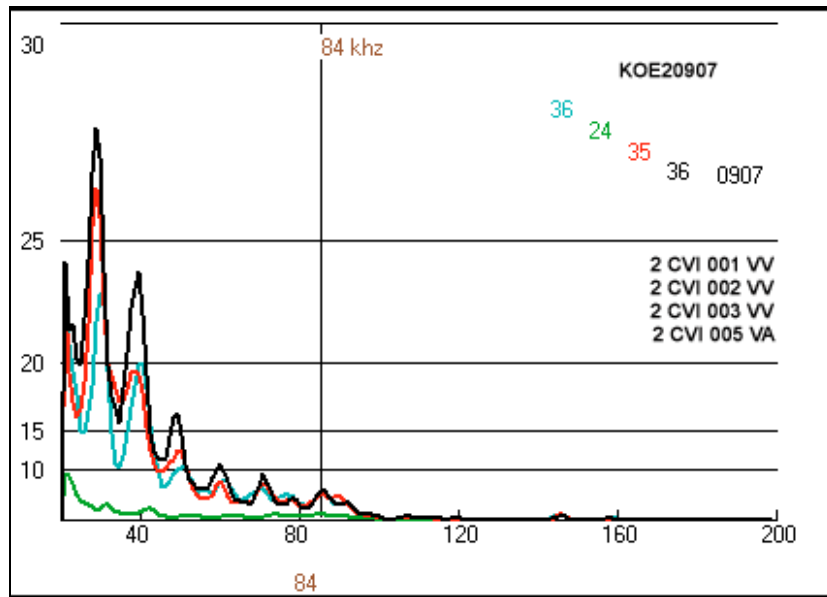


Customer : <b>ESKOM</b>	System : <b>CVI Vacuum System</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>002 VV</b>	Application :	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid :
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

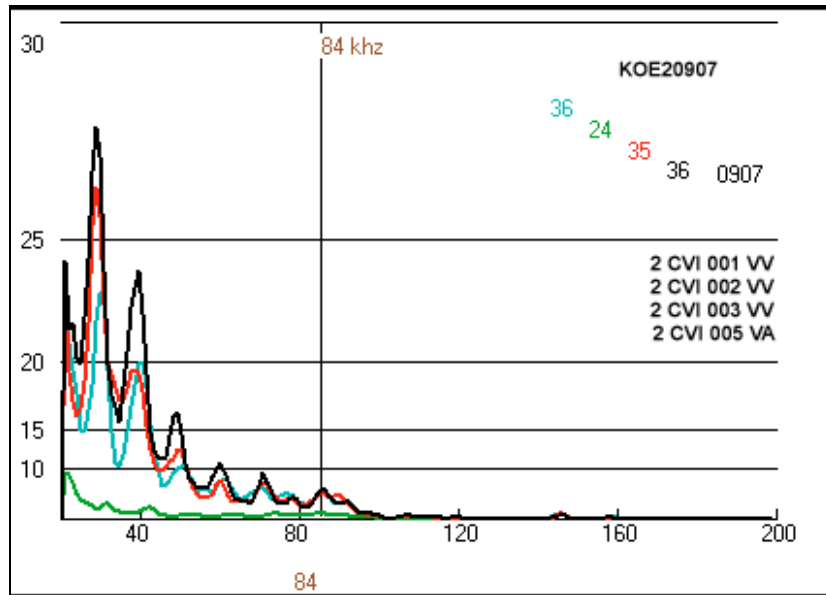


Customer : <b>ESKOM</b>	System : <b>CVI Vacuum System</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>003 VV</b>	Application : <b>Steam Inlet Nb 3 Ejector From SVA Barrel</b>	<b>KOEBERG</b>

## Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Steam</b>
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

## Signature



## Analysis

**TIGHT**

## Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

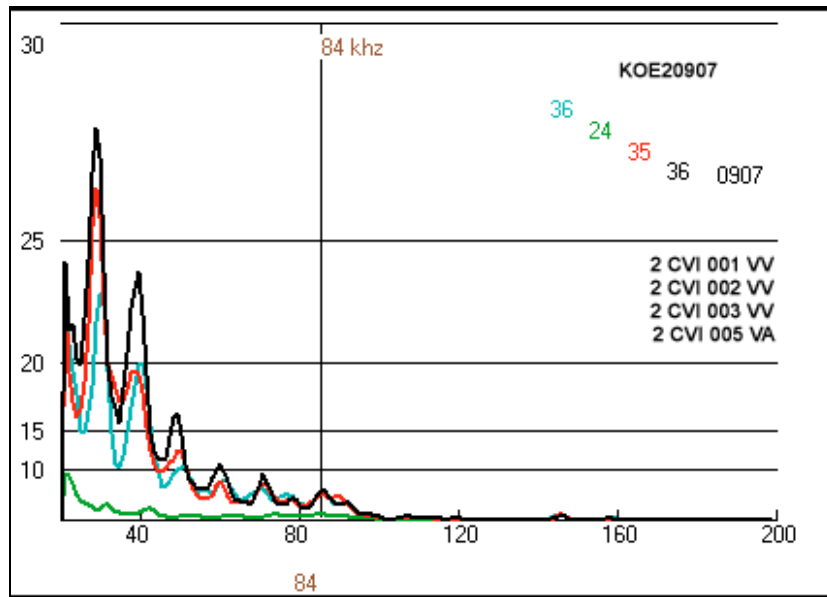


Customer : <b>ESKOM</b>	System : <b>CVI Vacuum System</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>005 VA</b>	Application : <b>Suction At Nb 3 Ejector</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Shut Off</b>	Nominal diameter : <b>24"</b>	Fluid : <b>Air/Steam</b>
Type : <b>Butterfly</b>	Nominal pressure : <b>150 lbs</b>	Supplier : <b>Pont à Mousson</b>
Leakage :	Model : <b>QS 05 DT</b>	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

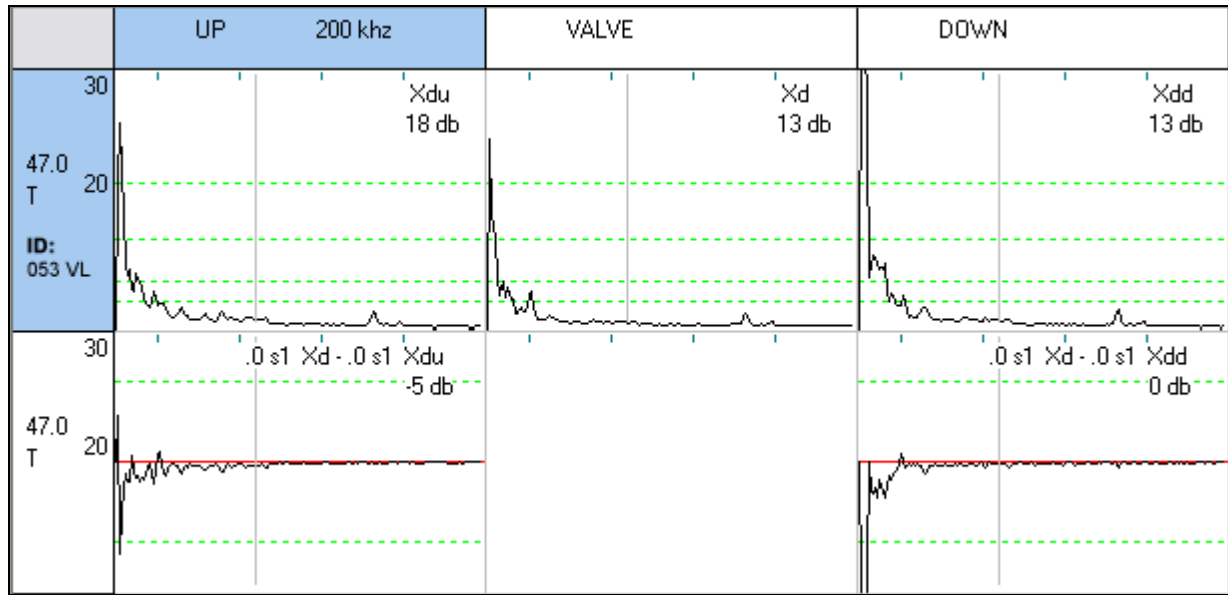


Customer : <b>ESKOM</b>	System : <b>CVI</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Vacuum System</b>	
Tag number : <b>053 VL</b>	Application : <b>Spray Water For Desuperheating</b>	<b>KOEBERG</b>

## Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

## Signature



## Analysis

**TIGHT**

## Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

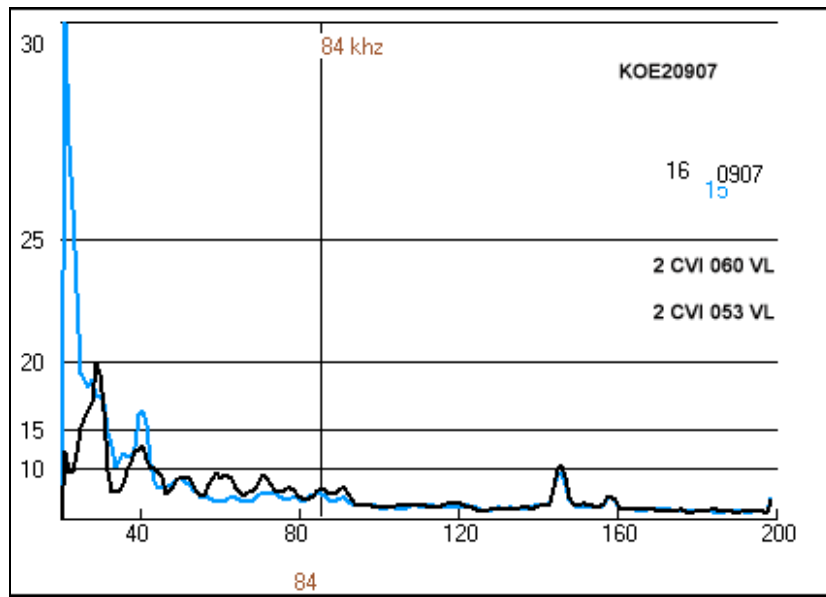


Customer : <b>ESKOM</b>	System : <b>CVI Vacuum System</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>060VL</b>	Application : <b>Spray Water For Desuperheating (by pass)</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**





# ACOUSTIC MEASUREMENT RESULTS

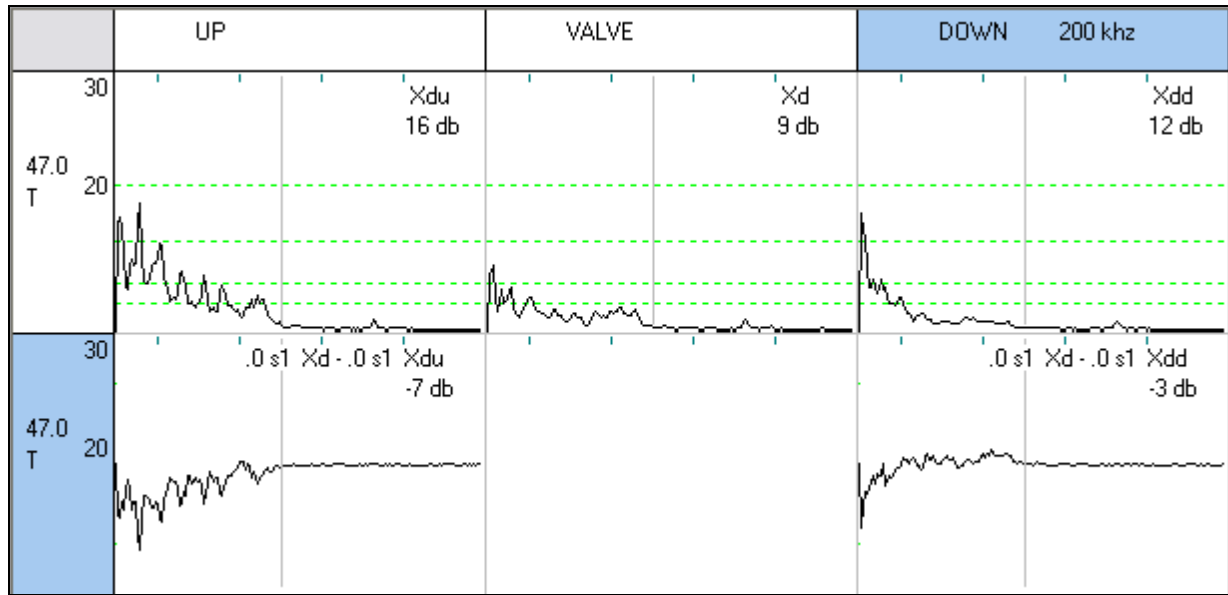


Customer : <b>ESKOM</b>	System : <b>CVI</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Vacuum System</b>	
Tag number : <b>059 VL</b>	Application : <b>Spray Water For Desuperheating</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

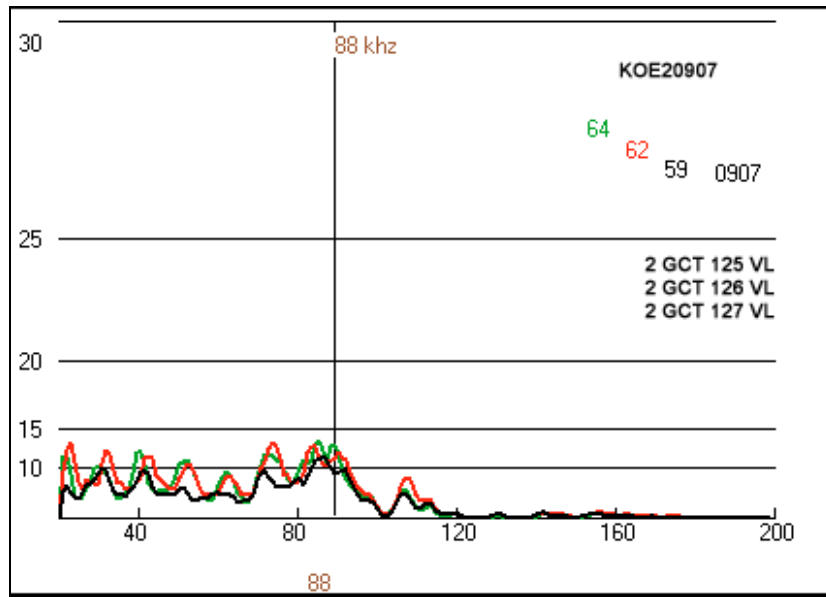


Customer : <b>ESKOM</b>	System : <b>GCT Turbine Bypass</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>125 VL</b>	Application : <b>S W On Desuperheating</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>3"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class V</b>	Model :	Pipe :

### Signature



### Analysis

**SMALL LEAK 6dB**

### Comment

**CONTINUE MONITORING**



# ACOUSTIC MEASUREMENT RESULTS

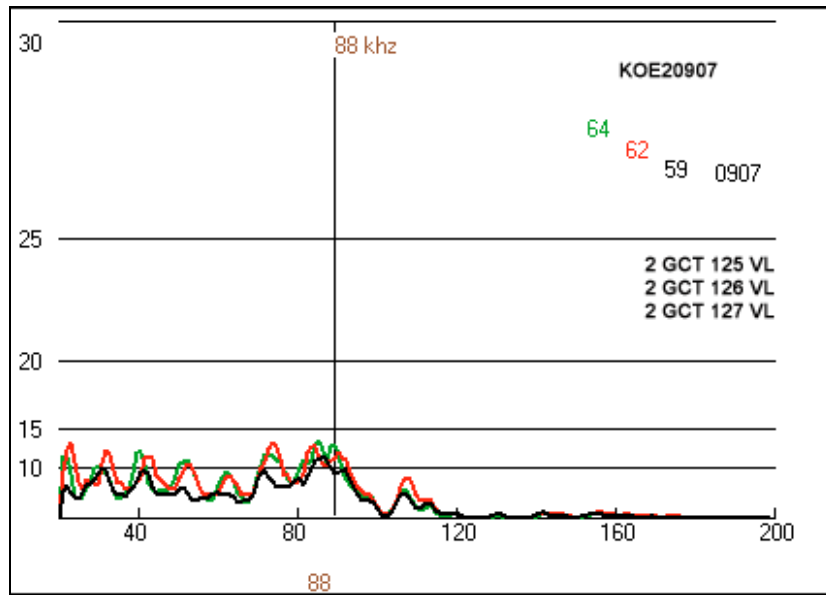


Customer : <b>ESKOM</b>	System : <b>GCT Turbine Bypass</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>126 VL</b>	Application : <b>S W On Desuperheating</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>3"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class V</b>	Model :	Pipe :

### Signature



### Analysis

**SMALL LEAK 7dB**

### Comment

**CONTINUE MONITORING**



# ACOUSTIC MEASUREMENT RESULTS

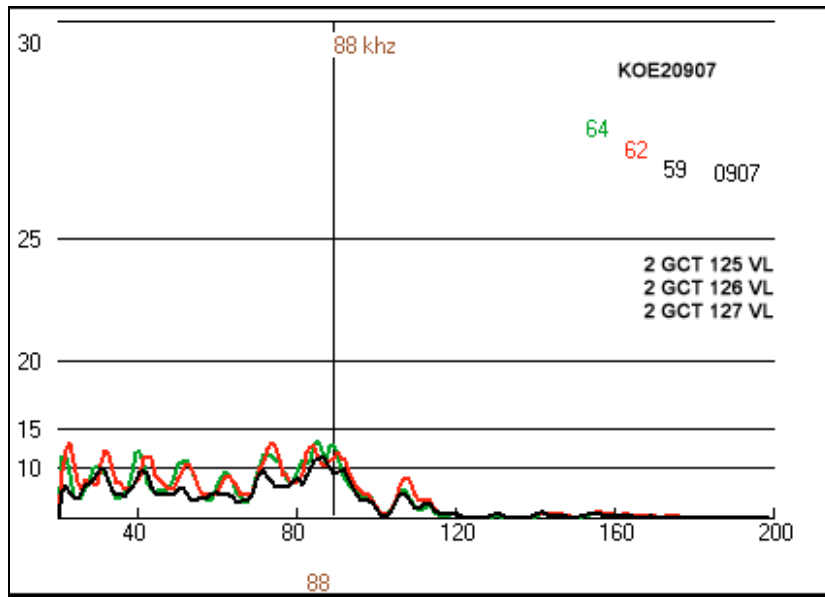


Customer : <b>ESKOM</b>	System : <b>GCT Turbine Bypass</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>127 VL</b>	Application : <b>S W On Desuperheating</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>3"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>Class V</b>	Model :	Pipe :

### Signature



### Analysis

**SMALL LEAK 2dB**

### Comment

**CONTINUE MONITORING**



# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>GCT Turbine Bypass</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>131 VV</b>	Application : <b>Main Steam Pipe From SG 1 Drain</b>	<b>KOEBERG</b>

## Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Steam</b>
Type :	Nominal pressure :	Supplier : <b>Fischer</b>
Leakage :	Model :	Pipe :

## Signature

## Analysis

**NOT TESTED**

## Comment

**HEAT STRESS AREA**



# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>GCT Turbine Bypass</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>132 VV</b>	Application : <b>Main Steam Pipe From SG 2 Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Steam</b>
Type :	Nominal pressure :	Supplier : <b>Fischer</b>
Leakage :	Model :	Pipe :

### Signature

### Analysis

**NOT TESTED**

### Comment

**HEAT STRESS AREA**



# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>GCT Turbine Bypass</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>133 VV</b>	Application : <b>Main Steam Pipe From SG 3 Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Steam</b>
Type :	Nominal pressure :	Supplier : <b>Fischer</b>
Leakage :	Model :	Pipe :

### Signature

### Analysis

**NOT TESTED**

### Comment

**HEAT STRESS AREA**



# ACOUSTIC MEASUREMENT RESULTS

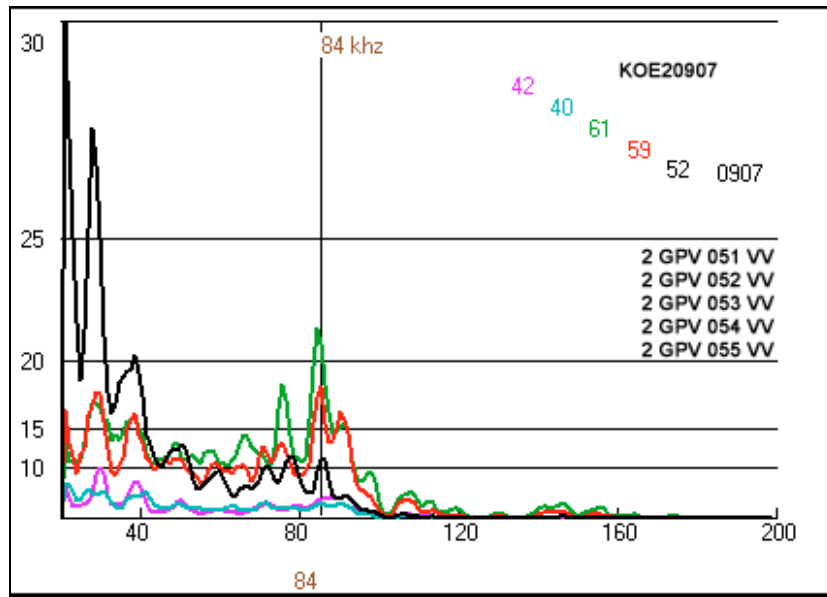


Customer : <b>ESKOM</b>	System : <b>GPV ST Drain Valves</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>051 VV</b>	Application : <b>Up S Steam Valves Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Shut Off</b>	Nominal diameter : <b>100 mm</b>	Fluid : <b>Steam</b>
Type : <b>Globe Valve</b>	Nominal pressure : <b>100 Bar</b>	Supplier : <b>Munzing</b>
Leakage :	Model : <b>3240</b>	Pipe :

### Signature



### Analysis

**SMALL LEAK 4dB**

### Comment

**CONTINUE MONITORING**





# ACOUSTIC MEASUREMENT RESULTS

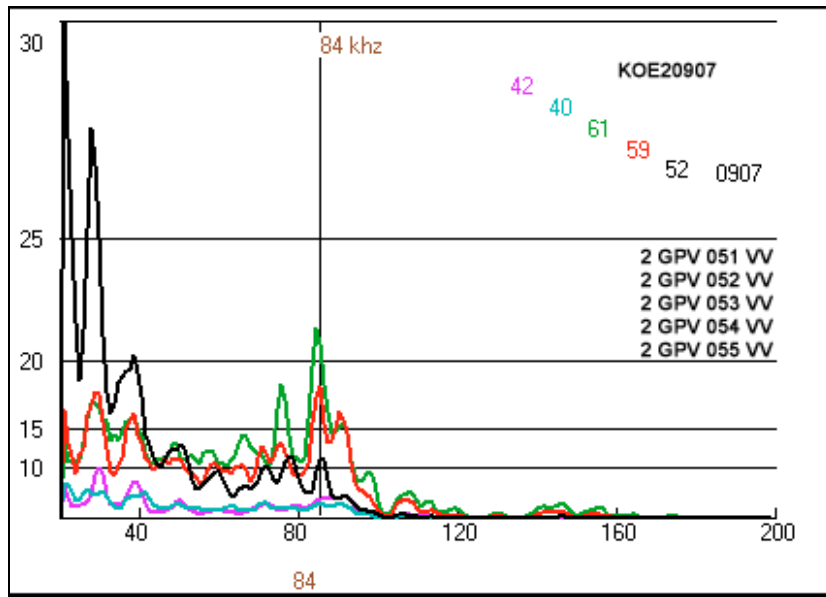


Customer : <b>ESKOM</b>	System : <b>GPV ST Drain Valves</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>052 VV</b>	Application : <b>Down S HP Steam Valves Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Shut Off</b>	Nominal diameter : <b>100 mm</b>	Fluid : <b>Steam</b>
Type : <b>Globe Valve</b>	Nominal pressure : <b>100 Bar</b>	Supplier : <b>Munzing</b>
Leakage :	Model : <b>3240</b>	Pipe :

### Signature



### Analysis

**MEDIUM LEAK 18dB**

### Comment

**NEED TO BE REPAIRED**



# ACOUSTIC MEASUREMENT RESULTS

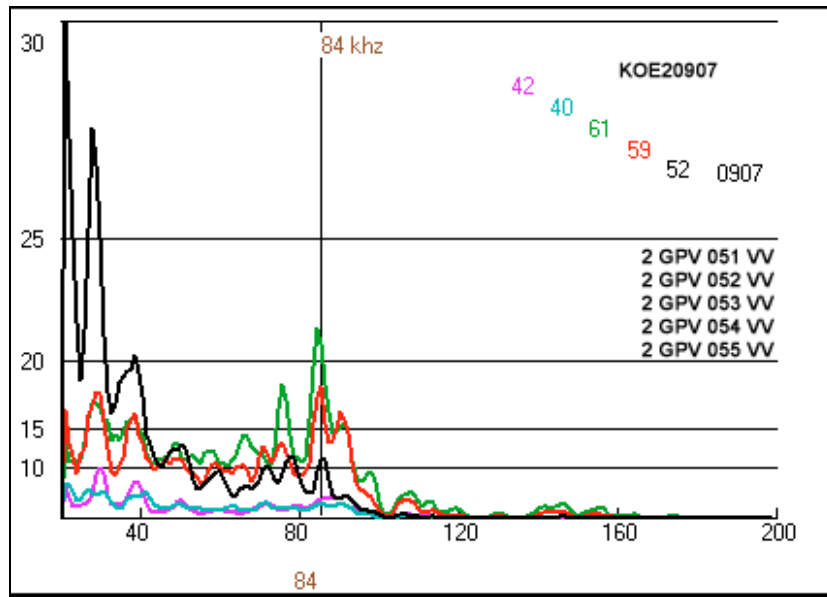


Customer : <b>ESKOM</b>	System : <b>GPV ST Drain Valves</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>053 VV</b>	Application : <b>Down S HP Steam Valves Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Shut Off</b>	Nominal diameter : <b>65 mm</b>	Fluid : <b>Steam</b>
Type : <b>Globe Valve</b>	Nominal pressure : <b>100 Bar</b>	Supplier : <b>Munzing</b>
Leakage :	Model : <b>3240</b>	Pipe :

### Signature



### Analysis

**MEDIUM LEAK 22dB**

### Comment

**NEED TO BE REPAIRED**



# ACOUSTIC MEASUREMENT RESULTS

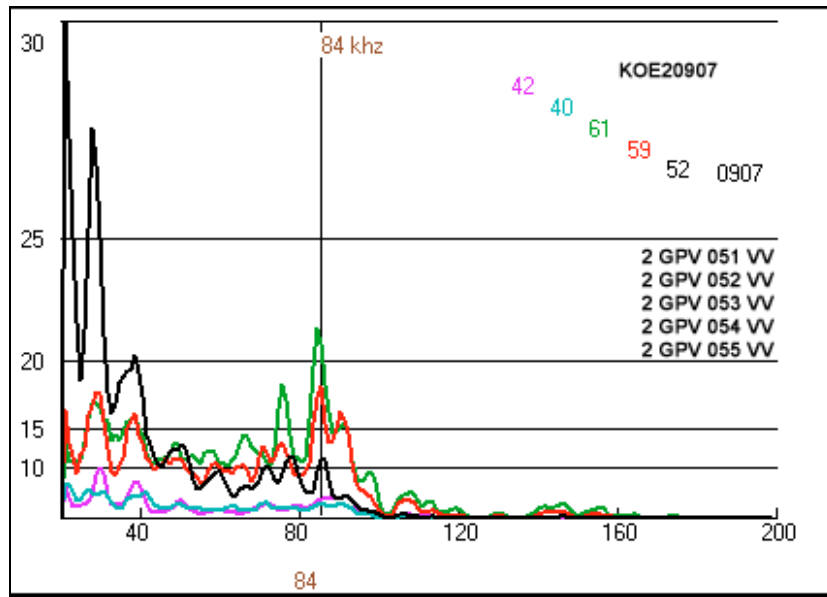


Customer : <b>ESKOM</b>	System : <b>GPV ST Drain Valves</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>054 VV</b>	Application : <b>LP Steam Valves Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Shut Off</b>	Nominal diameter : <b>50 mm</b>	Fluid : <b>Steam</b>
Type : <b>Globe Valve</b>	Nominal pressure : <b>40 Bar</b>	Supplier : <b>Munzing</b>
Leakage :	Model : <b>3220</b>	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

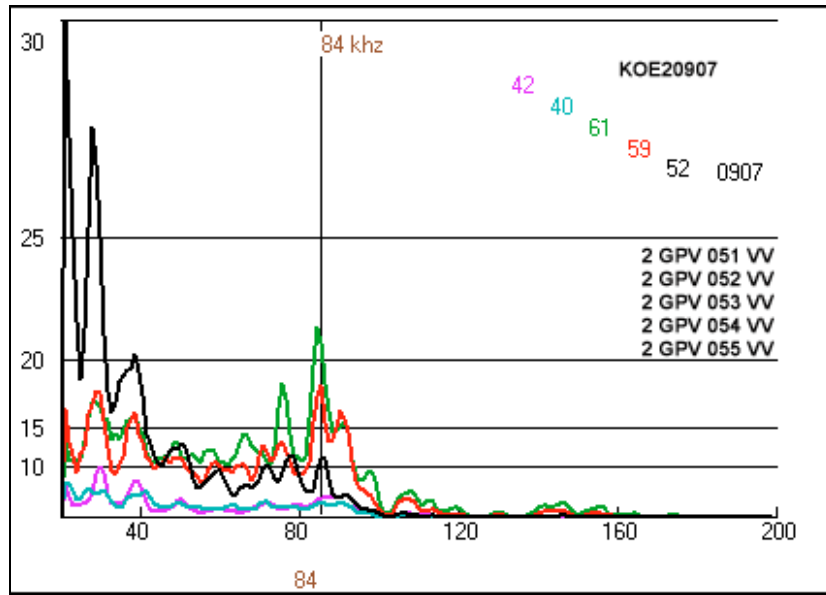


Customer : <b>ESKOM</b>	System : <b>GPV ST Drain Valves</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>055 VV</b>	Application : <b>HP Exhaust Pipe &amp; Safety Valves Barrel Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Shut Off</b>	Nominal diameter : <b>200 mm</b>	Fluid : <b>Steam</b>
Type : <b>Gate Valve</b>	Nominal pressure : <b>25 Bars</b>	Supplier : <b>Munzing</b>
Leakage :	Model : <b>3753-19</b>	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

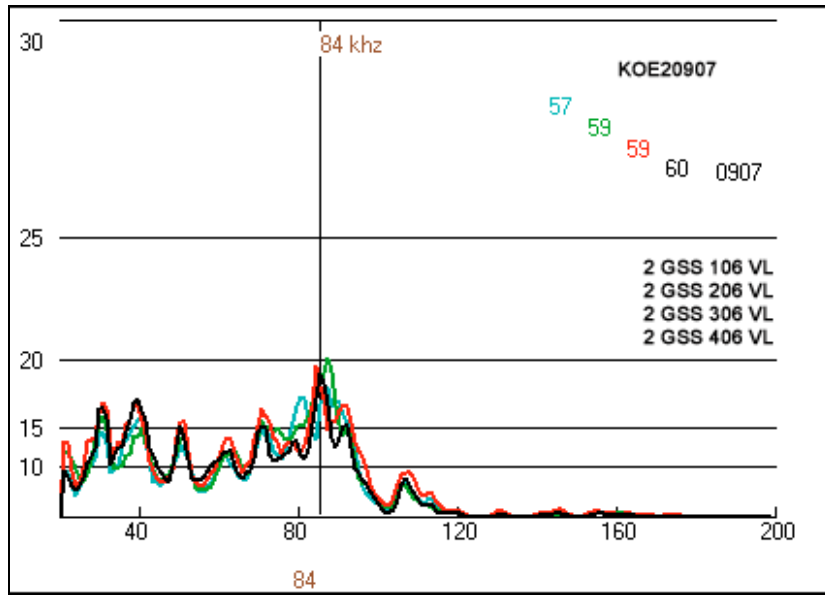


Customer : <b>ESKOM</b>	System : <b>GSS</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Separator - Reheater</b>	
Tag number : <b>106 VL</b>	Application : <b>Separator - Reheater</b> <b>Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Shut Off</b>	Nominal diameter : <b>4"</b>	Fluid : <b>Water</b>
Type :	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Fischer</b>
Leakage :	Model : <b>AQ 20 307</b>	Pipe : <b>114,3 x 8,56</b>

### Signature



### Analysis

**SMALL LEAK 2dB**

### Comment

**CONTINUE MONITORING**



# ACOUSTIC MEASUREMENT RESULTS

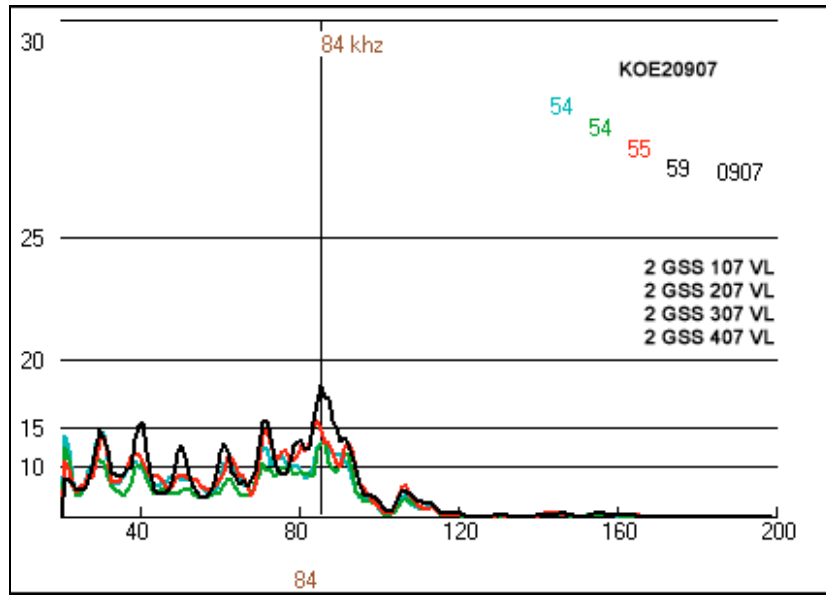


Customer : <b>ESKOM</b>	System : <b>GSS Separator - Reheater</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>107 VL</b>	Application : <b>Separator - Reheater Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Shut Off</b>	Nominal diameter : <b>4"</b>	Fluid : <b>Water</b>
Type :	Nominal pressure : <b>300 lbs</b>	Supplier : <b>Fischer</b>
Leakage :	Model : <b>AQ 20 307</b>	Pipe : <b>114,3 x 6,02</b>

### Signature



### Analysis

**SMALL LEAK 5dB**

### Comment

**CONTINUE MONITORING**



# ACOUSTIC MEASUREMENT RESULTS

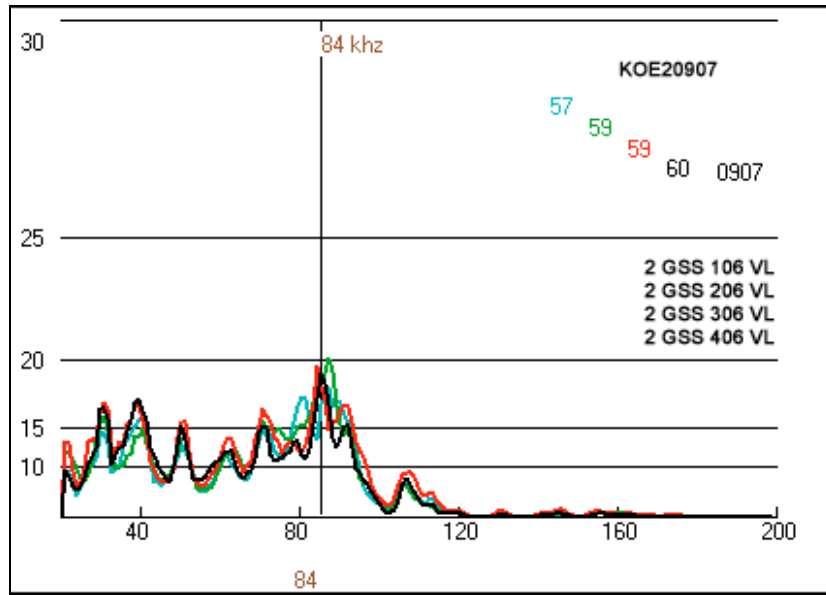


Customer : <b>ESKOM</b>	System : <b>GSS Separator - Reheater</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>206 VL</b>	Application : <b>Separator - Reheater Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Shut Off</b>	Nominal diameter : <b>4"</b>	Fluid : <b>Water</b>
Type :	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Fischer</b>
Leakage :	Model : <b>AQ 20 307</b>	Pipe : <b>114,3 x 8,56</b>

### Signature



### Analysis

**SMALL LEAK 4dB**

### Comment

**CONTINUE MONITORING**



# ACOUSTIC MEASUREMENT RESULTS

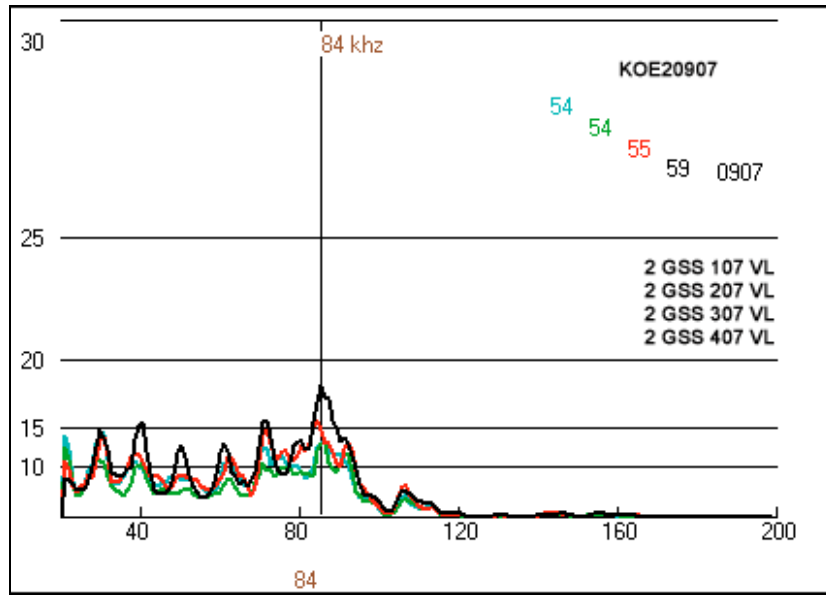


Customer : <b>ESKOM</b>	System : <b>GSS Separator - Reheater</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>207 VL</b>	Application : <b>Separator - Reheater Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Shut Off</b>	Nominal diameter : <b>4"</b>	Fluid : <b>Water</b>
Type :	Nominal pressure : <b>300 lbs</b>	Supplier : <b>Fischer</b>
Leakage :	Model : <b>AQ 20 307</b>	Pipe : <b>114,3 x 6,07</b>

### Signature



### Analysis

**SMALL LEAK 3dB**

### Comment

**CONTINUE MONITORING**





# ACOUSTIC MEASUREMENT RESULTS

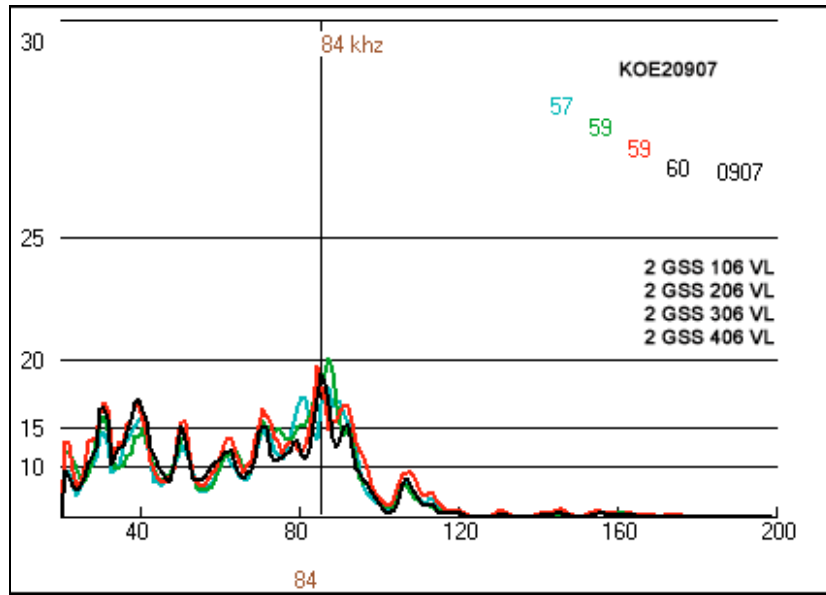


Customer : <b>ESKOM</b>	System : <b>GSS</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Separator - Reheater</b>	
Tag number : <b>306 VL</b>	Application : <b>Separator - Reheater</b> <b>Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Shut Off</b>	Nominal diameter : <b>4"</b>	Fluid : <b>Water</b>
Type :	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Fischer</b>
Leakage :	Model : <b>AQ 20 307</b>	Pipe : <b>114,3 x 8,56</b>

### Signature



### Analysis

**SMALL LEAK 3dB**

### Comment

**CONTINUE MONITORING**



# ACOUSTIC MEASUREMENT RESULTS

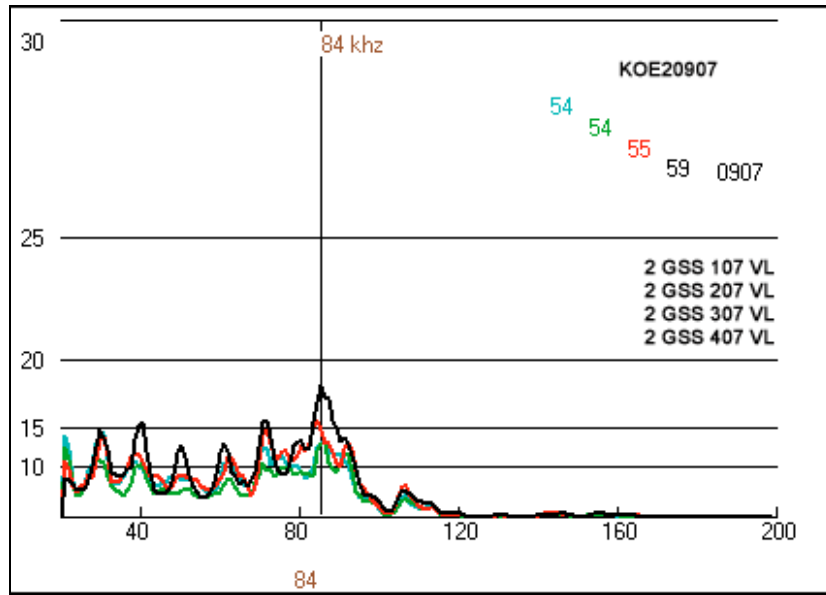


Customer : <b>ESKOM</b>	System : <b>GSS Separator - Reheater</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>307 VL</b>	Application : <b>Separator - Reheater Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Shut Off</b>	Nominal diameter : <b>4"</b>	Fluid : <b>Water</b>
Type :	Nominal pressure : <b>300 lbs</b>	Supplier : <b>Fischer</b>
Leakage :	Model : <b>AQ 20 307</b>	Pipe : <b>114,3 x 6,07</b>

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

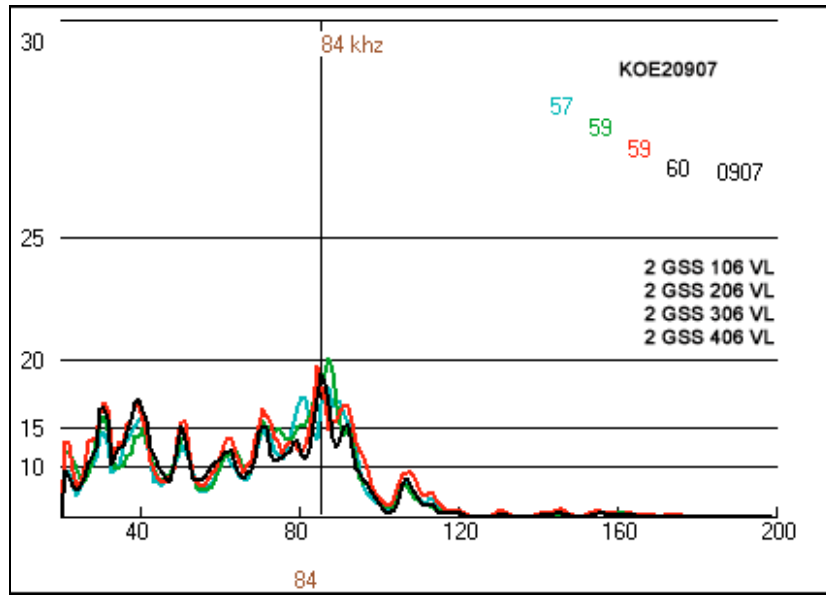


Customer : <b>ESKOM</b>	System : <b>GSS Separator - Reheater</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>406 VL</b>	Application : <b>Separator - Reheater Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Shut Off</b>	Nominal diameter : <b>4"</b>	Fluid : <b>Water</b>
Type :	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Fischer</b>
Leakage :	Model : <b>AQ 20 307</b>	Pipe : <b>114,3 x 8,56</b>

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

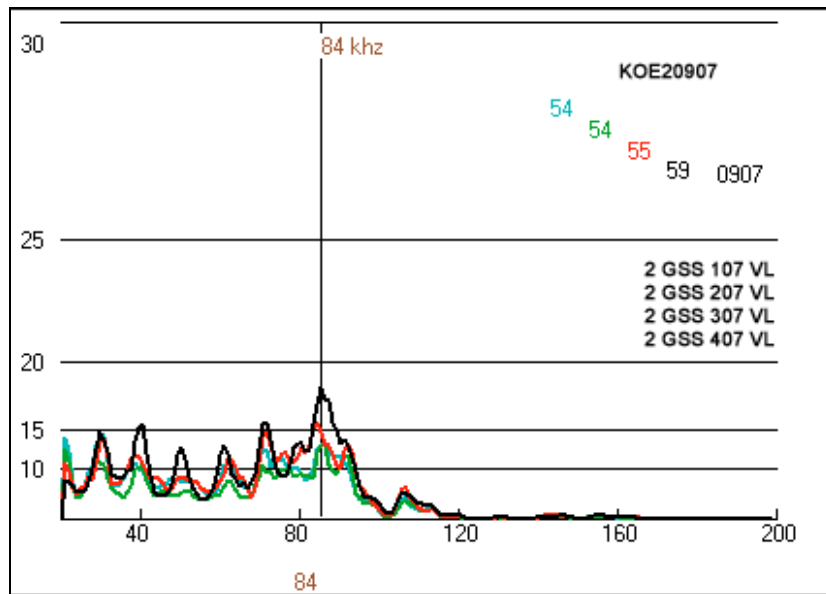


Customer : <b>ESKOM</b>	System : <b>GSS Separator - Reheater</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>407 VL</b>	Application : <b>Separator - Reheater Emergency Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Shut Off</b>	Nominal diameter : <b>4"</b>	Fluid : <b>Water</b>
Type :	Nominal pressure : <b>300 lbs</b>	Supplier : <b>Fischer</b>
Leakage :	Model : <b>AQ 20 307</b>	Pipe : <b>114,3 x 6,07</b>

### Signature



### Analysis

**SMALL LEAK 2dB**

### Comment

**CONTINUE MONITORING**



# ACOUSTIC MEASUREMENT RESULTS

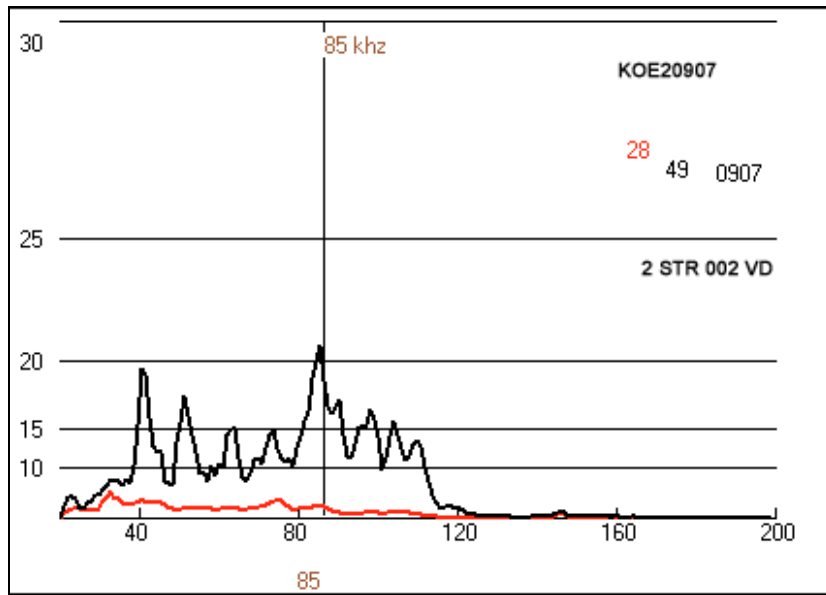


Customer : <b>ESKOM</b>	System : <b>STR</b> <b>Steam Transformer</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>002 VD</b>	Application : <b>Demineralised Water Tank Make Up</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Control Valve</b>	Nominal diameter : <b>2"</b>	Fluid : <b>Water</b>
Type : <b>Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>0,01%Cv nom</b>	Model : <b>33-20521</b>	Pipe : <b>3" sch 40</b>

### Signature



### Analysis

**MEDIUM LEAK 18dB**

### Comment

**NEED TO BE REPAIRED**



# ACOUSTIC MEASUREMENT RESULTS

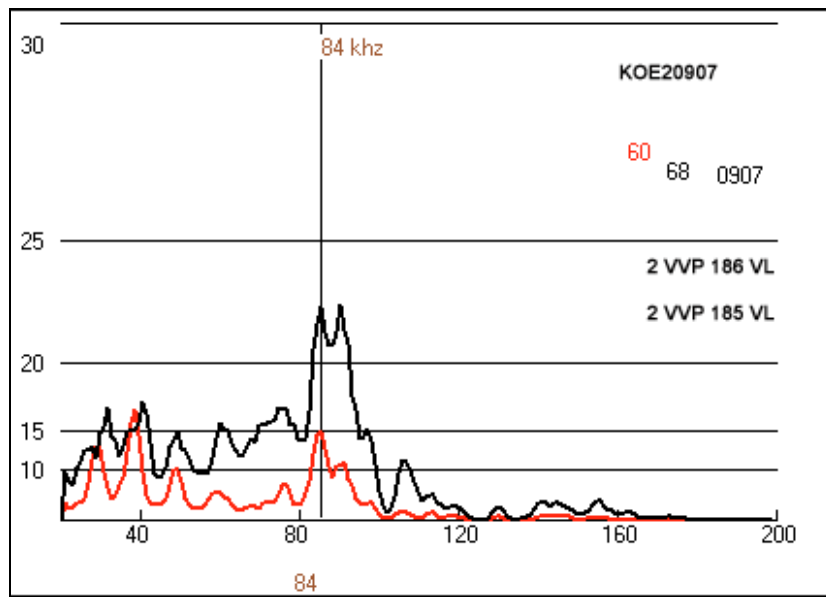


Customer : <b>ESKOM</b>	System : <b>VVP Main Steam System</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>186 VL</b>	Application : <b>Bypass Of VVP 003 PU</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**PRESET VALVE**

### Comment

**PRESET VALVE**



# ACOUSTIC MEASUREMENT RESULTS

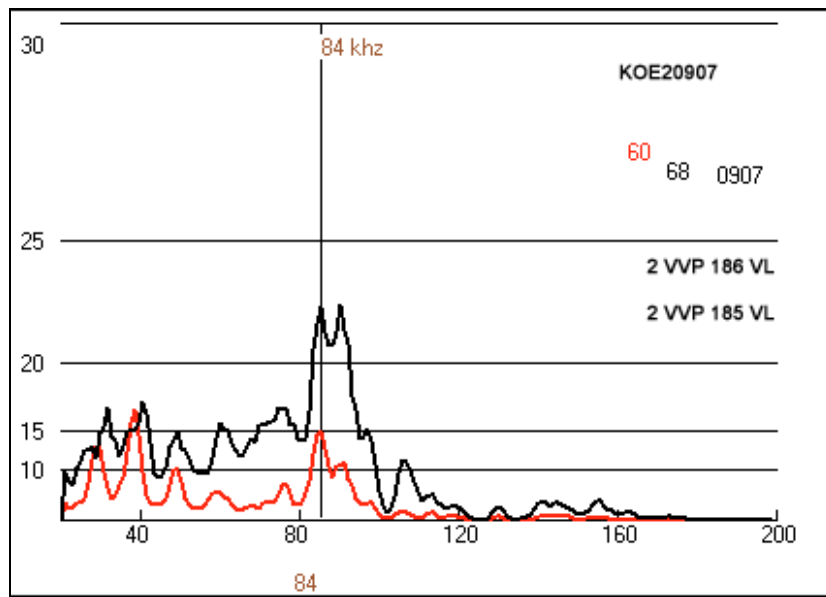


Customer : <b>ESKOM</b>	System : <b>VVP Main Steam System</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>185 VL</b>	Application : <b>Bypass Of VVP 003 PU</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

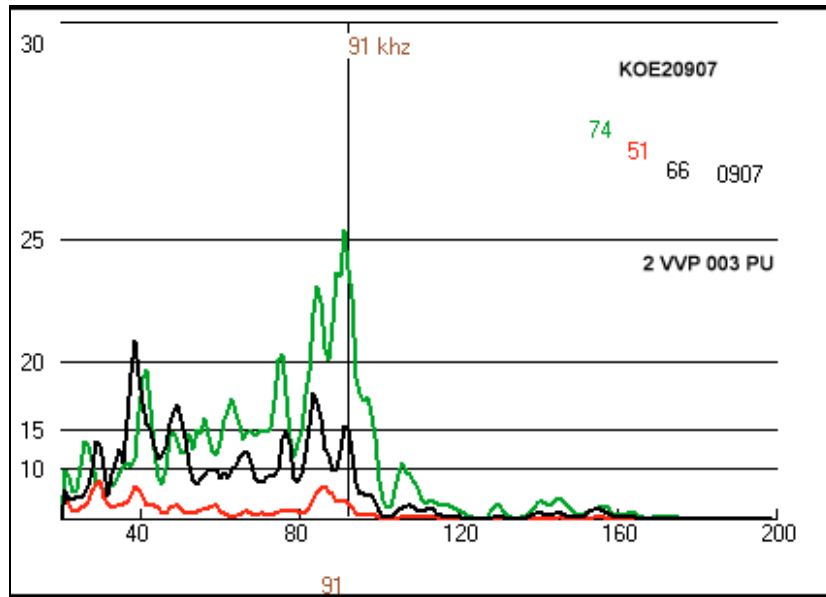


Customer : <b>ESKOM</b>	System : <b>VVP Main Steam System</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>003 PU</b>	Application : <b>Steam Trap On Steam Feed Line To APP</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Thermodyn,</b>	Nominal diameter : <b>25 mm</b>	Fluid : <b>Water</b>
Type : <b>Steam Trap</b>	Nominal pressure : <b>160 Bar</b>	Supplier : <b>SAPAG</b>
Leakage :	Model : <b>460 - Yarway</b>	Pipe : <b>1" sch 160</b>

### Signature



### Analysis

**MEDIUM LEAK 16dB**

### Comment

**NEED TO BE REPAIRED**





# ACOUSTIC MEASUREMENT RESULTS

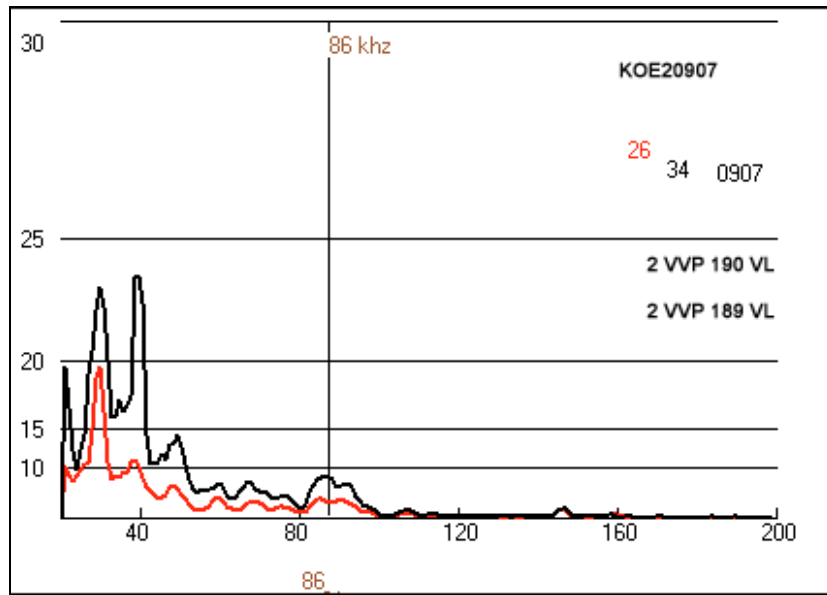


Customer : <b>ESKOM</b>	System : <b>VVP Main Steam System</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>190 VL</b>	Application : <b>Bypass Of VVP 004 PU</b>	<b>KOEBERG</b>

## Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

## Signature



## Analysis

**PRESET VALVE**

## Comment

**PRESET VALVE**



# ACOUSTIC MEASUREMENT RESULTS

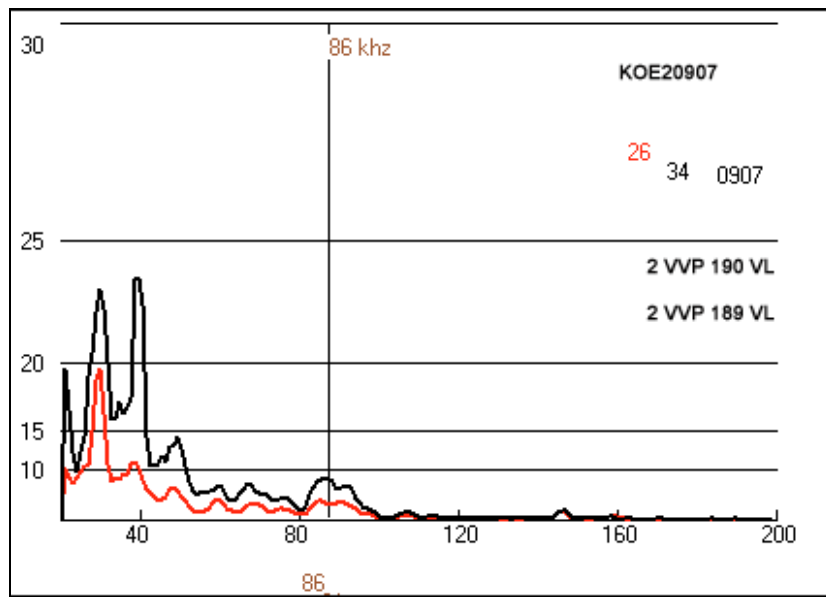


Customer : <b>ESKOM</b>	System : <b>VVP Main Steam System</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>189 VL</b>	Application : <b>Bypass Of VVP 004 PU</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

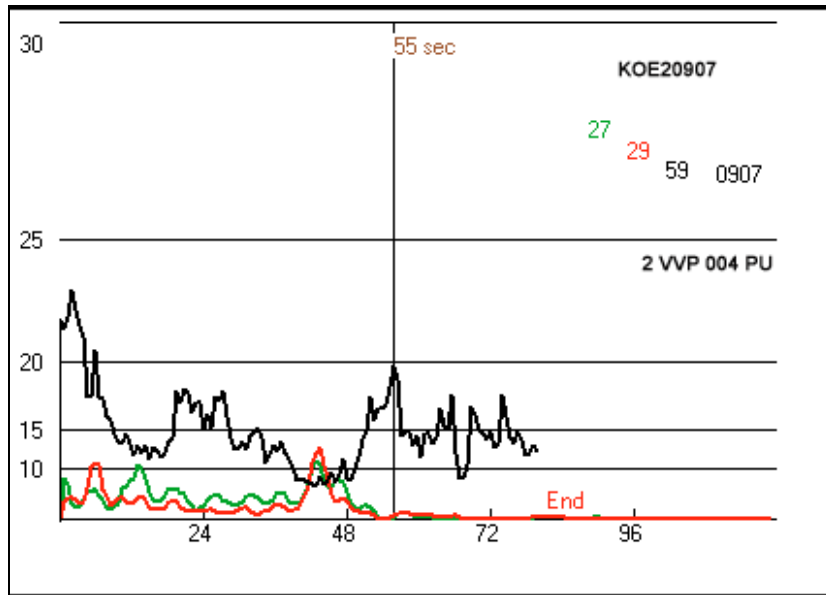


Customer : <b>ESKOM</b>	System : <b>VVP Main Steam System</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>004 PU</b>	Application : <b>Steam Trap On Steam Feed Line To STR SVA</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>Thermodyn,</b>	Nominal diameter : <b>25 mm</b>	Fluid : <b>Water</b>
Type : <b>Steam Trap</b>	Nominal pressure : <b>160 Bar</b>	Supplier : <b>SAPAG</b>
Leakage :	Model : <b>460 - Yarway</b>	Pipe : <b>1" sch 160</b>

### Signature



### Analysis

**GOOD FUNCTION**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>VVP</b> <b>Main Steam System</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>274 VL</b>	Application : <b>Steam Barrel Drain</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter : <b>6"</b>	Fluid : <b>Water</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>900 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage : <b>0,1% Cv valve</b>	Model : <b>37-40511</b>	Pipe : <b>6" sch 120</b>

### Signature

### Analysis

**NOT TESTED**

### Comment

**LAGGING NOT REMOVED , NEED TO BE REPLANNED**



# ACOUSTIC MEASUREMENT RESULTS

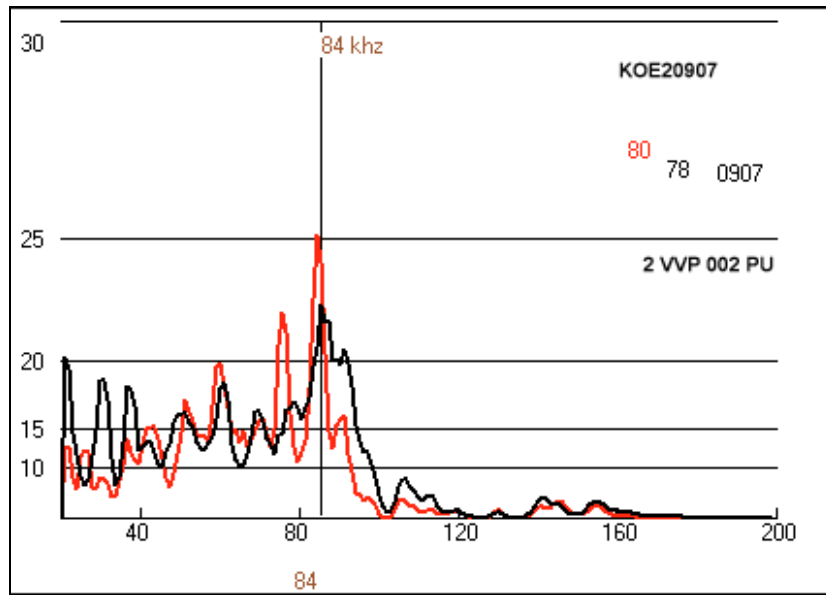


Customer : <b>ESKOM</b>	System : <b>VVP Main Steam System</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>002 PU</b>	Application :	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**LARGE LEAK**

### Comment

**NEED TO BE REPAIRED**



# ACOUSTIC MEASUREMENT RESULTS

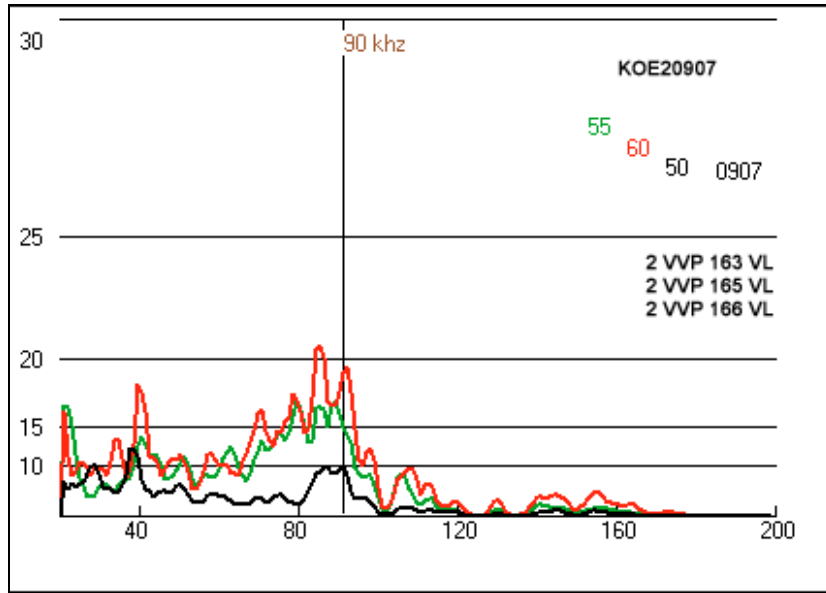


Customer : <b>ESKOM</b>	System : <b>VVP Main Steam System</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>165 VL</b>	Application : <b>Bypass of VVP 02 PU</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**



# ACOUSTIC MEASUREMENT RESULTS

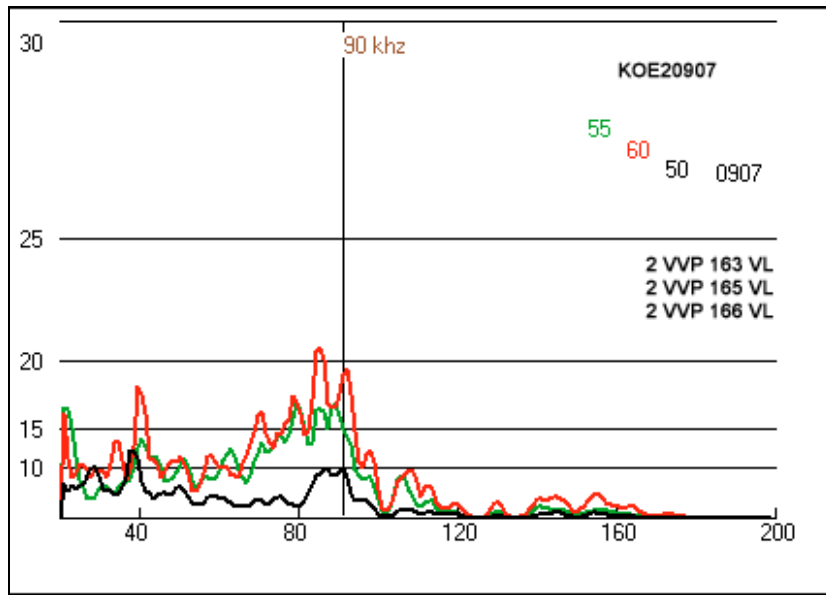


Customer : <b>ESKOM</b>	System : <b>VVP Main Steam System</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>166 VL</b>	Application : <b>Bypass of VVP 02 PU</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**PRESET VALVE**

### Comment

**PRESET VALVE**



# ACOUSTIC MEASUREMENT RESULTS

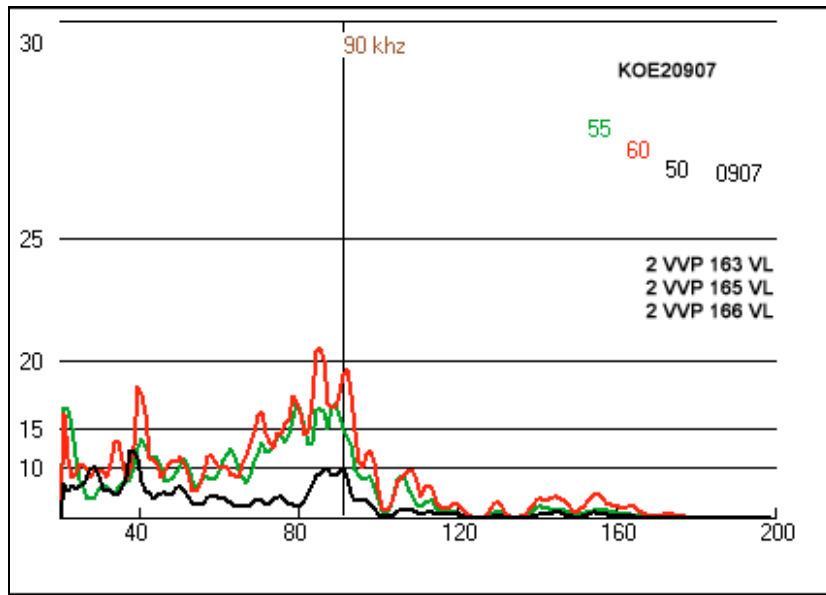


Customer : <b>ESKOM</b>	System : <b>VVP Main Steam System</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>163 VL</b>	Application :	<b>KOEBERG</b>

### Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

### Signature



### Analysis

**TIGHT**

### Comment

**VALVE OK**





# ACOUSTIC MEASUREMENT RESULTS

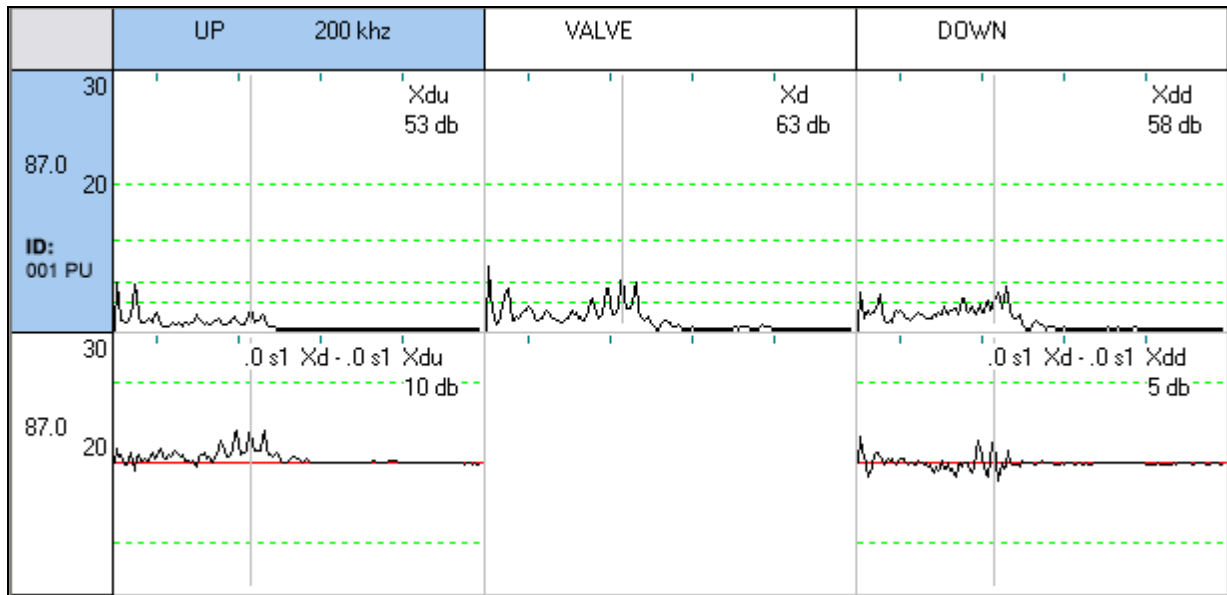


Customer : <b>ESKOM</b>	System : <b>VVP</b> <b>Main Steam System</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>001 PU</b>	Application :	<b>KOEBERG</b>

## Valve characteristics

Utilisation :	Nominal diameter :	Fluid : <b>Water</b>
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

## Signature



## Analysis

**SMALL LEAK 5dB**

## Comment

**CONTINUE MONITORING**



# ACOUSTIC MEASUREMENT RESULTS

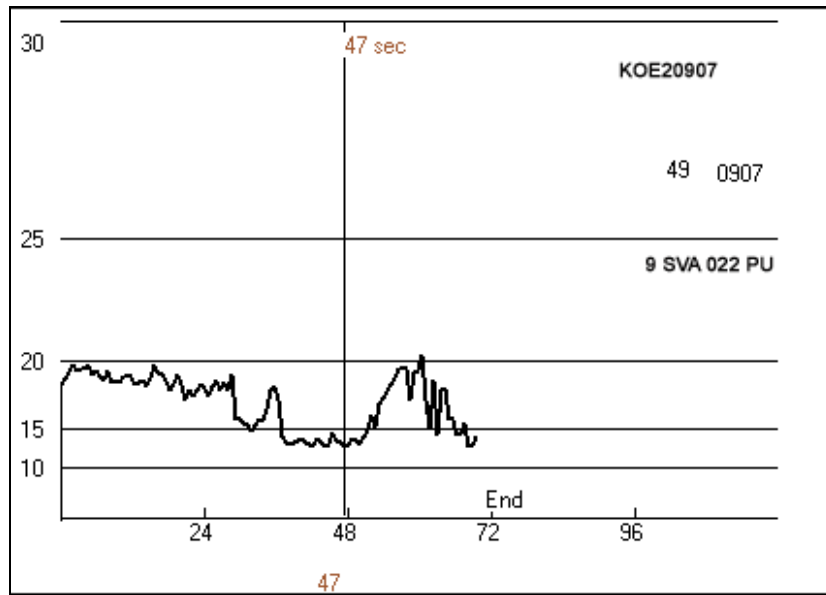


Customer : <b>ESKOM</b>	System : <b>9 SVA</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>022 PU</b>	Application :	<b>KOEBERG</b>

## Valve characteristics

Utilisation :	Nominal diameter :	Fluid :
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

## Signature



## Analysis

**GOOD FUNCTION**

## Comment

**VALVE OK (steam trap requested was 021PU but doesn't exist)**



# ACOUSTIC MEASUREMENT RESULTS

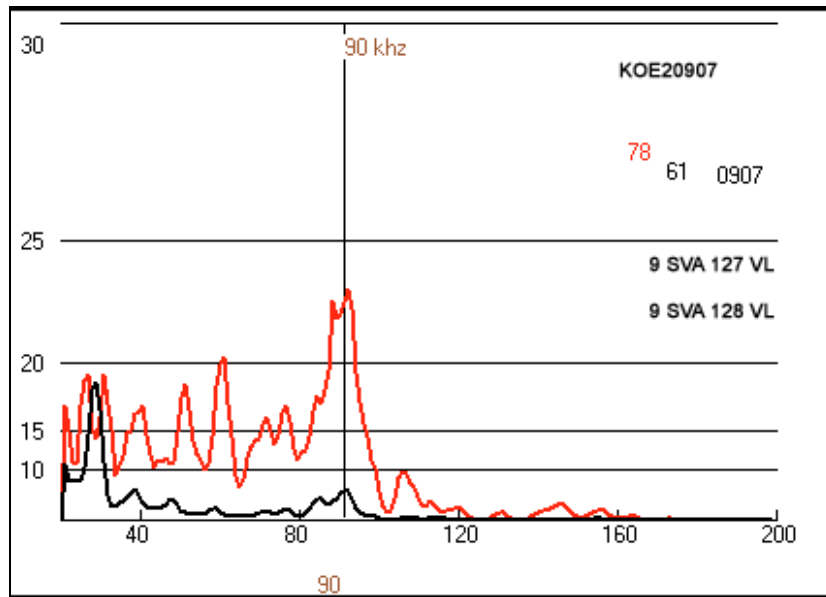


Customer : <b>ESKOM</b>	System : <b>9 SVA</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>127 VL</b>	Application :	<b>KOEBERG</b>

## Valve characteristics

Utilisation :	Nominal diameter :	Fluid :
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

## Signature



## Analysis

**SMALL LEAK 6dB**

## Comment

**CONTINUE MONITORING**



# ACOUSTIC MEASUREMENT RESULTS

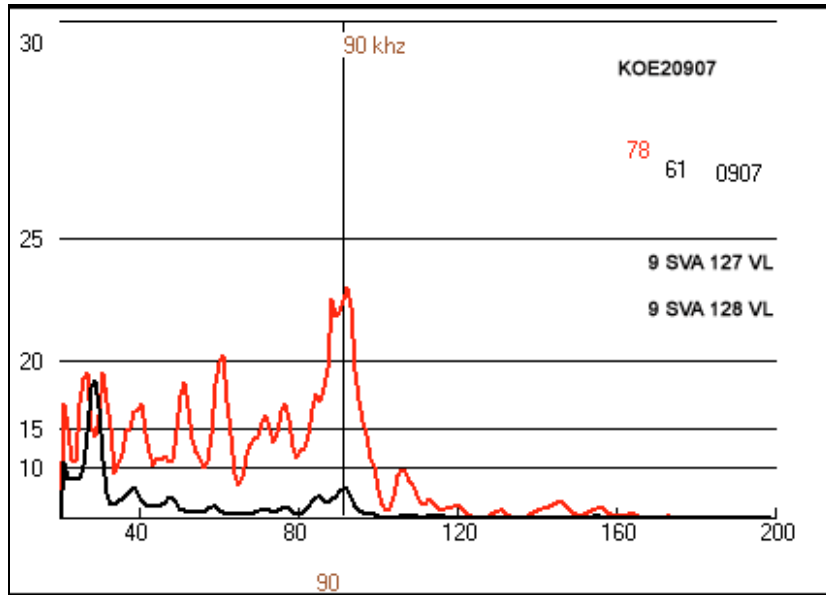


Customer : <b>ESKOM</b>	System : <b>9 SVA</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>128 VL</b>	Application :	<b>KOEBERG</b>

## Valve characteristics

Utilisation :	Nominal diameter :	Fluid :
Type :	Nominal pressure :	Supplier :
Leakage :	Model :	Pipe :

## Signature



## Analysis

**PRESET VALVE**

## Comment

**PRESET VALVE**



# ACOUSTIC MEASUREMENT RESULTS

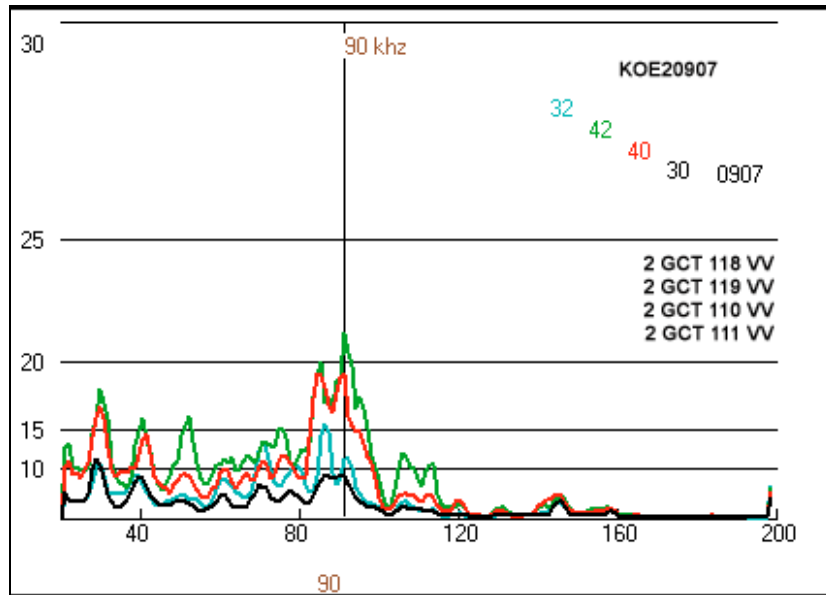


Customer : <b>ESKOM</b>	System : <b>GCT Turbine Bypass</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>118 VV</b>	Application : <b>Turbine by pass valve - Steam dump to condenser</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>8"</b>	Fluid : <b>Steam</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage :	Model : <b>38-40411</b>	Pipe :

### Signature



### Analysis

**SMALL LEAK 3dB**

### Comment

**CONTINUE MONITORING**

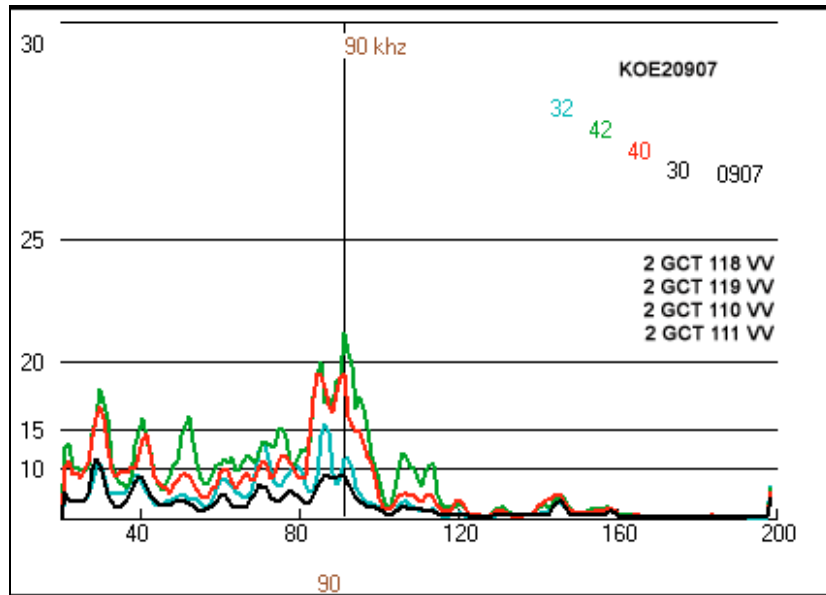


# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>GCT</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Turbine Bypass</b>	
Tag number : <b>119 VV</b>	Application : <b>Turbine by pass valve - Steam dump to condenser</b>	<b>KOEBERG</b>
<b>Valve characteristics</b>		
Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>8"</b>	Fluid : <b>Steam</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage :	Model : <b>38-40411</b>	Pipe :

## Signature



## Analysis

**MEDIUM LEAK 13dB**

## Comment

**Waiting for Leak Rate test during shutdown**

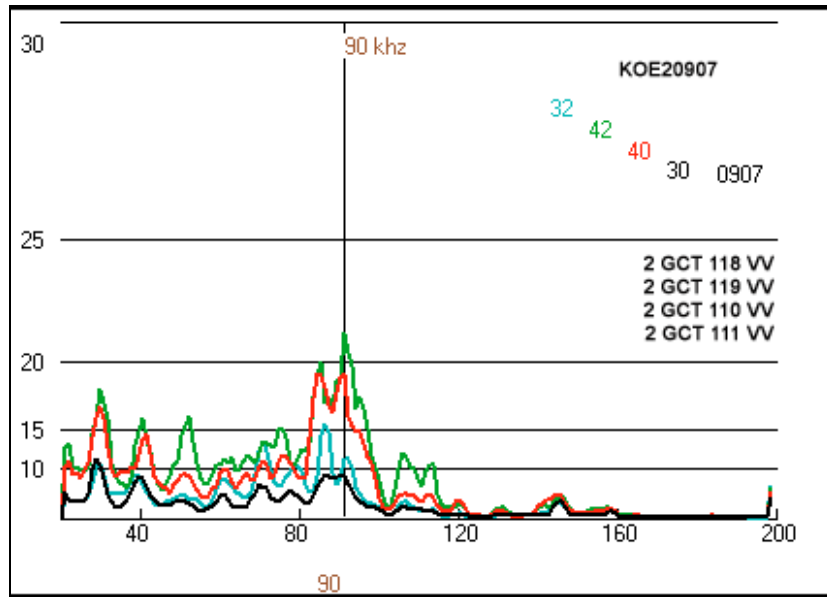


# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>GCT Turbine Bypass</b>		Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	Application : <b>Turbine by pass valve - Steam dump to condenser</b>		
Tag number : <b>110 VV</b>			<b>KOEBERG</b>
<b>Valve characteristics</b>			
Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>8"</b>	Fluid : <b>Steam</b>	
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>	
Leakage :	Model : <b>38-40411</b>	Pipe :	

## Signature



## Analysis

**MEDIUM LEAK 15dB**

## Comment

**Waiting for Leak Rate test during shutdown**

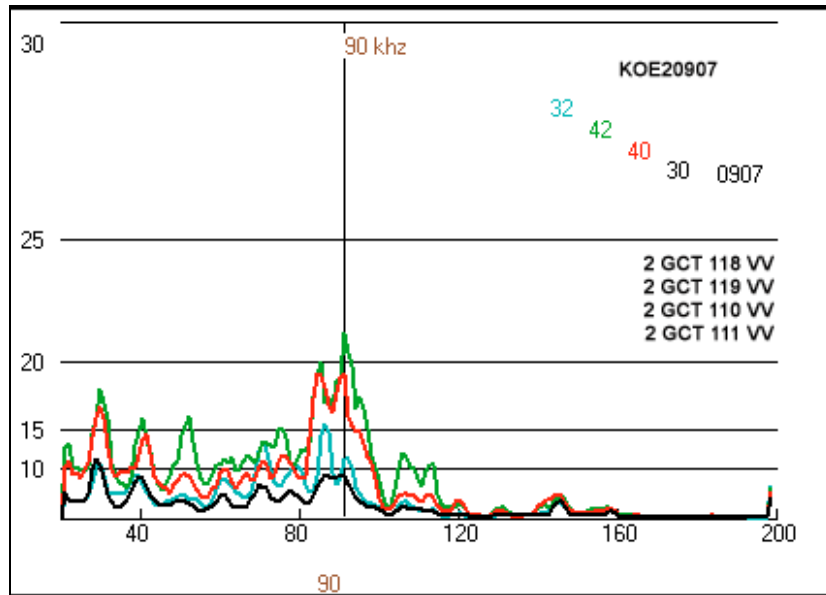


# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>GCT Turbine Bypass</b>		Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	Application : <b>Turbine by pass valve - Steam dump to condenser</b>		
Tag number : <b>111 VV</b>			<b>KOEBERG</b>
<b>Valve characteristics</b>			
Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>8"</b>	Fluid : <b>Steam</b>	
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>	
Leakage :	Model : <b>3840411</b>	Pipe :	

## Signature



## Analysis

**SMALL LEAK 5dB**

## Comment

**CONTINUE MONITORING**



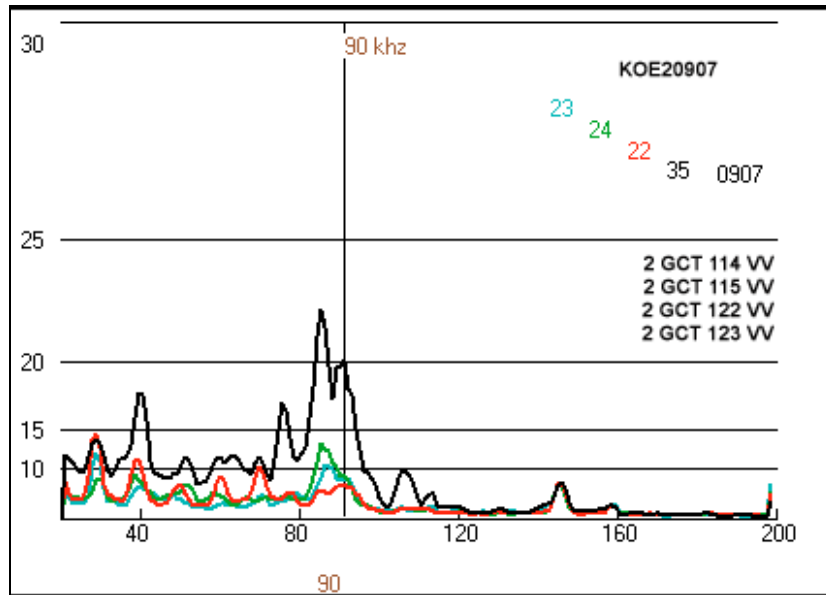


# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>GCT</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Turbine Bypass</b>	
Tag number : <b>114 VV</b>	Application : <b>Turbine by pass valve - Steam dump to condenser</b>	<b>KOEBERG</b>
<b>Valve characteristics</b>		
Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>8"</b>	Fluid : <b>Steam</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage :	Model : <b>38-40411</b>	Pipe :

## Signature



## Analysis

**MEDIUM LEAK 20dB**

## Comment

**Waiting for Leak Rate test during shutdown**

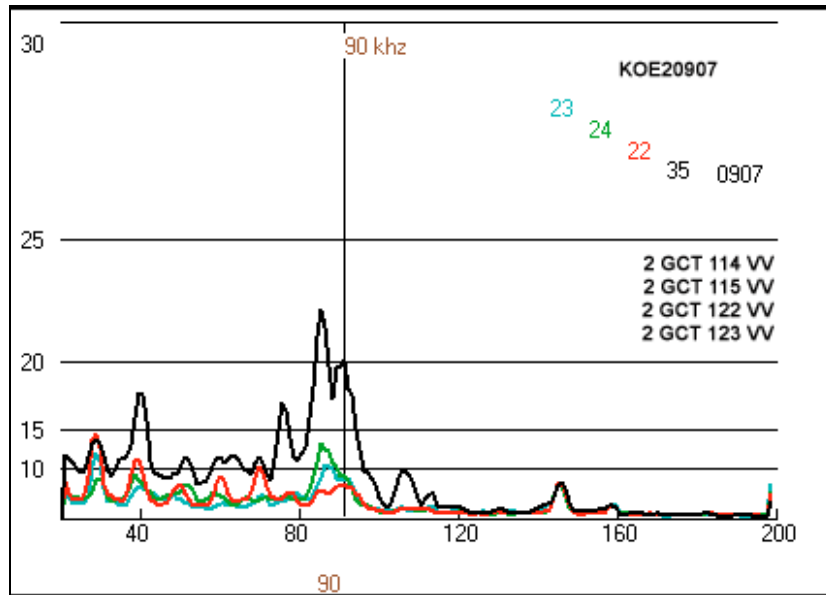


# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>GCT</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Turbine Bypass</b>	
Tag number : <b>115 VV</b>	Application : <b>Turbine by pass valve - Steam dump to condenser</b>	<b>KOEBERG</b>
<b>Valve characteristics</b>		
Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>8"</b>	Fluid : <b>Steam</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage :	Model : <b>38-40411</b>	Pipe :

## Signature



## Analysis

**SMALL LEAK 3dB**

## Comment

**CONTINUE MONITORING**

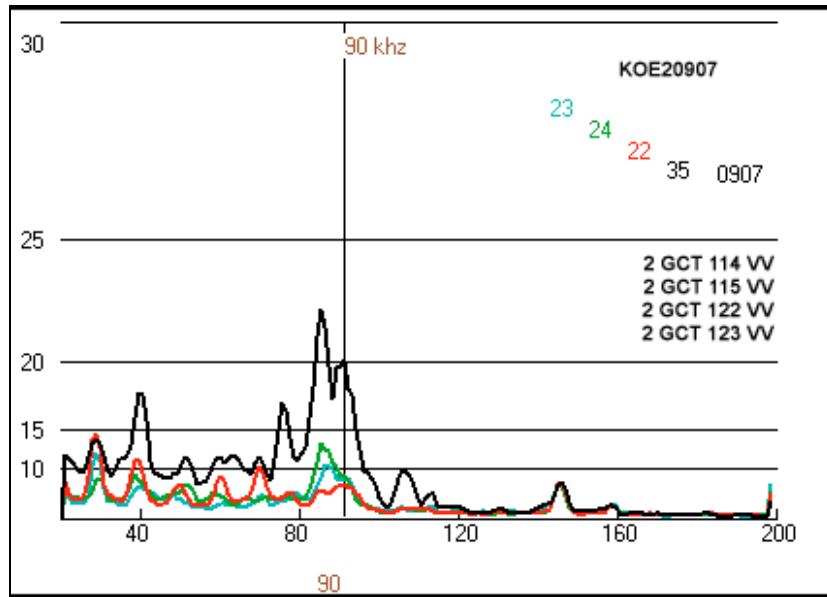


# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>GCT</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Turbine Bypass</b>	
Tag number : <b>122 VV</b>	Application : <b>Turbine by pass valve - Steam dump to condenser</b>	<b>KOEBERG</b>
<b>Valve characteristics</b>		
Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>8"</b>	Fluid : <b>Steam</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage :	Model : <b>38-40411</b>	Pipe :

## Signature



## Analysis

**SMALL LEAK 8dB**

## Comment

**CONTINUE MONITORING**

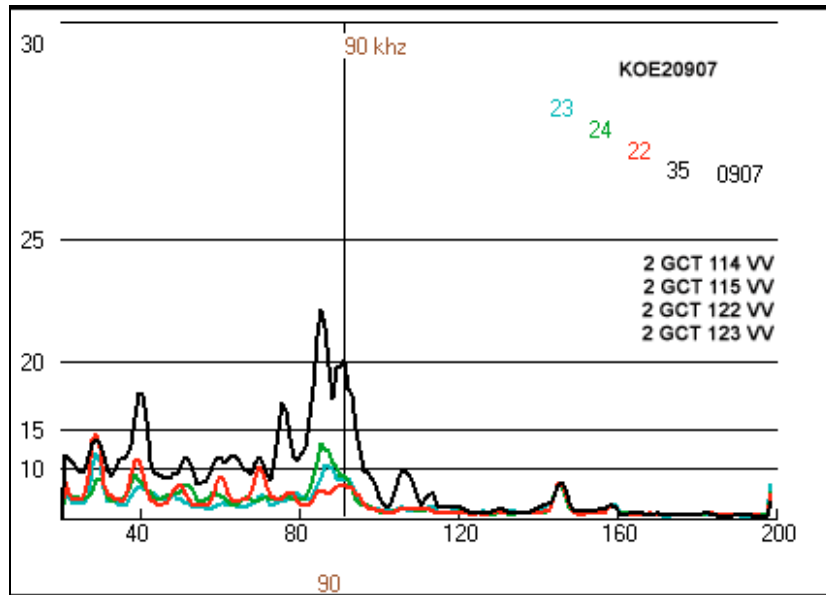


# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>GCT</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Turbine Bypass</b>	
Tag number : <b>123 VV</b>	Application : <b>Turbine by pass valve - Steam dump to condenser</b>	<b>KOEBERG</b>
<b>Valve characteristics</b>		
Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>8"</b>	Fluid : <b>Steam</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage :	Model : <b>3840411</b>	Pipe :

## Signature



## Analysis

**SMALL LEAK 6dB**

## Comment

**CONTINUE MONITORING**



# ACOUSTIC MEASUREMENT RESULTS

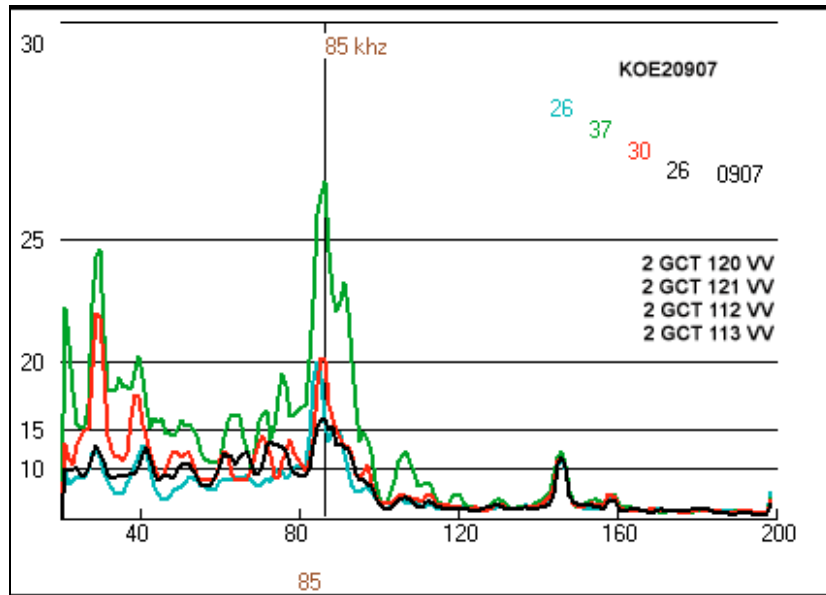


Customer : <b>ESKOM</b>	System : <b>GCT Turbine Bypass</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>120 VV</b>	Application : <b>Turbine by pass valve - Steam dump to condenser</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>8"</b>	Fluid : <b>Steam</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage :	Model : <b>38-40411</b>	Pipe :

### Signature



### Analysis

**SMALL LEAK 3dB**

### Comment

**CONTINUE MONITORING**

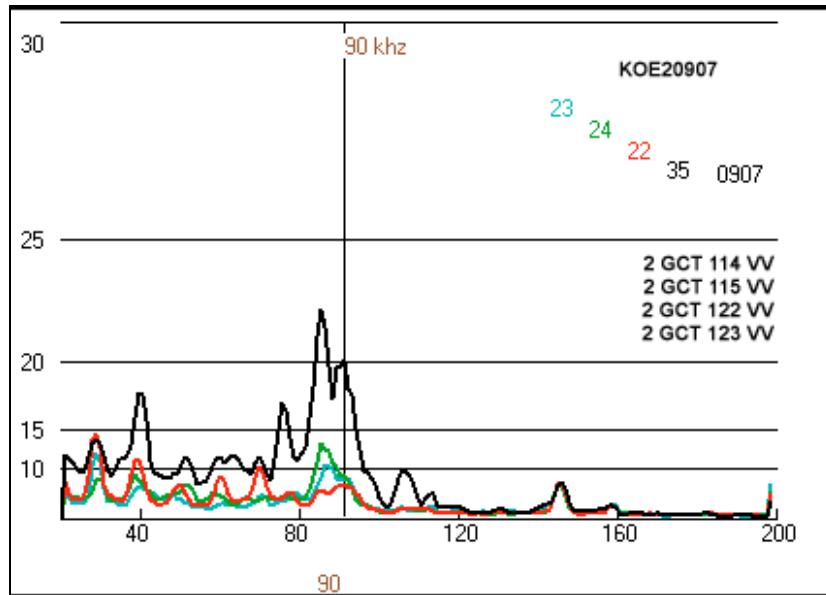


# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>GCT</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Turbine Bypass</b>	
Tag number : <b>121 VV</b>	Application : <b>Turbine by pass valve - Steam dump to condenser</b>	<b>KOEBERG</b>
<b>Valve characteristics</b>		
Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>8"</b>	Fluid : <b>Steam</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage :	Model : <b>38-40411</b>	Pipe :

## Signature



## Analysis

**SMALL LEAK 9dB**

## Comment

**CONTINUE MONITORING**

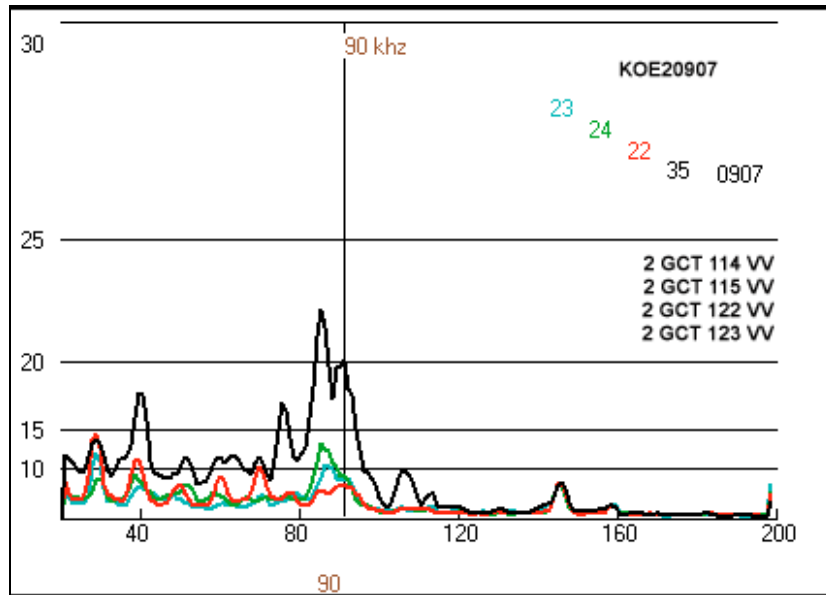


# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>GCT</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Turbine Bypass</b>	
Tag number : <b>112 VV</b>	Application : <b>Turbine by pass valve - Steam dump to condenser</b>	<b>KOEBERG</b>
<b>Valve characteristics</b>		
Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>8"</b>	Fluid : <b>Steam</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage :	Model : <b>38-40411</b>	Pipe :

## Signature



## Analysis

**MEDIUM LEAK 15B**

## Comment

**Waiting for Leak Rate test during shutdown**



# ACOUSTIC MEASUREMENT RESULTS

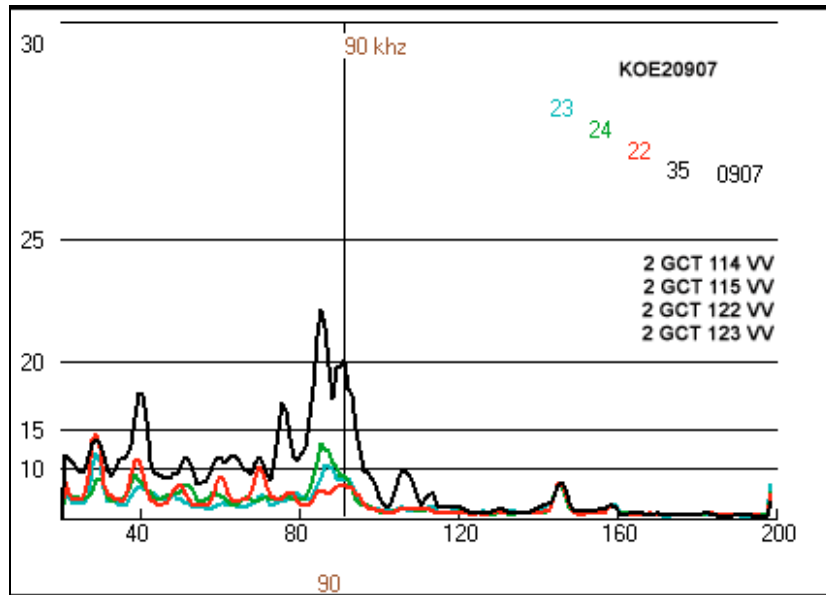


Customer : <b>ESKOM</b>	System : <b>GCT Turbine Bypass</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>113 VV</b>	Application : <b>Turbine by pass valve - Steam dump to condenser</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>8"</b>	Fluid : <b>Steam</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage :	Model : <b>3840411</b>	Pipe :

### Signature



### Analysis

**SMALL LEAK 6dB**

### Comment

**CONTINUE MONITORING**





# ACOUSTIC MEASUREMENT RESULTS

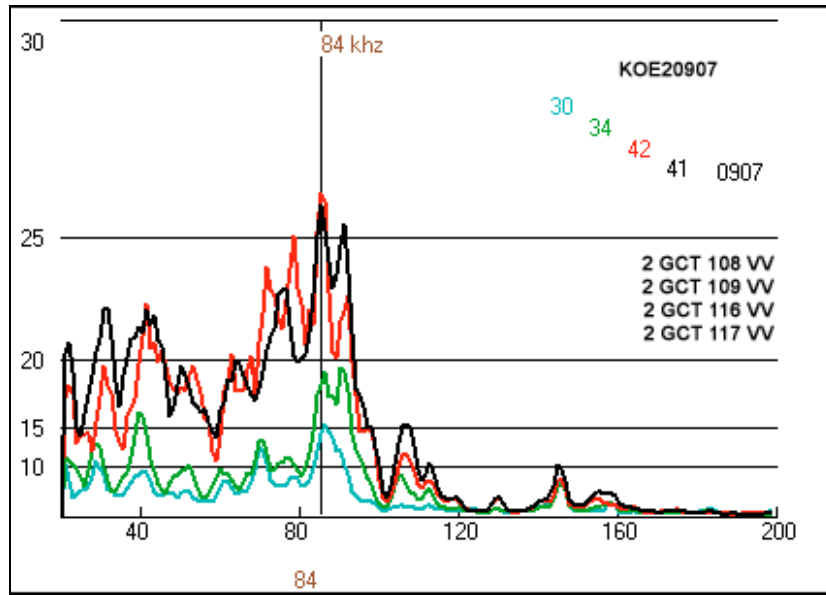


Customer : <b>ESKOM</b>	System : <b>GCT Turbine Bypass</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>108 VV</b>	Application : <b>Turbine by pass valve - Steam dump to condenser</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>12"</b>	Fluid : <b>Steam</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage :	Model : <b>38-40413</b>	Pipe :

### Signature



### Analysis

**MEDIUM LEAK 21dB**

### Comment

**Waiting for Leak Rate test during shutdown**



# ACOUSTIC MEASUREMENT RESULTS

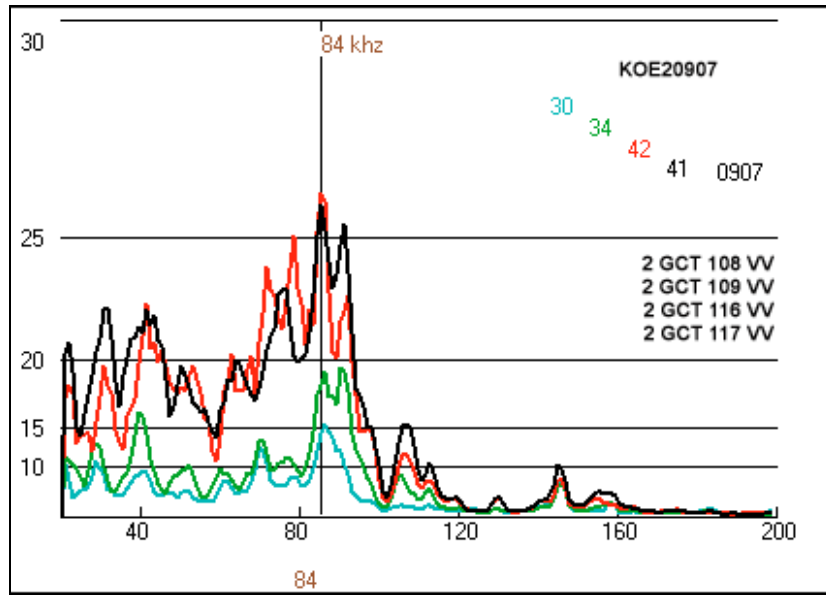


Customer : <b>ESKOM</b>	System : <b>GCT Turbine Bypass</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>109 VV</b>	Application : <b>Turbine by pass valve - Steam dump to condenser</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>12"</b>	Fluid : <b>Steam</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage :	Model : <b>38-40413</b>	Pipe :

### Signature



### Analysis

**MEDIUM LEAK 19dB**

### Comment

**Waiting for Leak Rate test during shutdown**

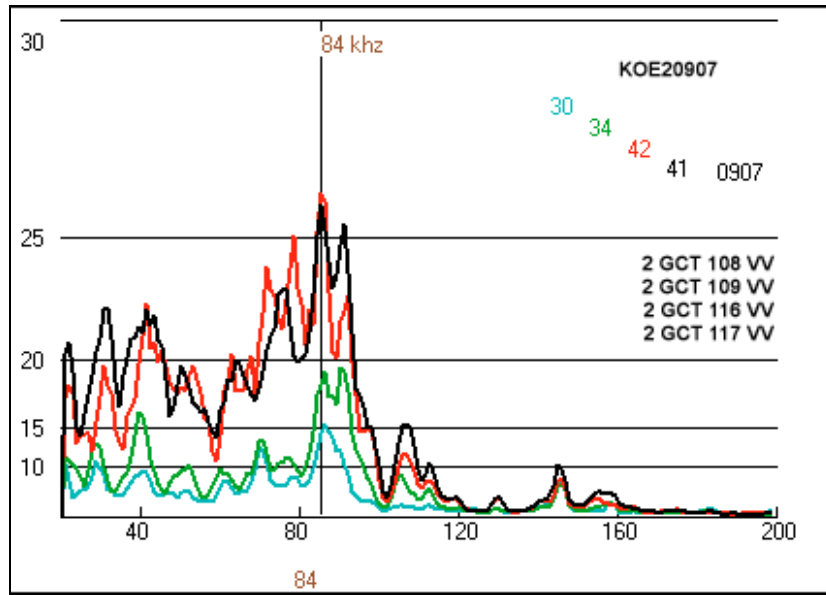


# ACOUSTIC MEASUREMENT RESULTS



Customer : <b>ESKOM</b>	System : <b>GCT</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>	<b>Turbine Bypass</b>	
Tag number : <b>116 VV</b>	Application : <b>Turbine by pass valve - Steam dump to condenser</b>	<b>KOEBERG</b>
<b>Valve characteristics</b>		
Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>8"</b>	Fluid : <b>Steam</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage :	Model : <b>38-40411</b>	Pipe :

## Signature



## Analysis

**SMALL LEAK 7dB**

## Comment

**CONTINUE MONITORING**



# ACOUSTIC MEASUREMENT RESULTS

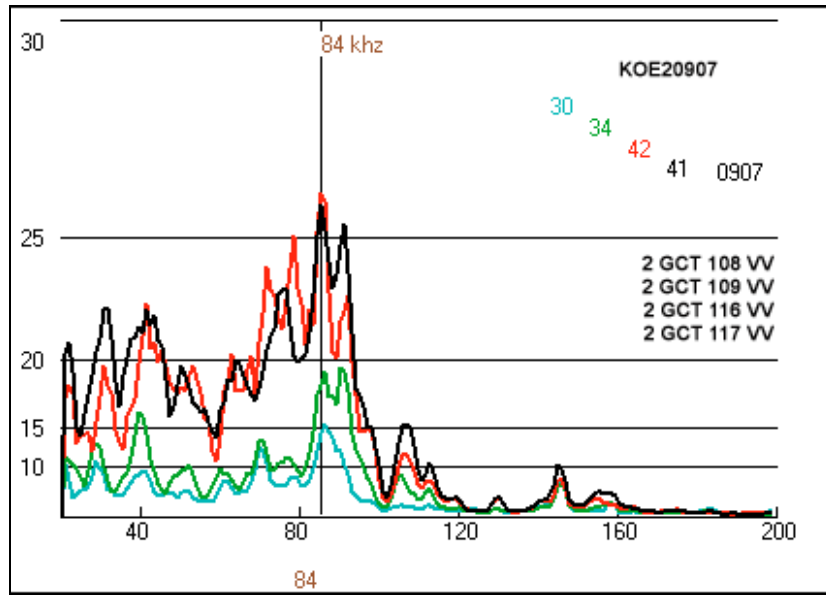


Customer : <b>ESKOM</b>	System : <b>GCT Turbine Bypass</b>	Unit : <b>2</b>
Date of test : <b>07/07/2009</b>		
Tag number : <b>117 VV</b>	Application : <b>Turbine by pass valve - Steam dump to condenser</b>	<b>KOEBERG</b>

### Valve characteristics

Utilisation : <b>On/Off valve</b>	Nominal diameter : <b>8"</b>	Fluid : <b>Steam</b>
Type : <b>Cage Globe</b>	Nominal pressure : <b>600 lbs</b>	Supplier : <b>Masoneilan</b>
Leakage :	Model : <b>3840411</b>	Pipe :

### Signature



### Analysis

**SMALL LEAK 3dB**

### Comment

**CONTINUE MONITORING**