Test #3

OFA dampers

close 1/3 damper

OFA 16.8 open 2/3 damper

NOx .44 → .40

| | SW | SE | NW | NE |
|---|---|---|---|---|
| | 2/3 97.0 | 98.8 | 99.0 | 98.8 |
| | 329 K | 331 | 302 | 285 low |

Balancing (closing down front/south wall)

NOx drifted up 0.385 → 0.415 ~~2~~ .40 .39

~~Add kicker~~ ~~1st stage~~ F 10 → 30% → 50%

OFA 15.4

| | | | |
|---|---|---|---|
| 277 | 264 | 269 | 259 |
| 59 | 52 | 58 | 99 |

set at 1215

Test Start 1230-1330

14.7 w/ PulvF O/S cooling @ 50%

IP7_038025

Test #3

| | @ 1235 | | @ 1320 | |
|---|---|---|---|---|
| | 1006/145 | | 1003/162 | |
| | 1006/1002 | RH PSH 63/100 | 1011/1007 | 56/100 |
| dph | 348 | | 346 | |
| airflow | 85.8 | ~~5.24~~ 61.0 | 86.0 | 61.0 |
| $O_2$ | 1.9/3.2 | | 1.9/3.5 | |
| SAFW | 77.8/79.2 | | 77.0/80.3 | |
| NOx | 0.384 | | 0.381/220 | |
| $SO_2$ | | | 373 | |
| OFA | 14.7% | 2/3 open - balanced | 14.4% | |
| | EGT 2315 | Cf 0.74 | 2333/0.75 | |
| | | | concern w/ Temps | |
| | PWW W/F SA $SO_2$ | | | |

TEST GRID

| | | |
|---|---|---|
| CO | 81/71 | 15/29 |
| $O_2$ | 3.2 | 3.9 |
| $CO_2$ | 15.2 | 13.90 |
| NOx | 301 | 219 |

CO stack 36 (30-50)

IP7_038026

Test 3

| NE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | NW |
|---|---|---|---|---|---|---|---|---|---|
| 247.0 | 1.65 | 1.10 | .60 | .65 | .55 | .57 | .67 | .77 | 257.3K |
| | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 684 |
| 257 | 0.90 | 1.10 | .77 | .63 | .52 | .55 | .60 | .70 | SE |
| | | | | | | | | | 256K |

Test 4

| NE | | | | | | | | | NW |
|---|---|---|---|---|---|---|---|---|---|
| 205 | .87 | .80 | .55 | .50 | .50 | .53 | .60 | .65 | 221 |

| | | | | | | | | | SE |
|---|---|---|---|---|---|---|---|---|---|
| 209 | .55 | .60 | .47 | .37 | .45 | .39 | .45 | .62 | 211 |

IP7_038027

PWN

causes E/W split

Pully W/F O/S

See air dampers

also causing E/W split

Pully W/A - problems (Best of O/S

yoke seal leakage / dusting problems ↑PA Bias

removed PA Bias went to - coal Bias -8% to -4%

Still burner line balancing concerns | give you leave some PA bias or go to coal bias

Best config is W/A O/S

causing O2 E/W splits

Outer register adjustments

→ motor stator temp ↑high put ~~coal bias back~~ -8%

Pully W/B - issues hypersensitivi

outer register adjust / can't opt inner 4 registers closed down

drives MStm temps ↑

→ erodiers

Unit / furnace - puffing cameras - cloudy / puffy M corners ~~front wall East~~

Pully W/C try 38% PA Bias

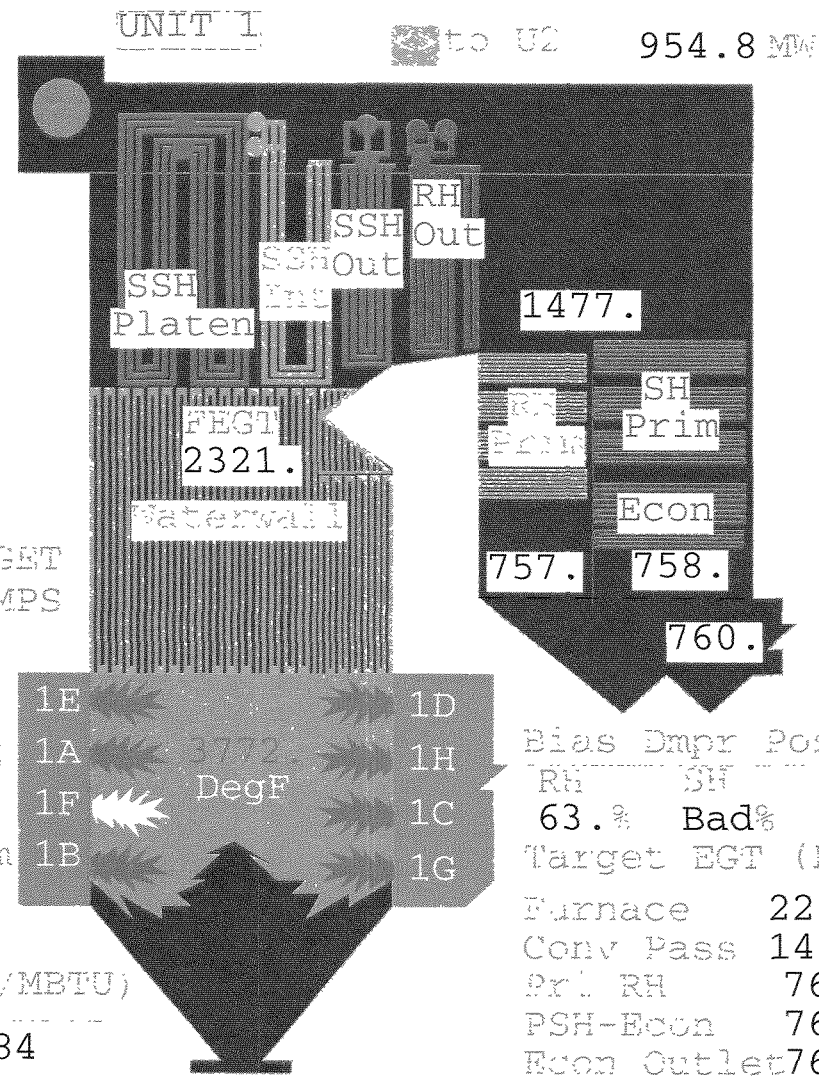
hoping will help NOx

Printed out for: UNIT1OP - 06-Sep-03 12:43:25

0 Messages 1SGAclean U1 BOILER SOOTBLOWING CLEANLINESS 06-Sep-03 12:43:25

Fouled: <.7 Dirty: 0.7-0.80 Clean: >.80

| Cleanliness Factors: | 0.0 ... .8 |
|---|---|
| WATERWALLS | 0.74 |
| SUPERHEATER | |
| SH Primary Bank | 0.92 |
| SSH Platen Bank | 0.63 |
| SSH Intrmed Bank | 0.72 |
| SSH Outlet Bank | 0.69 |
| REHEATER | |
| RH Primary Bank | 0.72 |
| RH Outlet Banks | 1.04 |
| ECONOMIZER | 0.88 |




| Key Parameters: | CCS | PMAX |
|---|---|---|
| Main Stm Temp (DegF) | 1005. | |
| Main Stm Spry (KPPH) | 147. | 209. |
| RH Stm Temp (DegF) | 1003. | |
| RH Stm Spry (KPPH) | 0. | 0. |
| Fuel Flow (TPH) | 344. | |
| Coal Flow (TPH) | 345. | 338. |
| Air Flow (%) | 85.6 | |

OFA % 14.7

| | EAST | WEST |
|---|---|---|
| Secondary Air Flow (%) | 77.5 | 79.1 |
| O2 (%) | 2.0 | 3.2 |
| Air Htr Gas In Tmp (DegF | 760. | 760. |

SB TARGET GAS TEMPS

DRAFT PROFILE

O2 Trim

61.0

NOx(#/MBTU)

0.384

Bias Dmpr Pos

| RH | SH |
|---|---|
| 63.% | Bad% |

Target EGT (F)

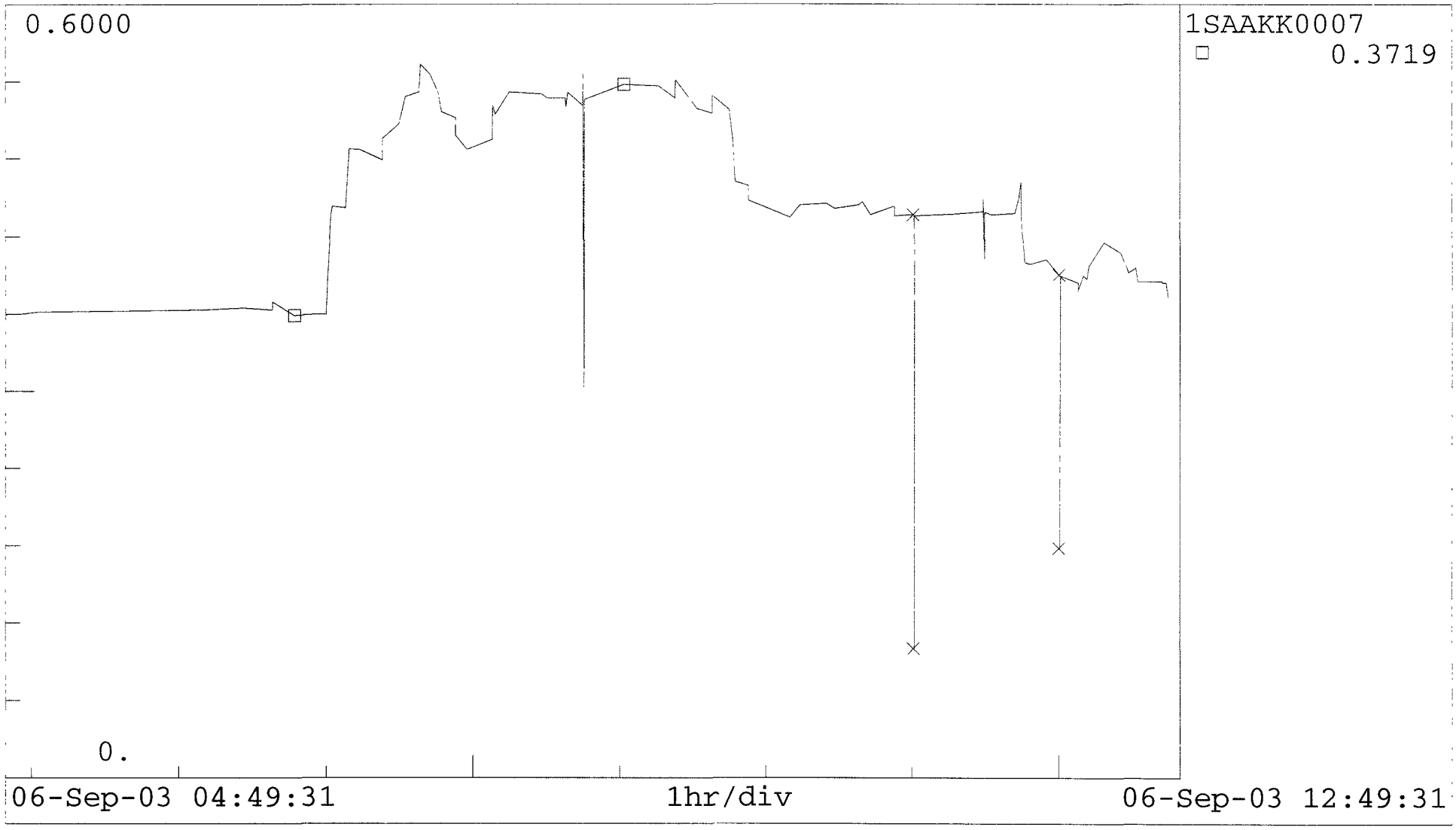
| | |
|---|---|
| Furnace | 2200. |
| Conv Pass | 1475. |
| Prl RH | 760. |
| PSH-Econ | 760. |
| Econ Outlet | 760. |

EndTim= 06-Sep-03 12:43:25 /EvalTim= 06-Sep-03 12:43:25 /PanRate= 0

IP7_038029

Printed out for: UNIT1OP - 06-Sep-03 12:44:49

0 Messages 1SGAclean U1 BOILER SOOTBLOWING CLEANLINESS 06-Sep-03 12:44:49




EndTim= 06-Sep-03 12:44:49 /EvalTim= 06-Sep-03 12:44:49 /PanRate= 0

IP7_038030

Printed out for: UNIT1OP - 06-Sep-03 12:47:02

0 Messages O2 Data O2 Unit Comparisons 06-Sep-03 12:47:02

| Data | | Unit 1 | Unit 2 |
|---|---|---|---|
| Meas'd Load | MW | 951.75 | 899.75 |
| East Probe 1 | % O2 | 3.09 | 1.84 |
| Probe 2 | % O2 | 2.83 | 1.66 |
| Probe 3 | % O2 | 1.87 | 2.58 |
| Probe 4 | % O2 | 1.53 | 2.62 |
| Average | % O2 | 2.09 | 1.86 |
| West Probe 5 | % O2 | 2.92 | 2.26 |
| Probe 6 | % O2 | 4.49 | 3.81 |
| Probe 7 | % O2 | 2.24 | 2.09 |
| Probe 8 | % O2 | 3.21 | 3.12 |
| Average | % O2 | 3.21 | 2.69 |
| Econ O2 Out Average | % O2 | 2.66 | 2.27 |
| Econ O2 Out Setpoint | O2 | 3.07 | 3.15 |
| O2 Trim Setpoint | | 61.0 | 50.2 |
| Total Air % | | 86.3 | 78.4 |
| Coal Flow | TPH | 344.8 | 326.3 |
| # of Pulv In-service | | 7. | 7. |
| Main Steam Pressure | | 2400.0 | 2246.4 |
| Stack NOx | PPM | 213. | 240. |
| Scrubber NOx | PPM | 233. | 260. |
| Stack Converted NOx | LB/MBTU | 0.372 | 0.414 |
| Target NOx | LB/MBTU | 0.382 | 0.416 |
| Scrubber Inlet SO2 | PPM | 374.1 | 487.5 |
| PSH/RH Bias Dmpr Pos | | Bad / 62. | 92./ 89. |
| MS/RH Temps | | 1006.2/1002.2 | 1003.3/1010.5 |

| U1 | |
|---|---|
| OFA | |
| % | 14.6 |
| Inlets | |
| SW | 100. |
| SE | 99. |
| NW | 98. |
| NE | 99. |
| 1/3 | |
| SW | 1. |
| SE | 2. |
| NW | 0. |
| NE | 6. |
| 2/3 | |
| SW | 59. |
| SE | 52. |
| NW | 55. |
| NE | 99. |
| Flow | |
| SW | 265. |
| SE | 266. |
| NW | 260. |
| NE | 259. |
| | 1050. |

| SA Damper | Unit 1 | Unit 2 |
|---|---|---|
| A Pulv | 63. | 64. |
| B Pulv | 69. | 66. |
| C Pulv | 70. | 66. |
| D Pulv | 69. | 66. |
| E Pulv | 69. | 62. |
| F Pulv | 49. | 66. |
| G Pulv | 69. | 66. |
| H Pulv | 70. | 69. |

| Coal Bias | Unit 1 | Unit 2 |
|---|---|---|
| A Pulv | -4.0 | -1.7 |
| B Pulv | 0.0 | 0.0 |
| C Pulv | 0.0 | 0.0 |
| D Pulv | 0.0 | 0.0 |
| E Pulv | 0.0 | -3.2 |
| F Pulv | 0.0 | 0.0 |
| G Pulv | 0.0 | 0.0 |
| H Pulv | 0.0 | 0.0 |

| PA Bias | Unit 1 | Unit 2 |
|---|---|---|
| A Pulv | 0.0 | 8.4 |
| B Pulv | 0.0 | 0.0 |
| C Pulv | 0.0 | 0.0 |
| D Pulv | 0.0 | 5.1 |
| E Pulv | 0.0 | 8.2 |
| F Pulv | 0.0 | 0.0 |
| G Pulv | 0.0 | 0.0 |
| H Pulv | 0.3 | 0.0 |

EndTim= 06-Sep-03 12:47:01 /EvalTim= 06-Sep-03 12:47:01 /PanRate= 0

IP7_038031

Printed out for: UNIT1OP - 06-Sep-03 12:47:54
0 Messages U1 Pulv U1 Pulv Operating data 06-Sep-03 12:47:54

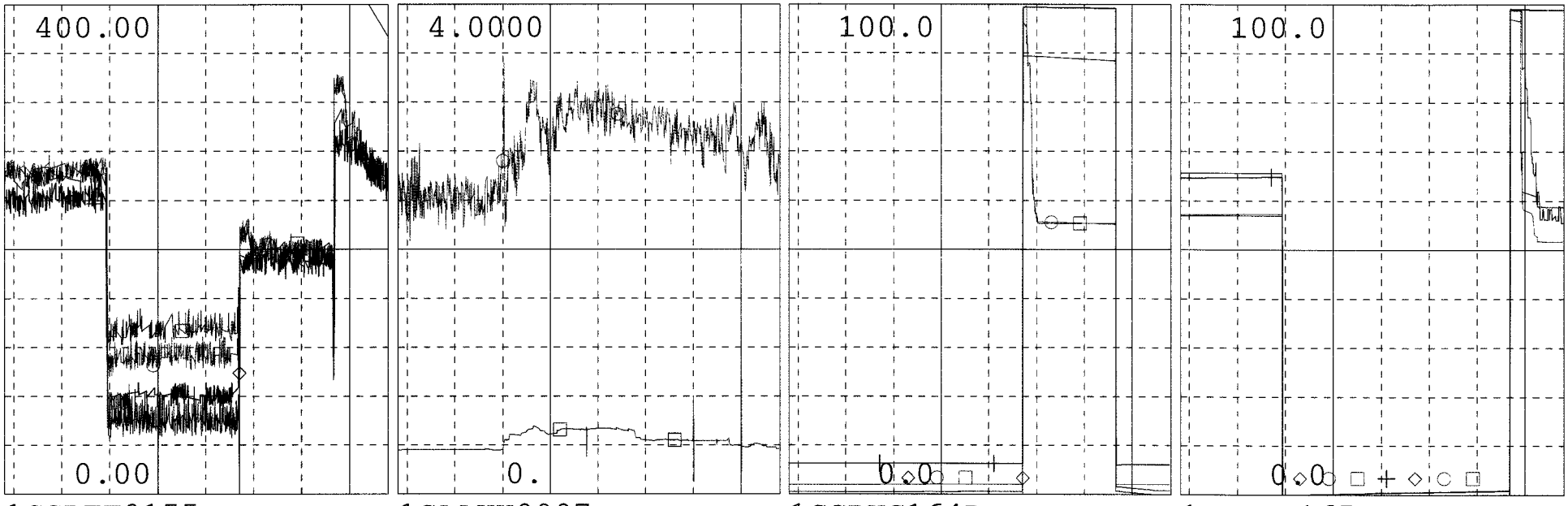
| Unit 1 951.8 MW | Pulv A | Pulv B | Pulv C | Pulv D | Pulv E | Pulv F | Pulv G | Pulv H |
|---|---|---|---|---|---|---|---|---|
| Coal Flow345.4TPH | 46.1 | 50.9 | 49.3 | 50.7 | 49.2 | Bad | 49.4 | 50.8 |
| Feeder Speed | 67.6 | 74.6 | 72.5 | 73.8 | 72.4 | Calc | 72.4 | 74.7 |
| Amps (Duct Pr44.6) | 75.9 | 57.2 | 72.2 | 60.5 | 67.5 | 0.0 | 58.7 | 59.9 |
| Coal Pipe Vel | 3745. | 3914. | 3853. | 3879. | 3857. | 0. | 3915. | 3894. |
| PA Flow % | 85.1 | 88.7 | 88.1 | 88.2 | 88.1 | 0.0 | 88.5 | 88.6 |
| PA Damper Pos | 69.4 | 81.1 | 72.0 | 70.0 | 82.3 | 1.3 | 72.8 | 79.1 |
| Pulv Pitot DP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| PA Mass Flow | 3366. | 3504. | 3448. | 3473. | 3472. | 0. | 3521. | 3502. |
| Pulv DP (NOx 0.37) | 11.2 | 15.1 | 13.4 | 14.9 | 18.8 | 0.0 | 10.4 | 17.9 |
| Air to Fuel Ratio | 2.17 | 2.04 | 2.08 | 2.07 | 2.12 | Calc | 2.13 | 2.06 |
| Pulv Inlet Temp | 265.2 | 285.6 | 271.2 | 281.4 | 277.0 | 97.9 | 276.9 | 291.1 |
| Pulv Outlet Temp | 149.7 | 151.1 | 151.1 | 152.2 | 150.6 | 90.2 | 150.9 | 150.6 |
| Coal Bias | -4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Air Bias | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 |
| Hyd Skid Pr Fdbk | 2342. | 2175. | 2282. | 2247. | 2098. | 4. | 2109. | 2206. |
| Hyd Skid Pr Setpt | 2094. | 2273. | 2211. | 2254. | 2204. | 1149. | 2213. | 2266. |

EndTim= 06-Sep-03 12:47:54 /EvalTim= 06-Sep-03 12:47:54 /PanRate= 0

Printed out for: UNIT1OP - 06-Sep-03 12:48:12

0 Messages 1-OFA FLOWU1 OFA FLOW 7 DMPR POS TREND 06-Sep-03 12:48:12

OFA FLOWS | NOX & O2 | 1/3 DAMPER POSITIO | 2/3 DAMPER POSITIO



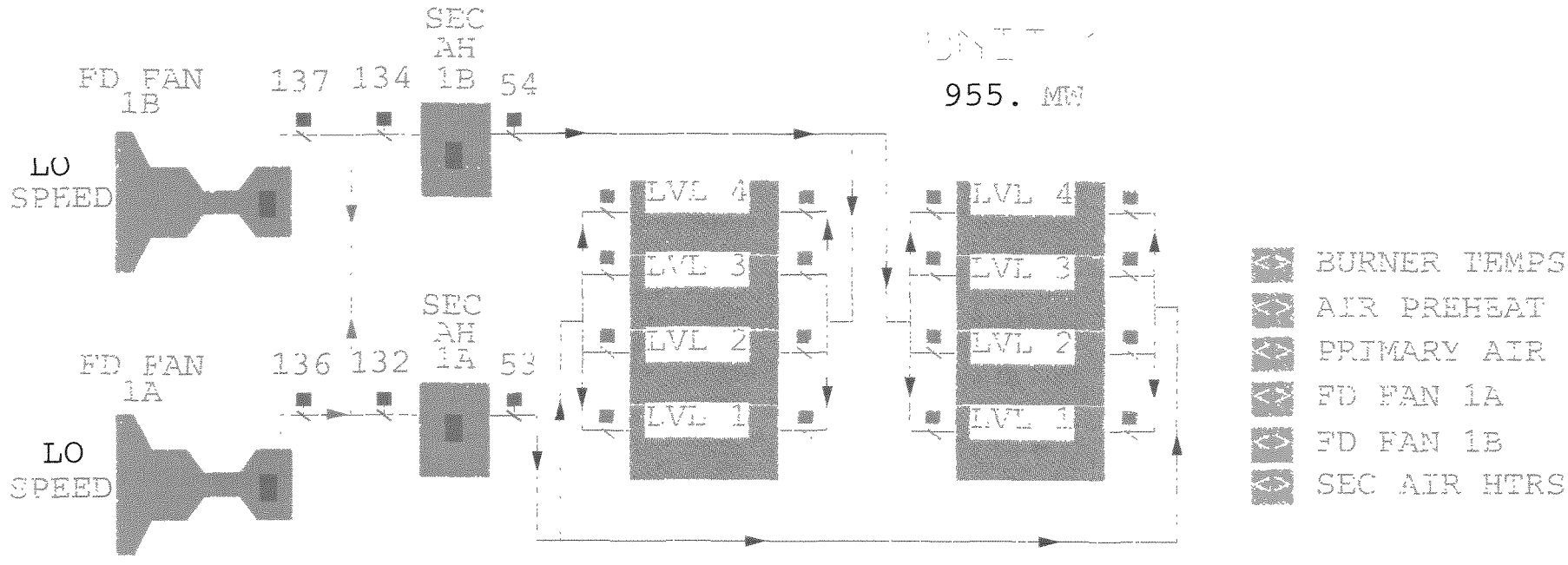

| | | | |
|---|---|---|---|
| 1SGBFT0155 | 1SAAKK0007 | 1SGBKS164B | 1SGBKS165B |
| □ 264.50 | □ 0.3718 | □ 0.9 | □ 58.8 |
| KPPH | LB/MBTU | % | % |
| 1SGBFT0156 | 1COAXI187A | 1SGBKS166B | 1SGBKS167B |
| ○ 254.60 | ○ 2.8 | ○ 2.1 | ○ 51.7 |
| 1SGBFT0157 | | 1SGBKS168B | 1SGBKS169B |
| ◇ 259.80 | | ◇ 0.0 | ◇ 56.8 |
| 1SGBFT0158 | | 1SGBKS170B | 1SGBKS171B |
| + 260.51 | | + 6.1 | + 98.8 |

06-Sep-03 04:48:39 06-Sep-03 12:48:39 1hr/div 06-Sep-03 12:48:39

IP7_038033

Printed out for: UNIT1OP - 06-Sep-03 12:49:02

0 Messages 1SGBG01 COMBUSTION AIR 06-Sep-03 12:49:02



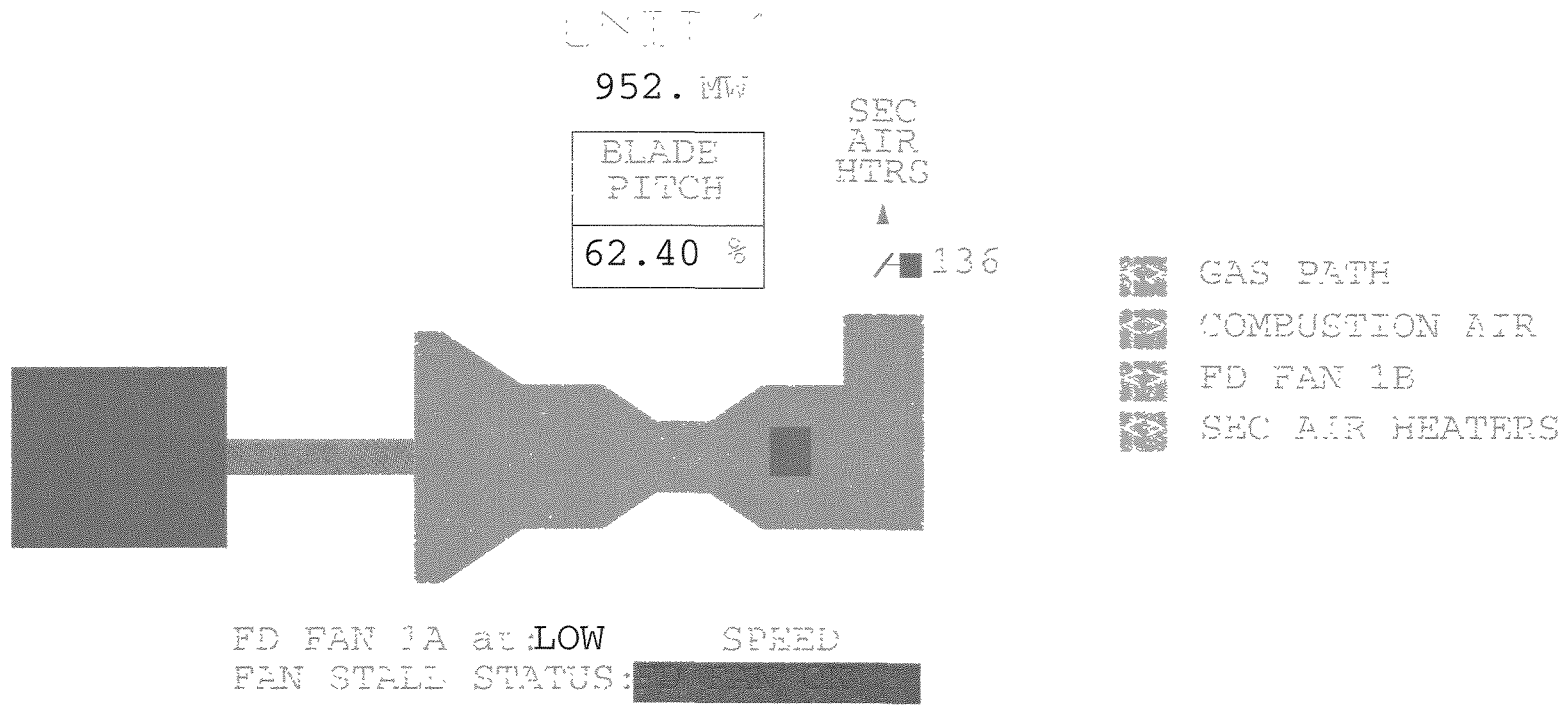

| FAN ROOM TEMP | |
|---|---|
| 74. | |

| | FD FANS 1A | FD FANS 1B | | SEC AIR HTRS 1A | SEC AIR HTRS 1B | | SEC AIR WINDBOX DUCT PRESS REAR NORTH INWC | SEC AIR WINDBOX DUCT PRESS FRONT SOUTH INWC | SEC AIR WINDBOX DAMPER POS REAR NORTH % | SEC AIR WINDBOX DAMPER POS FRONT SOUTH % |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | LVL 4 | 1.9 | 1.9 | 68. | 67. |
| KLBH | 779. | 794. | FLOW % | 77. | 80. | LVL 3 | 1.8 | 1.9 | 68. | 62. |
| D/P | 10.9 | 11.3 | OT F | 687. | 691. | LVL 2 | 2.1 | 1.4 | 69. | 49. |
| AMPS | 217. | 227. | IN F | 82. | 83. | LVL 1 | 1.6 | 1.8 | 67. | 68. |

EndTim= 06-Sep-03 12:49:02 /EvalTim= 06-Sep-03 12:49:02 /PanRate= 0

IP7_038034

Printed out for: UNIT1OP - 06-Sep-03 12:49:15
0 Messages 1SGBG02 FORCED DRAFT FAN 1A 06-Sep-03 12:49:15



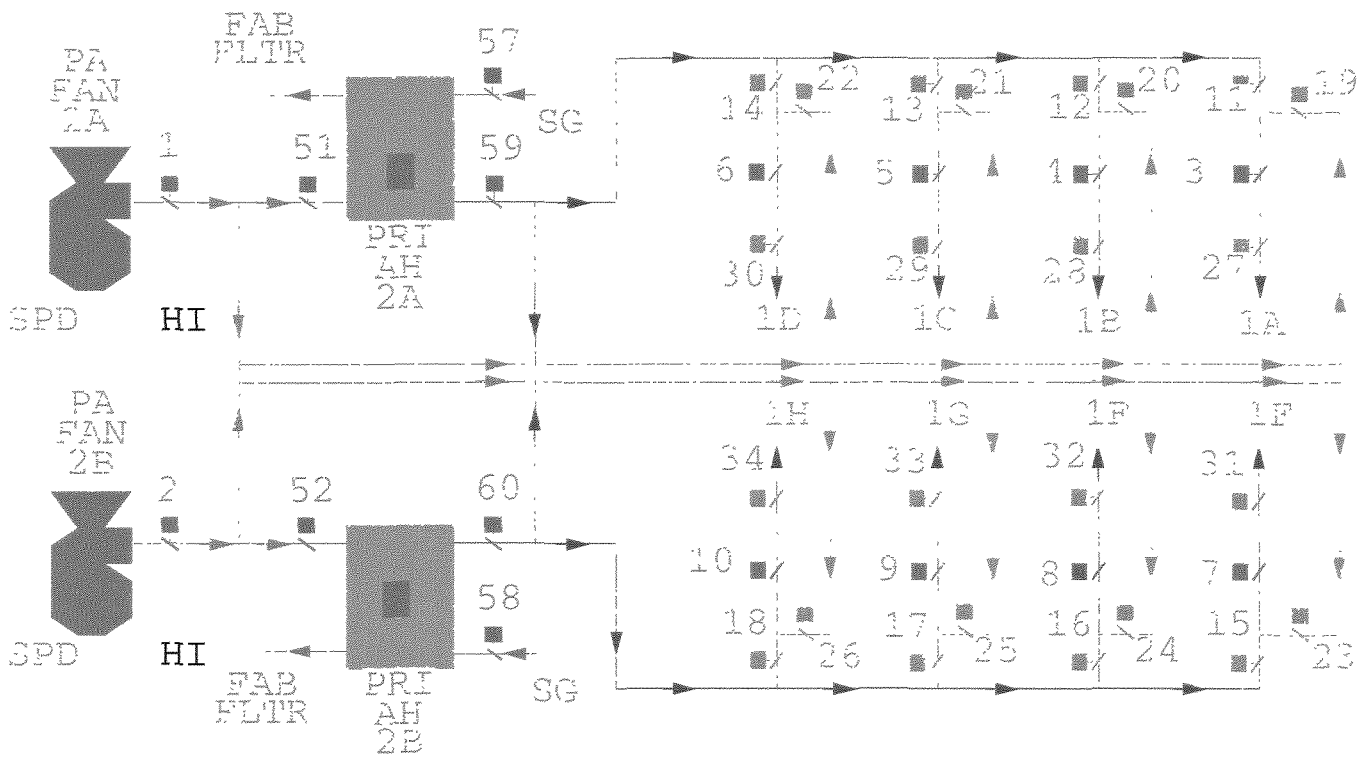

| FD FAN 1A | | | | |
|---|---|---|---|---|
| MOTOR | | FAN | IN BRD | OT BRD |
| IN F | 130. | UPR METAL F | 128.2 | 120.7 |
| OT F | 110. | LWR METAL F | 126.9 | 117.8 |
| C | 43.2 | VIBS M | 0.4 | |
| AMPS | 217. | D/P INWC | 10.9 | |
| | | KCFM | 871.1 | |

| AMP LIMIT VALUES | | |
|---|---|---|
| FD FAN SPEED | LOW | HIGH |
| NAMEPLATE RATING | 275 | 508 |
| SERVICE FACTOR RATING | 316 | 584 |
| RELAY PROTECTION ALARM | 384 | 640 |

EndTim= 06-Sep-03 12:49:15 /EvalTim= 06-Sep-03 12:49:15 /PanRate= 0

IP7_038035

Printed out for: UNIT1OP - 06-Sep-03 12:49:42
0 Messages 1SGBG05 PRIMARY AIR 06-Sep-03 12:49:42




UNIT 1
953. MW

PRI AIR FANS
PRI AIR HTRS

PA DUCT PRESS

| | |
|---|---|
| INWC | 44.6 |

PULVERIZERS

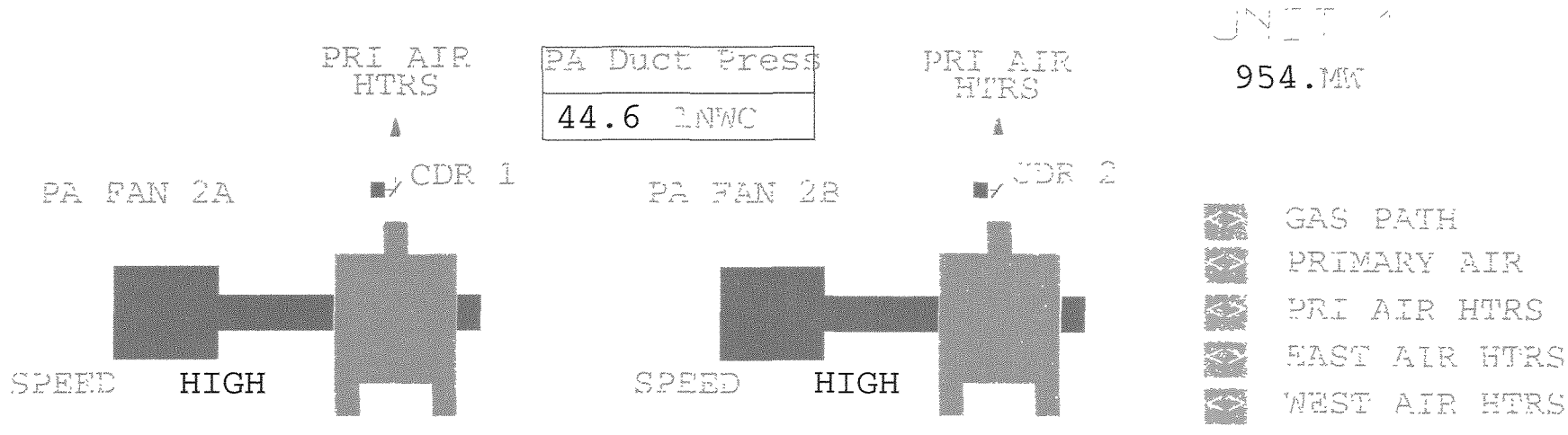
| | FLOW % | TARGET % +BIAS | INLET F |
|---|---|---|---|
| 1A | 85.1 | 85.6 | 265. |
| 1B | 88.1 | 89.0 | 291. |
| 1C | 87.6 | 87.0 | 276. |
| 1D | 88.2 | 88.2 | 285. |
| 1E | 87.7 | 87.4 | 277. |
| 1F | 0.0 | 69.0 | 97. |
| 1G | 88.5 | 87.8 | 278. |
| 1H | 88.2 | 88.7 | 295. |

| PRI AIR HTRS | 2A | 2B | PRI AIR FANS | 2A | 2B |
|---|---|---|---|---|---|
| FLU GAS OT | 292. | 311. | FLW % | 30.6 | 31.7 |
| AIR IN | 122. | 121. | AIR IN F | 78. | 78. |
| AIR OT | 525. | 512. | MTR AMPS | 306. | [illegible] |

EndTim= 06-Sep-03 12:49:42 /EvalTim= 06-Sep-03 12:49:42 /PanRate= 0

IP7_038036

Printed out for: UNIT1OP - 06-Sep-03 12:49:55
0 Messages 1SGBG09 PRIMARY AIR FANS 06-Sep-03 12:49:55




| INLET VANE POSITION | AIR INLET TEMP |
|---|---|
| 31.4 % | 78. F |

| INLET VANE POSITION | AIR INLET TEMP |
|---|---|
| 31.1 % | 78. F |

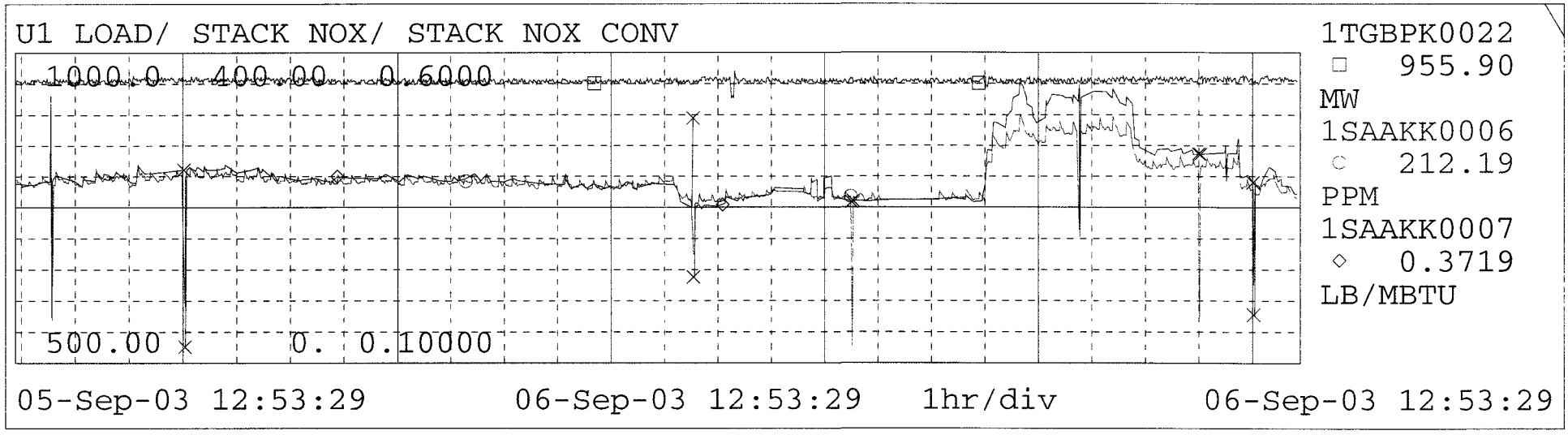
| | 2A | | 2B | |
|---|---|---|---|---|
| | MOTOR | FAN | MOTOR | FAN |
| INBD F | 129. | 148. | 134. | 151. |
| OTBD F | 144. | 139. | 146. | 163. |
| INBD MIL | | 0.7 | | 1.3 |
| OTBD MIL | | 0.7 | | 2.2 |
| C | 61. | | 64. | |
| AMPS | 306. | | 315. | |

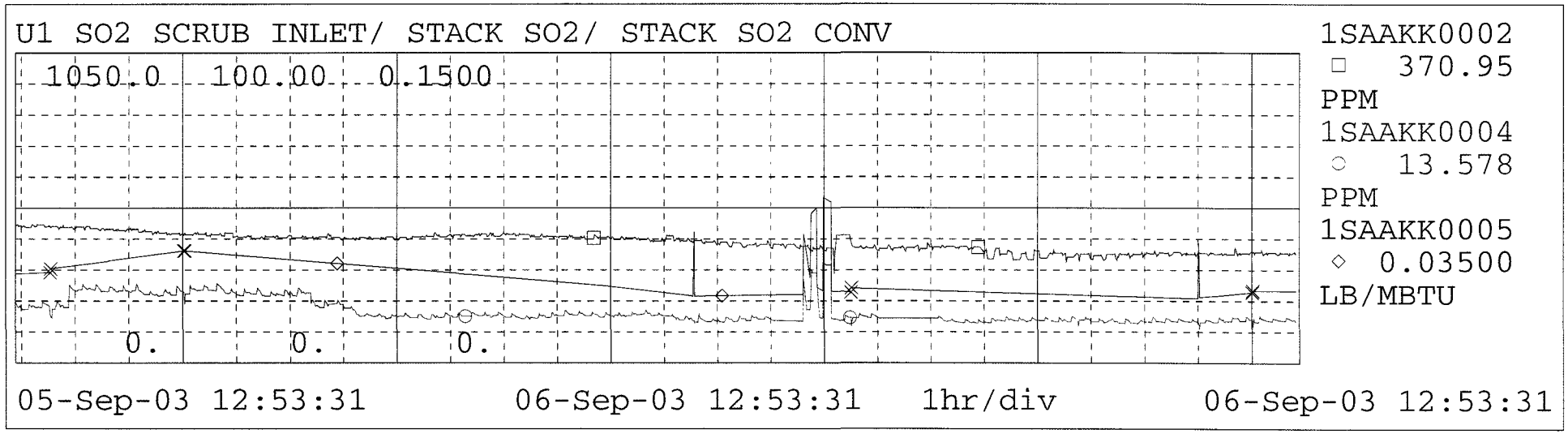
| AMP LIMIT VALUES | | |
|---|---|---|
| PA FAN SPEED | LOW | HIGH |
| NAMEPLATE RATING | 265 | 380 |
| SERVICE FACTOR RATING | 304 | 437 |
| RELAY PROTECTION ALARM | 328 | 440 |

EndTim= 06-Sep-03 12:49:55 /EvalTim= 06-Sep-03 12:49:55 /PanRate= 0

IP7_038037

Printed out for: UNIT1OP - 06-Sep-03 12:50:19
0 Messages Coal Comp1U1 Coal Comparisons 06-Sep-03 12:50:19



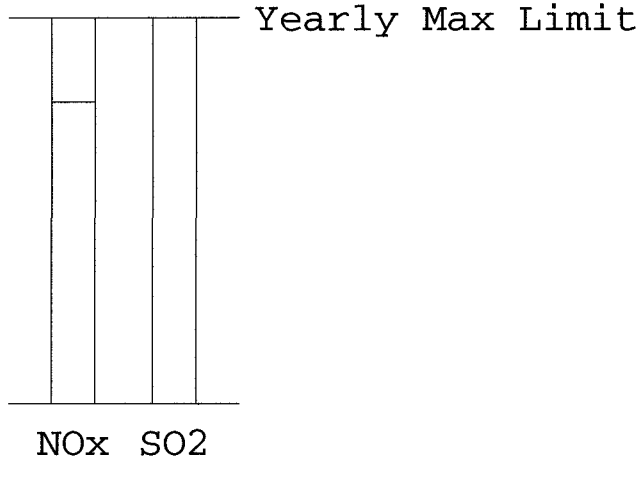




IP7_038038

Printed out for: UNIT1OP - 06-Sep-03 12:50:35
0 Messages Envir Stat Environmental Stats 06-Sep-03 12:50:35

| | Unit 1 | Unit 2 | | Limit | |
|---|---|---|---|---|---|
| Load | 952.75 | 899.25 | MW | | |
| Stack NOx | 212. | 239. | ppm | | |
| | 0.37 | 0.42 | lb/mbtu | 0.40 | 0.36 |
| | 1.58 | 1.66 | tons/hr | 1.51 | |
| Stack SO2 | 0.16 | 0.24 | tons/hr | 0.22 | |
| | 0.035 | 0.058 | lb/mbtu | 0.060 | 0.058 |

| Tons emitted YTD | | | | Station | Limit |
|---|---|---|---|---|---|
| NOx | 10114. | 10601. | tons | 20714. | 26,453 tons/yr |
| SO2 | 2760.37 | 2927.76 | tons | 5688.13 | 3,878 tons/yr |




| | | |
|---|---|---|
| APH air out | 75.3 | 74.2 |

| | Unit 1 | Unit 2 |
|---|---|---|
| Coal Flow | 345.40 | 326.50 |
| Heat Input | 8456. | 8003. |
| Heat Input | 8200. | 7855. |
| HHVC | 12255. | |
| Heat Input | 8611. | 7938. |

EndTim= 06-Sep-03 12:50:35 /EvalTim= 06-Sep-03 12:50:35 /PanRate= 0

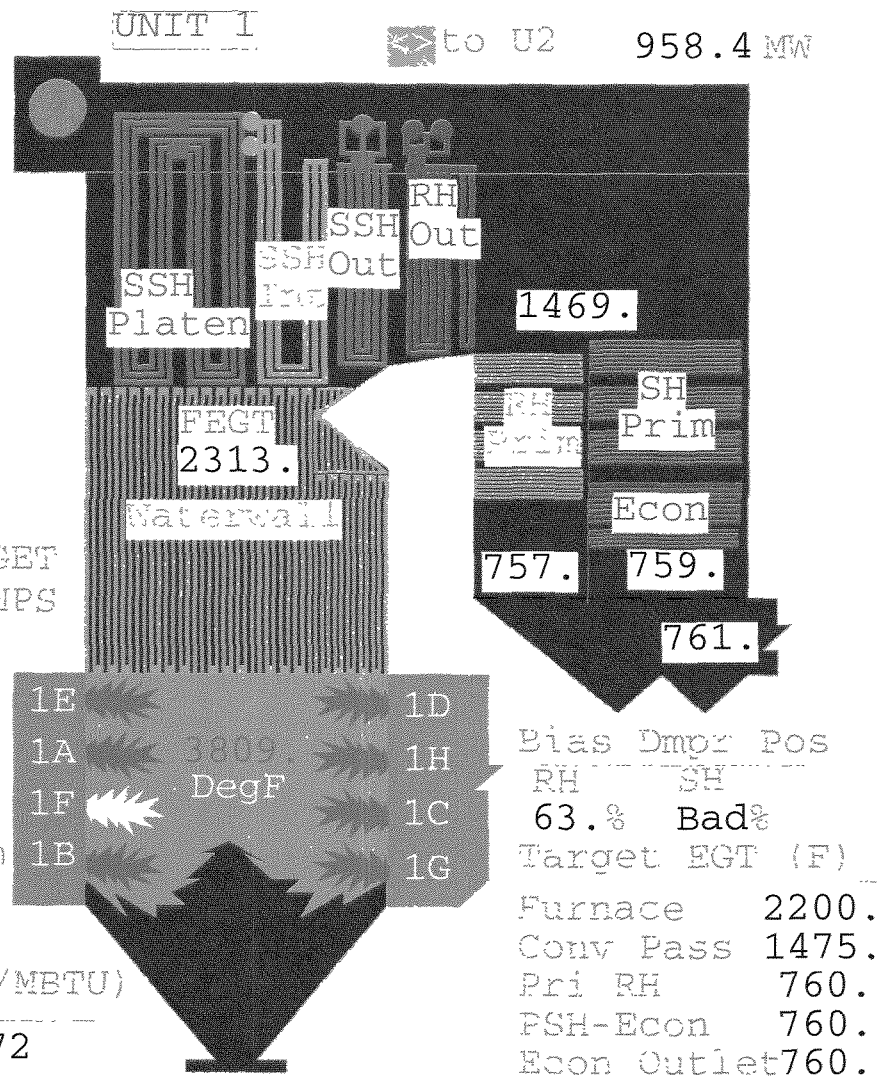
IP7_038039

Printed out for: UNIT1OP - 06-Sep-03 12:50:43

0 Messages 1SGAclean U1 BOILER SOOTBLOWING CLEANLINESS 06-Sep-03 12:50:43

Fouled: <.7 Dirty: 0.7-0.80 Clean: >.80

| Cleanliness Factors: | 0.0 .7 .8 |
|---|---|
| WATERWALLS | 0.76 |
| SUPERHEATER | |
| SH Primary Bank | 0.93 |
| SSH Platen Bank | 0.65 |
| SSH Intrmed Bank | 0.70 |
| SSH Outlet Bank | 0.70 |
| REHEATER | |
| RH Primary Bank | 0.73 |
| RH Outlet Banks | 1.00 |
| ECONOMIZER | 0.88 |




| Key Parameters: | CCS | PMAX |
|---|---|---|
| Main Stm Temp (DegF) | 1006. | |
| Main Stm Spry (KPPH) | 153. | 211. |
| RH Stm Temp (DegF) | 1002. | |
| RH Stm Spry (KPPH) | 0. | 0. |
| Fuel Flow (TPH) | 346. | |
| Coal Flow (TPH) | 351. | 346. |
| Air Flow (%) | 86.3 | |

OFA % 14.6

| | EAST | WEST |
|---|---|---|
| Secondary Air Flow (%) | 77.7 | 80.5 |
| O2 (%) | 1.9 | 3.4 |
| Air Htr Gas In Tmp (DegF | 760. | 761. |

SB TARGET GAS TEMPS

DRAFT PROFILE

O2 Trim

61.0

NOx (#/MBTU)

0.372

Bias Dmpr Pos

| RH | SH |
|---|---|
| 63.% | Bad% |

Target EGT (F)

| | |
|---|---|
| Furnace | 2200. |
| Conv Pass | 1475. |
| Pri RH | 760. |
| PSH-Econ | 760. |
| Econ Outlet | 760. |

EndTim= 06-Sep-03 12:50:43 /EvalTim= 06-Sep-03 12:50:43 /PanRate= 0

IP7_038040

Printed out for: UNIT1OP - 06-Sep-03 13:26:16

0 Messages 1SGAclean U1 BOILER SOOTBLOWING CLEANLINESS 06-Sep-03 13:26:16

Fouled: <.7 Dirty: 0.7-0.80 Clean: >.80

| Cleanliness Factors: | 0.0 .7 .8 |
|---|---|
| WATERWALLS | 0.75 |
| SUPERHEATER | |
| SH Primary Bank | 0.92 |
| SSH Platen Bank | 0.64 |
| SSH Intrmed Bank | 0.67 |
| SSH Outlet Bank | 0.68 |
| REHEATER | |
| RH Primary Bank | 0.72 |
| RH Outlet Banks | 0.97 |
| ECONOMIZER | 0.88 |

| Key Parameters: | CCS | PMAX |
|---|---|---|
| Main Stm Temp (DegF) | 1005. | |
| Main Stm Spry (KPPH) | 164. | 226. |
| RH Stm Temp (DegF) | 1009. | |
| RH Stm Spry (KPPH) | 0. | 0. |
| Fuel Flow (TPH) | 344. | |
| Coal Flow (TPH) | 345. | 345. |
| Air Flow (%) | 86.3 | |

| OFA % 14.4 | EAST | WEST |
|---|---|---|
| Secondary Air Flow (%) | 78.0 | 79.2 |
| O2 (%) | 2.0 | 3.3 |
| Air Htr Gas In Tmp (DegF | 765. | 764. |

SB TARGET GAS TEMPS

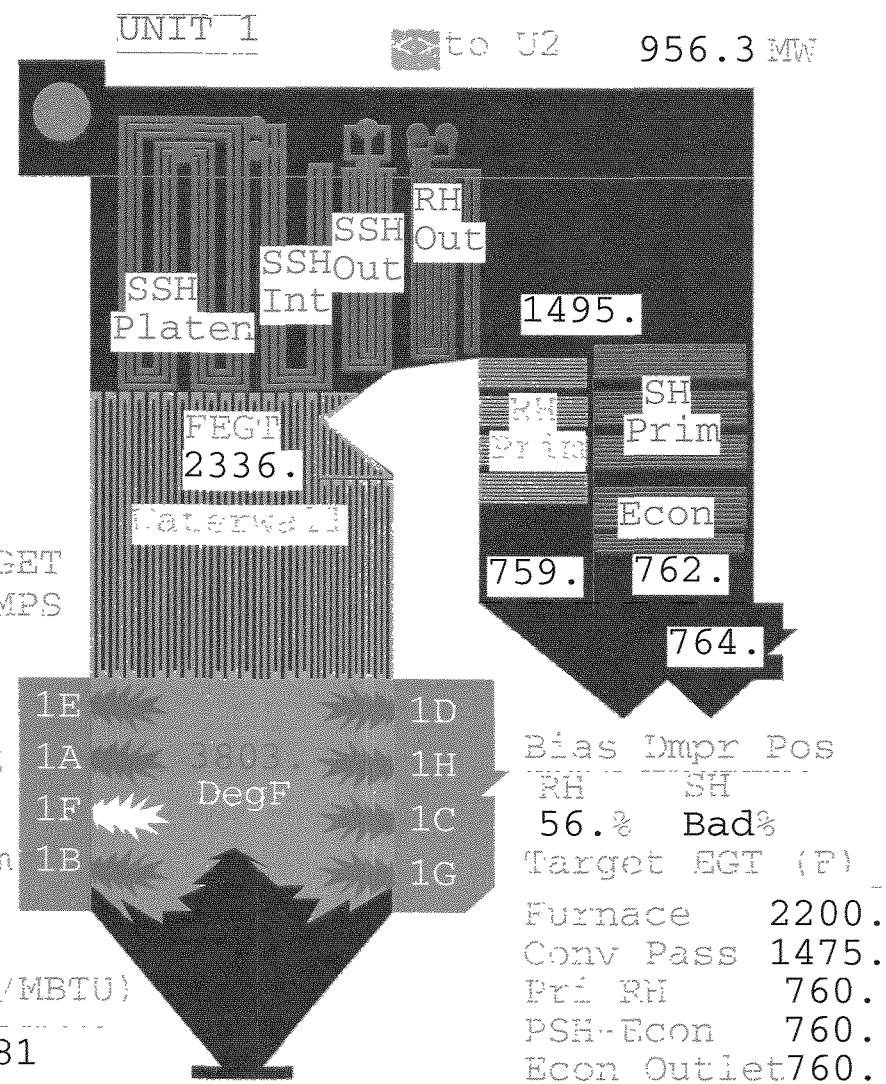
DRAFT PROFILE

O2 Trim

61.0

NOx(#/MBTU)

0.381




| Bias Dmpr Pos | |
|---|---|
| RH | SH |
| 56.% | Bad% |

| Target EGT (F) | |
|---|---|
| Furnace | 2200. |
| Conv Pass | 1475. |
| Pri RH | 760. |
| PSH-Econ | 760. |
| Econ Outlet | 760. |

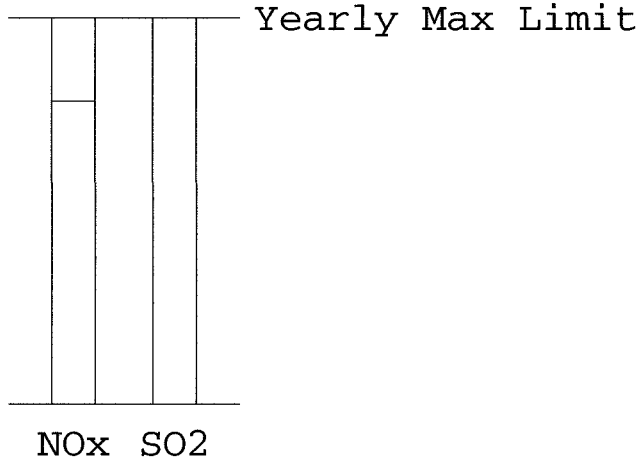
EndTim= 06-Sep-03 13:26:16 /EvalTim= 06-Sep-03 13:26:16 /PanRate= 0

IP7_038041

Printed out for: UNIT1OP - 06-Sep-03 13:26:27
0 Messages Envir Stat Environmental Stats 06-Sep-03 13:26:27

| | Unit 1 | Unit 2 | | Limit | |
|---|---|---|---|---|---|
| Load | 952.50 | 900.25 | MW | | |
| Stack NOx | 220. | 235. | ppm | | |
| | 0.38 | 0.41 | lb/mbtu | 0.39 | 0.36 |
| | 1.60 | 1.68 | tons/hr | 1.51 | |
| Stack SO2 | 0.17 | 0.23 | tons/hr | 0.22 | |
| | 0.035 | 0.059 | lb/mbtu | 0.060 | 0.059 |

| Tons emitted YTD | | | | Station | Limit |
|---|---|---|---|---|---|
| NOx | 10115. | 10602. | tons | 20716. | 26,453 tons/yr |
| SO2 | 2760.46 | 2927.90 | tons | 5688.33 | 3,878 tons/yr |



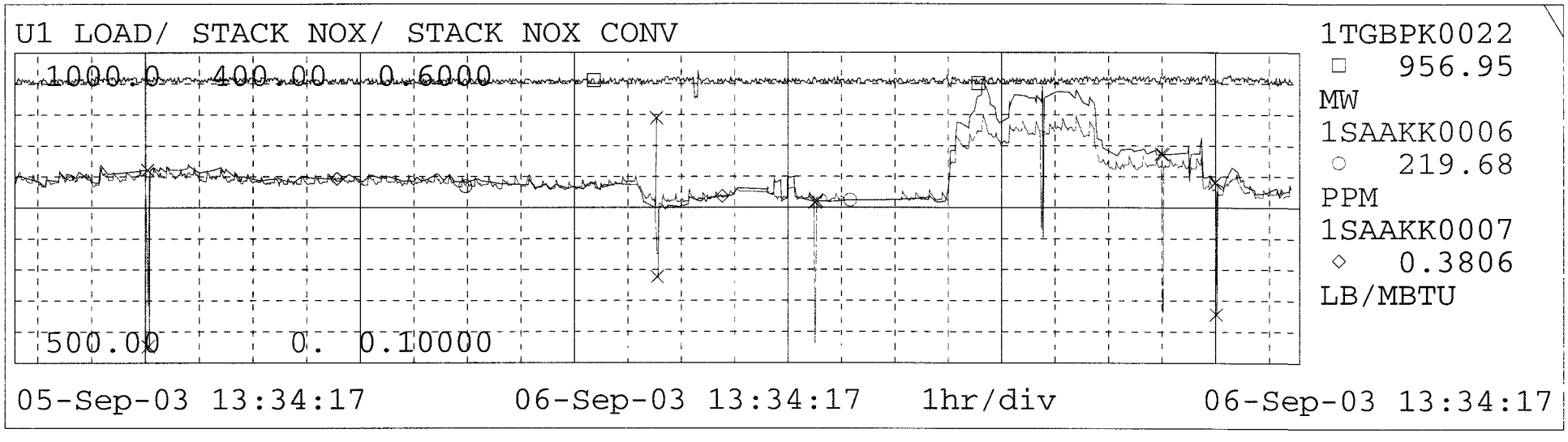

| | | |
|---|---|---|
| APH air out | 75.9 | 75.3 |

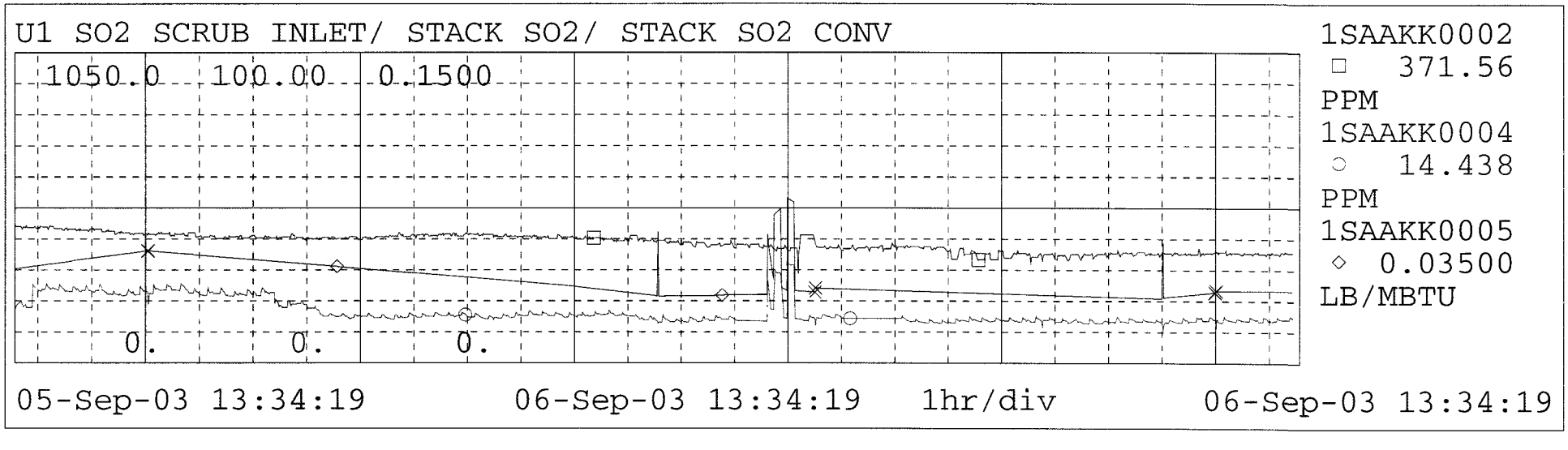
| | Unit 1 | Unit 2 |
|---|---|---|
| Coal Flow | 343.50 | 327.30 |
| Heat Input | 8419. | 8022. |
| Heat Input | 8173. | 7891. |
| HHVC | 12255. | |
| Heat Input | 8624. | 7963. |

EndTim= 06-Sep-03 13:26:27 /EvalTim= 06-Sep-03 13:26:27 /PanRate= 0

IP7_038042

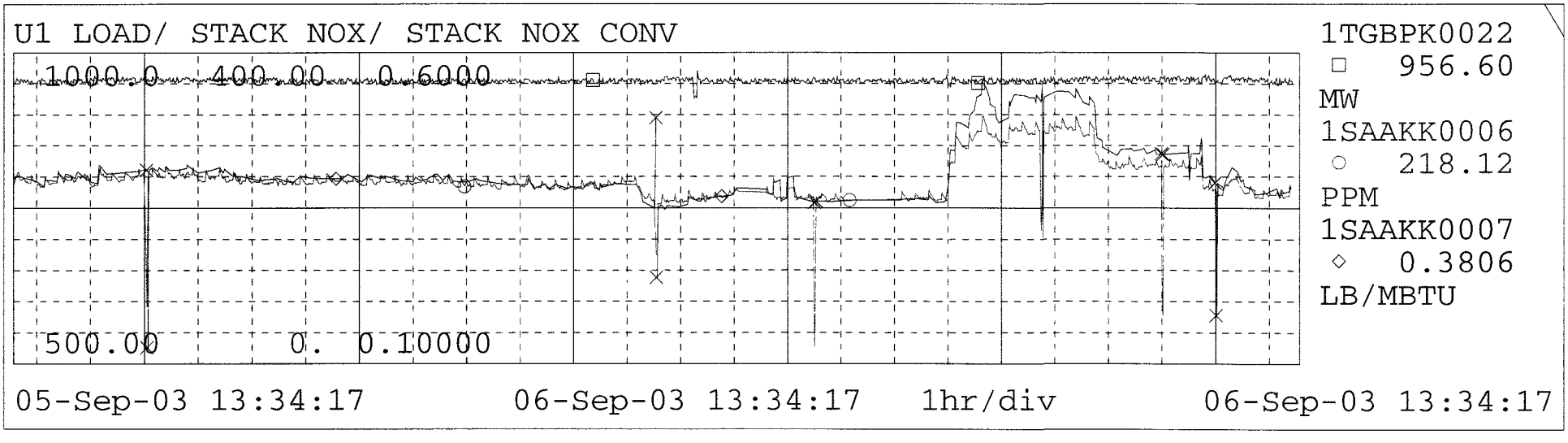
Printed out for: UNIT1OP - 06-Sep-03 13:26:37
0 Messages Coal Comp1U1 Coal Comparisons 06-Sep-03 13:26:37

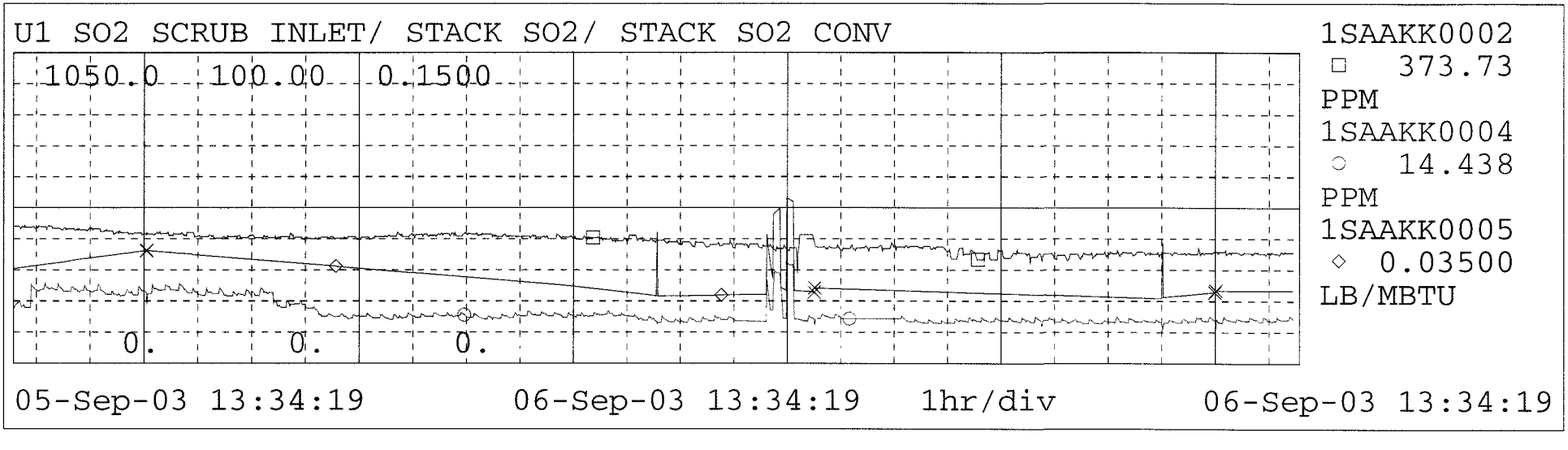



IP7_038043

Printed out for: UNIT1OP - 06-Sep-03 13:27:13
0 Messages Coal Comp1U1 Coal Comparisons 06-Sep-03 13:27:13

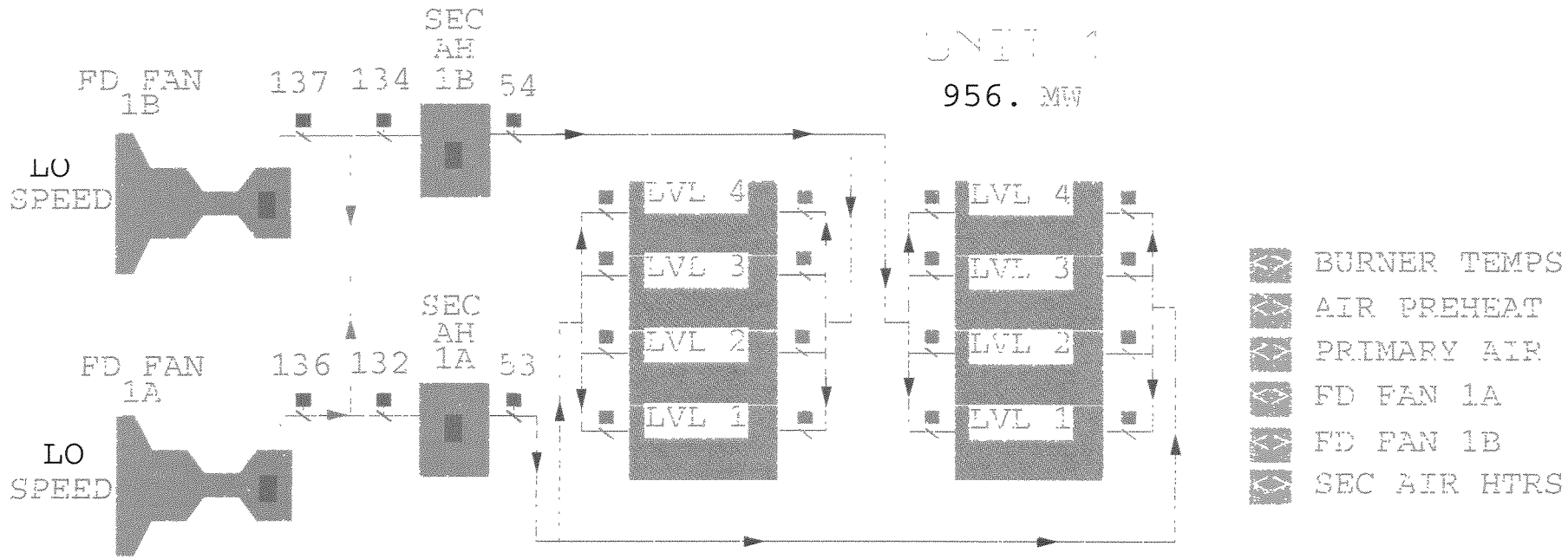



IP7_038044

Printed out for: UNIT1OP - 06-Sep-03 13:27:24

0 Messages 1SGBG01 COMBUSTION AIR 06-Sep-03 13:27:24



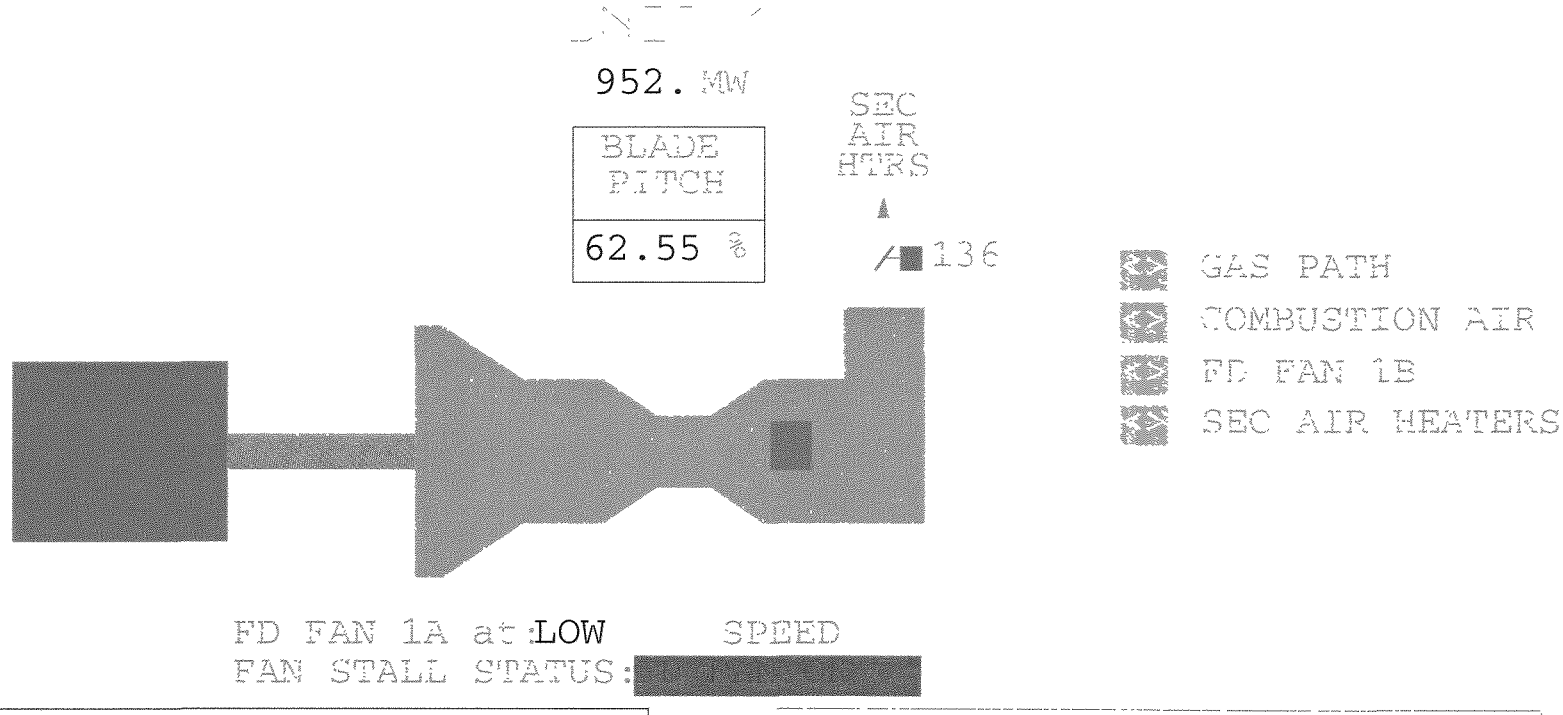

| FAN ROOM TEMP | |
|---|---|
| 76. | |

| | FD FANS 1A | FD FANS 1B | | SEC AIR HTRS 1A | SEC AIR HTRS 1B | | SEC AIR WINDBOX DUCT PRESS REAR NORTH INWC | DUCT PRESS FRONT SOUTH INWC | DAMPER POS REAR NORTH % | DAMPER POS FRONT SOUTH % |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | LVL 4 | 1.9 | 1.9 | 69. | 69. |
| KLBH | 779. | 799. | FLOW % | 79. | 79. | LVL 3 | 1.8 | 1.7 | 69. | 58. |
| D/P | 11.0 | 11.1 | OT F | 691. | 694. | LVL 2 | 2.1 | 1.4 | 70. | 49. |
| AMPS | 217. | 227. | IN F | 83. | 84. | LVL 1 | 1.7 | 1.8 | 68. | 68. |

EndTim= 06-Sep-03 13:27:24 /EvalTim= 06-Sep-03 13:27:24 /PanRate= 0

IP7_038045

Printed out for: UNIT1OP - 06-Sep-03 13:27:36
0 Messages 1SGBG02 FORCED DRAFT FAN 1A 06-Sep-03 13:27:36




| FD FAN 1A | | | | |
|---|---|---|---|---|
| MOTOR | | FAN | IN BRD | OT BRD |
| IN F | 130. | UPR METAL F | 129.3 | 122.1 |
| OT F | 110. | LWR METAL F | 127.9 | 118.8 |
| C | 44.0 | VIBS M | 0.4 | |
| AMPS | 217. | D/P INWC | 11.0 | |
| | | KCFM | 874.6 | |

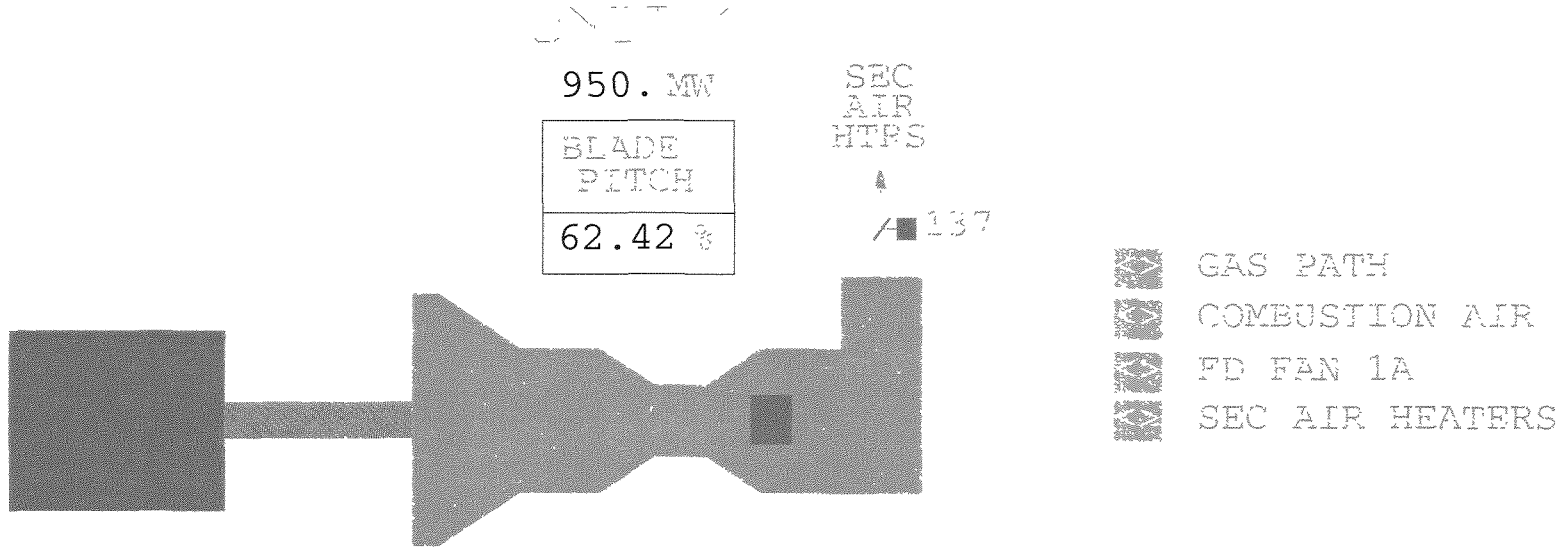
| AMP LIMIT VALUES | | |
|---|---|---|
| FD FAN SPEED | LOW | HIGH |
| NAMEPLATE RATING | 275 | 508 |
| SERVICE FACTOR RATING | 316 | 584 |
| RELAY PROTECTION ALARM | 384 | 640 |

EndTim= 06-Sep-03 13:27:35 /EvalTim= 06-Sep-03 13:27:35 /PanRate= 0

IP7_038046

Printed out for: UNIT1OP - 06-Sep-03 13:27:48

0 Messages 1SGBG03 FORCED DRAFT FAN 1B 06-Sep-03 13:27:48




FD FAN 1B at LOW SPEED

FAN STALL STATUS:

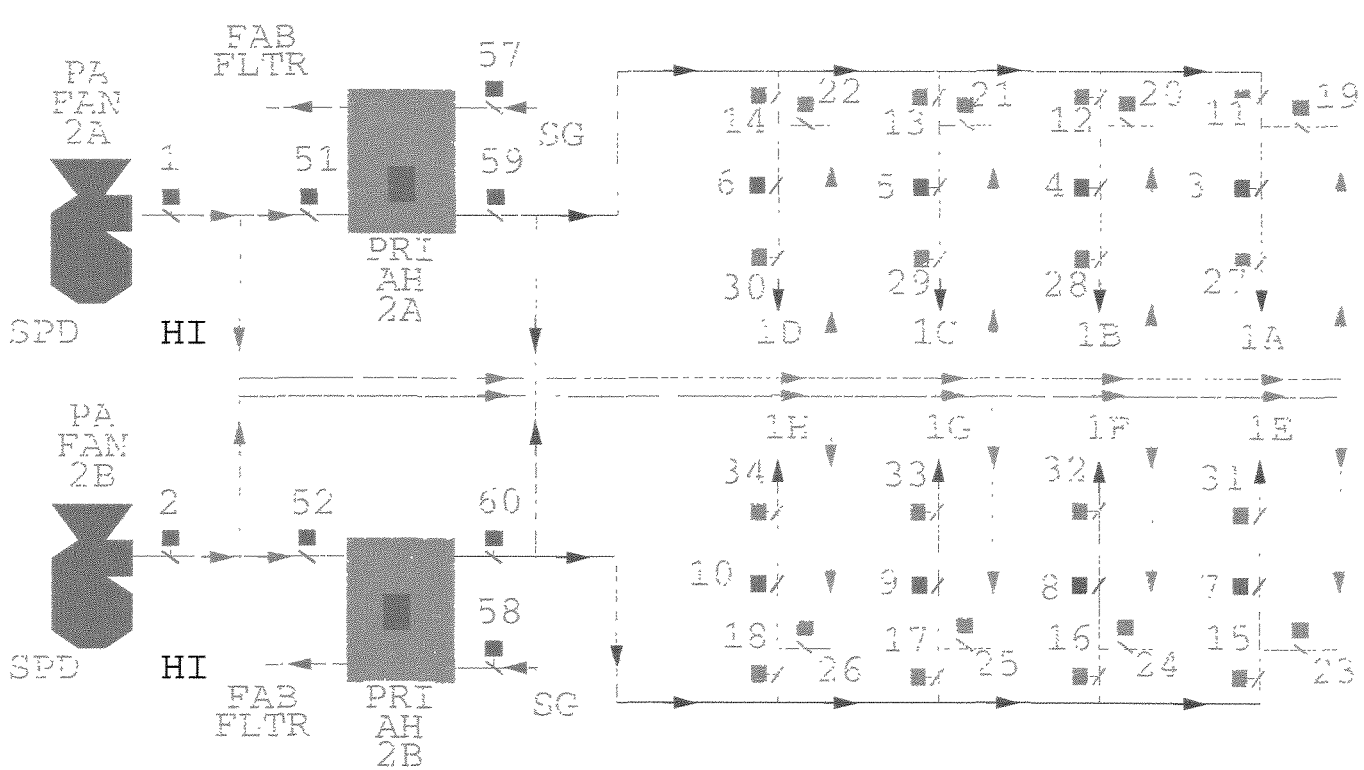
| FD FAN 1B | | | | |
|---|---|---|---|---|
| MOTOR | | FAN | IN BRD | OT BRD |
| IN F | 132. | UPR METAL F | 116. | 116. |
| OT F | 130. | LWR METAL F | 114. | 117. |
| C | 52.6 | VIBS M | 0.5 | |
| AMPS | 229. | D/P INWC | 11.3 | |
| | | KCFM | 891. | |

| AMP LIMIT VALUES | | |
|---|---|---|
| FD FAN SPEED | LOW | HIGH |
| NAMEPLATE RATING | 275 | 508 |
| SERVICE FACTOR RATING | 316 | 584 |
| RELAY PROTECTION ALARM | 384 | 640 |

EndTim= 06-Sep-03 13:27:48 /EvalTim= 06-Sep-03 13:27:48 /PanRate= 0

IP7_038047

Printed out for: UNIT1OP - 06-Sep-03 13:28:04
0 Messages 1SGBG05 PRIMARY AIR 06-Sep-03 13:28:04




UNIT
955. MW

PRI AIR FANS
PRI AIR HTRS

PA DUCT PRESS
INWC 44.7

| PULVERIZERS | FLOW % | TARGET % +BIAS | INLET F |
|---|---|---|---|
| 1A | 86.7 | 84.5 | 255. |
| 1B | 88.5 | 89.1 | 290. |
| 1C | 88.1 | 88.7 | 277. |
| 1D | 88.3 | 89.1 | 285. |
| 1E | 88.1 | 88.4 | 279. |
| 1F | 0.0 | 69.0 | 98. |
| 1G | 89.2 | 88.8 | 279. |
| 1H | 88.5 | 90.0 | 295. |

| PRI AIR HTRS | 2A | 2B | PRI AIR FANS | 2A | 2B |
|---|---|---|---|---|---|
| FLU GAS OT | 289. | 309. | FLW % | 31.0 | 32.2 |
| AIR IN | 124. | 123. | AIR IN F | 80. | 81. |
| AIR OT | 523. | 511. | MTR AMPS | 305. | 315. |

EndTim= 06-Sep-03 13:28:04 /EvalTim= 06-Sep-03 13:28:04 /PanRate= 0

IP7_038048

Printed out for: UNIT1OP - 06-Sep-03 13:28:18
0 Messages 1SGBG09 PRIMARY AIR FANS 06-Sep-03 13:28:18

UNIT 1
956.MW

PRI AIR HTRS

PA Duct Press
44.7 INWC

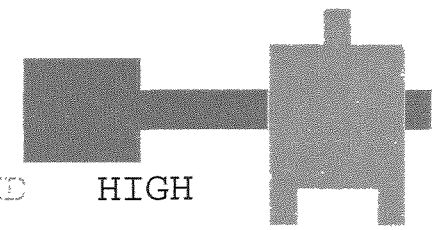
PRI AIR HTRS

PA FAN 2A

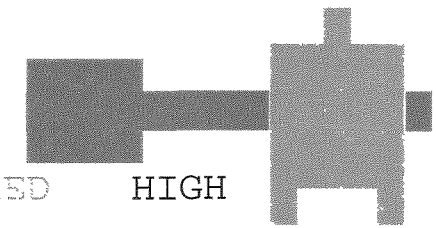
CDR 1

PA FAN 2B

CDR 2



SPEED HIGH



SPEED HIGH

GAS PATH
PRIMARY AIR
PRI AIR HTRS
EAST AIR HTRS
WEST AIR HTRS

| INLET VANE POSITION | AIR INLET TEMP |
|---|---|
| 31.5 % | 80. F |

| INLET VANE POSITION | AIR INLET TEMP |
|---|---|
| 31.3 % | 81. F |

| | 2A | | 2B | |
|---|---|---|---|---|
| | MOTOR | FAN | MOTOR | FAN |
| INBD F | 131. | 148. | 135. | 152. |
| OTBD F | 144. | 139. | 146. | 163. |
| INBD MIL | | 0.7 | | 1.3 |
| OTBD MIL | | 0.7 | | 2.2 |
| C | 62. | | 65. | |
| AMPS | 305. | | 312. | |

| AMP LIMIT VALUES | | |
|---|---|---|
| PA FAN SPEED | LOW | HIGH |
| NAMEPLATE RATING | 265 | 380 |
| SERVICE FACTOR RATING | 304 | 437 |
| RELAY PROTECTION ALARM | 328 | 440 |

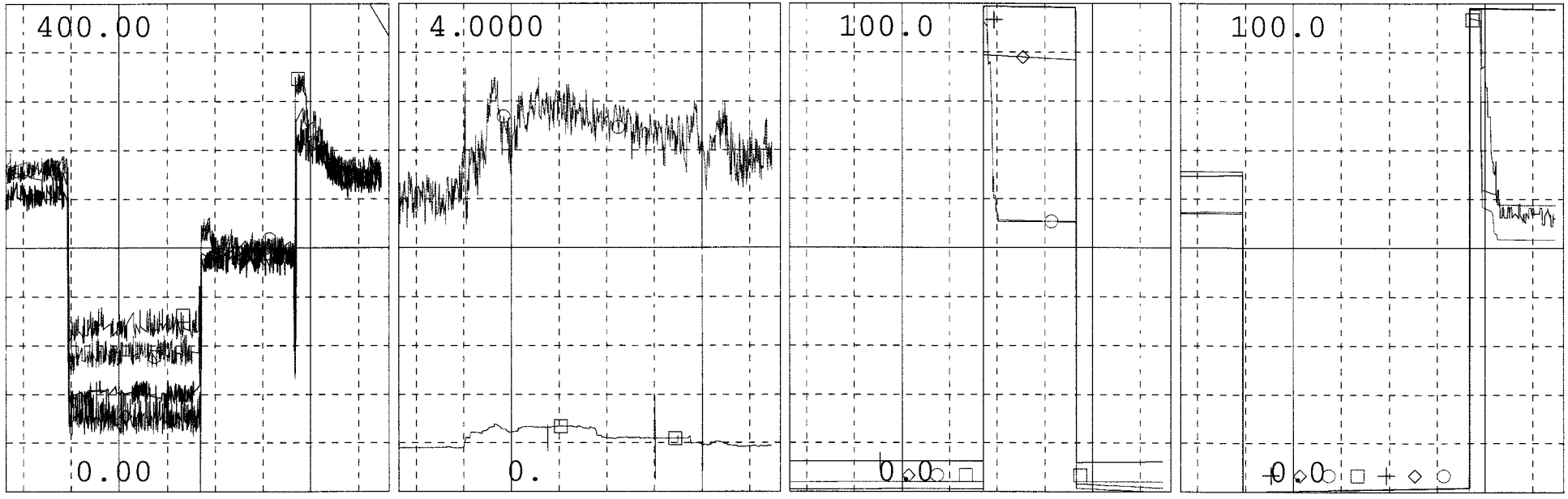
EndTim= 06-Sep-03 13:28:18 /EvalTim= 06-Sep-03 13:28:18 /PanRate= 0

IP7_038049

Printed out for: UNIT1OP - 06-Sep-03 13:28:38

0 Messages 1-OFA FLOWU1 OFA FLOW 7 DMPR POS TREND 06-Sep-03 13:28:38

OFA FLOWS | NOX & O2 | 1/3 DAMPER POSITIO | 2/3 DAMPER POSITIO




| | | | |
|---|---|---|---|
| 1SGBFT0155 | 1SAAKK0007 | 1SGBKS164B | 1SGBKS165B |
| □ 269.41 | □ 0.3806 | □ 0.9 | □ 58.7 |
| KPPH | LB/MBTU | % | % |
| 1SGBFT0156 | 1COAXI187A | 1SGBKS166B | 1SGBKS167B |
| ○ 256.60 | ○ 2.9 | ○ 2.1 | ○ 51.6 |
| 1SGBFT0157 | | 1SGBKS168B | 1SGBKS169B |
| ◇ 260.40 | | ◇ 0.0 | ◇ 55.9 |
| 1SGBFT0158 | | 1SGBKS170B | 1SGBKS171B |
| + 262.00 | | + 6.1 | + 98.8 |

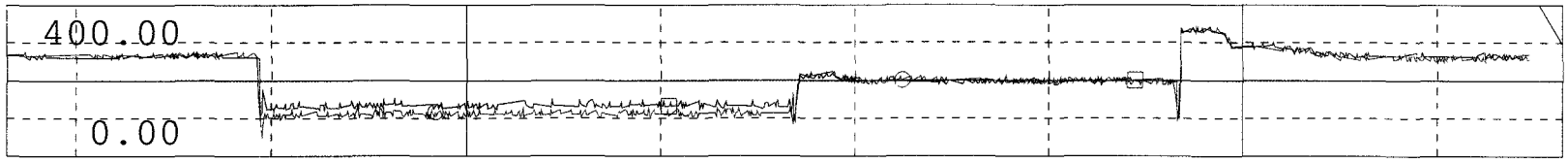
06-Sep-03 05:38:28 06-Sep-03 13:38:28 1hr/div 06-Sep-03 13:38:28

IP7_038050

Printed out for: UNIT1OP - 06-Sep-03 13:28:51

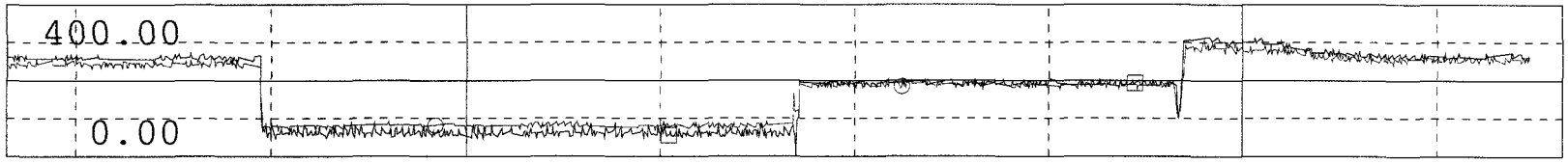
0 Messages 1-OFA VIEWU1 OFA FLOW, NOX, O2, MW 06-Sep-03 13:28:51

SOUTH OFA FLOWS



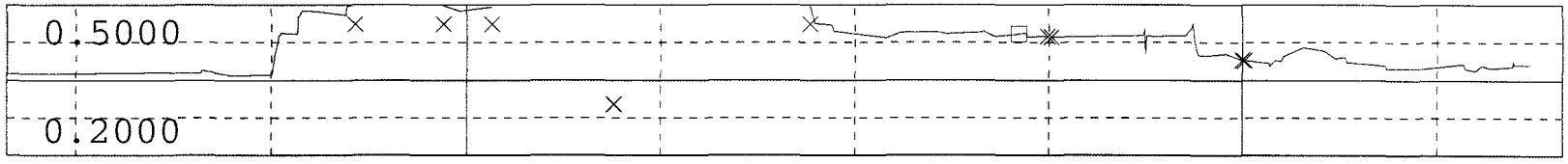

1SGBFT0155
□ 269.41
KPPH
1SGBFT0156
○ 267.50

NORTH OFA FLOWS



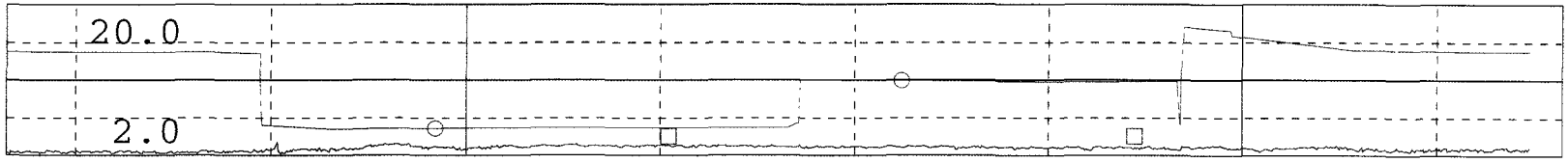

1SGBFT0157
□ 260.40
KPPH
1SGBFT0158
○ 249.80

NOX



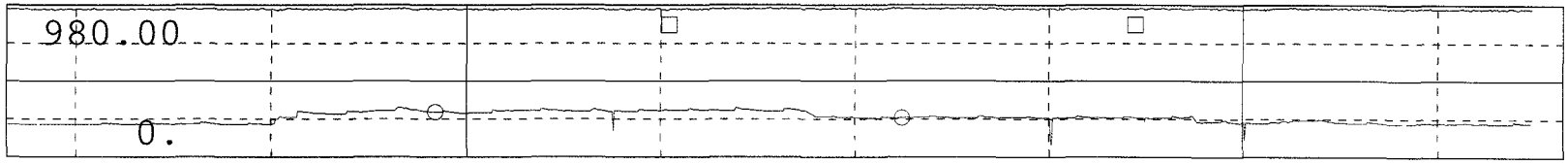

1SAAKK0007
□ 0.3806
LB/MBTU

O2 & OFA/TOTAL AIR




1COAXI187A
□ 2.9
%
1COAXI172B
○ 14.395

LOAD & NOX (PPM)




1TGBPK0022
□ 955.54
MW
1SAAKK0006
○ 218.12

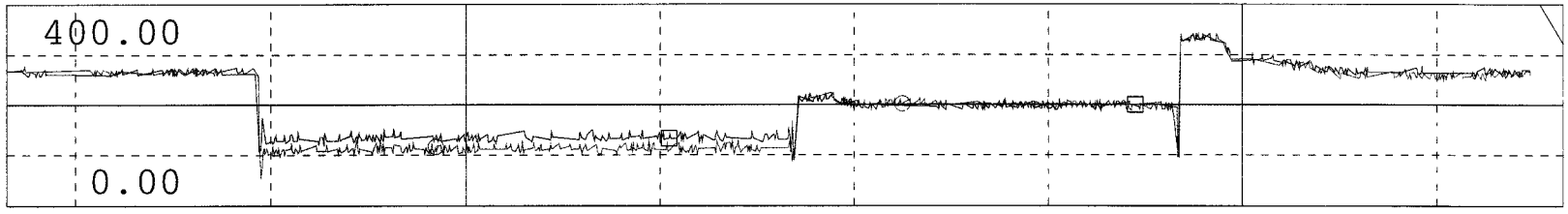
06-Sep-03 05:38:41 06-Sep-03 13:38:41 1hr/div 06-Sep-03 13:38:41

IP7_038051

Printed out for: UNIT1OP - 06-Sep-03 13:29:09

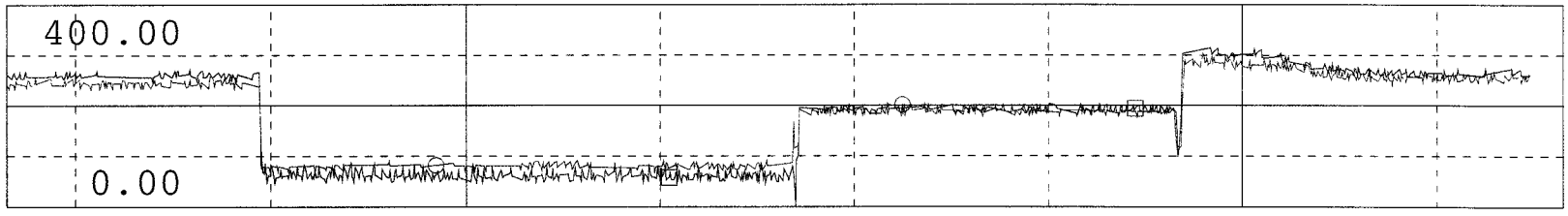
0 Messages 1-OFA/TA OFA comparison to Total Air 06-Sep-03 13:29:09

South OFA Inlet Flows



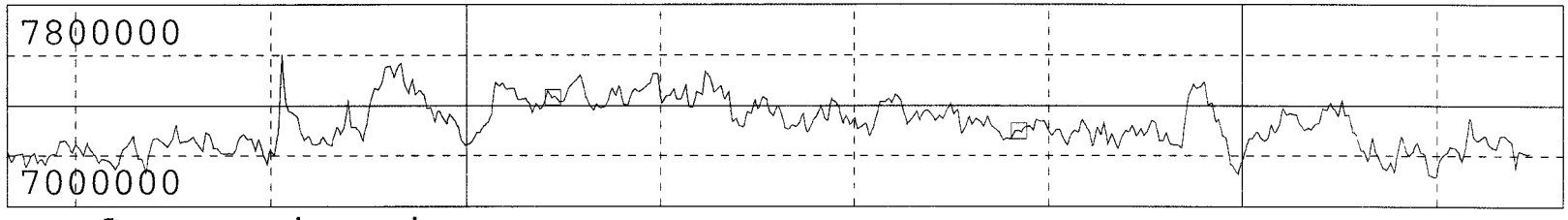

1SGBFT0155
□ 269.41
KPPH
1SGBFT0156
○ 252.10

North OFA Inlet Flows



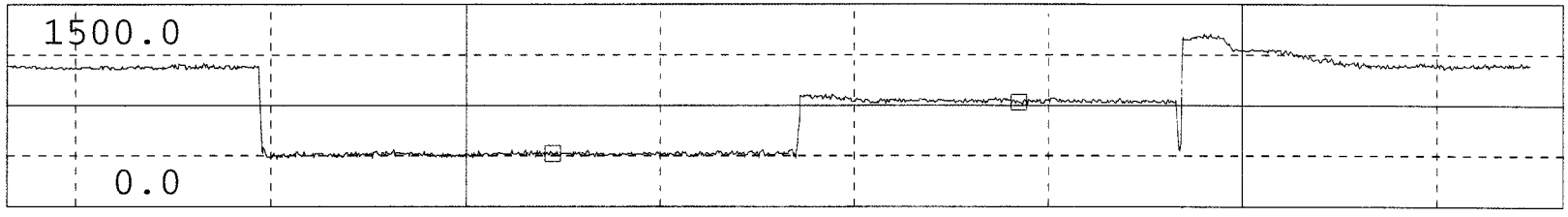

1SGBFT0157
□ 271.90
KPPH
1SGBFT0158
○ 250.90

Total Air




1SGAPX3522
□ 7210700
LB/HR

Total Over Fire Air



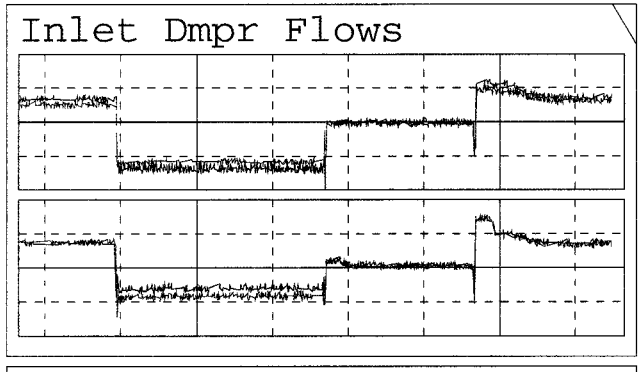

1COAXI172C
□ 1042.9
KPPH

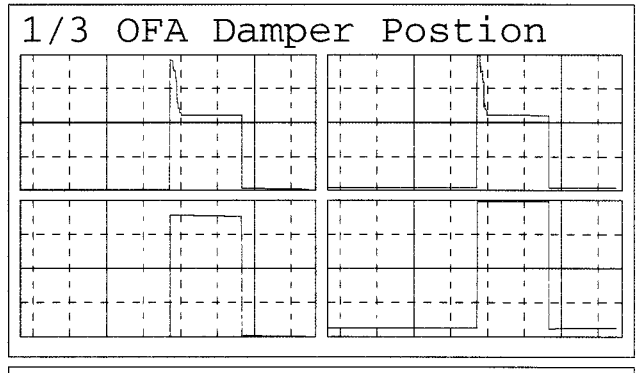
06-Sep-03 05:38:55 06-Sep-03 13:38:55 1hr/div 06-Sep-03 13:38:55

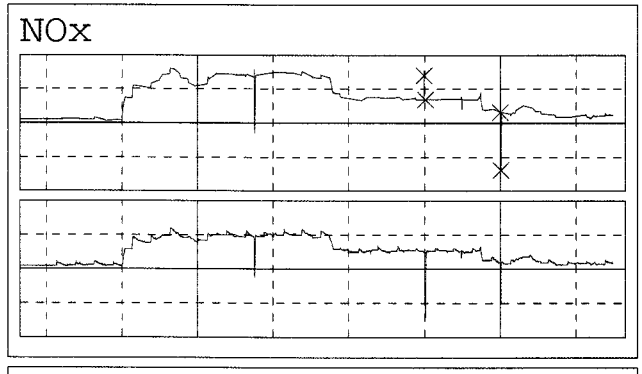
IP7_038052

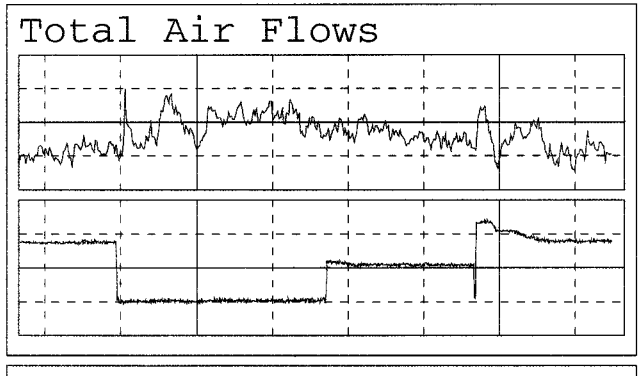
Printed out for: UNIT1OP - 06-Sep-03 13:29:23

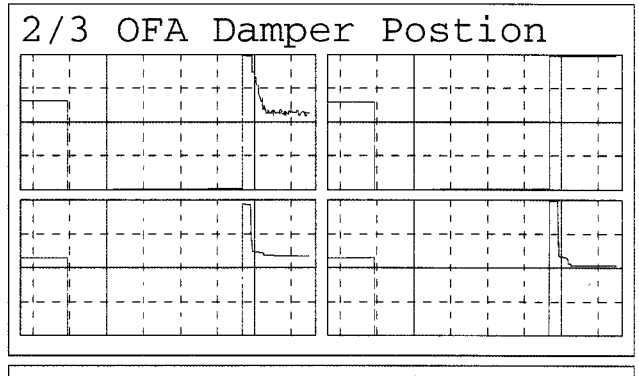
0 Messages 1OFA SumVwU1 OFA Overview 06-Sep-03 13:29:23

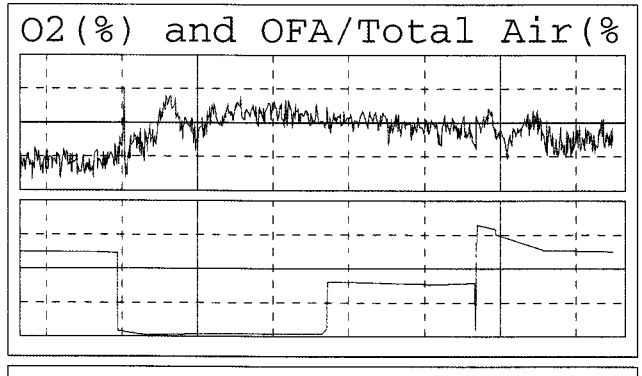


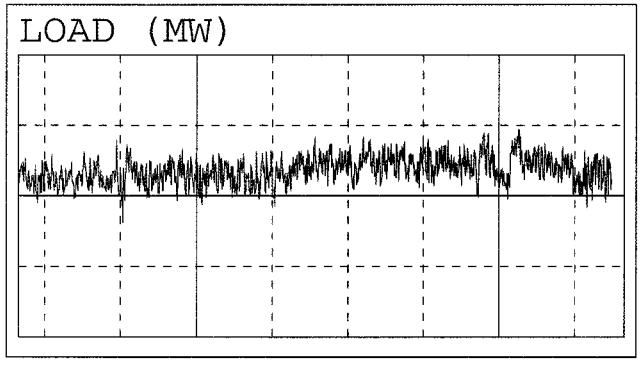



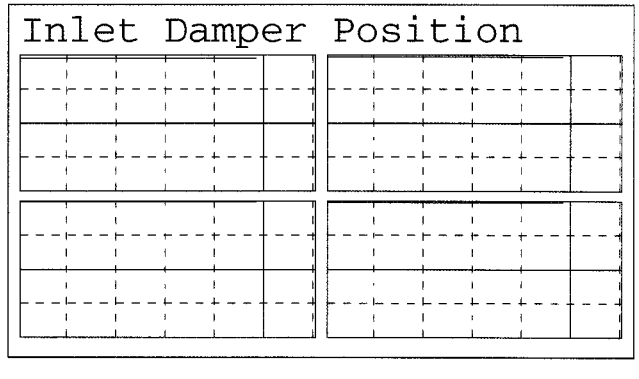




IP7_038053

Printed out for: UNIT1OP - 06-Sep-03 13:29:39
0 Messages U1 Pulv U1 Pulv Operating data 06-Sep-03 13:29:39

| Unit 1 949.0 MW | Pulv A | Pulv B | Pulv C | Pulv D | Pulv E | Pulv F | Pulv G | Pulv H |
|---|---|---|---|---|---|---|---|---|
| Coal Flow344.2TPH | 43.2 | 50.6 | 49.0 | 49.1 | 49.2 | Bad | 48.9 | 50.2 |
| Feeder Speed | 63.6 | 74.5 | 72.1 | 72.3 | 72.6 | Calc | 71.7 | 73.9 |
| Amps (Duct Pr44.7) | 70.4 | 61.4 | 73.2 | 60.7 | 67.7 | 0.0 | 63.9 | 62.5 |
| Coal Pipe Vel | 3828. | 3921. | 3866. | 3897. | 3875. | 0. | 3946. | 3895. |
| PA Flow % | 86.7 | 88.5 | 87.5 | 88.3 | 87.6 | 0.0 | 89.2 | 89.3 |
| PA Damper Pos | 67.1 | 80.9 | 71.9 | 69.8 | 82.3 | 1.2 | 72.8 | 79.0 |
| Pulv Pitot DP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| PA Mass Flow | 3431. | 3509. | 3458. | 3479. | 3469. | 0. | 3512. | 3490. |
| Pulv DP (NOx 0.38) | 10.4 | 15.5 | 12.7 | 15.1 | 19.2 | 0.0 | 11.0 | 18.3 |
| Air to Fuel Ratio | 2.42 | 2.10 | 2.12 | 2.08 | 2.11 | Calc | 2.15 | 2.09 |
| Pulv Inlet Temp | 255.8 | 284.2 | 272.5 | 281.4 | 278.6 | 99.6 | 276.9 | 291.8 |
| Pulv Outlet Temp | 149.7 | 151.5 | 151.1 | 152.2 | 150.9 | 90.5 | 151.1 | 150.3 |
| Coal Bias | -8.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Air Bias | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 |
| Hyd Skid Pr Fdbk | 2339. | 2173. | 2286. | 2245. | 2082. | 4. | 2104. | 2205. |
| Hyd Skid Pr Setpt | 1980. | 2259. | 2209. | 2225. | 2194. | 1149. | 2190. | 2243. |

EndTim= 06-Sep-03 13:29:39 /EvalTim= 06-Sep-03 13:29:39 /PanRate= 0

Printed out for: UNIT1OP - 06-Sep-03 13:29:49

0 Messages O2 Data O2 Unit Comparisons 06-Sep-03 13:29:49

| Data | | Unit 1 | Unit 2 |
|---|---|---|---|
| Meas'd Load | MW | 949.00 | 901.00 |
| East Probe 1 | % O2 | 2.85 | 1.84 |
| Probe 2 | % O2 | 2.62 | 1.69 |
| Probe 3 | % O2 | 1.76 | 2.58 |
| Probe 4 | % O2 | 1.58 | 2.53 |
| Average | % O2 | 1.90 | 1.98 |
| West Probe 5 | % O2 | 3.45 | 2.14 |
| Probe 6 | % O2 | 4.67 | 3.78 |
| Probe 7 | % O2 | 2.38 | 2.27 |
| Probe 8 | % O2 | 3.49 | 3.36 |
| Average | % O2 | 3.55 | 2.80 |
| Econ O2 Out Average | % O2 | 2.75 | 2.31 |
| Econ O2 Out Setpoint | O2 | 3.08 | 3.15 |
| O2 Trim Setpoint | | 61.0 | 50.2 |
| Total Air % | | 86.2 | 78.4 |
| Coal Flow | TPH | 344.2 | 327.5 |
| # of Pulv In-service | | 7. | 7. |
| Main Steam Pressure | | 2408.4 | 2243.4 |
| Stack NOx | PPM | 218. | 234. |
| Scrubber NOx | PPM | 236. | 256. |
| Stack Converted NOx | LB/MBTU | 0.381 | 0.412 |
| Target NOx | LB/MBTU | 0.383 | 0.417 |
| Scrubber Inlet SO2 | PPM | 371.3 | 496.6 |

PSH/RH Bias Dmpr Pos Bad / 54. 92./ 83.

MS/RH Temps 1003.3/1008.3 1000.0/ 999.0

| U1 | |
|---|---|
| OFA | |
| % | 14.4 |
| Inlets | |
| SW | 100. |
| SE | 99. |
| NW | 98. |
| NE | 99. |
| 1/3 | |
| SW | 1. |
| SE | 2. |
| NW | 0. |
| NE | 6. |
| 2/3 | |
| SW | 59. |
| SE | 52. |
| NW | 57. |
| NE | 99. |
| Flow | |
| SW | 269. |
| SE | 262. |
| NW | 262. |
| NE | 251. |
| | 1044. |

| SA Damper | Unit 1 | Unit 2 |
|---|---|---|
| A Pulv | 58. | 65. |
| B Pulv | 68. | 67. |
| C Pulv | 70. | 68. |
| D Pulv | 68. | 67. |
| E Pulv | 68. | 64. |
| F Pulv | 49. | 67. |
| G Pulv | 68. | 68. |
| H Pulv | 69. | 69. |

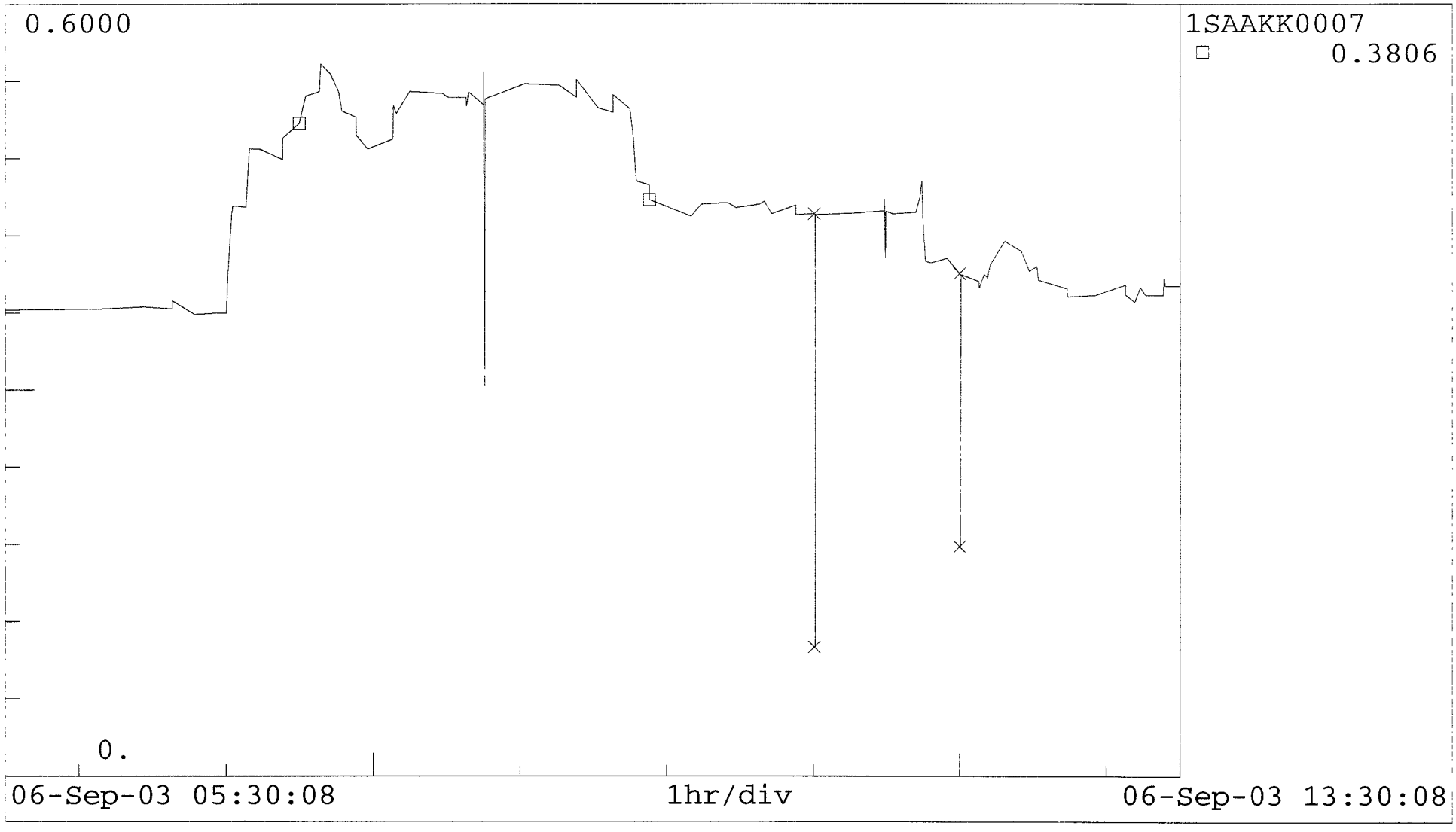
| Coal Bias | Unit 1 | Unit 2 |
|---|---|---|
| A Pulv | -8.0 | -1.7 |
| B Pulv | 0.0 | 0.0 |
| C Pulv | 0.0 | 0.0 |
| D Pulv | 0.0 | 0.0 |
| E Pulv | 0.0 | -3.2 |
| F Pulv | 0.0 | 0.0 |
| G Pulv | 0.0 | 0.0 |
| H Pulv | 0.0 | 0.0 |

| PA Bias | Unit 1 | Unit 2 |
|---|---|---|
| A Pulv | 0.0 | 8.4 |
| B Pulv | 0.0 | 0.0 |
| C Pulv | 0.0 | 0.0 |
| D Pulv | 0.0 | 5.1 |
| E Pulv | 0.0 | 8.2 |
| F Pulv | 0.0 | 0.0 |
| G Pulv | 0.0 | 0.0 |
| H Pulv | 0.3 | 0.0 |

EndTim= 06-Sep-03 13:29:49 /EvalTim= 06-Sep-03 13:29:49 /PanRate= 0

IP7_038055

Printed out for: UNIT1OP - 06-Sep-03 13:30:02
0 Messages 1SGAclean U1 BOILER SOOTBLOWING CLEANLINESS 06-Sep-03 13:30:02




EndTim= 06-Sep-03 13:30:02 /EvalTim= 06-Sep-03 13:30:02 /PanRate= 0

IP7_038056