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Appendix – A : Fault record for FD fan A

| Time of start | Time of Recovered | Incident | Outages (h) |
|----------------------|--------------------------|--|--------------------|
| 9/29/11 9:12 | 9/30/11 17:50 | Servicing the motor and fan | 32.63 |
| 11/8/11 10:03 | 11/14/11 16:11 | Inspections and repair works for high vibration. | 150.13 |
| 12/1/11 9:00 | 12/1/11 10:34 | Bearing temperature high | 1.57 |
| 7/24/12 8:28 | 7/25/12 14:40 | Greasing the bearings | 30.20 |
| 8/14/12 10:15 | 8/21/12 11:15 | Checking the rotor and moving blades | 169.00 |
| 8/15/12 9:57 | 8/21/12 11:15 | Checking and cleaning the lube oil system | 145.30 |
| 8/27/12 8:57 | 9/3/12 10:59 | Cleaning and painting the corroded places | 170.03 |
| 9/5/12 9:45 | 9/5/12 14:20 | Cleaning and servicing the actuator | 4.58 |
| 9/19/12 9:05 | 10/3/12 9:10 | Inspection and Greasing the bearings | 336.08 |
| 11/5/12 8:23 | 11/7/12 16:26 | Routing maintenance | 56.05 |



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Appendix – B : Fault record for FD fan B

| Time of start | Time of Recovered | Incident | Outages (h) |
|----------------------|--------------------------|--|--------------------|
| 7/7/11 9:35 | 7/7/11 9:45 | Tripped due to high vibration | 0.17 |
| 7/10/11 8:19 | 7/12/11 2:10 | Inspections and repair works for high vibration. | 41.85 |
| 9/29/11 9:12 | 9/30/11 17:50 | Servicing the motor and fan | 32.63 |
| 10/11/11 11:58 | 10/11/11 14:15 | Vibration sensor checking | 2.28 |
| 12/2/11 13:11 | 12/2/11 20:17 | Tripped due to high vibration | 7.10 |
| 12/3/11 6:35 | 12/3/11 12:40 | Inspection for High vibration | 6.08 |
| 12/3/11 10:25 | 12/3/11 11:05 | Vibration sensor checking | 0.67 |
| 12/3/11 12:40 | 12/3/11 16:03 | stopped due to high vibration | 3.38 |
| 12/3/11 13:38 | 12/3/11 15:27 | Vibration checking and sensor change | 1.82 |
| 12/6/11 9:42 | 12/6/11 11:36 | Checking and cleaning the lube oil system | 1.90 |
| 12/9/11 17:30 | 12/9/11 18:15 | Changing the oil filters | 0.75 |
| 12/16/11 15:00 | 12/17/11 19:24 | Stopped for Maintenance in moving blades | 28.40 |
| 1/1/12 9:02 | 1/1/12 11:01 | Vibration checking and sensor replacing | 1.98 |
| 1/10/12 10:19 | 1/10/12 14:51 | Pitch controlling system checking | 4.53 |
| 1/13/12 15:12 | 1/13/12 15:59 | Vibration fault | 0.78 |
| 1/19/12 8:37 | 1/27/12 10:00 | Checking the motor | 193.38 |
| 3/8/12 8:46 | 3/8/12 17:17 | Repairing lube oil pump | 8.52 |
| 7/22/12 8:32 | 7/22/12 21:04 | Bearing greasing due to temperature high | 12.53 |
| 7/24/12 9:38 | 7/25/12 14:50 | Bearing greasing due to temperature high | 29.20 |
| 8/14/12 10:15 | 8/21/12 11:15 | Checking the rotor and moving blades | 169.00 |
| 8/15/12 9:57 | 8/21/12 11:15 | Clean and servicing the lube oil system | 145.30 |
| 8/27/12 8:57 | 9/3/12 10:59 | Cleaning and painting the corroded places | 170.03 |
| 9/5/12 9:45 | 9/5/12 14:20 | Cleaning and servicing the actuator | 4.58 |
| 9/19/12 9:05 | 10/3/12 9:10 | Inspection | 336.08 |
| 11/5/12 8:23 | 11/7/12 16:26 | Routing maintenance | 56.05 |
| 11/6/12 8:42 | 11/7/12 16:25 | servicing and routing maintenance | 31.72 |

Appendix – C : Fault record for ID fan A

| Time of start | Time of Recovered | Incident | Outages (h) |
|----------------------|--------------------------|--|--------------------|
| 10/3/11 9:25 | 10/8/11 13:34 | servicing and routing maintenance | 124.15 |
| 1/19/12 9:28 | 1/20/12 17:10 | Checking for motor heating problem | 31.70 |
| 1/23/12 8:40 | 1/27/12 10:00 | Checking for motor heating problem | 97.33 |
| 7/22/12 8:34 | 7/25/12 14:40 | greasing the bearing due to high temperature | 78.10 |
| 7/29/12 15:00 | 7/29/12 19:52 | Pitch controller fault | 4.87 |
| 9/5/12 9:45 | 9/5/12 14:20 | Cleaning and servicing the actuator | 4.58 |
| 9/19/12 9:05 | 10/3/12 9:10 | greasing the bearing due to high temperature | 336.08 |
| 8/8/11 22:45 | 8/9/11 1:20 | Repair works in pitch controller | 2.58 |
| 7/19/12 9:50 | 7/19/12 14:37 | Servicing the fan and motor | 4.78 |



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Appendix – D : Fault record for ID fan B

| Time of start | Time of Recovered | Incident | Outages (h) |
|---------------|-------------------|---|-------------|
| 7/7/11 9:35 | 7/7/11 9:40 | Tripped due to pitch controller fault | 0.08 |
| 8/1/11 14:45 | 8/3/11 15:25 | Repair works in pitch controller | 48.67 |
| 10/3/11 9:25 | 10/8/11 13:34 | Servicing the fan and motor | 124.15 |
| 1/5/12 16:22 | 1/5/12 16:45 | Checking and adjusting vibration sensor | 0.38 |
| 1/23/12 10:45 | 2/3/12 20:18 | checking the motor heating problem | 273.55 |
| 2/2/12 9:30 | 2/3/12 13:37 | Changing the motor damper cable | 28.12 |
| 3/14/12 14:10 | 3/14/12 15:56 | repairing cooling fan | 1.77 |
| 4/26/12 19:35 | 7/29/12 19:52 | tripped due to pitch controller problem | 0.67 |
| 5/14/12 11:05 | 5/14/12 15:55 | Vertical vibration high | 4.83 |
| 7/22/12 8:35 | 7/22/12 21:03 | Greasing the bearings | 12.47 |
| 7/23/12 12:02 | 7/23/12 12:40 | Outlet damper repair | 0.63 |
| 7/24/12 8:29 | 7/25/12 17:04 | Outlet damper repair | 32.58 |
| 7/24/12 9:38 | 7/25/12 14:50 | greasing the bearings | 29.20 |
| 7/29/12 15:00 | 7/29/12 19:52 | tripped due to pitch controller problem | 4.87 |
| 9/2/12 10:45 | 9/4/12 14:15 | Cooling fan repair | 51.50 |
| 9/5/12 9:45 | 9/5/12 14:20 | Cleaning and repair the actuator | 4.58 |
| 9/19/12 9:05 | 10/3/12 9:10 | Checking and greasing | 336.08 |
| 11/6/12 8:42 | 11/7/12 16:25 | routing maintenance | 31.72 |

Appendix – E : Fault record for PA fan A

| Time of start | Time of Recovered | Incident | Outages (h) |
|---------------|-------------------|---|-------------|
| 5/17/11 9:11 | 5/17/11 9:32 | Bearing temperature high | 0.35 |
| 9/28/11 11:41 | 9/30/11 17:50 | Checking and servicing | 54.15 |
| 1/5/12 18:11 | 1/5/12 20:00 | Bearing temperature high | 1.82 |
| 1/6/12 10:35 | 1/6/12 17:45 | Bearing temperature high | 7.17 |
| 1/6/12 10:57 | 1/6/12 17:33 | repair works on bearing | 6.60 |
| 3/28/12 23:35 | 3/29/12 2:35 | Inspection work in PA fan blades | 3.00 |
| 3/28/12 15:33 | 4/30/12 9:30 | removing motor coupling cover | 785.95 |
| 4/19/12 22:10 | 4/20/12 3:15 | Greasing PA fan bearings | 5.08 |
| 6/24/12 7:42 | 6/24/12 9:13 | Outlet damper fault | 1.52 |
| 7/20/12 13:30 | 7/20/12 17:26 | greasing the bearings | 3.93 |
| 8/9/12 8:36 | 8/9/12 10:32 | Fixing coupling guard | 1.93 |
| 8/24/12 13:53 | 8/25/12 14:23 | Checking the pitch controller | 24.50 |
| 8/17/12 8:18 | 8/24/12 15:40 | replacing bearing | 175.37 |
| 8/25/12 8:01 | 8/25/12 19:50 | repairing corroded area and painting | 11.82 |
| 8/28/12 9:17 | 9/3/12 17:38 | Repairing expansion joint and damper | 152.52 |
| 9/19/12 9:05 | 10/3/12 9:10 | greasing bearings | 336.08 |
| 11/5/12 8:23 | 11/7/12 16:26 | routing maintenance | 56.05 |
| 9/23/11 8:26 | 9/23/11 14:50 | Tripped due to bearing temperature high | 6.40 |

Appendix – F : Fault record for PA fan B

| Time of start | Time of Recovered | Incident | Outages (h) |
|----------------------|--------------------------|---------------------------------------|--------------------|
| 9/28/11 11:41 | 9/30/11 17:50 | Servicing the fan and motor | 54.15 |
| 9/30/11 15:05 | 9/30/11 19:16 | Pitch controller fault | 4.18 |
| 3/22/12 9:20 | 4/30/12 9:30 | Greasing fan and motor bearings | 936.17 |
| 11/5/11 9:25 | 11/5/11 20:45 | Pitch controller fault | 11.33 |
| 11/5/11 17:43 | 11/5/11 20:45 | Checking the fan and motor | 3.03 |
| 3/22/12 9:20 | 4/30/12 9:36 | Greasing fan and motor bearings | 936.27 |
| 3/27/12 22:00 | 3/28/12 3:30 | Inspection work in PA fan blades | 5.50 |
| 4/27/12 8:49 | 4/27/12 13:58 | replacing grease in bearings | 5.15 |
| 6/6/12 8:35 | 6/7/12 8:38 | bearing inspection and greasing | 24.05 |
| 6/7/12 23:33 | 6/8/12 4:46 | Fan and motor alignment checking | 5.22 |
| 6/10/12 0:01 | 6/12/12 16:33 | greasing the motor bearing | 64.53 |
| 6/13/12 17:53 | 6/20/12 8:20 | greasing bearings in fan side | 158.45 |
| 8/23/12 10:25 | 8/24/12 9:30 | replacing fan mounted broken bolts | 23.08 |
| 8/24/12 13:53 | 8/25/12 14:23 | Checking the pitch controlling system | 24.50 |
| 8/25/12 8:40 | 8/25/12 9:50 | Repairing lube oil leakage | 1.17 |
| 8/27/12 8:57 | 9/3/12 10:59 | repairing corroded area and painting | 170.03 |
| 8/29/12 8:06 | 9/3/12 10:59 | replace broken bolts | 122.88 |
| 9/7/12 6:33 | 9/7/12 11:15 | Repairing the outlet damper | 4.70 |
| 9/19/12 9:05 | 10/3/12 9:10 | checking the bearing and greasing | 336.08 |
| 11/6/12 8:42 | 11/7/12 16:25 | routing maintenance | 31.72 |

Appendix – G : Fault record for pulverizer A

| Time of start | Time of Recovered | Incident | Outages (h) |
|----------------|-------------------|---------------------------------------|-------------|
| 4/1/11 7:00 | 4/2/11 21:02 | Fire in the pulverizer | 38.03 |
| 7/10/11 9:45 | 7/10/11 11:32 | Fault in coal feeder | 1.78 |
| 8/17/11 8:15 | 8/18/11 9:30 | Repairing water leakage to pulverizer | 25.25 |
| 8/23/11 14:15 | 8/23/11 15:21 | bunker level sensor fault | 1.10 |
| 8/23/11 14:35 | 8/23/11 15:45 | Pulverizer inspection | 1.17 |
| 8/25/11 3:16 | 8/25/11 18:52 | Pulverizer local panel repairing | 15.60 |
| 8/26/11 9:05 | 8/26/11 11:36 | oil station fault | 2.52 |
| 8/26/11 13:30 | 8/26/11 22:56 | Pulverizer inspection | 9.43 |
| 8/31/11 12:00 | 9/1/11 16:35 | routing maintenance | 28.58 |
| 9/2/11 10:27 | 9/2/11 16:40 | coal feeder fault | 6.22 |
| 9/7/11 9:06 | 9/7/11 10:31 | bearing checking | 1.42 |
| 9/13/11 11:38 | 9/14/11 10:41 | damper inspection | 23.05 |
| 9/14/11 9:46 | 9/14/11 10:42 | Hot air damper fault | 0.93 |
| 9/16/11 9:01 | 9/16/11 11:25 | Hot air damper fault | 2.40 |
| 9/16/11 10:20 | 9/16/11 16:05 | Hot air damper fault | 5.75 |
| 9/17/11 10:30 | 9/17/11 11:00 | Hot air damper fault | 0.50 |
| 9/28/11 12:11 | 9/30/11 11:28 | Hot air and cold air damper checking | 47.28 |
| 10/8/11 10:10 | 10/9/11 19:20 | Hot air and cold air damper checking | 33.17 |
| 10/20/11 10:45 | 10/20/11 16:04 | Pulverizer outlet valve checking | 5.32 |
| 11/5/11 9:20 | 11/5/11 20:45 | Flame scanner fault | 11.42 |
| 11/16/11 9:27 | 11/23/11 17:10 | repairing oil station | 175.72 |
| 11/23/11 8:53 | 11/23/11 15:17 | Coal bunker and feeder inspection | 6.40 |
| 11/29/11 10:03 | 11/30/11 0:28 | Hot air damper fault | 14.42 |
| 12/21/11 10:33 | 1/12/12 18:40 | Hot air damper fault | 536.12 |
| 12/21/11 10:36 | 1/21/12 18:40 | Pulverizer outlet valve fault | 752.07 |

| | | | |
|---------------|---------------|---|--------|
| 1/6/12 10:30 | 1/9/12 8:26 | routing maintenance | 69.93 |
| 1/6/12 13:59 | 1/9/12 18:39 | Hot air and cold air damper checking | 76.67 |
| 1/17/12 8:44 | 1/17/12 16:13 | routing maintenance on feeders | 7.48 |
| 1/19/12 14:11 | 2/14/12 18:20 | Checking all dampers | 628.15 |
| 2/8/12 8:30 | 2/15/12 9:15 | Cleaning instruments and servicing | 168.75 |
| 2/21/12 9:27 | 2/23/12 23:30 | Adjusting hot air damper | 62.05 |
| 2/24/12 1:20 | 2/24/12 2:45 | Checking the feeder fault | 1.42 |
| 3/26/12 6:32 | 3/26/12 11:08 | Calibrating the feeder | 4.60 |
| 4/7/12 9:00 | 4/7/12 14:50 | Checking the feeder fault | 5.83 |
| 4/27/12 9:06 | 4/27/12 17:21 | Shut off damper fault | 8.25 |
| 4/27/12 12:38 | 4/27/12 17:21 | Shut off damper fault | 4.72 |
| 5/12/12 6:29 | 5/12/12 11:25 | greasing motor bearing | 4.93 |
| 5/23/12 10:26 | 5/23/12 18:35 | Inspecting feeder and cleaning | 8.15 |
| 6/8/12 14:04 | 6/11/12 9:22 | Flame scanner problem | 67.30 |
| 6/15/12 14:24 | 6/15/12 16:56 | Pyrite removing valve problem | 2.53 |
| 6/18/12 14:52 | 6/21/12 15:10 | Flame scanner checking | 72.30 |
| 7/22/12 8:44 | 7/25/12 20:04 | hot air damper actuator repairing | 83.33 |
| 8/6/12 8:50 | 8/6/12 10:21 | Corner damper repairing | 1.52 |
| 8/8/12 12:00 | 8/9/12 17:10 | hot air damper actuator repair | 29.17 |
| 8/10/12 8:50 | 8/10/12 11:27 | Dampers and panel cleaning | 2.62 |
| 8/25/12 13:45 | 8/25/12 19:50 | Checking and repairing the dampers | 6.08 |
| 9/5/12 9:35 | 9/6/12 18:20 | painting corroded areas | 32.75 |
| 8/9/12 9:21 | 8/9/12 11:30 | hot air damper checking | 2.15 |
| 9/26/12 8:26 | 9/26/12 11:18 | feeder belt motor checking and cleaning | 2.87 |
| 9/19/12 9:05 | 10/3/12 9:10 | greasing the bearing | 336.08 |
| 9/26/12 8:13 | 9/26/12 11:25 | Calibrating feeder | 3.20 |
| 9/27/12 12:34 | 9/27/12 13:40 | Adjusting the seal air clearances | 1.10 |
| 10/25/12 6:17 | 10/25/12 8:05 | Feeder fault rectifying | 1.80 |
| 11/5/12 8:23 | 11/7/12 16:26 | routing maintenance | 56.05 |
| 11/7/12 17:09 | 11/8/12 14:00 | Mill checking and cleaning | 20.85 |
| 9/28/11 14:15 | 10/7/11 18:10 | Mill inspection | 219.92 |

Appendix – H : Fault record for pulverizer B

| Time of start | Time of Recovered | Incident | Outages (h) |
|----------------|-------------------|---------------------------------------|-------------|
| 4/1/11 12:08 | 4/2/11 21:02 | Fire in the pulverizer | 32.90 |
| 9/6/11 9:28 | 9/6/11 16:00 | feeder sensor checking | 6.53 |
| 9/17/11 21:20 | 9/18/11 21:20 | Mill inspection | 24.00 |
| 9/22/11 8:27 | 9/22/11 11:34 | Mill motor greasing | 3.12 |
| 9/27/11 12:05 | 9/27/11 18:56 | Checking for abnormal sound in Mill. | 6.85 |
| 9/28/11 12:11 | 9/30/11 11:28 | Hot air and cold air damper checking | 47.28 |
| 9/28/11 18:04 | 10/8/11 9:00 | Mill inspection and cleaning | 230.93 |
| 10/8/11 10:10 | 10/9/11 19:20 | Hot air and cold air damper checking | 33.17 |
| 10/23/11 8:40 | 10/23/11 17:05 | Mill inspection | 8.42 |
| 11/5/11 10:30 | 11/5/11 20:17 | Coal feeder inspection | 9.78 |
| 11/29/11 2:42 | 12/1/11 17:02 | Fire in the pulverizer | 62.33 |
| 11/29/11 8:10 | 11/30/11 0:20 | Hot air damper fault | 16.17 |
| 11/29/11 20:50 | 12/14/11 4:00 | Sealing air damper fault | 343.17 |
| 12/4/11 16:56 | 12/9/11 14:14 | repair works in feeder | 117.30 |
| 12/5/11 9:18 | 12/8/11 18:29 | Inspecting the pulverizer | 81.18 |
| 12/15/11 8:20 | 12/15/11 17:19 | Repair works in coal feeder | 8.98 |
| 1/5/12 20:00 | 1/10/12 15:47 | Fire in the pulverizer | 115.78 |
| 1/6/12 10:30 | 1/9/12 8:26 | Routing checking | 69.93 |
| 1/6/12 13:59 | 1/9/12 18:39 | Hot air and cold air damper checking | 76.67 |
| 1/17/12 8:44 | 1/17/12 16:13 | routing on feeders | 7.48 |
| 1/19/12 14:11 | 2/14/12 18:20 | Checking all dampers | 628.15 |
| 2/8/12 8:30 | 2/15/12 9:15 | Checking and cleaning the instruments | 168.75 |
| 2/23/12 0:56 | 2/24/12 2:33 | Repairing coal feeder | 25.62 |
| 2/24/12 0:40 | 2/24/12 2:45 | Coal feeder checking | 2.08 |
| 3/6/12 7:12 | 3/6/12 9:26 | Abnormal sound in Mill. | 2.23 |
| 3/18/12 17:10 | 3/18/12 20:07 | Coal feeder checking | 2.95 |
| 3/18/12 17:50 | 3/18/12 20:02 | Coal feeder calibration | 2.20 |
| 4/19/12 8:40 | 4/19/12 19:00 | Repair works in mill | 10.33 |
| 4/23/12 16:23 | 4/23/12 17:40 | replacing seal of lube oil pump | 1.28 |
| 5/6/12 10:59 | 6/7/12 17:35 | repair in oil station | 774.60 |
| 5/13/12 7:45 | 5/13/12 16:00 | mill motor greasing | 8.25 |
| 6/5/12 10:00 | 6/6/12 17:56 | Routing checking inside mill | 31.93 |
| 6/7/12 8:42 | 6/8/12 8:54 | Routing checking in the feeder | 24.20 |

| | | | |
|---------------|---------------|--------------------------------------|--------|
| 8/10/12 8:50 | 8/10/12 11:27 | Dampers and panel cleaning | 2.62 |
| 8/15/12 9:00 | 8/25/12 9:55 | Cleaning the mill | 240.92 |
| 8/17/12 10:26 | 8/17/12 14:42 | Outlet damper repairing | 4.27 |
| 8/25/12 13:45 | 8/25/12 19:50 | Checking and repairing the dampers | 6.08 |
| 8/26/12 8:56 | 8/26/12 17:20 | Rectify the fault in pulverizer | 8.40 |
| 9/5/12 9:35 | 9/6/12 18:20 | painting the corroded parts | 32.75 |
| 9/22/12 8:21 | 9/22/12 12:17 | feeder belt motor cleaning | 3.93 |
| 9/19/12 9:05 | 10/3/12 9:10 | greasing the mill and feeder bearing | 336.08 |
| 9/21/12 8:55 | 9/21/12 11:50 | Repairing cold air damper | 2.92 |
| 11/5/12 8:23 | 11/7/12 16:26 | routing maintenance in pulverizer | 56.05 |
| 11/7/12 17:15 | 11/8/12 14:00 | Cleaning inside the mill | 20.75 |
| 11/10/12 0:40 | 11/10/12 9:22 | replacing lube oil motor bearing | 8.70 |



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Appendix – I : Fault record for pulverizer C

| Time of start | Time of Recovered | Incident | Outages (h) |
|----------------|-------------------|---|-------------|
| 9/6/11 9:28 | 9/6/11 16:00 | faulty mill and feeder sensor repairing | 6.53 |
| 9/22/11 8:27 | 9/22/11 11:34 | greasing the mill motor | 3.12 |
| 9/28/11 12:11 | 9/30/11 11:28 | Hot air and cold air damper checking | 47.28 |
| 9/28/11 18:13 | 10/8/11 17:42 | Inspection and cleaning the mill | 239.48 |
| 10/9/11 14:00 | 10/9/11 19:20 | Hot air and cold air damper checking | 5.33 |
| 10/10/11 14:29 | 10/10/11 15:55 | Lube oil station fault | 1.43 |
| 10/20/11 17:07 | 10/20/11 18:35 | cold air damper fault | 1.47 |
| 10/25/11 10:25 | 10/25/11 14:55 | motor bearing temperature high | 4.50 |
| 10/25/11 10:25 | 10/25/11 14:35 | motor bearing temperature high | 4.17 |
| 11/5/11 8:51 | 11/5/11 22:45 | motor bearing temperature high | 13.90 |
| 11/29/11 10:03 | 11/30/11 0:28 | Hot air damper fault | 14.42 |
| 11/29/11 20:52 | 11/30/11 0:30 | Sealing air damper fault | 3.63 |
| 11/30/11 9:10 | 12/13/11 10:35 | Sealing air damper fault | 313.42 |
| 12/16/11 15:26 | 12/16/11 15:50 | Cold air regulation damper fault | 0.40 |
| 1/6/12 10:30 | 1/9/12 8:26 | sensor checking and replacing | 69.93 |
| 1/6/12 13:59 | 1/9/12 18:39 | Checking hot air and cold air damper | 76.67 |
| 1/17/12 8:44 | 1/17/12 16:13 | routing on feeders | 7.48 |
| 1/17/12 10:02 | 1/17/12 16:52 | Cold air regulation damper fault | 6.83 |
| 1/19/12 14:11 | 2/14/12 18:20 | Checking all dampers | 628.15 |
| 2/8/12 8:30 | 2/15/12 9:15 | Cleaning instrument | 168.75 |
| 3/9/12 9:51 | 3/9/12 11:01 | cold air damper fault | 1.17 |
| 3/18/12 10:22 | 3/18/12 12:15 | Coal feeder inspection | 1.88 |
| 7/2/12 9:15 | 7/2/12 18:35 | motor bearing greasing | 9.33 |
| 7/2/12 9:45 | 7/2/12 18:20 | Lube oil system repairing | 8.58 |
| 8/10/12 8:50 | 8/10/12 11:27 | Dampers and panel cleaning | 2.62 |

| | | | |
|------------------|---------------|-----------------------------------|--------|
| 8/15/12 9:00 | 8/25/12 9:55 | Cleaning inside the mill | 240.92 |
| 8/23/12 14:35 | 8/23/12 15:08 | motor bearing temperature high | 0.55 |
| 8/26/12 8:43 | 8/26/12 10:00 | oil station fault | 1.28 |
| 9/25/12 14:04 | 9/25/12 15:30 | feeder belt motor cleaning | 1.43 |
| 9/19/12 9:05 | 10/3/12 9:10 | motor bearing greasing | 336.08 |
| 9/25/12 13:43 | 9/25/12 18:00 | Calibrating the feeder | 4.28 |
| 11/6/12 8:42 | 11/7/12 16:25 | routing maintenance on pulverizer | 31.72 |
| 11/7/12 17:18 | 11/8/12 14:00 | Mill cleaning | 20.70 |



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Appendix – J : Fault record for pulverizer D

| Time of start | Time of Recovered | Incident | Outages (h) |
|----------------|-------------------|---|-------------|
| 9/16/11 11:06 | 9/16/11 13:55 | motor bearing greasing | 2.82 |
| 9/23/11 11:51 | 9/23/11 13:45 | repair works on lube oil system | 1.90 |
| 9/28/11 12:11 | 9/30/11 11:28 | Hot air and cold air damper checking | 47.28 |
| 10/9/11 2:24 | 10/9/11 19:20 | Coal feeder inlet shut off damper fault | 16.93 |
| 10/9/11 14:00 | 10/9/11 19:20 | Hot air and cold air damper checking | 5.33 |
| 10/10/11 14:29 | 10/10/11 15:55 | Lube oil station fault | 1.43 |
| 10/25/11 8:56 | 10/26/11 14:36 | Inspecting the pulverizer | 29.67 |
| 11/5/11 10:27 | 11/15/11 20:18 | Inspecting the feeder | 249.85 |
| 11/29/11 10:03 | 11/30/11 0:28 | Hot air damper fault | 14.42 |
| 1/5/12 20:47 | 1/10/12 15:47 | Fire in the pulverizer | 115.00 |
| 1/6/12 10:30 | 1/9/12 8:26 | checking the instrument and sensor | 69.93 |
| 1/6/12 13:59 | 1/9/12 18:39 | Checking hot air and cold air damper | 76.67 |
| 1/17/12 8:44 | 1/17/12 16:13 | routing on feeders | 7.48 |
| 1/19/12 14:11 | 2/14/12 18:20 | Checking all dampers | 628.15 |
| 2/8/12 8:30 | 2/15/12 9:16 | Checking feeder sensors | 168.75 |
| 3/22/12 9:15 | 3/22/12 16:40 | Fault in coal feeder | 7.42 |
| 4/23/12 14:42 | 4/24/12 4:22 | Tripped the pulverizer | 13.67 |
| 4/27/12 12:38 | 4/27/12 17:21 | Fault in coal feeder | 4.72 |
| 5/14/12 8:25 | 5/18/12 13:40 | motor bearing greasing | 101.25 |
| 5/14/12 14:58 | 5/14/12 17:18 | seal air damper fault | 2.33 |
| 5/25/12 14:56 | 5/25/12 15:58 | hot air damper fault | 1.03 |
| 5/30/12 1:29 | 5/30/12 2:50 | hot air damper fault | 1.35 |
| 5/30/12 9:06 | 5/31/12 17:25 | hot air damper fault | 32.32 |
| 6/6/12 8:35 | 6/7/12 8:38 | motor bearing greasing | 24.05 |
| 6/12/12 8:38 | 6/12/12 16:37 | Coal feeder repairing | 7.98 |
| 6/13/12 8:47 | 6/14/12 16:41 | Fault in lube oil station | 31.90 |
| 6/26/12 10:47 | 6/26/12 15:40 | Corner damper repairing | 4.88 |
| 7/10/12 13:50 | 7/10/12 19:09 | hot air damper actuator repairing | 5.32 |
| 7/12/12 14:59 | 7/12/12 17:50 | Hot air damper fault | 2.85 |
| 7/18/12 9:15 | 7/20/12 10:21 | Hot air shut off damper fault | 49.10 |
| 7/20/12 9:10 | 7/20/12 17:36 | hot air damper actuator repair | 8.43 |
| 7/27/12 16:05 | 7/31/12 14:48 | cold air damper fault | 94.72 |
| 8/9/12 10:09 | 8/9/12 18:39 | seal air damper fault | 8.50 |

| | | | |
|-------------------|----------------|------------------------------------|--------|
| 8/10/12 8:50 | 8/10/12 11:27 | Dampers and panel cleaning | 2.62 |
| 8/10/12 10:55 | 8/10/12 11:28 | Repairing inlet seal air dampers | 0.55 |
| 8/15/12 9:00 | 8/25/12 9:55 | Cleaning the mill | 240.92 |
| 8/25/12 13:45 | 8/25/12 19:50 | Checking and repairing the dampers | 6.08 |
| 9/8/12 9:33 | 9/19/12 11:12 | Repairing pulverized coal leak | 265.65 |
| 9/19/12 11:12 | 10/15/12 15:45 | Hot air damper fault rectification | 628.55 |
| 9/19/12 8:56 | 9/19/12 17:18 | Calibrating the feeder | 8.37 |
| 9/19/12 9:05 | 10/3/12 9:10 | motor bearing greasing | 336.08 |
| 10/6/12 8:51 | 10/6/12 9:19 | Replacing a relay coil | 0.47 |
| 11/6/12 8:42 | 11/7/12 16:25 | routing maintenance on pulverizer | 31.72 |
| 11/20/12 16:18 | 11/20/12 18:00 | feeder repairing | 1.70 |



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Appendix – K : Fault record for pulverizer E

| Time of start | Time of Recovered | Incident | Outages (h) |
|----------------|-------------------|--------------------------------------|-------------|
| 4/23/11 18:00 | 4/23/11 18:32 | Fire in the Mill | 0.53 |
| 9/15/11 8:30 | 9/15/11 17:44 | Replacing lubrication | 9.23 |
| 9/16/11 8:58 | 9/16/11 10:55 | motor bearing greasing | 1.95 |
| 9/28/11 12:11 | 9/30/11 11:28 | Hot air and cold air damper checking | 47.28 |
| 9/28/11 18:26 | 10/9/11 19:35 | Inspection in the mill | 265.15 |
| 11/29/11 10:03 | 11/30/11 0:28 | Hot air damper repairing | 14.42 |
| 1/2/12 14:21 | 1/2/12 17:22 | Hot air damper fault | 3.02 |
| 1/3/12 14:58 | 1/3/12 17:40 | Hot air damper fault | 2.70 |
| 1/6/12 10:30 | 1/9/12 8:26 | Checking mill and feeder sensors | 69.93 |
| 1/6/12 13:59 | 1/9/12 18:39 | Checking hot and cold air dampers | 76.67 |
| 1/17/12 8:44 | 1/17/12 16:13 | routing on feeders | 7.48 |
| 1/19/12 14:11 | 2/14/12 18:20 | Checking all dampers | 628.15 |
| 2/8/12 8:30 | 2/15/12 9:15 | Instrument and sensor checking | 168.75 |
| 3/23/12 8:25 | 3/23/12 11:53 | Coal feeder fault | 3.47 |
| 4/18/12 8:45 | 4/18/12 14:24 | coal outlet damper fault | 5.65 |
| 4/19/12 8:40 | 4/19/12 19:00 | Repairing the pyrite system | 10.33 |
| 4/20/12 8:41 | 4/20/12 14:32 | Repairing a tube oil leakage | 5.85 |
| 4/24/12 8:15 | 4/24/12 10:05 | Routing maintenance on feeder | 2.83 |
| 4/24/12 8:45 | 4/25/12 7:52 | servicing the mill | 23.12 |
| 4/27/12 12:38 | 4/27/12 17:21 | Fault in hot air shut off damper | 4.72 |
| 5/4/12 8:40 | 5/4/12 16:18 | motor bearing greasing | 7.63 |
| 5/20/12 8:14 | 5/20/12 9:40 | coal outlet damper fault | 1.43 |
| 5/23/12 9:30 | 5/24/12 16:20 | coal outlet damper fault | 30.83 |
| 5/30/12 1:29 | 5/30/12 2:50 | hot air damper fault | 1.35 |
| 6/6/12 8:35 | 6/7/12 8:38 | motor bearing greasing | 24.05 |
| 7/23/12 8:52 | 7/23/12 11:20 | Outlet corner damper fault | 2.47 |
| 8/10/12 8:50 | 8/10/12 11:27 | Dampers and panel cleaning | 2.62 |
| 8/15/12 9:00 | 8/25/12 9:55 | Cleaning inside the mill | 240.92 |
| 8/23/12 14:45 | 8/23/12 15:18 | Mill motor winding temperature high | 0.55 |
| 8/25/12 13:45 | 8/25/12 19:50 | Checking and repairing the dampers | 6.08 |
| 8/26/12 8:56 | 8/26/12 17:20 | Rectify a fault in feeder | 8.40 |
| 9/24/12 8:26 | 9/24/12 9:27 | feeder belt motor cleaning | 1.02 |
| 9/19/12 9:05 | 10/3/12 9:10 | motor bearing greasing | 336.08 |
| 9/24/12 8:18 | 9/24/12 18:17 | Calibrating the feeder | 9.98 |
| 11/7/12 17:25 | 11/8/12 14:00 | Cleaning and checking the mill | 20.58 |



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