SHANTI DRIVES AND AUTOMATION PVT. LTD.

Excellence is our virtue

ABOUT SDA

- Leading manufacturer of Industrial Automation and Power Control Systems in India.
- Fully engineered cost effective advanced solutions for various Process Automation and controls, integrating Digital Drives, PLCs .
- A complete solution provider for an end-to-end Turnkey Projects comprising of MCC/PCC, DC/AC Drives, PLC Control & SCADA, Instrumentation and AMC.

HEATER PANEL






Deals In Almost every major brand acceptable worldwide.

Capabilities, Products and Services

SDA can suggest the most suitable solutions for all customer automation needs :

- Analysis
- HW & SW engineering
- Manufacturing and Testing
- Installation, commissioning and services

Our Business

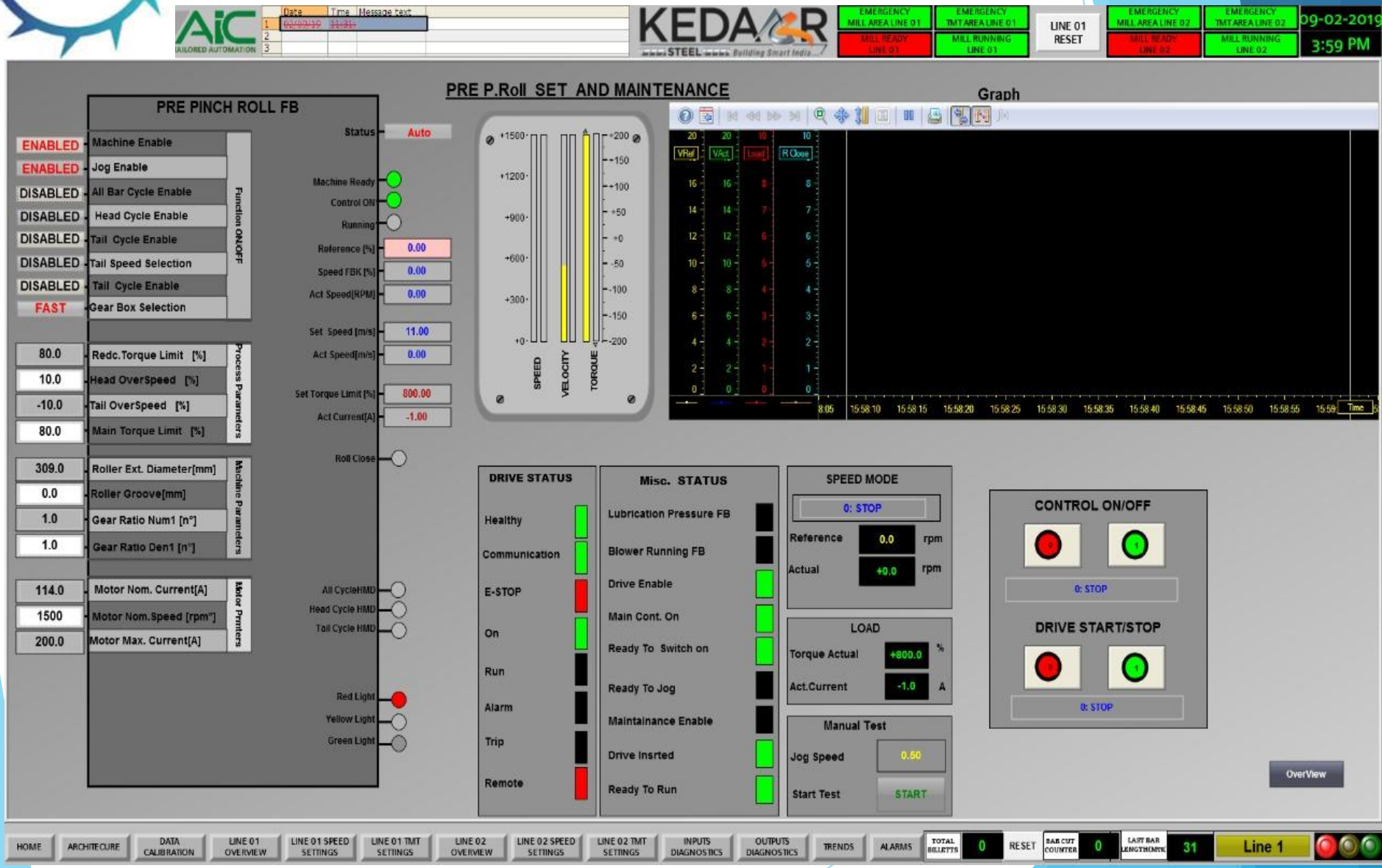
Automation for new installations & equipment

- Experience of all main mill makers Mechanical Hardware
- Benefit from independent Automation supplier

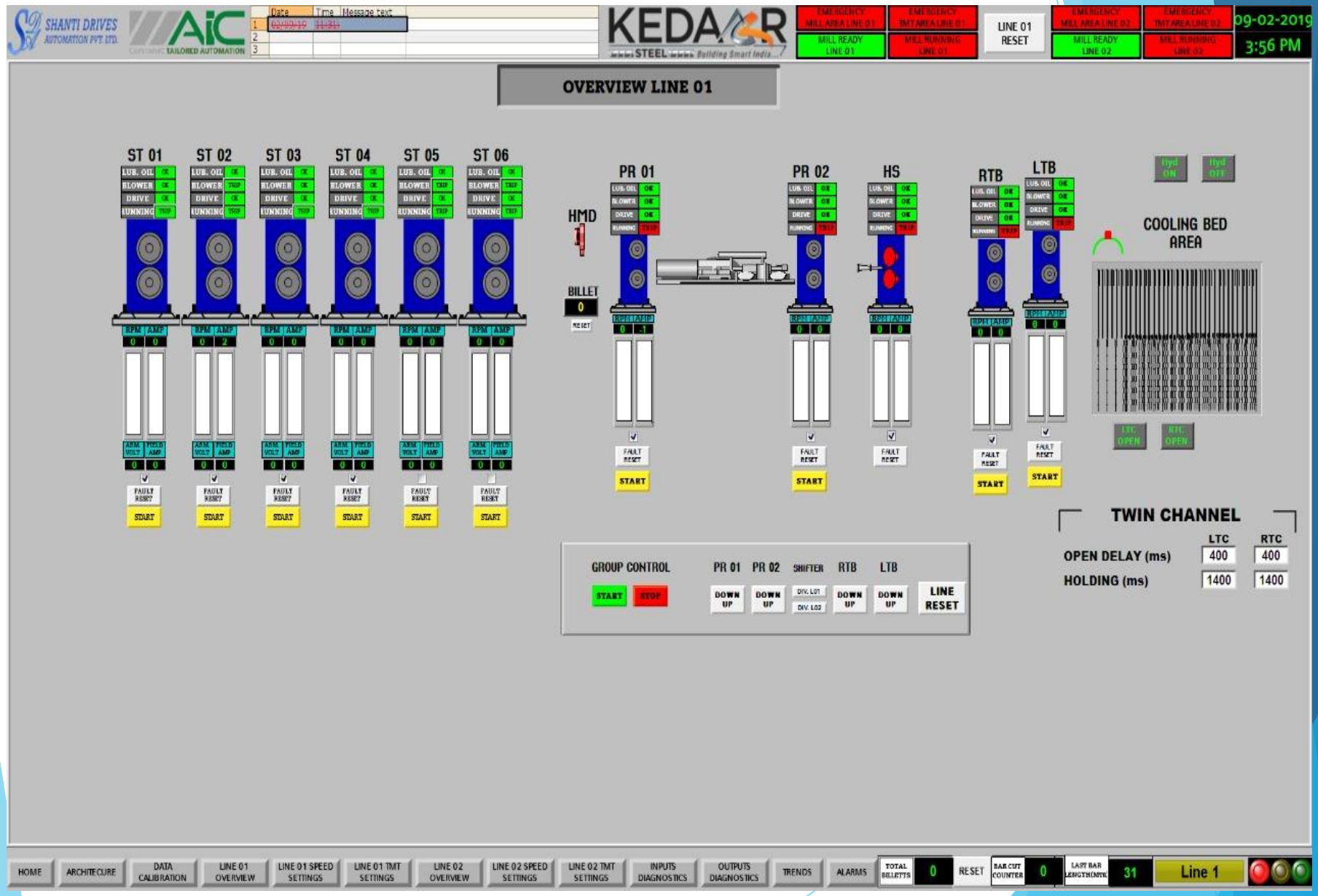
Revamping of Existing mills

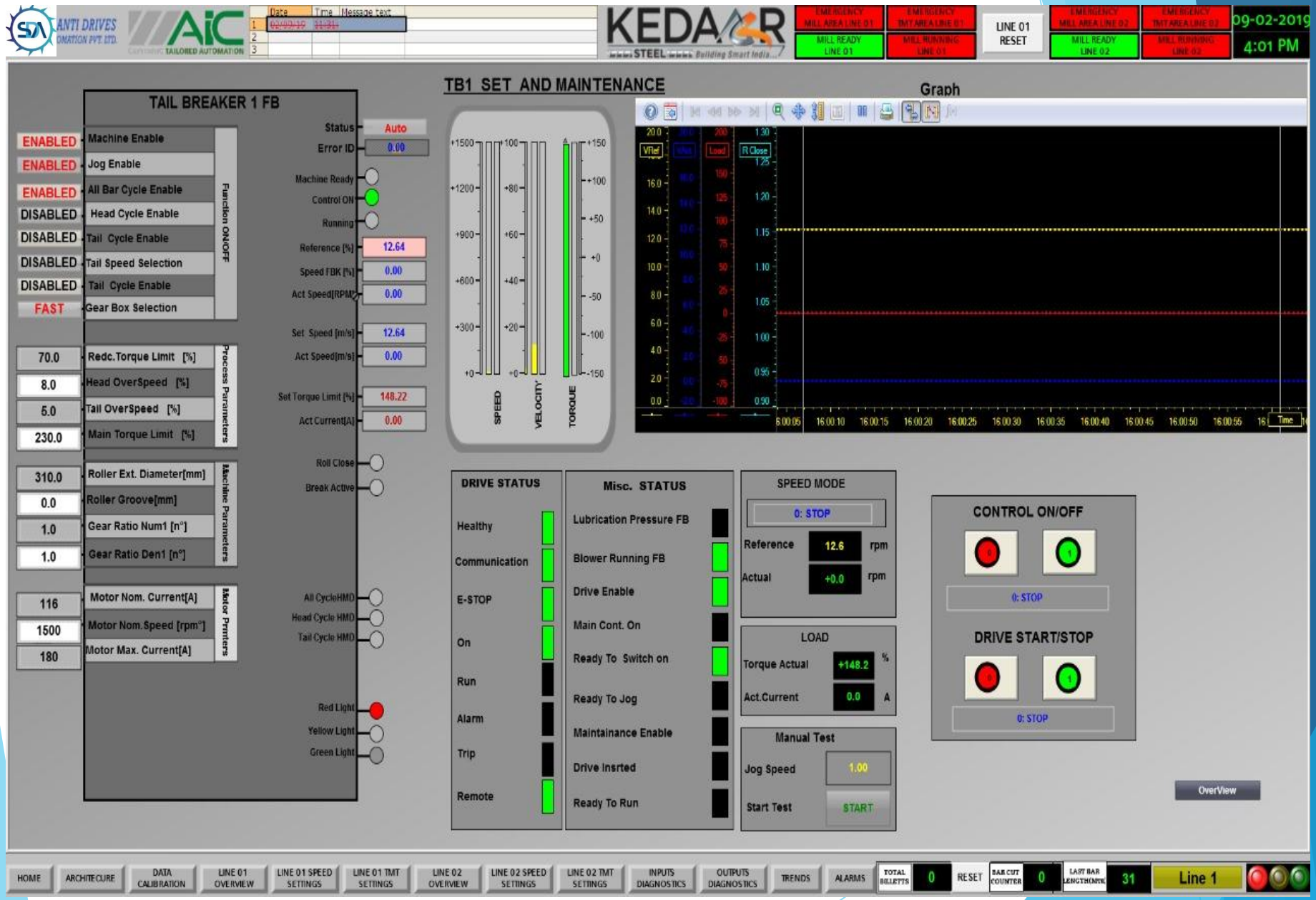
- Lower Cost for economic yield
- Expertise in Rolling Mill processes & control
- Not bound to any specific hardware
- Re-use your hardware as much as possible
- Low investment and fast returns on step-by step revamping

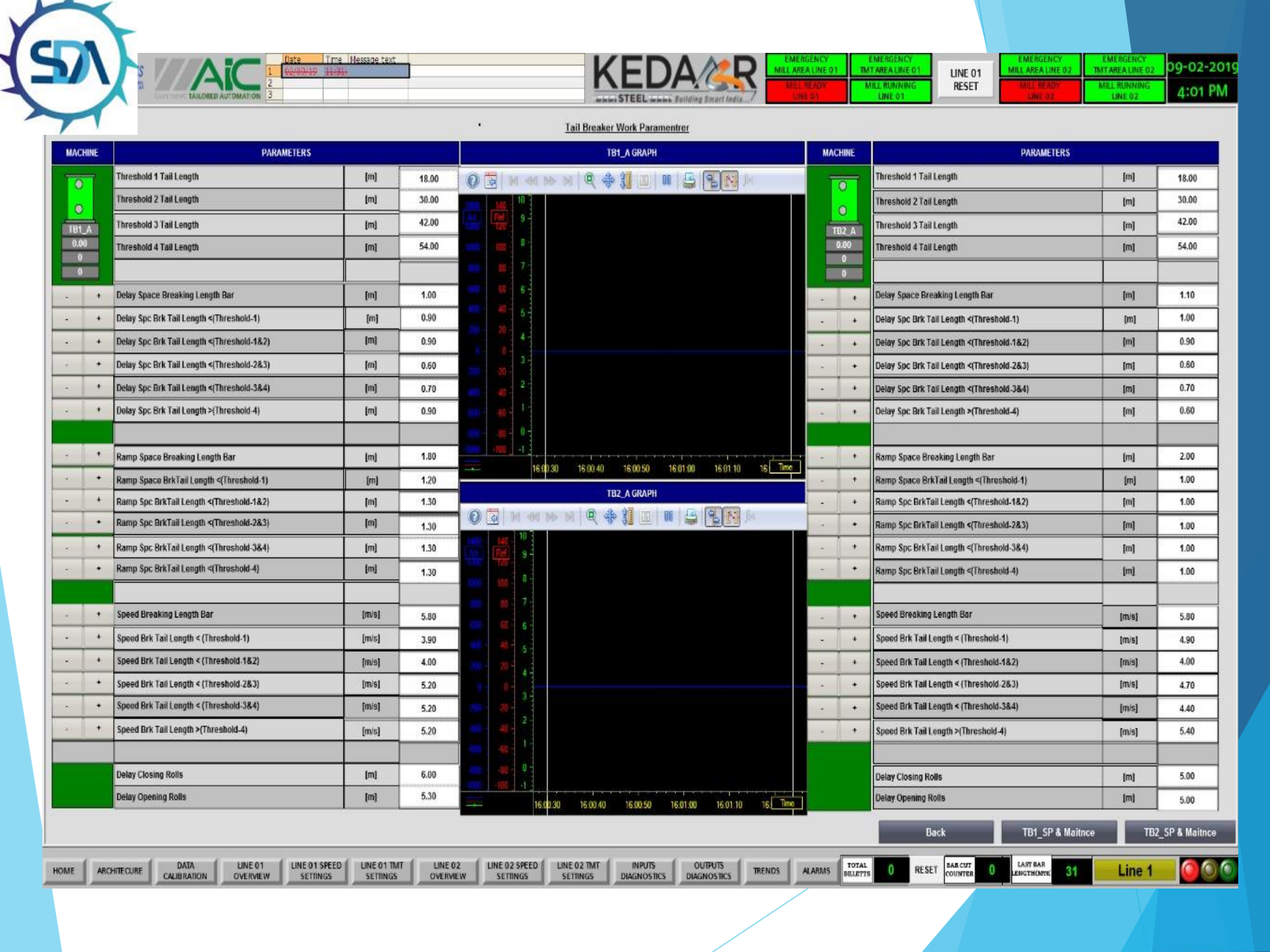
HMI SCREENS MILL OVERVIEW

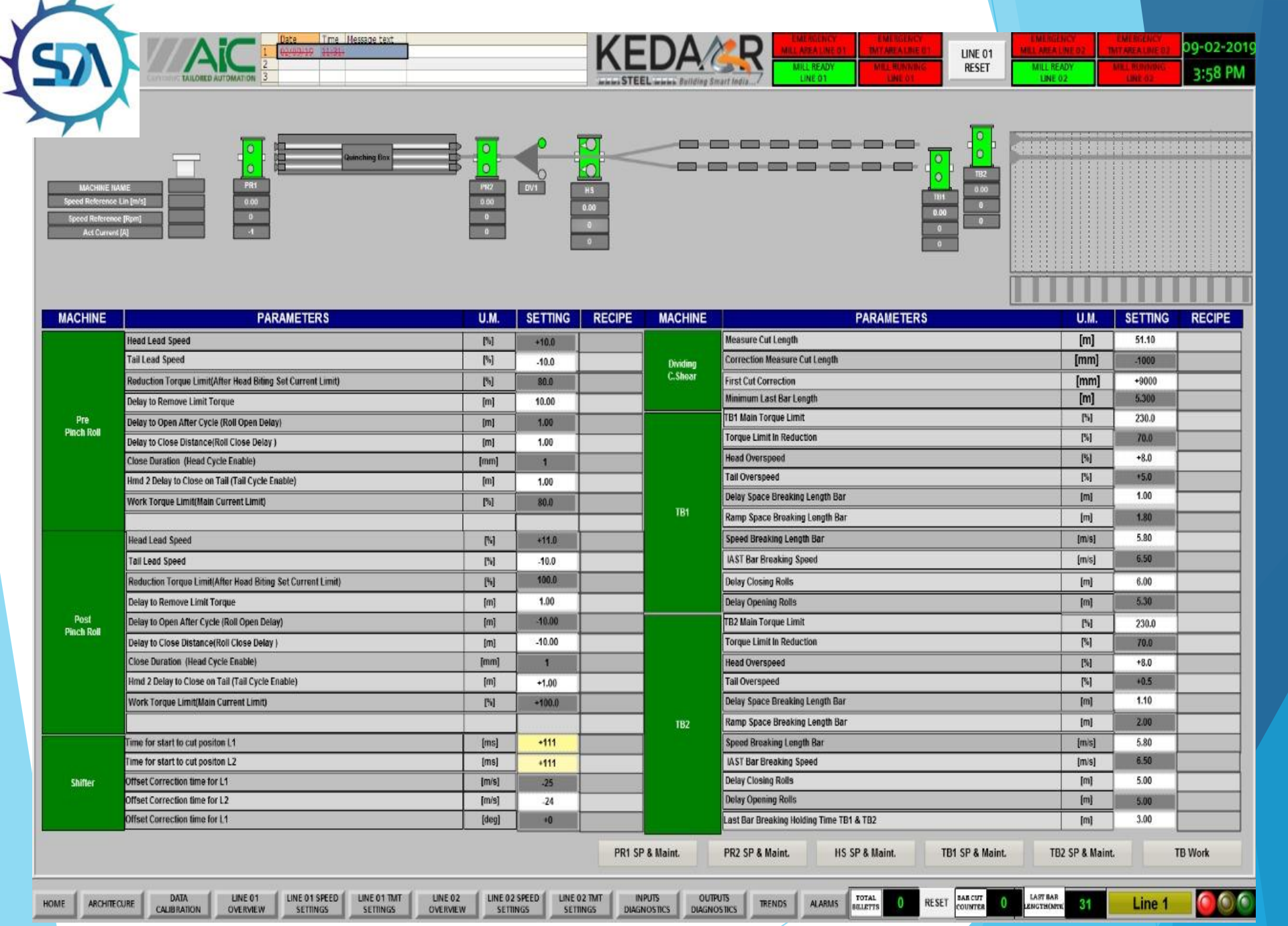


HMI PAGES


SHANTI DRIVES AUTOMATION PVT. LTD.
AiC
TAILORED AUTOMATION
KEDAR STEEL
LINE 01 RESET
09-02-2019
3:56 PM
OVERVIEW LINE 01
ST 01
ST 02
ST 03
ST 04
ST 05
ST 06
PR 01
PR 02
HS
RTB
LTB
HMD
BILLET
COOLING BED AREA
TWIN CHANNEL
LTC
RTC
OPEN DELAY (ms)
HOLDING (ms)
400
1400
GROUP CONTROL
START
STOP
LINE RESET
HOME
ARCHITECURE
DATA CALIBRATION
LINE 01 OVERVIEW
LINE 01 SPEED SETTINGS
LINE 01 TMT SETTINGS
LINE 02 OVERVIEW
LINE 02 SPEED SETTINGS
LINE 02 TMT SETTINGS
INPUTS DIAGNOSTICS
OUTPUTS DIAGNOSTICS
TRENDS
ALARMS
RESET
Line 1


ANTI DRIVES
AiC
TAILORED AUTOMATION
Date
Time
Message text
KEDAAR
STEEL
EMERGENCY MILL AREA LINE 01
EMERGENCY TMT AREA LINE 01
MILL READY LINE 01
MILL RUNNING LINE 01
LINE 01 RESET
EMERGENCY MILL AREA LINE 02
EMERGENCY TMT AREA LINE 02
MILL READY LINE 02
MILL RUNNING LINE 02
09-02-2019
4:01 PM
TB1 SET AND MAINTENANCE
TAIL BREAKER 1 FB
ENABLED Machine Enable
ENABLED Jog Enable
ENABLED All Bar Cycle Enable
DISABLED Head Cycle Enable
DISABLED Tail Cycle Enable
DISABLED Tail Speed Selection
DISABLED Tail Cycle Enable
FAST Gear Box Selection
Function ON/OFF
70.0 Redc.Torque Limit [%]
8.0 Head OverSpeed [%]
5.0 Tail OverSpeed [%]
230.0 Main Torque Limit [%]
Process Parameters
310.0 Roller Ext. Diameter[mm]
0.0 Roller Groove[mm]
1.0 Gear Ratio Num1 [n°]
1.0 Gear Ratio Den1 [n°]
Machine Parameters
116 Motor Nom. Current[A]
1500 Motor Nom.Speed [rpm°]
180 Motor Max. Current[A]
Motor Printers
Status Auto
Error ID 0.00
Machine Ready
Control ON
Running
Reference [%] 12.64
Speed FBK [%] 0.00
Act Speed[RPM] 0.00
Set Speed [m/s] 12.64
Act Speed[m/s] 0.00
Set Torque Limit [%] 148.22
Act Current[A] 0.00
Roll Close
Break Active
All CycleHMO
Head Cycle HMO
Tail Cycle HMO
Red Light
Yellow Light
Green Light
SPEED
VELOCITY
TORQUE
Graph
DRIVE STATUS
Healthy
Communication
E-STOP
On
Run
Alarm
Trip
Remote
Misc. STATUS
Lubrication Pressure FB
Blower Running FB
Drive Enable
Main Cont. On
Ready To Switch on
Ready To Jog
Maintainance Enable
Drive Insrted
Ready To Run
SPEED MODE
0: STOP
Reference 12.6 rpm
Actual +0.0 rpm
LOAD
Torque Actual +148.2 %
Act.Current 0.0 A
Manual Test
Jog Speed 1.00
Start Test START
CONTROL ON/OFF
0: STOP
DRIVE START/STOP
0: STOP
OverView
HOME
ARCHITECURE
DATA CALIBRATION
LINE 01 OVERVIEW
LINE 01 SPEED SETTINGS
LINE 01 TMT SETTINGS
LINE 02 OVERVIEW
LINE 02 SPEED SETTINGS
LINE 02 TMT SETTINGS
INPUTS DIAGNOSTICS
OUTPUTS DIAGNOSTICS
TRENDS
ALARMS
TOTAL BILLETTS 0
RESET
BAR CUT COUNTER 0
LAST BAR LENGTH(M) 31
Line 1


AiC
TAILORED AUTOMATION
Date
Time
Message text
KEDAR
STEEL
EMERGENCY MILL AREA LINE 01
EMERGENCY TMT AREA LINE 01
LINE 01 RESET
EMERGENCY MILL AREA LINE 02
EMERGENCY TMT AREA LINE 02
MILL READY LINE 01
MILL RUNNING LINE 01
MILL READY LINE 02
MILL RUNNING LINE 02
09-02-2019
4:01 PM
Tail Breaker Work Paramentrer
MACHINE
PARAMETERS
TB1_A GRAPH
TB2_A GRAPH
TB1_A
TB2_A
Threshold 1 Tail Length [m] 18.00
Threshold 2 Tail Length [m] 30.00
Threshold 3 Tail Length [m] 42.00
Threshold 4 Tail Length [m] 54.00
Delay Space Breaking Length Bar [m] 1.00
Delay Spc Brk Tail Length <(Threshold-1) [m] 0.90
Delay Spc Brk Tail Length <(Threshold-1&2) [m] 0.90
Delay Spc Brk Tail Length <(Threshold-2&3) [m] 0.60
Delay Spc Brk Tail Length <(Threshold-3&4) [m] 0.70
Delay Spc Brk Tail Length >(Threshold-4) [m] 0.90
Ramp Space Breaking Length Bar [m] 1.80
Ramp Space BrkTail Length <(Threshold-1) [m] 1.20
Ramp Spc BrkTail Length <(Threshold-1&2) [m] 1.30
Ramp Spc BrkTail Length <(Threshold-2&3) [m] 1.30
Ramp Spc BrkTail Length <(Threshold-3&4) [m] 1.30
Ramp Spc BrkTail Length <(Threshold-4) [m] 1.30
Speed Breaking Length Bar [m/s] 5.80
Speed Brk Tail Length < (Threshold-1) [m/s] 3.90
Speed Brk Tail Length < (Threshold-1&2) [m/s] 4.00
Speed Brk Tail Length < (Threshold-2&3) [m/s] 5.20
Speed Brk Tail Length < (Threshold-3&4) [m/s] 5.20
Speed Brk Tail Length >(Threshold-4) [m/s] 5.20
Delay Closing Rolls [m] 6.00
Delay Opening Rolls [m] 5.30
Threshold 1 Tail Length [m] 18.00
Threshold 2 Tail Length [m] 30.00
Threshold 3 Tail Length [m] 42.00
Threshold 4 Tail Length [m] 54.00
Delay Space Breaking Length Bar [m] 1.10
Delay Spc Brk Tail Length <(Threshold-1) [m] 1.00
Delay Spc Brk Tail Length <(Threshold-1&2) [m] 0.90
Delay Spc Brk Tail Length <(Threshold-2&3) [m] 0.60
Delay Spc Brk Tail Length <(Threshold-3&4) [m] 0.70
Delay Spc Brk Tail Length >(Threshold-4) [m] 0.60
Ramp Space Breaking Length Bar [m] 2.00
Ramp Space BrkTail Length <(Threshold-1) [m] 1.00
Ramp Spc BrkTail Length <(Threshold-1&2) [m] 1.00
Ramp Spc BrkTail Length <(Threshold-2&3) [m] 1.00
Ramp Spc BrkTail Length <(Threshold-3&4) [m] 1.00
Ramp Spc BrkTail Length <(Threshold-4) [m] 1.00
Speed Breaking Length Bar [m/s] 5.80
Speed Brk Tail Length < (Threshold-1) [m/s] 4.90
Speed Brk Tail Length < (Threshold-1&2) [m/s] 4.00
Speed Brk Tail Length < (Threshold-2&3) [m/s] 4.70
Speed Brk Tail Length < (Threshold-3&4) [m/s] 4.40
Speed Brk Tail Length >(Threshold-4) [m/s] 5.40
Delay Closing Rolls [m] 5.00
Delay Opening Rolls [m] 5.00
Back
TB1_SP & Maitnce
TB2_SP & Maitnce
HOME
ARCHITECURE
DATA CALIBRATION
LINE 01 OVERVIEW
LINE 01 SPEED SETTINGS
LINE 01 TMT SETTINGS
LINE 02 OVERVIEW
LINE 02 SPEED SETTINGS
LINE 02 TMT SETTINGS
INPUTS DIAGNOSTICS
OUTPUTS DIAGNOSTICS
TRENDS
ALARMS
TOTAL BILLETTS
0
RESET
BAR CUT COUNTER
0
LAST BAR LENGTHCM
31
Line 1

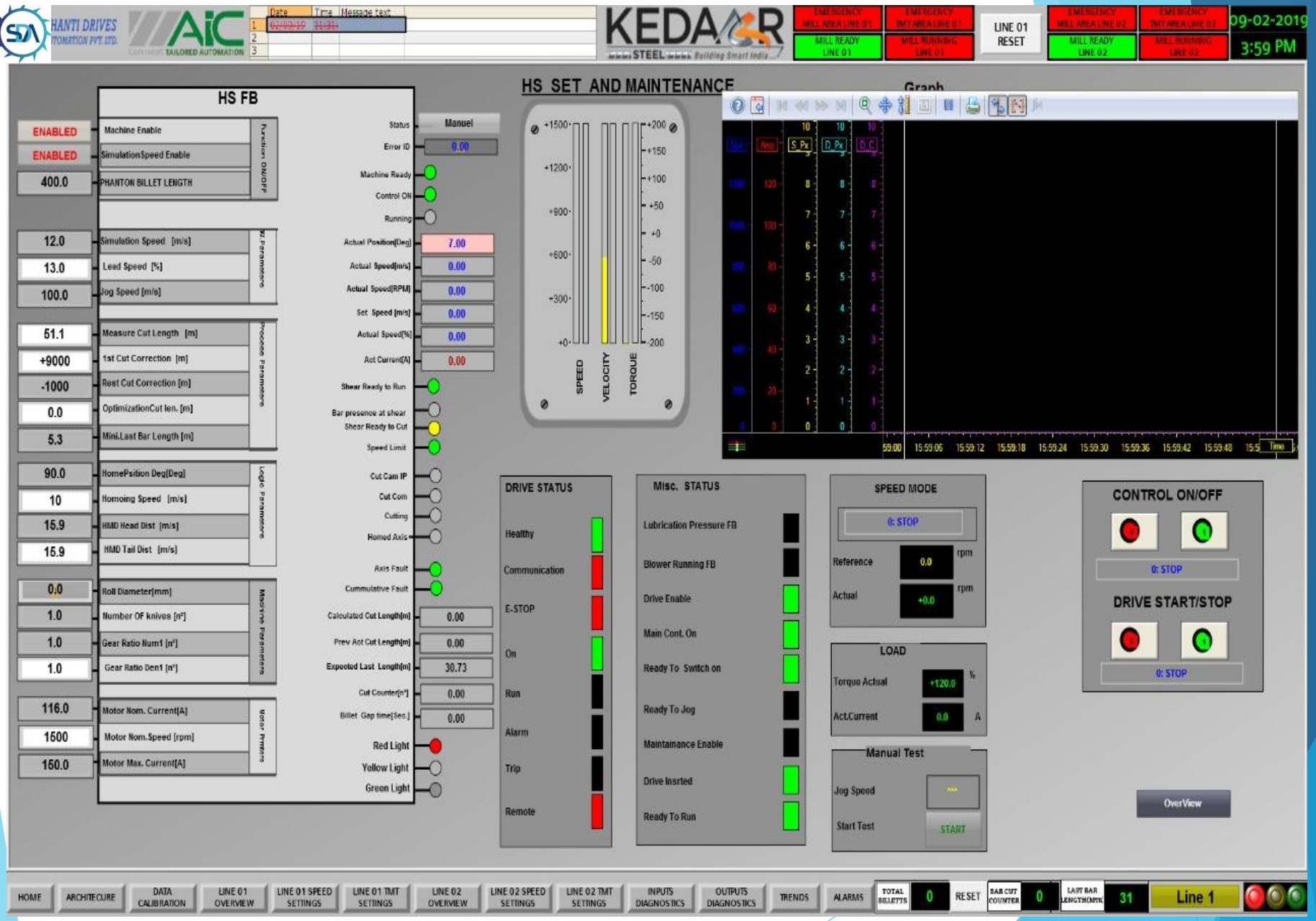


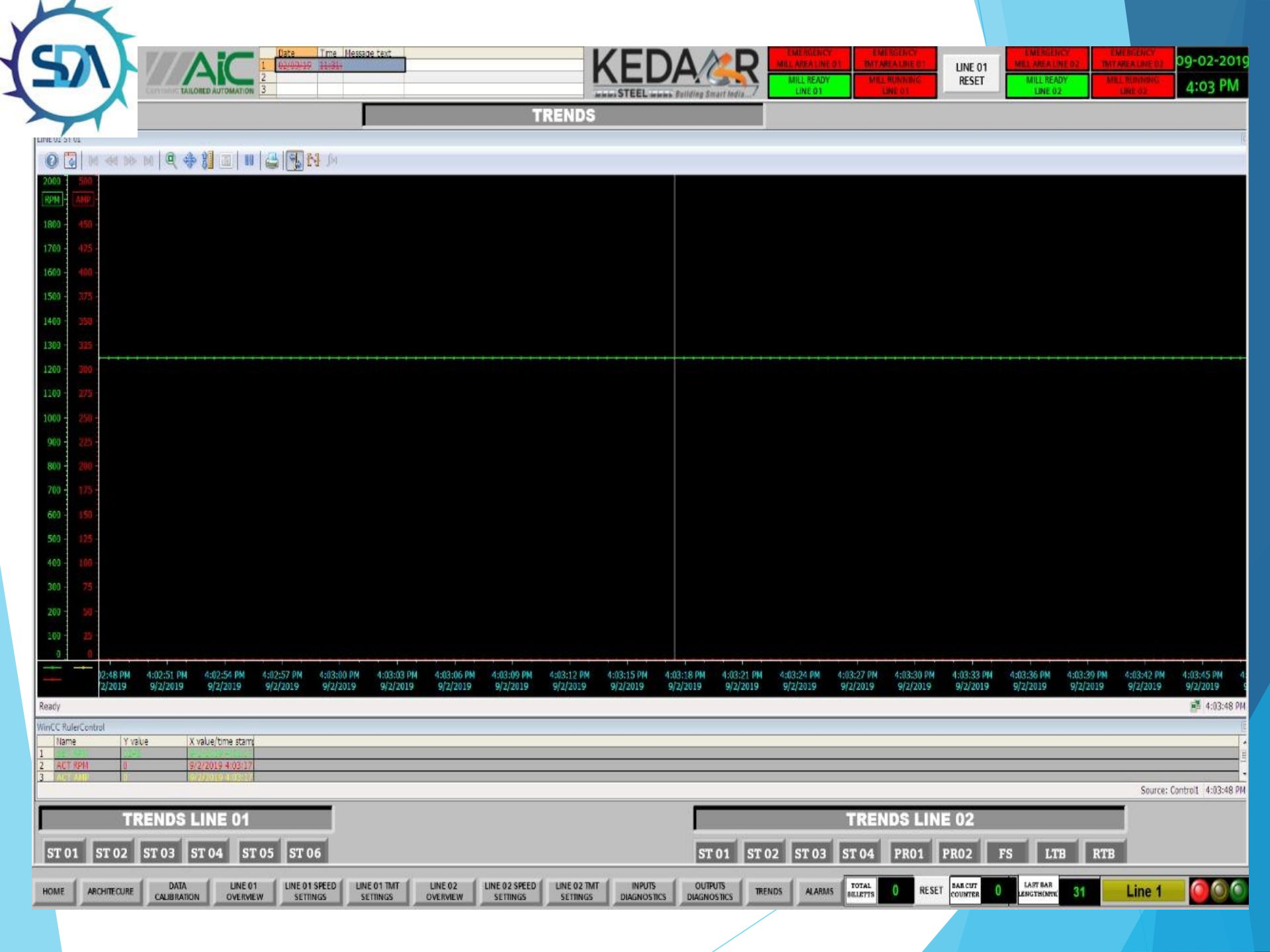
MACHINE	PARAMETERS	U.M.	SETTING	RECIPE
Pre Pinch Roll	Head Lead Speed	[%]	+10.0	
	Tail Lead Speed	[%]	-10.0	
	Reduction Torque Limit(After Head Biting Set Current Limit)	[%]	80.0	
	Delay to Remove Limit Torque	[m]	10.00	
	Delay to Open After Cycle (Roll Open Delay)	[m]	1.00	
	Delay to Close Distance(Roll Close Delay)	[m]	1.00	
	Close Duration (Head Cycle Enable)	[mm]	1	
	Hmd 2 Delay to Close on Tail (Tail Cycle Enable)	[m]	1.00	
	Work Torque Limit(Main Current Limit)	[%]	80.0	
Post Pinch Roll	Head Lead Speed	[%]	+11.0	
	Tail Lead Speed	[%]	-10.0	
	Reduction Torque Limit(After Head Biting Set Current Limit)	[%]	100.0	
	Delay to Remove Limit Torque	[m]	1.00	
	Delay to Open After Cycle (Roll Open Delay)	[m]	-10.00	
	Delay to Close Distance(Roll Close Delay)	[m]	-10.00	
	Close Duration (Head Cycle Enable)	[mm]	1	
	Hmd 2 Delay to Close on Tail (Tail Cycle Enable)	[m]	+1.00	
	Work Torque Limit(Main Current Limit)	[%]	+100.0	
Shifter	Time for start to cut positon L1	[ms]	+111	
	Time for start to cut positon L2	[ms]	+111	
	Offset Correction time for L1	[m/s]	-25	
	Offset Correction time for L2	[m/s]	-24	
	Offset Correction time for L1	[deg]	+0	

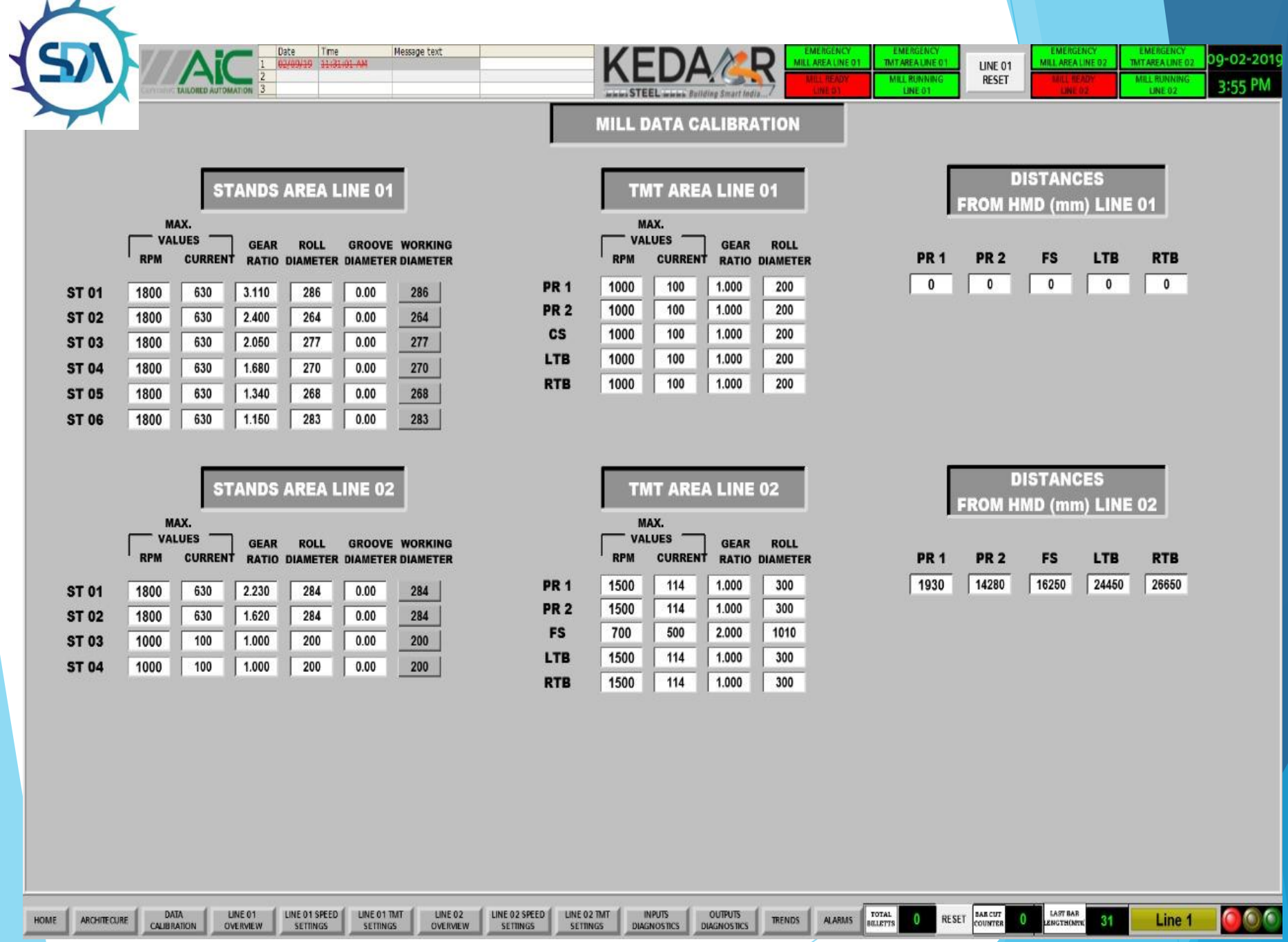
MACHINE	PARAMETERS	U.M.	SETTING	RECIPE
Dividing C.Shear	Measure Cut Length	[m]	51.10	
	Correction Measure Cut Length	[mm]	-1000	
	First Cut Correction	[mm]	+9000	
	Minimum Last Bar Length	[m]	5.300	
TB1	TB1 Main Torque Limit	[%]	230.0	
	Torque Limit In Reduction	[%]	70.0	
	Head Overspeed	[%]	+8.0	
	Tail Overspeed	[%]	+5.0	
	Delay Space Breaking Length Bar	[m]	1.00	
	Ramp Space Breaking Length Bar	[m]	1.80	
	Speed Breaking Length Bar	[m/s]	5.80	
	IAST Bar Breaking Speed	[m/s]	6.50	
	Delay Closing Rolls	[m]	6.00	
	Delay Opening Rolls	[m]	5.30	
TB2	TB2 Main Torque Limit	[%]	230.0	
	Torque Limit In Reduction	[%]	70.0	
	Head Overspeed	[%]	+8.0	
	Tail Overspeed	[%]	+0.5	
	Delay Space Breaking Length Bar	[m]	1.10	
	Ramp Space Breaking Length Bar	[m]	2.00	
	Speed Breaking Length Bar	[m/s]	5.80	
	IAST Bar Breaking Speed	[m/s]	6.50	
	Delay Closing Rolls	[m]	5.00	
	Delay Opening Rolls	[m]	5.00	
	Last Bar Breaking Holding Time TB1 & TB2	[m]	3.00	

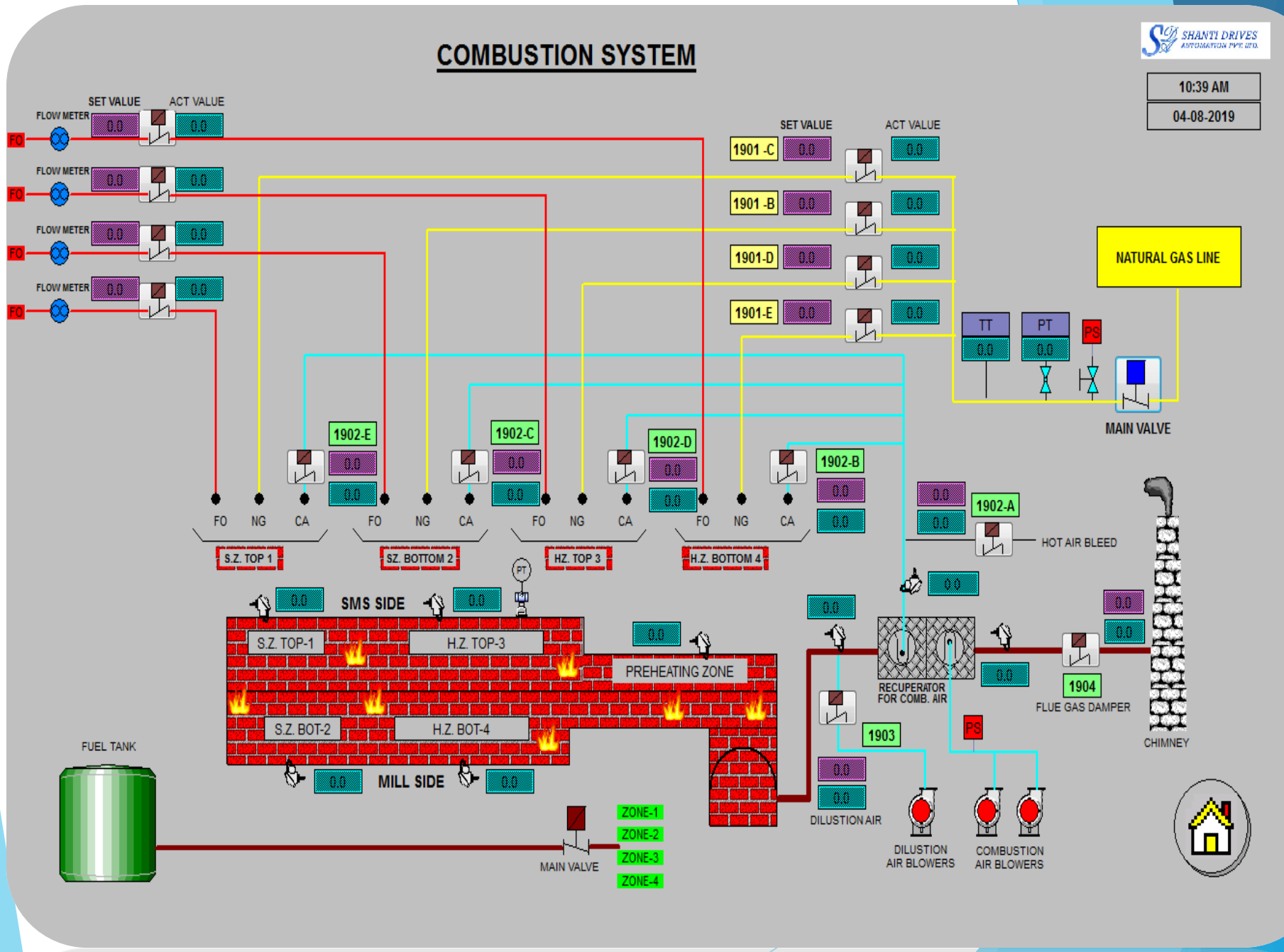
PR1 SP & Maint. | PR2 SP & Maint. | HS SP & Maint. | TB1 SP & Maint. | TB2 SP & Maint. | TB Work

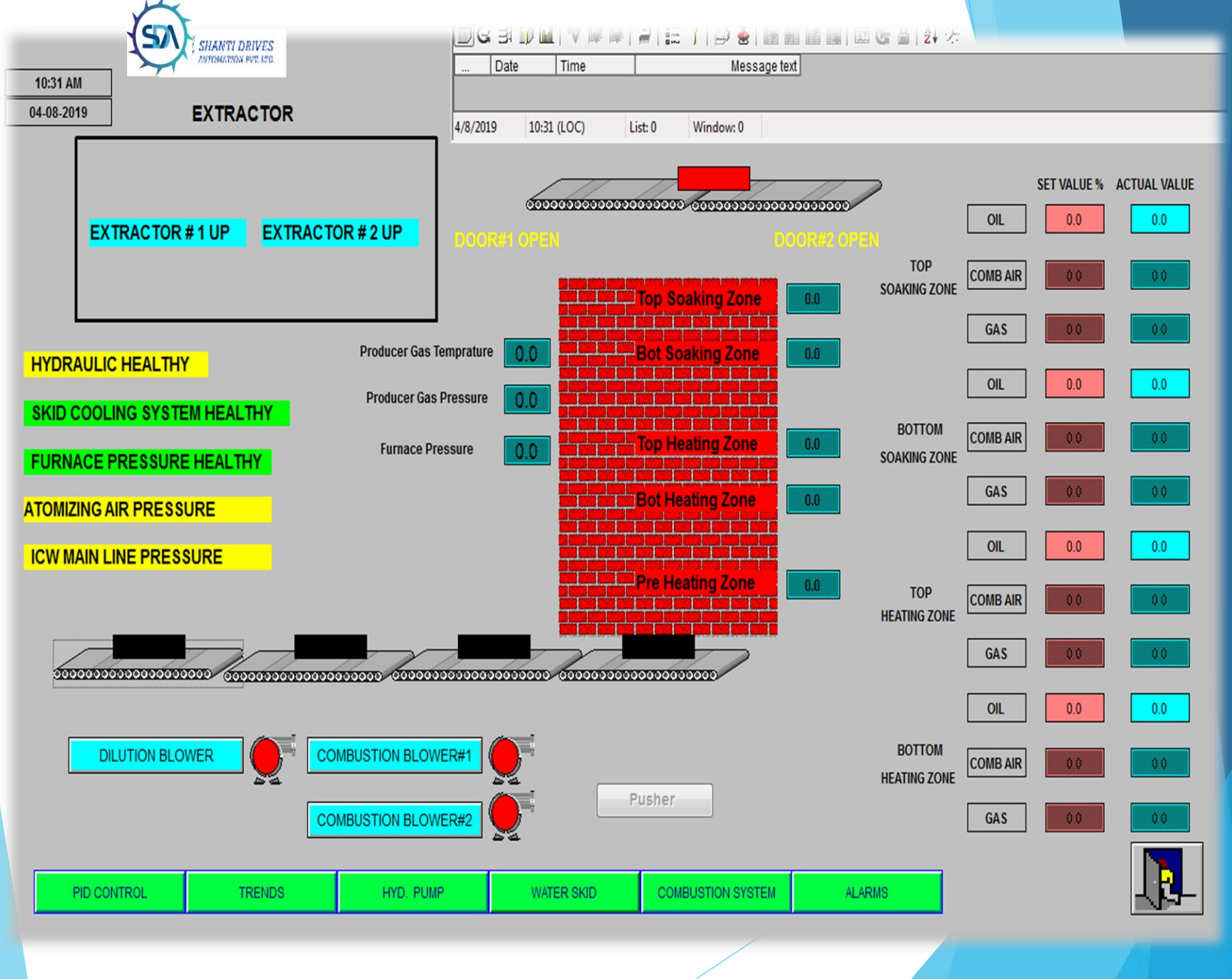
HOME | ARCHITECURE | DATA CALIBRATION | LINE 01 OVERVIEW | LINE 01 SPEED SETTINGS | LINE 01 TMT SETTINGS | LINE 02 OVERVIEW | LINE 02 SPEED SETTINGS | LINE 02 TMT SETTINGS | INPUTS DIAGNOSTICS | OUTPUTS DIAGNOSTICS | TRENDS | ALARMS | TOTAL BILLETTS 0 | RESET | BAR CUT COUNTER 0 | LAST BAR LENGTHMTR 31 | Line 1

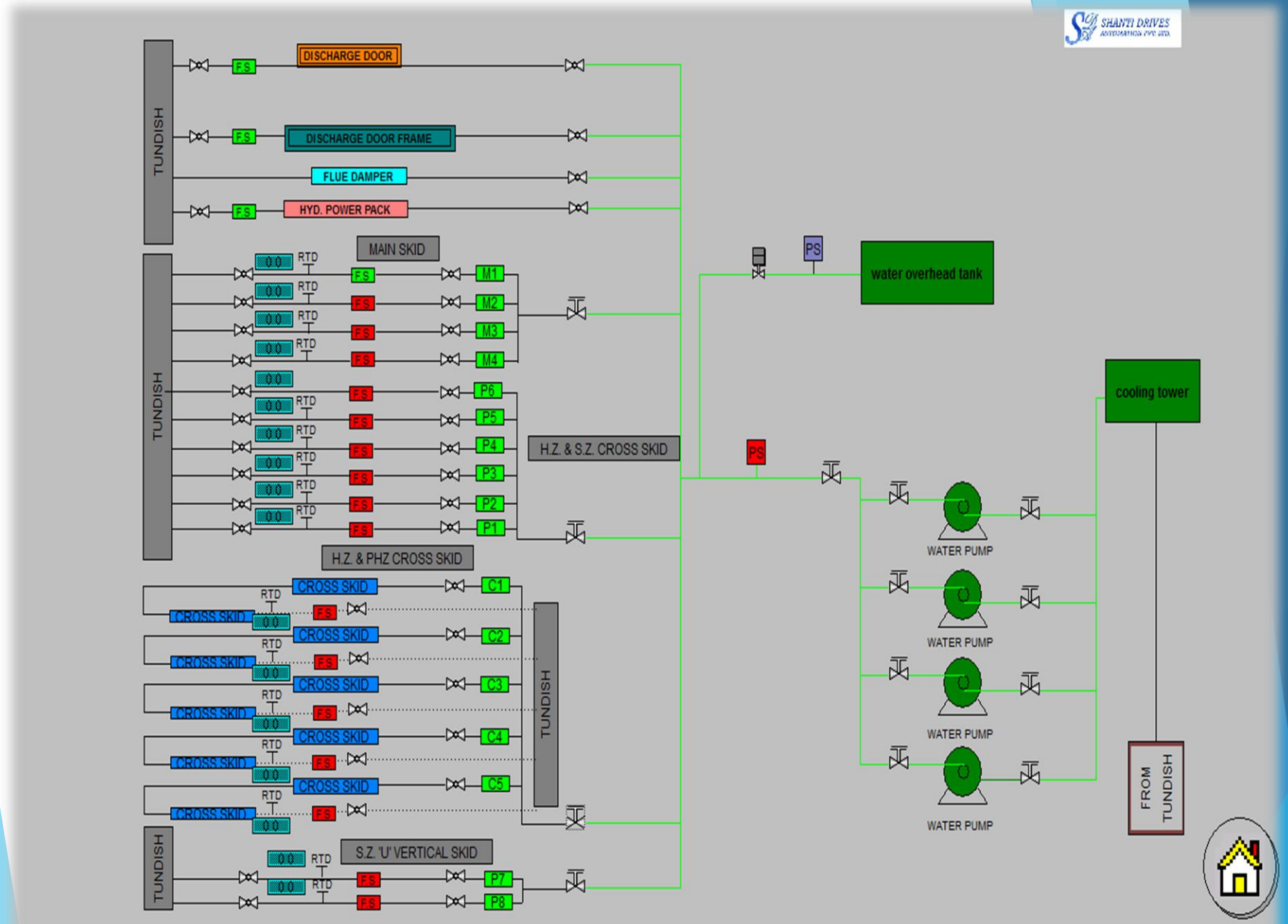

HANTI DRIVES
ITOMATION PVT. LTD.
AiC
TAILORED AUTOMATION
KEDAAR
STEEL
Building Smart India
EMERGENCY MILL AREA LINE 01
EMERGENCY TMT AREA LINE 01
MILL READY LINE 01
MILL RUNNING LINE 01
LINE 01 RESET
EMERGENCY MILL AREA LINE 02
EMERGENCY TMT AREA LINE 02
MILL READY LINE 02
MILL RUNNING LINE 02
09-02-2019
3:59 PM
HS FB
HS SET AND MAINTENANCE
Graph
ENABLED
Machine Enable
ENABLED
SimulationSpeed Enable
400.0
PHANTON BILLET LENGTH
Function ON/OFF
Status
Manuel
Error ID
0.00
Machine Ready
Control ON
Running
12.0
Simulation Speed [m/s]
13.0
Lead Speed [%]
100.0
Jog Speed [m/s]
PJ Parameters
Actual Position[Deg]
7.00
Actual Speed[m/s]
0.00
Actual Speed[RPM]
0.00
Set Speed [m/s]
0.00
Actual Speed[%]
0.00
Act Current[A]
0.00
51.1
Measure Cut Length [m]
+9000
1st Cut Correction [m]
-1000
Rest Cut Correction [m]
0.0
OptimizationCut len. [m]
5.3
Mini.Last Bar Length [m]
Process Parameters
Shear Ready to Run
Bar presence at shear
Shear Ready to Cut
Speed Limit
90.0
HomePsition Deg[Deg]
10
Homoing Speed [m/s]
15.9
HMD Head Dist [m/s]
15.9
HMD Tail Dist [m/s]
Logic Parameters
Cut Cam IP
Cut Com
Cutting
Homed Axis
Axis Fault
Cummulative Fault
0.0
Roll Diameter[mm]
1.0
Number OF knives [n°]
1.0
Gear Ratio Num1 [n°]
1.0
Gear Ratio Den1 [n°]
Machine Parameters
Calculated Cut Length[m]
0.00
Prev Act Cut Length[m]
0.00
Expected Last Length[m]
30.73
Cut Counter[n°]
0.00
Billet Gap time[Sec.]
0.00
116.0
Motor Nom. Current[A]
1500
Motor Nom.Speed [rpm]
150.0
Motor Max. Current[A]
Motor Prmtrs
Red Light
Yellow Light
Green Light
+1500
+1200
+900
+600
+300
+0
+200
+150
+100
+50
+0
-50
-100
-150
-200
SPEED
VELOCITY
TORQUE
DRIVE STATUS
Healthy
Communication
E-STOP
On
Run
Alarm
Trip
Remote
Misc. STATUS
Lubrication Pressure FB
Blower Running FB
Drive Enable
Main Cont. On
Ready To Switch on
Ready To Jog
Maintainance Enable
Drive Insrted
Ready To Run
SPEED MODE
0: STOP
Reference
0.0
rpm
Actual
+0.0
rpm
LOAD
Torque Actual
+120.0
%
Act.Current
0.0
A
Manual Test
Jog Speed
Start Test
START
CONTROL ON/OFF
0: STOP
DRIVE START/STOP
0: STOP
OverView
HOME
ARCHITECURE
DATA CALIBRATION
LINE 01 OVERVIEW
LINE 01 SPEED SETTINGS
LINE 01 TMT SETTINGS
LINE 02 OVERVIEW
LINE 02 SPEED SETTINGS
LINE 02 TMT SETTINGS
INPUTS DIAGNOSTICS
OUTPUTS DIAGNOSTICS
TRENDS
ALARMS
TOTAL BILLETS
0
RESET
BAR CUT COUNTER
0
LAST BAR LENGTH(M)
31
Line 1


AiC
TAILORED AUTOMATION
Date
Time
Message text
KEDAAR
STEEL
Building Smart India
EMERGENCY MILL AREA LINE 01
EMERGENCY TMT AREA LINE 01
LINE 01 RESET
EMERGENCY MILL AREA LINE 02
EMERGENCY TMT AREA LINE 02
09-02-2019
4:03 PM
MILL READY LINE 01
MILL RUNNING LINE 01
MILL READY LINE 02
MILL RUNNING LINE 02
TRENDS
RPM
AMP
Ready
4:03:48 PM
WinCC RulerControl
Name
Y value
X value/time stamp
ACT RPM
ACT AMP
Source: Control1
TRENDS LINE 01
ST 01
ST 02
ST 03
ST 04
ST 05
ST 06
TRENDS LINE 02
ST 01
ST 02
ST 03
ST 04
PR01
PR02
FS
LTB
RTB
HOME
ARCHITECURE
DATA CALIBRATION
LINE 01 OVERVIEW
LINE 01 SPEED SETTINGS
LINE 01 TMT SETTINGS
LINE 02 OVERVIEW
LINE 02 SPEED SETTINGS
LINE 02 TMT SETTINGS
INPUTS DIAGNOSTICS
OUTPUTS DIAGNOSTICS
TRENDS
ALARMS
TOTAL BILLETS
0
RESET
BAR CUT COUNTER
0
LAST BAR LENGTH(MM)
31
Line 1


AiC
TAILORED AUTOMATION
Date
Time
Message text
KEDA
STEEL
EMERGENCY MILL AREA LINE 01
EMERGENCY TMT AREA LINE 01
LINE 01 RESET
EMERGENCY MILL AREA LINE 02
EMERGENCY TMT AREA LINE 02
09-02-2019
3:55 PM
MILL READY LINE 01
MILL RUNNING LINE 01
MILL READY LINE 02
MILL RUNNING LINE 02
MILL DATA CALIBRATION
STANDS AREA LINE 01
MAX. VALUES
RPM
CURRENT
GEAR RATIO
ROLL DIAMETER
GROOVE DIAMETER
WORKING DIAMETER
ST 01 1800 630 3.110 286 0.00 286
ST 02 1800 630 2.400 264 0.00 264
ST 03 1800 630 2.050 277 0.00 277
ST 04 1800 630 1.680 270 0.00 270
ST 05 1800 630 1.340 268 0.00 268
ST 06 1800 630 1.150 283 0.00 283
TMT AREA LINE 01
PR 1 1000 100 1.000 200
PR 2 1000 100 1.000 200
CS 1000 100 1.000 200
LTB 1000 100 1.000 200
RTB 1000 100 1.000 200
DISTANCES FROM HMD (mm) LINE 01
PR 1 PR 2 FS LTB RTB
0 0 0 0 0
STANDS AREA LINE 02
ST 01 1800 630 2.230 284 0.00 284
ST 02 1800 630 1.620 284 0.00 284
ST 03 1000 100 1.000 200 0.00 200
ST 04 1000 100 1.000 200 0.00 200
TMT AREA LINE 02
PR 1 1500 114 1.000 300
PR 2 1500 114 1.000 300
FS 700 500 2.000 1010
LTB 1500 114 1.000 300
RTB 1500 114 1.000 300
DISTANCES FROM HMD (mm) LINE 02
PR 1 PR 2 FS LTB RTB
1930 14280 16250 24450 26650
HOME
ARCHITECURE
DATA CALIBRATION
LINE 01 OVERVIEW
LINE 01 SPEED SETTINGS
LINE 01 TMT SETTINGS
LINE 02 OVERVIEW
LINE 02 SPEED SETTINGS
LINE 02 TMT SETTINGS
INPUTS DIAGNOSTICS
OUTPUTS DIAGNOSTICS
TRENDS
ALARMS
TOTAL BILLETTS 0
RESET
BAR CUT COUNTER 0
LAST BAR LENGTH(M) 31
Line 1


COMBUSTION SYSTEM
SHANTI DRIVES AUTOMATION PVT. LTD.
10:39 AM
04-08-2019
SET VALUE
ACT VALUE
FLOW METER
FO
1901 -C
1901 -B
1901-D
1901-E
NATURAL GAS LINE
TT
PT
PS
MAIN VALVE
1902-E
1902-C
1902-D
1902-B
1902-A
FO
NG
CA
S.Z. TOP 1
SZ. BOTTOM 2
HZ. TOP 3
H.Z. BOTTOM 4
HOT AIR BLEED
SMS SIDE
S.Z. TOP-1
H.Z. TOP-3
PREHEATING ZONE
S.Z. BOT-2
H.Z. BOT-4
MILL SIDE
RECUPERATOR FOR COMB. AIR
1904
FLUE GAS DAMPER
CHIMNEY
1903
DILUSTION AIR
DILUSTION AIR BLOWERS
COMBUSTION AIR BLOWERS
FUEL TANK
MAIN VALVE
ZONE-1
ZONE-2
ZONE-3
ZONE-4

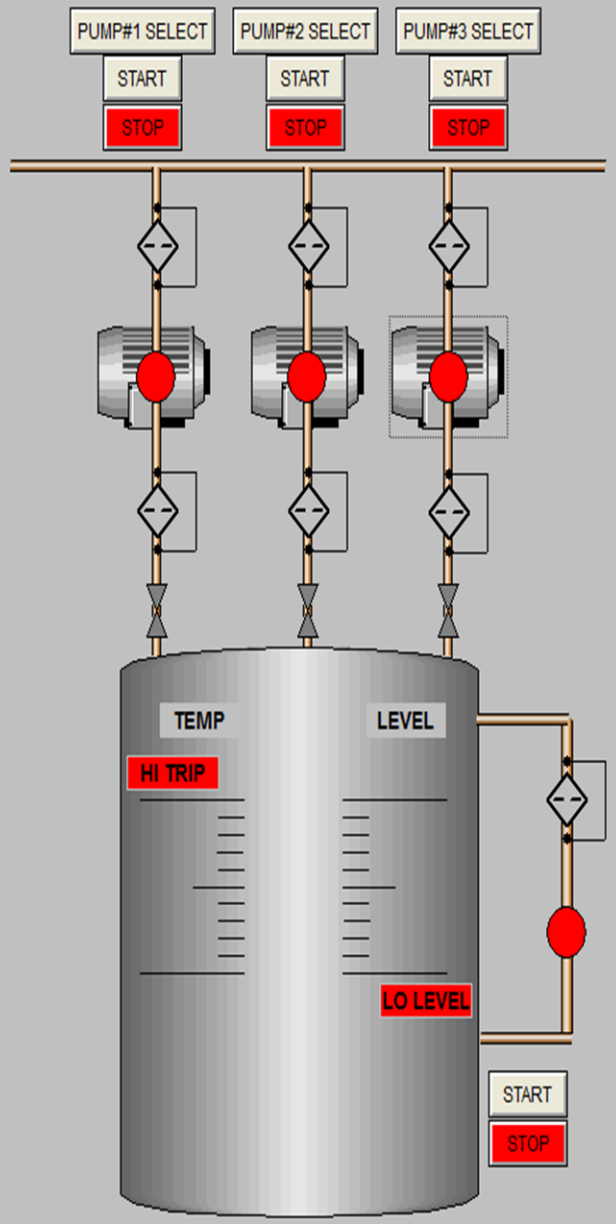

SHANTI DRIVES
AUTOMATION PVT. LTD.
10:31 AM
04-08-2019
EXTRACTOR
... Date Time Message text
4/8/2019 10:31 (LOC) List: 0 Window: 0
EXTRACTOR # 1 UP
EXTRACTOR # 2 UP
DOOR#1 OPEN
DOOR#2 OPEN
SET VALUE % ACTUAL VALUE
HYDRAULIC HEALTHY
SKID COOLING SYSTEM HEALTHY
FURNACE PRESSURE HEALTHY
ATOMIZING AIR PRESSURE
ICW MAIN LINE PRESSURE
Producer Gas Temprature 0.0
Producer Gas Pressure 0.0
Furnace Pressure 0.0
Top Soaking Zone 0.0
Bot Soaking Zone 0.0
Top Heating Zone 0.0
Bot Heating Zone 0.0
Pre Heating Zone 0.0
TOP SOAKING ZONE
OIL 0.0 0.0
COMB AIR 0.0 0.0
GAS 0.0 0.0
BOTTOM SOAKING ZONE
OIL 0.0 0.0
COMB AIR 0.0 0.0
GAS 0.0 0.0
TOP HEATING ZONE
OIL 0.0 0.0
COMB AIR 0.0 0.0
GAS 0.0 0.0
BOTTOM HEATING ZONE
OIL 0.0 0.0
COMB AIR 0.0 0.0
GAS 0.0 0.0
DILUTION BLOWER
COMBUSTION BLOWER#1
COMBUSTION BLOWER#2
Pusher
PID CONTROL
TRENDS
HYD. PUMP
WATER SKID
COMBUSTION SYSTEM
ALARMS


SHANTI DRIVES
TUNDISH
F.S
DISCHARGE DOOR
DISCHARGE DOOR FRAME
FLUE DAMPER
HYD. POWER PACK
MAIN SKID
RTD
M1
M2
M3
M4
P6
P5
P4
P3
P2
P1
H.Z. & S.Z. CROSS SKID
H.Z. & PHZ CROSS SKID
CROSS SKID
C1
C2
C3
C4
C5
S.Z. 'U' VERTICAL SKID
P7
P8
PS
water overhead tank
cooling tower
WATER PUMP
FROM TUNDISH

HYDRAULIC OPERATION FOR REHEATING FURNACE

HYDRAULIC PUMP-1	STATUS
HYD PUMP-1 STOP	
HYD PUMP-1 TRIP	
OIL LEVEL EMPTY	
OIL TEMP. HIGH TRIP	
PUMP-1 SUCTION LINE	
RECIRCULATION PUMP ON	
E-STOP	

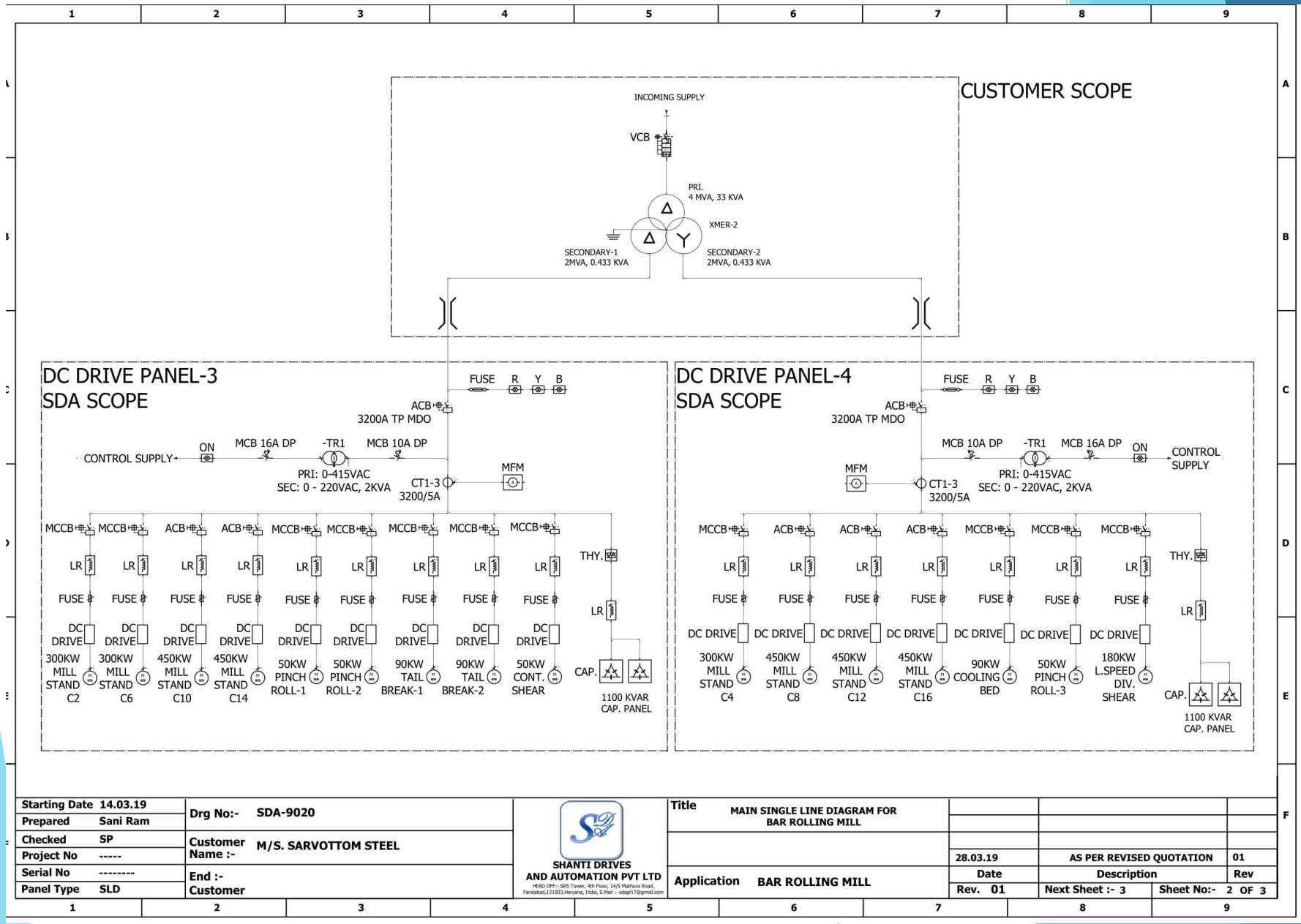
HYDRAULIC PUMP-2	STATUS
HYD PUMP-2 STOP	
HYD PUMP-2 TRIP	
OIL LEVEL EMPTY	
OIL TEMP. HIGH TRIP	
PUMP-2 SUCTION LINE	
RECIRCULATION PUMP ON	
E-STOP	



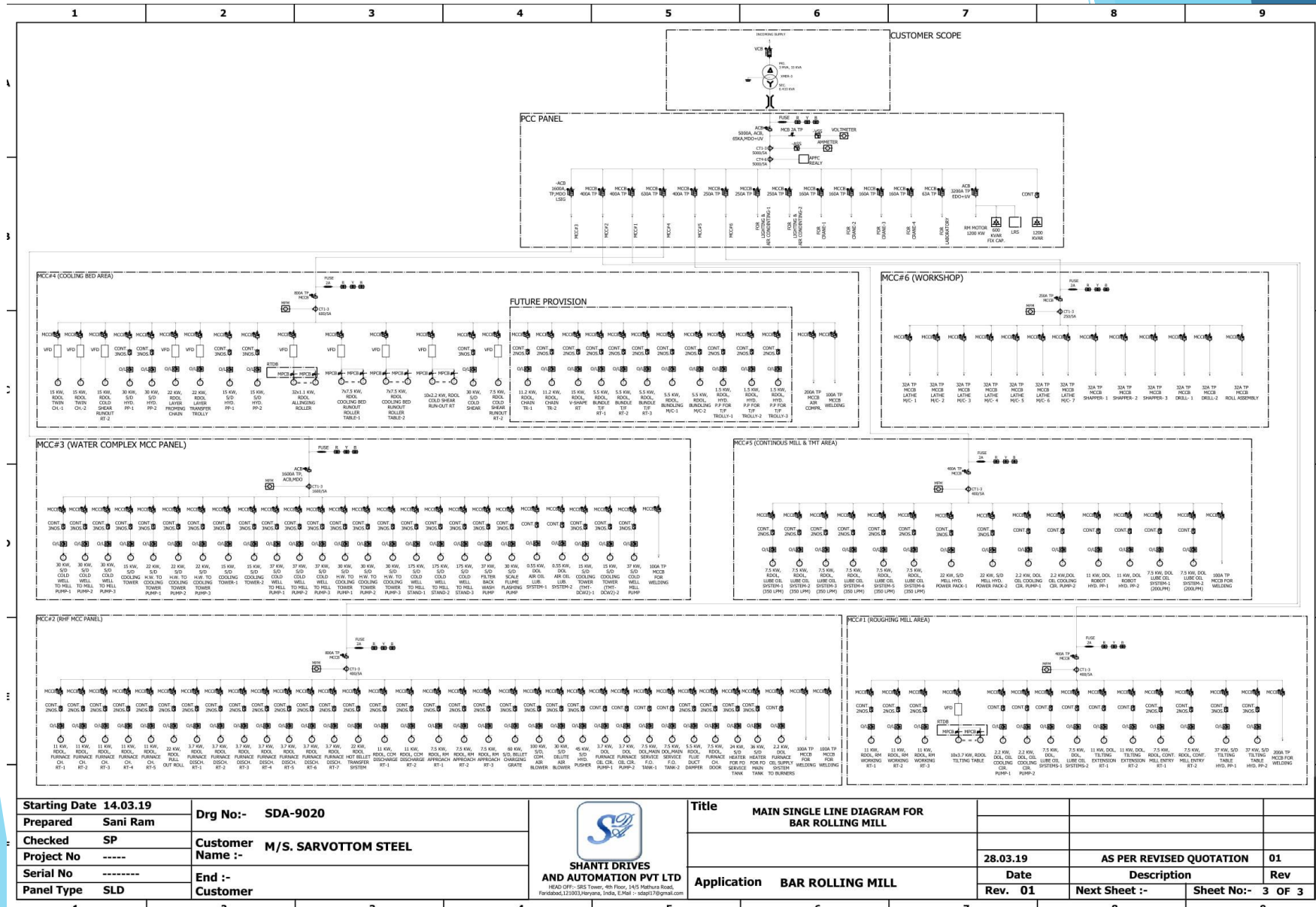
HYDRAULIC PUMP-3	STATUS
HYD PUMP-3 STOP	
HYD PUMP-3 TRIP	
OIL LEVEL EMPTY	
OIL TEMP. HIGH TRIP	
PUMP-3 SUCTION LINE	
RECIRCULATION PUMP ON	
E-STOP	

RECIRCULATION PUMP	STATUS
RECIR. PUMP STOP	
RECIR. PUMP TRIP	
OIL LEVEL EMPTY	
E-STOP	


PID Control
OUTPUT
Set
Actual
P. Gain
I. Time
D.Time
0
0.00
AIR MOTORIZED VALVE ZONE-1
AIR MOTORIZED VALVE ZONE-2
AIR MOTORIZED VALVE ZONE-3
AIR MOTORIZED VALVE ZONE-4
AIR ORIFICE PLATE ZONE-1
AIR ORIFICE PLATE ZONE-2
AIR ORIFICE PLATE ZONE-3
AIR ORIFICE PLATE ZONE-4
GAS MOTORIZED VALVE ZONE-1
GAS MOTORIZED VALVE ZONE-2
GAS MOTORIZED VALVE ZONE-3
PID Control
OUTPUT
Set
Actual
P. Gain
I. Time
D.Time
0
0.00
GAS MOTORIZED VALVE ZONE-4
GAS ORIFICE PLATE ZONE-1
GAS ORIFICE PLATE ZONE-2
GAS ORIFICE PLATE ZONE-3
GAS ORIFICE PLATE ZONE-4
OIL MOTORIZED VALVE ZONE-1
OIL MOTORIZED VALVE ZONE-2
OIL MOTORIZED VALVE ZONE-3
OIL MOTORIZED VALVE ZONE-4
MOTORIZED FUEL DAMPER ZONE-1
SPARE

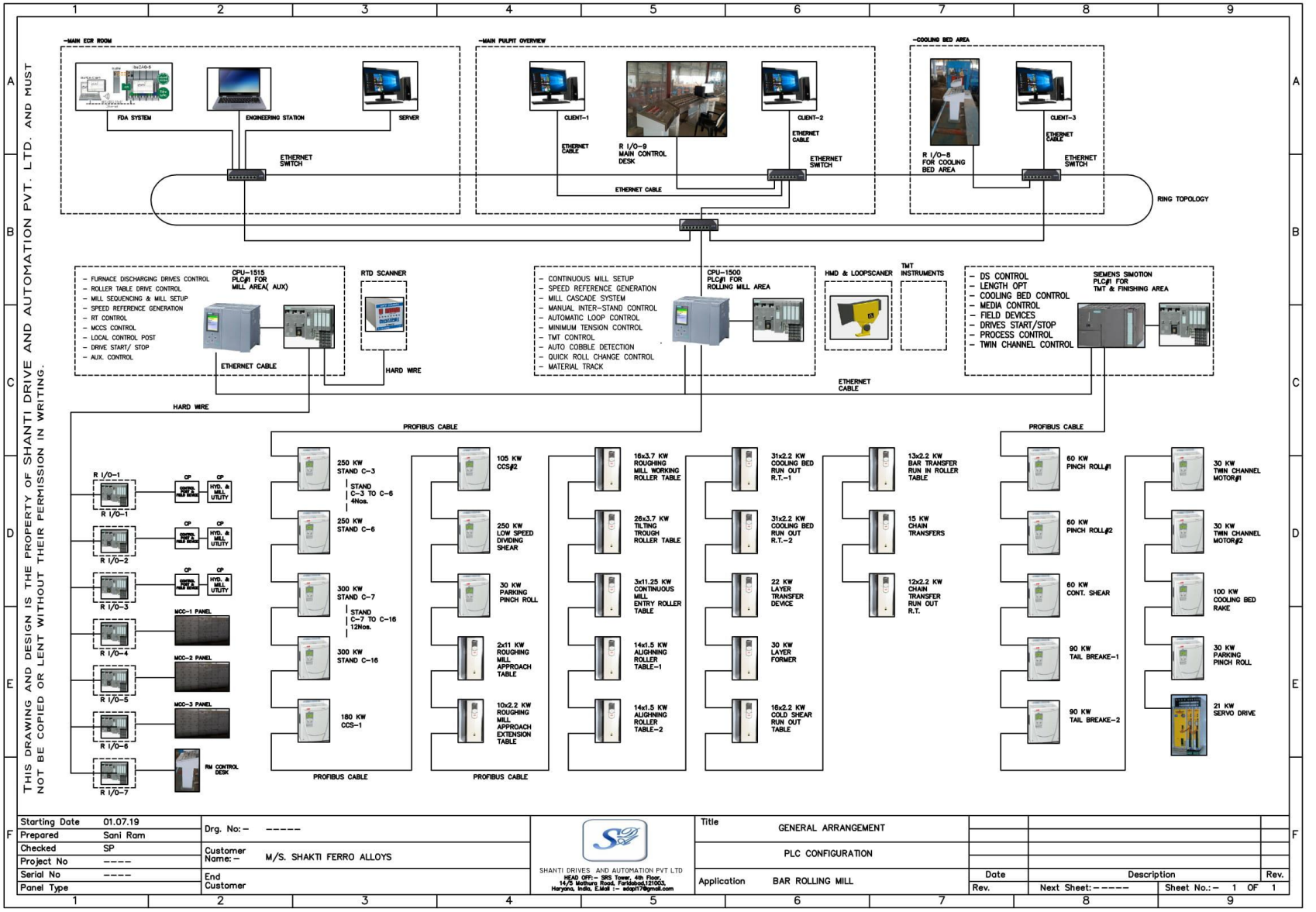


Starting Date 14.03.19	Drg No:- SDA-9020	SHANTI DRIVES AND AUTOMATION PVT LTD HEAD OFF:- SRS Tower, 4th Floor, 14/5 Mathura Road, Faridabad,121003,Haryana, India, E-Mail :- sdapl17@gmail.com	Title MAIN SINGLE LINE DIAGRAM FOR BAR ROLLING MILL		
Prepared Sani Ram					
Checked SP	Customer Name :- M/S. SARVOTTOM STEEL				
Project No -----				28.03.19	AS PER REVISED QUOTATION 01
Serial No --------	End :- Customer		Application BAR ROLLING MILL	Date	Description Rev
Panel Type SLD				Rev. 01	Next Sheet :- 3 Sheet No:- 2 OF 3



Starting Date	14.03.19	Drg No:-	SDA-9020	SHANTI DRIVES AND AUTOMATION PVT LTD HEAD OFF:- SRS Tower, 4th Floor, 14/5 Mathura Road, Faridabad,121003,Haryana, India, E.Mail :- sdapl17@gmail.com	Title	MAIN SINGLE LINE DIAGRAM FOR BAR ROLLING MILL	
Prepared	Sani Ram	Customer Name :-	M/S. SARVOTTOM STEEL				
Checked	SP					28.03.19	AS PER REVISED QUOTATION 01
Project No	-----	End :- Customer			Application	BAR ROLLING MILL	Date / Description / Rev
Serial No	--------					Rev. 01	Next Sheet :- / Sheet No:- 3 OF 3
Panel Type	SLD						

AUTOMATION CONFIGURATION



PROJECT EXECUTION CHART

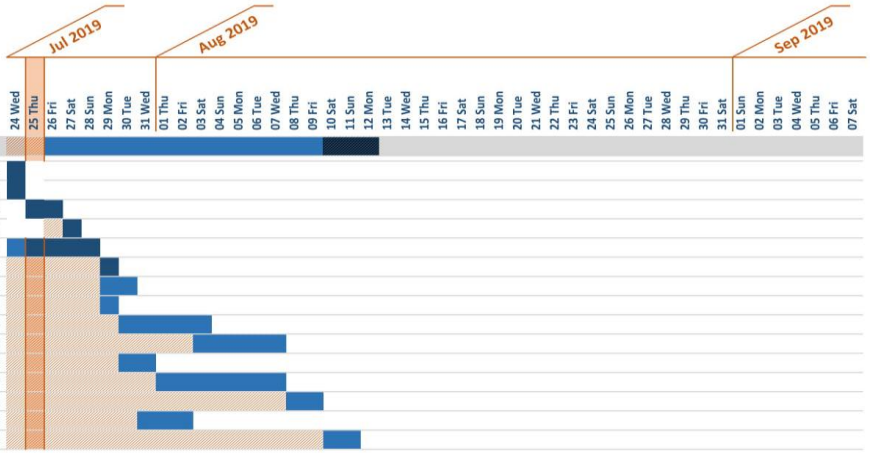
Shanti Drives And Automation

HELP

Today's Date	7/25/2019
Week Starts from	Wednesday
Project Start Date	7/24/2019

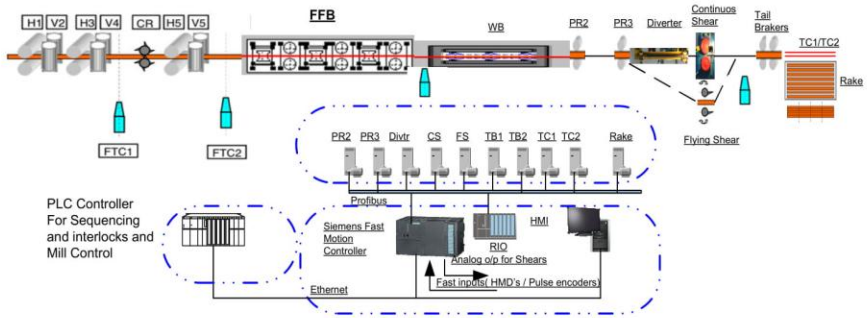
Project/Task Delay | Project/Task Duration | Project/Task Progress | Project/Task Completed Earlier then Plan | % Completed (Beyond Projected Duration) | Project/Task Actual Duration

Project Name	Project /Task Manager	Project/Task Duration	Project/Task Start Delay	Actual Duration	Remaining		
SUPER SHAKTI - MCC PANEL PROJECT	SHABAZ PARVEZ	15	2	18	3		
WORK ORDER	DEEPAK	1	0	0	0	1	1
G.A DRAWING	SANI RAM	1	1	0	1	2	1
SINGLE LINE DIAGRAM PREPERATION	SANI RAM	1	2	0	1	3	1
AUTOMATION CONFIGURATION PREPERATION	SANI RAM	1	3	0	1	4	1
DRAWING SUBMISSION FOR APPROVAL	SANI RAM	5	0	0	4	5	5
DRAWING ISSUES FOR MANUFACTURING	SANI RAM	1	5	0	1	6	1
BOM ISSUES FOR MANUFACTURING	SANI RAM	2	5	0	0	7	2
GA DRAWING ISSUES FOR MANUFACTURING	SANI RAM	1	5	0	0	6	1
PANEL FABRICATION JOB	AVDESH	5	6		0	11	5
PANEL MANUFACTURING WORK	AVDESH	5	10		0	15	5
PURCHASE ORDER ISSUES	DEEPAK	2	6		0	8	2
MATERIAL RECEIVED	AVDESH	7	8		0	15	7
INTERNAL TESTING WORK		2	15		0	17	2
CABLE SHEDULE PREPERATION WORK		3	7		0	10	3
PANEL DISPATCH		2	17		0	19	2



AIC TECHNOLOGICAL PACKAGE

TECHNOLOGICAL PACKAGE FOR HI SPEED BAR MILLS ~40m/s



CONTROL FUNCTIONS

- *Start / Stop Shear Axis control. It is the heart of the control of LO speed shear system. It controls the position of the shear knives to assure precision and repeatability of the cut length. To perform this function it receives as inputs the encoder of the stand, the encoder of the shear, the hot metal detector and the proximity switch and generates as output the speed or torque request for the shear drive.*
- *Rotating shears are the leading edge technology when high speed and accuracy are required. These targets are achieved by an optimized combination of motion control strategies aimed to get the best performance with the minimum effort from the machine, Fast dynamic motion applied to rotating blades and diverter are necessary to deliver highly versatile and accurate rotating shears, capable of doing head and tail crop, scrapping and cut to measure at a speed of up to 100m/s.*
- *Control is provided for the opening and closing of Pinch rolls, normally the Pinch roll is closed and controlled with a set torque limit in order to follow the bar speed, the tracking function opens up the torque limit of the pinch roll as the bar leaves the last finishing stand to enable the Pinch rolls to run at a speed that was memorized while the bar was being rolled in the finishing stand*
- *The primary function of the braking PR is to ensure that the bars fall on the cooling bed with all their tails (or optionally heads) aligned.*
- *The bar kick-off device and the rake act in synchronism with the braking pinch rolls. When the tracking system determines that the bar delivered by the rake has come to a stop, the kick-off device acts and kicks the bar out of the cooling bed delivery channels. The rake times itself and starts early enough so that the moving grates pick up the bar as soon as it drops on the fixed rake.*

SCOPE OF WORK

- *The hardware for Shear Control is based on Powerful Siemens Controllers , Simotion C240*
- *HMI is based on Operator Panel from Siemens*
- *Communication to Master Speed & Sequence controller is either through Profibus / Ethernet interface.*
- *Analog Input / Analog out put interfaces are provided for interfacing other high speed signals required for implementing Shear Control*
- *Drives can be existing or new depending on the project condtions*

PERFORMANCE FIGURES IN SIMILAR PLANTS

- *The tolerance shall vary based on speed of the material in the previous stand. If the speed is constant the tolerance doesn't vary based on cut length*
- *shear cut accuracy: <= +/- 100 mm (cut to cut)*
- *First cut accuracy depends on the possibility to change the position of the blades of the shear wrt approaching material , or if the layout permits enough time to adjust the position of the blades.*
- *Our optimization system will recalculate the bar length for cooling bed entry cutting to ensure that all bars going to the cooling bed are within acceptable range. (No short lengths or no over lengths) for bar discharge on to cooling bed.*
- *In some cases it was possible to improve the speed from 24m\sec to 30m\sec or to improve the tolerances up to ±1cm just replacing the automation part without impact on plant layout or mechanical equipment.*

PRECONDITIONS

- *The mill is mechanically and hydraulically capable of achieving the target size and maintaining the size within tolerance*
- *Existing drives shall satisfy the static (±0.02% of the maximum speed) / dynamic (0.2%s) speed performance criteria,*
- *Existing Field devices working well*
- *Stable rolling conditions (temperature, elongation, Speed stability)*

ADVANTAGES

- *Control system applied on new / existing machines*
- *Cut repeatability: The system is designed to achieve the highest possible cut repeatability to allow high optimization of cutting strategies*
- *Head / Tail Cuts: It optimize the length of these cuts because of its very fast reaction to external signals (HMD's) and high repeatability*
- *Cut to length: The system accurately tracks the length of the material being processed by means of Encoder signals, to allow cuts to any desired length with high accuracy and repeatability*
- *Ghost Billet: The system is provided to simulate a rolling process and checks the shear cycle before or during a rolling campaign*
- *Solution based on standard market available products from Siemens , Drives can be any of make Siemens / ABB / Danfoss/ Parker*
- *All presented control technologies are flexible and support different set ups, that are required for different products and different mechanical arrangements, such as shears with a combination of flying and crank arms and optional flywheel.*
- *Optimized parameters for different productions are easily selected by an integrated recipe system, and combined with automatically computed motion paths bring several advantages:*
  - *Reduce mechanical stress and wear*
  - *Reduce operating noise*
  - *Reduce electrical stress on both drive and motor*
  - *Reduce energy requirements*
  - *Allow a cost effective selection of motors and drives*

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PANEL GALLERY (SIDDHI LAXMI)

PANEL GALLERY (TIRUPATI)

MILL ENTRY AREA

TMT & COOLING BED AREA

MAIN ECR ROOM

MAIN PULPIT

MAIN PULPIT INSIDE

PLC PANEL

LIST OF SUCCESSFUL COMISSIONED PROJECT IN 17-18

- JORAWAR ISPAT , RAIPUR (14+1)
- SEEMA STEELS , BANGLADESH(14+1)
- NAV DURGA ,HYDERABAD(12+1)
- PENINSULA STEELS MILLS ,CHITTAGONG, BANGLADESH
- KADAMTALI STEELS MILLS, DHAKA, BANGLADESH
- BANDAR ISPAT , DHAKA, BANGLADESH
- RAHIM STEEL, DHAKA, BANGLADESH
- ECO PLUS, SATNA, MP
- BRGD INGOT PVT.LTD. BALMUKUND
- SIETZ TECH PVT. LTD

LIST OF PROJECTS EXECUTED SUCCESSFULLY 18-19

- HIMAL IRON & STEEL PVT.LTD
- H.S.R. RE-ROLLERS PVT.LTD
- N.N ISPAT 12+1 BLOCK MILL SHREE GANESH METALICKS
- ALANKAR ISPAT RAIPUR
- SHREE GANESH METALICKS (1+16)
- SHAKAMBHARI GROUP OF INDUSTRIES
- UNILEC ENGINEERS LIMITED
- DHAN LAKSHMI STEEL.
- GEMINI STEELS , JAIPUR
- SANJOG STEELS , JAIPUR
- HARI OM STEELS BHILAI
- KING IVORY COAST
- GBA STEELS SHIKOHABAD
- RATHI INDUSTRIES GZB

LIST OF UNDER EXECUTION PROJECT 19-20

- SIDDHI LAXMI , NEPAL(16+1)
- TIRUPATI (1+ 16)
- AIC(STRUCTURE MILL)
- FERRO FABRIC TEMA (GHANA)
- UNIVERSAL STEEL (BANGLADESH)
- SHREE GANESH METALICKS (1+16)
- SHREE RATHI STEELS PVT. LTD (GZB)
- SHREE RATHI STEELS PVT. LTD (DAKSHIN)
- RATHI SPECIAL GZB
- SUPER SHAKTI
- DHAN LAXMI STEELS

THANK YOU

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