SPECIFICATIONS & REQUIREMENT OF DUST SUPPRESSION SYSTEM

A	**Scope of Work**: Design, supply, erection, commissioning and testing of Automatic Dust suppression systems at RG OC1 CHP, RG OC3 CHP and MNG KCHP on turnkey basis along with 3 years AMC after completion of one Year warranty period. Dust suppression system is required for controlling the fugitive dust generated at various locations during handling of coal and shall be proposed for entire CHP. Tenderer shall design suitable dust suppression system for all the sub systems of each CHP separately. Lay out of CHPs along with details of conveyors, Feeder Breakers, Storage/ unloading bunkers is enclosed for reference of Tenderer **Requirement** The objective is to suppress the dust particles at the place of generation by spraying plain water in atomized condition to create mist / fog for accelerating the process of dust settlement. Tenderer has to visit the respective CHPs and to have details/discussions on site conditions with in charge engineers before designing the system. The offered system shall create an environment as stipulated in the notification on "National Ambient quantity standards" issued by "Central pollution Board" The threshold limits of air borne dust to be maintained at respective CHP is : PM_{10}< 100µg/m3 $PM_{2.5}$< 60 µg/m3 **General** Coal from quarry size of (-) 1000mm will be loaded in to the truck receiving hoppers, which is crushed in to (-) 200mm and transported to loading point surge hopper through series of conveyors. The tenderer shall collect necessary data on the quantity and size of particles of dust generated within the CHP. The dust suppression system will be based scientifically on the above data collected. Dust suppression unit shall operate only when the loaded conveyor is running. When belt stops or belt is running empty the dust suppression unit will stop automatically. This will be interlocked with water feeding system. Pumping operation will be controlled through water level switch in the tank and water will re-circulate to water tank through pressure relief valves, when there is small demand of water for the system. The dust suppression system will consist of number of nozzles, with M.S/flexible pipe to spray mist of mixed water on coal at the designated points like truck receiving hopper points, transfer chutes, tripper discharge zones over the main bunker and pre-weigh wagon/truck loading discharge points. The number of nozzles, their type size and configuration shall be such as to achieve maximum efficiency of dust suppression
B	**Design considerations, Requirements of Dust Suppression System:**
1	The Dust suppression system shall be designed tailor made to CHP with required controls to suppress the dust with maximum efficiency and with minimum moisture addition to coal. Design details with necessary layouts shall be furnished along with

	offer.
2	The spray of Dry/cold Fog shall be a fine water droplet to suppress respirable dust particles from 3 to 10 microns.
3	The capacity of water mist spray nozzles / Dry/cold Fog nozzles shall be considered 1 LPM, SS-316 nozzles and shall be working at a pressure about 30Kg/cm^2.
4	Moisture addition shall not exceed 0.5 to 1% of coal handled in case of water mist spray systems and 0.1% in case of Dry/cold Fog system.
5	The capacity of booster pump/main pump set with complete electrical shall be selected suitably and to submit the parameters along with the offer. Tenderer shall design stand by arrangements for each pump set.
6	Provision shall be made in system design to set to operate on auto mode with suitable interlock mode as well as manual mode.
7	The system shall be designed to operate automatically where the coal is being conveyed on the belt conveyors. The system shall automatically stop when the conveyor is running empty/conveyor is stopped, when the coal is not discharging through swing/telescopic chute in to wagons/lorries.
8	Spraying operation shall be activated automatically through beam sensors/Photo-electric sensors at Lorry/dumper unloading points, and the spray will stop after 35 to 45 seconds of discharge the material automatically. The timing can be adjusted as per site to site requirement. Spraying shall be activated manually also. Pumping system shall discharge water continuously, but the dumper will discharge material as and when required. Hence ,the excess water on no demand will be returned to reverse through pressure relief valves.
9	All the necessary valves and instruments are considered as per system requirement .All the valves shall be of FS/SS valve to withstand 30kg/$cm^{2.}$ Pressure Valves shall be located in the pipe lines near every dust suppression spray point, enabling to close them manually during maintenance / when dust suppression is not required.
10	Tenderer shall consider ERW, GI heavy grade pipe & fittings as per IS 1239 P-I &II for water pipe line. Underground MS pipe line shall be protected with 2mm thick wrapping tape as per IS-10221 and hume pipe shall be laid for pipe protection at road crossing by tenderer.
11	To provide non return valve in each pump delivery to avoid return flow of water to the pump and to avoid water hammer effect.
12	To provide minimum one pressure relief/unloading valve in pump delivery line to control the line pressure.
13	Pressure gauge(s) shall also to be provided in pump delivery line, which helps to monitor line pressure.
14	Main/Booster pumps, Motors, control panel, control cables, solenoid valves, piping with connectors of reputed indigenous make are to be considered in design of system. Details along with specifications and product literature to be enclosed along with offer.
15	Control voltage is considered 230V AC or less for field instruments and solenoid valves.
16	Stainless steel nozzles of both mist spray and dry/cold Fog, load-sensing units of reputed make are to be provided. They Nozzles shall be non clogging type provided with self-cleaning mechanism. Detailed specification and product literature to be enclosed along with offer.
17	The make of all-important accessories of system to be furnished in the offer along with their detailed specifications and product leaflets. All these details are to be provided in operation, maintenance and spares manuals being submitted along with system supply.

<table>
<tr><td>18</td><td>Flow activation stations/ control panels shall be positioned strategically near to the location to control automation process for the system.</td></tr>
<tr><td>19</td><td>The system shall suppress the dust at source (Loading/unloading / transfer points) from becoming air borne.</td></tr>
<tr><td>20</td><td>Plain water type single/multi tip mist spray Nozzle: This type of dust suppression shall be considered at loading/unloading points. These nozzles mounted on spray header shall have built in strainer and shall be made stainless steel. Cast steel Globe valve shall be arranged to regulate the flow of water as required at each nozzle header</td></tr>
<tr><td>21</td><td>Dry/cold Fog Type Dust suppression System:
This type of dust suppression shall be considered at transfer points .This system using mixture of water & compressed air shall create a fine fog of atomized water droplets ensuring the fine dust particles of size from 3 to 10 microns suppressed. Moisture addition shall be confined to 0.1% of the material handled. The nozzles shall be made of stainless. The nozzles shall be non clogging & self cleaning type.</td></tr>
<tr><td>22</td><td>Pressure Regulating Units: Suitably designed pressure regulating units shall be provided with pressure gauge and Isolating valve to regulate the required air and water pressure.</td></tr>
<tr><td>23</td><td>Control Panel / desk: Designed to enable the operator to start / stop individual dust suppression system at either Manual / Remote /Auto mode. It shall have provision to supply power to flow activation station to ensure spraying taking place only on loaded belt that is running condition.</td></tr>
<tr><td>24</td><td>Auto Control device: All the conveyors shall be provided with this unit which is operating Electro-mechanically. When the conveyor is running empty the belt shall avoid contact with the driven wheel of the auto control device, thus the in-built micro switch is open. Similarly when the belt is stationary the wheel will remain static and micro switch remains open.
The slightest load of coal on the conveyor shall deflect the belt and rotates wheel, thus closing the micro switch which gives electrical signal to the solenoid valve that allows water / air to the spray nozzles.</td></tr>
<tr><td>25</td><td>Dust suppression arrangements Unloading points into crusher / Unloading point at the stock yard.
Mist spray arrangements have to be made for wetting of coal before unloading from Dumpers/Lorries in to Crushers/UG Bunkers. Operation of Mist spray system shall be automatic</td></tr>
<tr><td>26</td><td>Dust suppression arrangements at Crushers
a) Plain water dust suppression system shall be provided at the following application points for the feeder breaker.
<table>
<tr><th>Sl.No</th><th>Application Point</th></tr>
<tr><td>1</td><td>Top of Hopper</td></tr>
<tr><td>2</td><td>On crusher roll</td></tr>
<tr><td>3</td><td>Discharge of chain Conveyor</td></tr>
</table>
b) The threshold limit of air borne dust to be maintained is PM10<100 µg/m3 and PM2.5<60 µg/m3. Sufficient number of nozzles shall be provided
c) Auto operation shall be provided through Beam sensor at the top of the Feeder breaker Hopper.
d) Also, tenderer shall provide necessary signal from chain conveyor for auto operation
e) Spraying operation shall be activated automatically through beam sensor placed one side while dumper enter Feeder Breaker Hopper and the spray will stop after 30 to 45 second of discharge the material automatically through delay timer.</td></tr>
</table>

<table>
<tr><td>27</td><td><u>Dust suppression arrangements on Stock piles</u>.
Water spray arrangement shall be made at coal stock piles by deploying long throw, high angle Rain Guns.</td></tr>
<tr><td>28</td><td><u>Dust suppression arrangements at Coal stock area:</u>
Water spray arrangement covering the entire area by 360^0 rotating sprinklers</td></tr>
<tr><td>29</td><td><u>Dust suppression arrangements Along the length of conveyor:</u>
a) Mist spray at every 25 mtrs
b) Minimum Capacity of nozzles for the DS system application points: 1 LPM
c) Nozzles shall be working at a pressure about 30 Kg/cm².</td></tr>
<tr><td>30</td><td><u>Dust suppression arrangements at Transfer points/Discharge drums on conveyor</u>
High pressure DSS. The threshold limit of air borne dust to be maintained is PM10<100 µg/m3 and PM2.5<60 µg/m3. Sufficient number of array of nozzles shall be provided</td></tr>
<tr><td>31</td><td><u>Dust suppression arrangements at Coal falling from galleries:-</u>
An array of mist spray nozzles on top of the gallery covering the fall of material</td></tr>
<tr><td>32</td><td><u>Dust suppression arrangements while Coal unloading into truck/wagon through PWTL/PWWL systems:-</u>
a) Plain water dust suppression system with water tank one working and one stand by motor, pump with nozzles shall be provided at the following application points.
<table><tr><th>Sl. No</th><th>Application Point</th></tr><tr><td>1</td><td>Transfer point of gantry belt at tail end</td></tr><tr><td>2</td><td>Four sides of surge hopper near Discharge drum of the gantry belt</td></tr><tr><td>3</td><td>Outer Periphery of Swing Chute</td></tr></table>b) Transfer point of gantry belt at tail end: Minimum of 12 nozzles shall be provided The spray nozzles shall operate based on the signal from belt conveyor load monitoring switch for sensing conveyor running with material.
c) Four sides of surge hopper near Discharge drum of the gantry belt: A minimum of 24 nozzles shall be provided. The spray nozzles shall operate based on the signal from belt conveyor load monitoring switch for sensing conveyor running with material.
d) Outer Periphery of Swing Chute: Minimum of 12 nozzles shall be provided. To ensure operation of the nozzles while loading into the trucks, spray shall commence when the swing chute is in discharge position.
e) Auto operation shall be provided through signal from belt conveyor load monitoring switch for sensing conveyor running with material.
f) Also, tenderer shall provide necessary signal from swing chute for auto operation</td></tr>
<tr><td>33</td><td><u>Dust suppression arrangements at Plough Feeders</u>
A sufficient number of precision and antic log nozzles made of brass/stainless steel shall be fitted at suitable places at the plough feeder discharge chute for suppression of dust during reclaiming operation. The nozzles shall provide high pressure atomized sprays of water for effective suppression of coal dust. Water is to be atomized by compressed air and in the resonance zone of nozzles, the wetted dust particles are to be agglomerated and suppressed at the source. The formation of mud and crust shall have to be avoided.
The technical component shall include water and compressed air filters, air compressor, piping & mounting system with pressure regulating valves / panels & nozzles.
The dust suppression system shall be so interlocked that it operates only when the reclaiming operation is on. Festoon type piping arrangement for supply of</td></tr>
</table>

	compressed air & dirt free clean water to nozzle units are to be incorporated in the system.
D	**Scope of SCCL:**
1	Providing of pump house and storage water tank of required capacity shall be scope of SCCL.
2	Providing 415V/550V AC Supply at MCC cum control panel and 230V AC Supply at local control panel near Feeder Breakers/ G.L Bunkers/Lorry unloading bunkers and Truck/Wagon loading system. Further distribution of control supply to field equipment and solenoid boxes shall be done by the tenderer.
3	Modification/maintenance of chutes, required skirt board sealing arrangements at transfer points for effective dust suppression is SCCL scope
4	Shifting of material from store to site is SCCL scope.
5	SCCL will provide Escort crane on free of cost, as per the requirement.
6	SCCL shall provide the warehouse facility to successful bidder during the period of erection & commissioning the dust suppression system.
7	SCCL provide accommodation and transportation facility from CHP office to site to the service personnel during the erection & commissioning the dust suppression system on free of cost.
8	SCCL provide free power for erection & commissioning the dust suppression system
E)	**Eligibility Criteria**
1	Bidder shall be in the field of Design, supply and erection, testing and commissioning of similar dust suppression system in the last 7 years and shall submit performance report of earlier installations.
2	The bidder shall have executed at least one dust suppression system costing about 80 lakhs in the last seven years
3	The bidder shall furnish a reference list of such projects executed by them. They shall submit copies of purchase orders along with prices, executed by them in the last 7 years.
4	They shall furnish foreign tie up/collaboration if any for the dust suppression system offered by them.
F)	**General Terms & Conditions:**
1	Tenderers shall offer a list of non-consumable spares required for one-year trouble free operation. Unit Price to be furnished for each of spares offered to enable SCCL to select the spares to be ordered along with system.
2	The complete dust suppression system shall be guaranteed for a period of one year from the date of commissioning or 18 months from the date of supply, whichever is later. If any defects developed during the warranty period the firm shall either repair the equipment or replace the defective parts by new at their cost to the satisfaction of SCCL authorities.
3	Service Personnel shall be made available within 24 hours along with required spares to attend any breakdowns / faults and put back the system in operation during warranty period.
4	Tenderers shall quote prices for comprehensive AMC after expiry of one-year warranty period.
5	Training shall be imparted to our Engineers and Technicians at site on the operation & maintenance of system.
6	Prices shall be offered per meter length basis for water and air pipes, control cables (Size wise) and payments will be made accordingly as per actual measurements.
7	Flexible hoses, valves, pipe fitting to be offered on lump sum basis.
8	Unit prices shall be offered for Multi-tipped Mist spray nozzles, single tip mist spray nozzles & dry/cold fog nozzles and payments will be made accordingly as per actual usage.

9	Total quantity of nozzles (Type wise) considered in design shall be clearly indicated in the offer.
10	Total quantity requirement of water to be indicated.
11	Detailed operation & maintenance manual shall be submitted by the bidder after successful commissioning of system.
12	All the necessary tools & tackles required during erection & commissioning of the dust suppression system at site shall be in the scope tenderer.
13	System shall be tested for Dust emission and water addition levels after commissioning. Required equipment shall be brought by the tenderer. Test method shall be on mutual agreement.
	The complete system shall be commissioned within 06 months from the date of handing over the site.
G	**Other Terms & Conditions:**
1	System shall be tested for Dust emission and water addition levels after commissioning. Required equipment shall be brought by the tenderer. Test method shall be on mutual agreement. The firm shall record the dust emission levels before and after commissioning the dust suppression system
2	The maintenance of the system shall be on comprehensive basis i.e. inclusive of required spares including consumable nature.
3	Tenderer shall quote prices for annual Maintenance including spares of the systems for 1st year, 2nd year & 3rd year separately.
4	During AMC period in the event of failure of total system more than 24 hours, there will be penal charges of 1 day cost of AMC charge will be deducted from the payment and no payment will be made on that day. If the system fails in a month for more than FIVE days no AMC charge will be paid for that month..
5	Payment terms: a) For submission of drawings: 80% payment will be paid on approval of drawings and the balance 20% will be paid after successful commissioning of dust suppression system. b) For supply of equipment: 80% payment will be made within thirty days of receipt and inspection of equipment/material at site and balance 20% after successful erection & commissioning of the dust suppression system at site. c) For installation & commissioning 100% within 30 days of after final acceptance test.
6	Firm shall quote for the following items separately a) For Submission of design parameters, GA drawings of all civil, mechanical, pneumatic, electrical & electronic equipment. b) For Supply of Equipment to site c) For Installation, Commissioning and testing of Dust suppression system. d) AMC charges for **First year** including spares and consumable e) AMC charges for **Second year** including spares and consumable f) AMC charges for **Third year** including spares and consumable **L1 Status will be arrived on the total value of the proposal for each CHP**

AS ON 01-07-2019

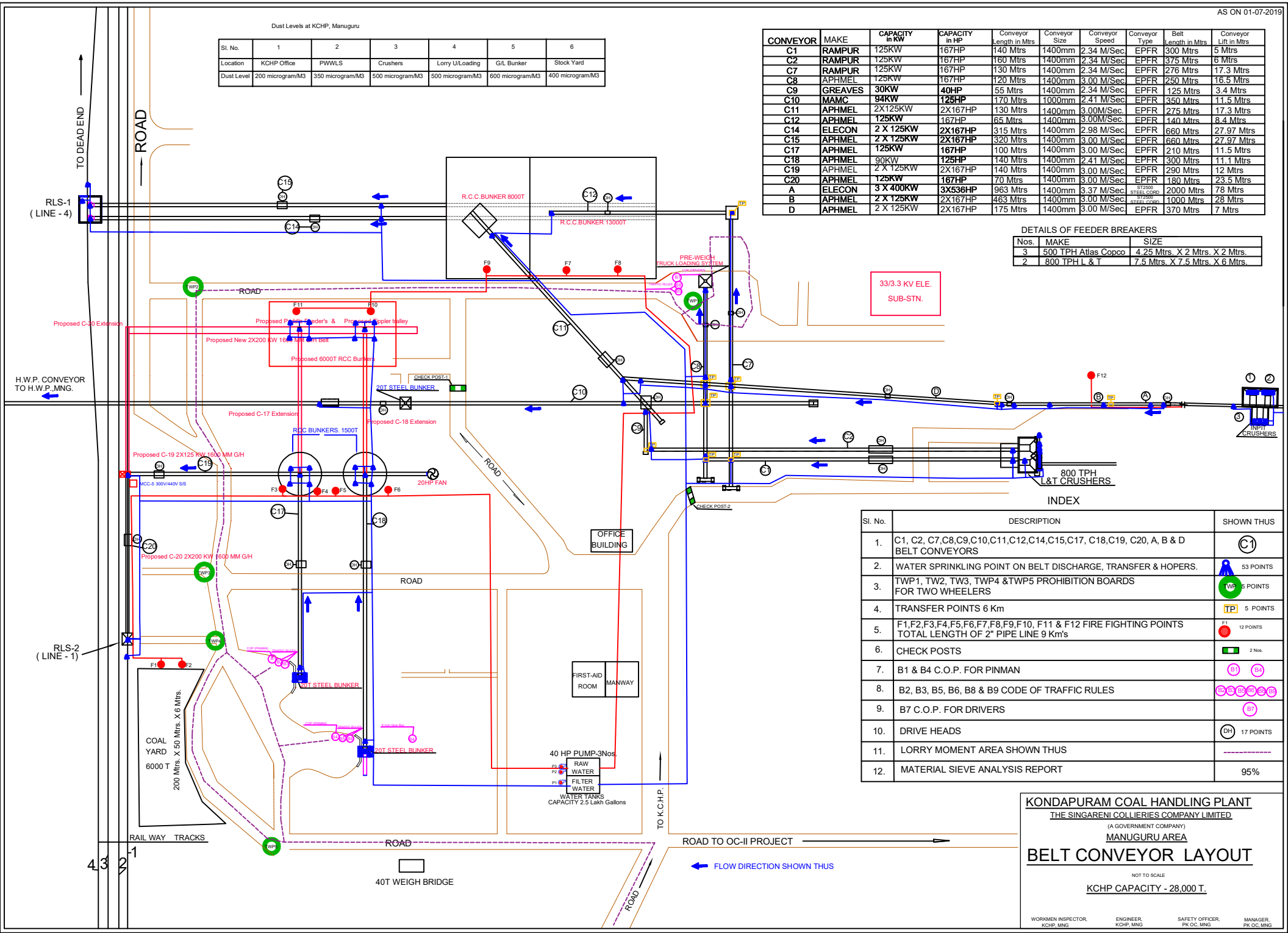
Dust Levels at KCHP, Manuguru

Sl. No.	1	2	3	4	5	6
Location	KCHP Office	PWWLS	Crushers	Lorry U/Loading	G/L Bunker	Stock Yard
Dust Level	200 microgram/M3	350 microgram/M3	500 microgram/M3	500 microgram/M3	600 microgram/M3	400 microgram/M3

CONVEYOR	MAKE	CAPACITY in KW	CAPACITY in HP	Conveyor Length in Mtrs	Conveyor Size	Conveyor Speed	Conveyor Type	Belt Length in Mtrs	Conveyor Lift in Mtrs
C1	RAMPUR	125KW	167HP	140 Mtrs	1400mm	2.34 M/Sec.	EPFR	300 Mtrs	5 Mtrs
C2	RAMPUR	125KW	167HP	160 Mtrs	1400mm	2.34 M/Sec.	EPFR	375 Mtrs	6 Mtrs
C7	RAMPUR	125KW	167HP	130 Mtrs	1400mm	2.34 M/Sec.	EPFR	276 Mtrs	17.3 Mtrs
C8	APHMEL	125KW	167HP	120 Mtrs	1400mm	3.00 M/Sec.	EPFR	250 Mtrs	16.5 Mtrs
C9	GREAVES	30KW	40HP	55 Mtrs	1400mm	2.34 M/Sec.	EPFR	125 Mtrs	3.4 Mtrs
C10	MAMC	94KW	125HP	170 Mtrs	1000mm	2.41 M/Sec.	EPFR	350 Mtrs	11.5 Mtrs
C11	APHMEL	2X125KW	2X167HP	130 Mtrs	1400mm	3.00M/Sec.	EPFR	275 Mtrs	17.3 Mtrs
C12	APHMEL	125KW	167HP	65 Mtrs	1400mm	3.00M/Sec.	EPFR	140 Mtrs	8.4 Mtrs
C14	ELECON	2 X 125KW	2X167HP	315 Mtrs	1400mm	2.98 M/Sec.	EPFR	660 Mtrs	27.97 Mtrs
C15	APHMEL	2 X 125KW	2X167HP	320 Mtrs	1400mm	3.00 M/Sec.	EPFR	660 Mtrs	27.97 Mtrs
C17	APHMEL	125KW	167HP	100 Mtrs	1400mm	3.00 M/Sec.	EPFR	210 Mtrs	11.5 Mtrs
C18	APHMEL	90KW	125HP	140 Mtrs	1400mm	2.41 M/Sec.	EPFR	300 Mtrs	11.1 Mtrs
C19	APHMEL	2 X 125KW	2X167HP	140 Mtrs	1400mm	3.00 M/Sec.	EPFR	290 Mtrs	12 Mtrs
C20	APHMEL	125KW	167HP	70 Mtrs	1400mm	3.00 M/Sec.	EPFR	180 Mtrs	23.5 Mtrs
A	ELECON	3 X 400KW	3X536HP	963 Mtrs	1400mm	3.37 M/Sec.	ST2500 STEEL CORD	2000 Mtrs	78 Mtrs
B	APHMEL	2 X 125KW	2X167HP	463 Mtrs	1400mm	3.00 M/Sec.	ST2500 STEEL CORD	1000 Mtrs	28 Mtrs
D	APHMEL	2 X 125KW	2X167HP	175 Mtrs	1400mm	3.00 M/Sec.	EPFR	370 Mtrs	7 Mtrs

DETAILS OF FEEDER BREAKERS

Nos.	MAKE	SIZE
3	500 TPH Atlas Copco	4.25 Mtrs. X 2 Mtrs. X 2 Mtrs.
2	800 TPH L & T	7.5 Mtrs. X 7.5 Mtrs. X 6 Mtrs.



INDEX

Sl. No.	DESCRIPTION	SHOWN THUS
1.	C1, C2, C7,C8,C9,C10,C11,C12,C14,C15,C17, C18,C19, C20, A, B & D BELT CONVEYORS	C1
2.	WATER SPRINKLING POINT ON BELT DISCHARGE, TRANSFER & HOPERS.	53 POINTS
3.	TWP1, TW2, TW3, TWP4 &TWP5 PROHIBITION BOARDS FOR TWO WHEELERS	WP 5 POINTS
4.	TRANSFER POINTS 6 Km	TP 5 POINTS
5.	F1,F2,F3,F4,F5,F6,F7,F8,F9,F10, F11 & F12 FIRE FIGHTING POINTS TOTAL LENGTH OF 2" PIPE LINE 9 Km's	F1 12 POINTS
6.	CHECK POSTS	2 Nos.
7.	B1 & B4 C.O.P. FOR PINMAN	B1 B4
8.	B2, B3, B5, B6, B8 & B9 CODE OF TRAFFIC RULES	B2 B3 B5 B6 B8 B9
9.	B7 C.O.P. FOR DRIVERS	B7
10.	DRIVE HEADS	DH 17 POINTS
11.	LORRY MOMENT AREA SHOWN THUS	
12.	MATERIAL SIEVE ANALYSIS REPORT	95%

KONDAPURAM COAL HANDLING PLANT

THE SINGARENI COLLIERIES COMPANY LIMITED

(A GOVERNMENT COMPANY)

MANUGURU AREA

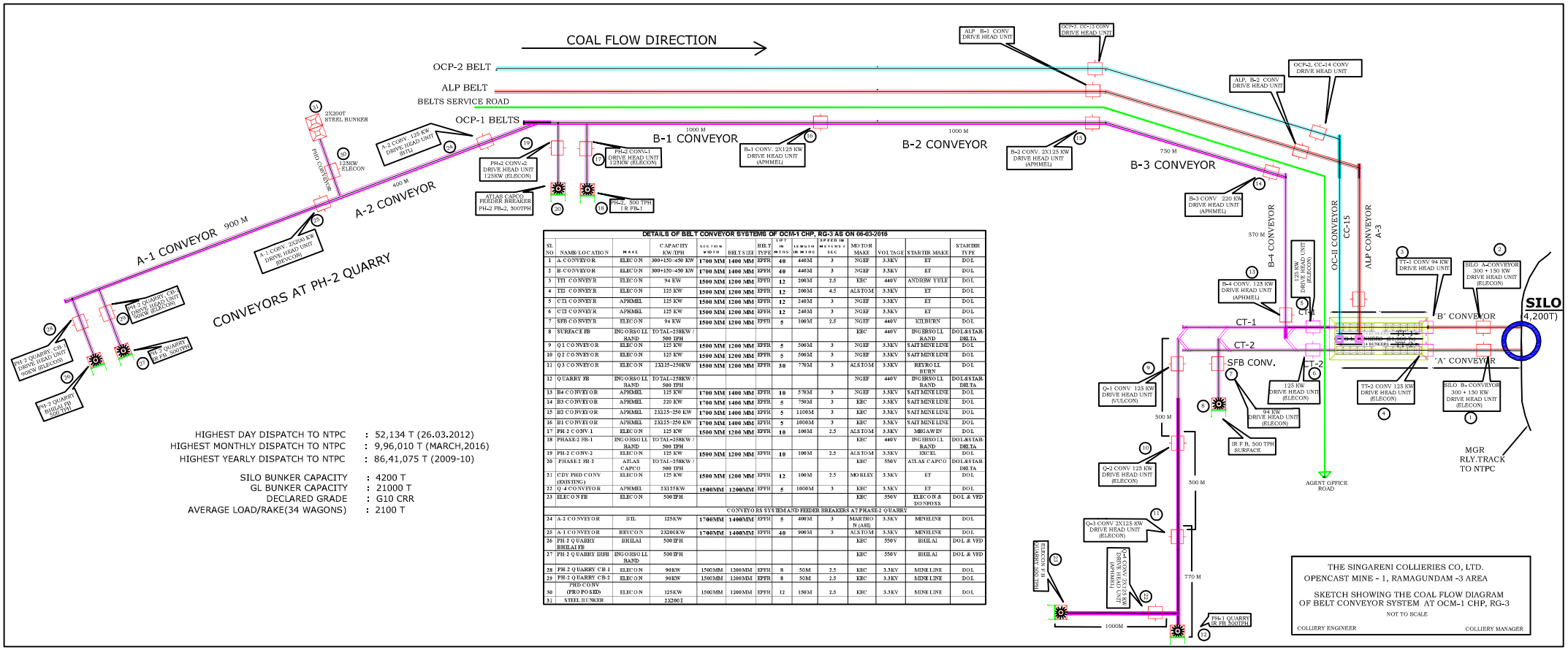
BELT CONVEYOR LAYOUT

NOT TO SCALE

KCHP CAPACITY - 28,000 T.

WORKMEN INSPECTOR, KCHP, MNG	ENGINEER, KCHP, MNG	SAFETY OFFICER, PK OC, MNG	MANAGER, PK OC, MNG

CHP OCM-1, RG-3 EXISTING CONVEYOR SYSTEM, 07-07-2017



DETAILS OF BELT CONVEYOR SYSTEMS OF OCM-1 CHP, RG-3 AS ON 06-03-2016

SL NO	NAME/LOCATION	MAKE	CAPACITY KW/TPH	SECTION WIDTH	BELT SIZE	BELT TYPE	LIFT IN MTRS	LENGTH IN MTRS	SPEED IN METERS / SEC	MOTOR MAKE	VOLTAGE	STARTER MAKE	STARTER TYPE
1	A CONVEYOR	ELECON	300+150~450 KW	1700 MM	1400 MM	EPFR	40	440M	3	NGEF	3.3KV	ET	DOL
2	B CONVEYOR	ELECON	300+150~450 KW	1700 MM	1400 MM	EPFR	40	440M	3	NGEF	3.3KV	ET	DOL
3	TT1 CONVEYR	ELECON	94 KW	1500 MM	1200 MM	EPFR	12	200M	2.5	KEC	440V	ANDREW YULE	DOL
4	TT2 CONVEYR	ELECON	125 KW	1500 MM	1200 MM	EPFR	12	200M	4.5	ALSTOM	3.3KV	ET	DOL
5	CT1 CONVEYR	APHMEL	125 KW	1500 MM	1200 MM	EPFR	12	240M	3	NGEF	3.3KV	ET	DOL
6	CT2 CONVEYR	APHMEL	125 KW	1500 MM	1200 MM	EPFR	12	240M	3	NGEF	3.3KV	ET	DOL
7	SFB CONVEYR	ELECON	94 KW	1500 MM	1200 MM	EPFR	5	100M	2.5	NGEF	440V	KILBURN	DOL
8	SURFACE FB	INGORSOLL RAND	TOTAL~258KW / 500 TPH							KEC	440V	INGERSOLL RAND	DOL&STAR DELTA
9	Q1 CONVEYOR	ELECON	125 KW	1500 MM	1200 MM	EPFR	5	500M	3	NGEF	3.3KV	SAIT MINE LINE	DOL
10	Q2 CONVEYOR	ELECON	125 KW	1500 MM	1200 MM	EPFR	5	500M	3	NGEF	3.3KV	SAIT MINE LINE	DOL
11	Q3 CONVEYOR	ELECON	2X125~250KW	1500 MM	1200 MM	EPFR	30	570M	3	ALSTOM	3.3KV	REYROLL BURN	DOL
12	QUARRY FB	INGORSOLL RAND	TOTAL~258KW / 500 TPH							NGEF	440V	INGERSOLL RAND	DOL&STAR DELTA
13	B4 CONVEYOR	APHMEL	125 KW	1700 MM	1400 MM	EPFR	10	570M	3	NGEF	3.3KV	SAIT MINE LINE	DOL
14	B3 CONVEYOR	APHMEL	220 KW	1700 MM	1400 MM	EPFR	5	750M	3	KEC	3.3KV	SAIT MINE LINE	DOL
15	B2 CONVEYOR	APHMEL	2X125~250 KW	1700 MM	1400 MM	EPFR	5	1100M	3	KEC	3.3KV	SAIT MINE LINE	DOL
16	B1 CONVEYOR	APHMEL	2X125~250 KW	1700 MM	1400 MM	EPFR	5	1000M	3	KEC	3.3KV	SAIT MINE LINE	DOL
17	PH 2 CONV-1	ELECON	125 KW	1500 MM	1200 MM	EPFR	10	100M	2.5	ALSTOM	3.3KV	MEGAWIN	DOL
18	PHASE-2 PB-1	INGORSOLL RAND	TOTAL~258KW / 500 TPH							KEC	440V	INGERSOLL RAND	DOL&STAR DELTA
19	PH-2 CONV-2	ELECON	125 KW	1500 MM	1200 MM	EPFR	10	100M	2.5	ALSTOM	3.3KV	EXCEL	DOL
20	PHASE-2 FB-2	ATLAS CAPCO	TOTAL~258KW / 500 TPH							KEC	550V	ATLAS CAPCO	DOL&STAR DELTA
21	CDY PHD CONV (EXISTING)	ELECON	125 KW	1500 MM	1200 MM	EPFR	12	100M	2.5	MORLEY	3.3KV	ET	DOL
22	Q 4 CONVEYOR	APHMEL	2X125KW	1500MM	1200MM	EPFR	5	1000M	3	KEC	3.3KV	ET	DOL
23	ELECON FB	ELECON	500 TPH							KEC	550V	ELEC O N & DONPOSS	DOL & VFD
	CONVEYORS SYSTEM AND FEEDER BREAKERS AT PHASE-2 QUARRY												
24	A-2 CONVEYOR	BTL	125KW	1700MM	1400MM	EPFR	5	400M	3	MARTHON (ARE)	3.3KV	MINELINK	DOL
25	A-1 CONVEYOR	REVCON	2X200KW	1700MM	1400MM	EPFR	40	900M	3	ALSTOM	3.3KV	MINELINK	DOL
26	PH-2 QUARRY BHILAI FB	BHILAI	500 TPH							KEC	550V	BHILAI	DOL & VFD
27	PH-2 QUARRY IRFB	INGORSOLL RAND	500 TPH							KEC	550V	BHILAI	DOL & VFD
28	PH-2 QUARRY CB-1	ELECON	90KW	1500MM	1200MM	EPFR	8	50M	2.5	KEC	3.3KV	MINE LINE	DOL
29	PH-2 QUARRY CB-2	ELECON	90KW	1500MM	1200MM	EPFR	8	50M	2.5	KEC	3.3KV	MINE LINE	DOL
30	PHD CONV (PROPOSED)	ELECON	125KW	1500MM	1200MM	EPFR	12	150M	2.5	KEC	3.3KV	MINE LINE	DOL
31	STEEL BUNKER		2X200T										

HIGHEST DAY DISPATCH TO NTPC : 52,134 T (26.03.2012)
HIGHEST MONTHLY DISPATCH TO NTPC : 9,96,010 T (MARCH,2016)
HIGHEST YEARLY DISPATCH TO NTPC : 86,41,075 T (2009-10)

SILO BUNKER CAPACITY : 4200 T
GL BUNKER CAPACITY : 21000 T
DECLARED GRADE : G10 CRR
AVERAGE LOAD/RAKE(34 WAGONS) : 2100 T

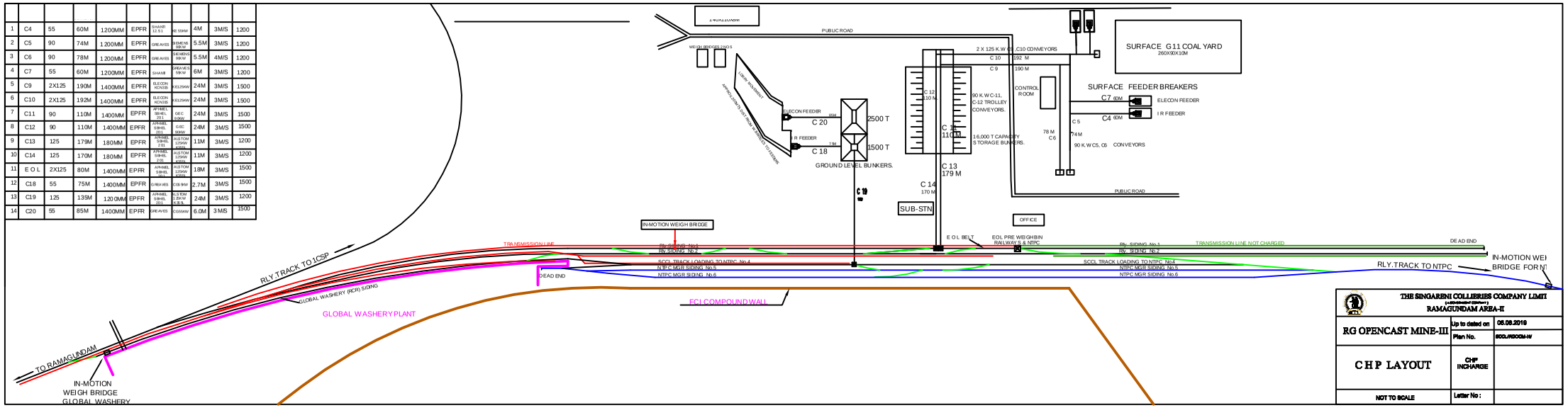
THE SINGARENI COLLIERIES CO, LTD.
OPENCAST MINE - 1, RAMAGUNDAM -3 AREA

SKETCH SHOWING THE COAL FLOW DIAGRAM OF BELT CONVEYOR SYSTEM AT OCM-1 CHP, RG-3

NOT TO SCALE

COLLIERY ENGINEER COLLIERY MANAGER

1	C4	55	60M	1200MM	EPFR	SHANTI 12.5 t	90.55KW	4M	3M/S	1200
2	C5	90	74M	1200MM	EPFR	GREAVES	SIEMENS 55KW	5.5M	3M/S	1200
3	C6	90	78M	1200MM	EPFR	GREAVES	SIEMENS 55KW	5.5M	4M/S	1200
4	C7	55	60M	1200MM	EPFR	SHANTI	HEAVEX 55KW	6M	3M/S	1200
5	C9	2X125	190M	1400MM	EPFR	ELECON FC1X2E	FE1125KW	24M	3M/S	1500
6	C10	2X125	192M	1400MM	EPFR	ELECON FC1X2E	FE1125KW	24M	3M/S	1500
7	C11	90	110M	1400MM	EPFR	AFHMEL SIHEL 201	GEC 90KW	24M	3M/S	1500
8	C12	90	110M	1400MM	EPFR	AFHMEL SIHEL 201	GEC 90KW	24M	3M/S	1500
9	C13	125	179M	180MM	EPFR	AFHMEL SIHEL 201	ALSTOM 125KW	11M	3M/S	1200
10	C14	125	170M	180MM	EPFR	AFHMEL SIHEL 201	ALSTOM 125KW	11M	3M/S	1200
11	E O L	2X125	80M	1400MM	EPFR	AFHMEL SIHEL	ALSTOM 125KW	18M	3M/S	1500
12	C18	55	75M	1400MM	EPFR	GREAVES	COS 9KW	2.7M	3M/S	1500
13	C19	125	135M	1200MM	EPFR	AFHMEL SIHEL 201	ALSTOM 1.0KW 0.25 t	24M	3M/S	1200
14	C20	55	85M	1400MM	EPFR	GREAVES	COS5KW	6.0M	3M/S	1500



THE SINGARENI COLLIERIES COMPANY LIMITED
RAMAGUNDAM AREA-II

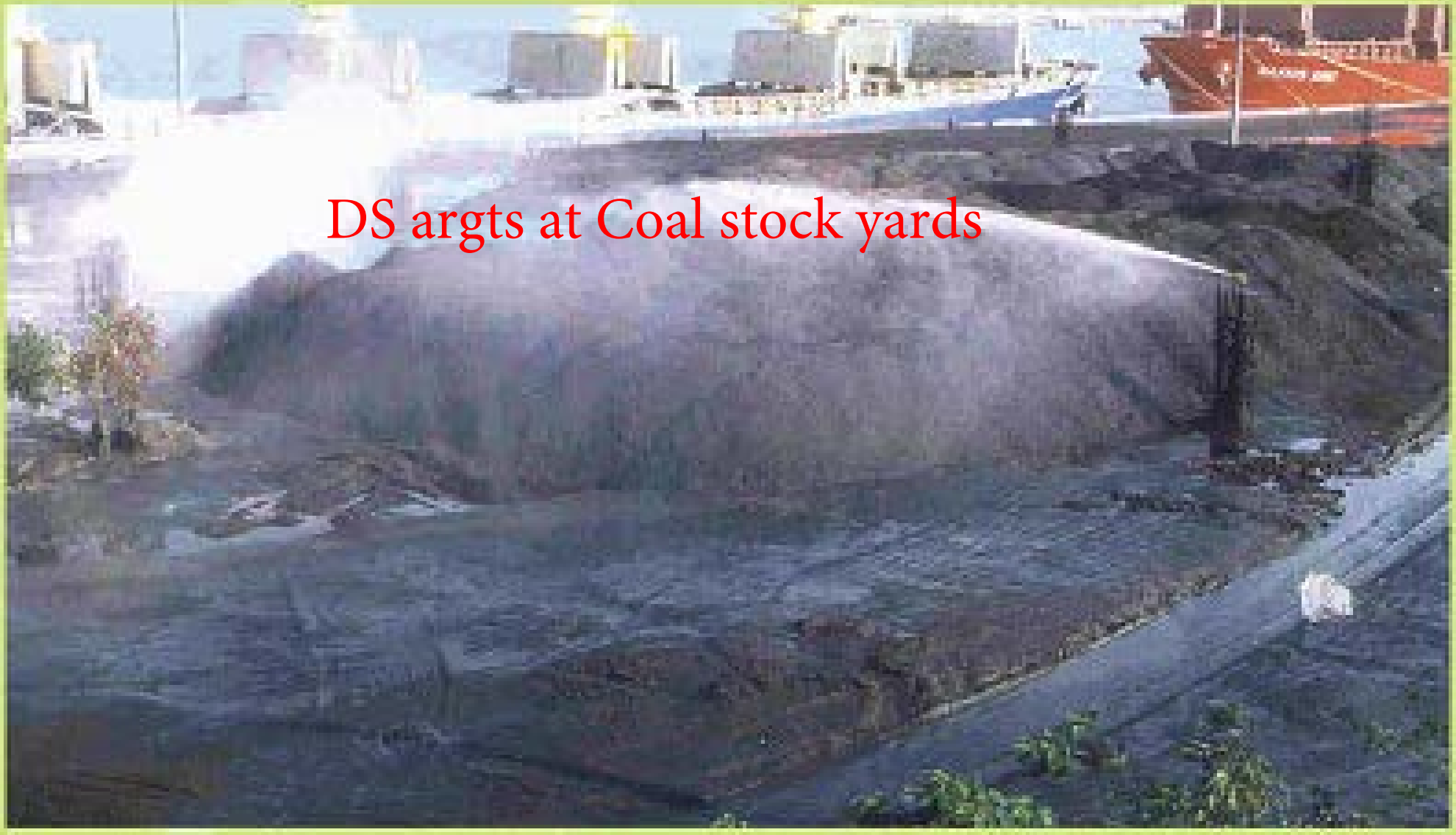
RG OPENCAST MINE-III	Up to dated on	05.08.2016
	Plan No.	SCCL/RGOCM-IV
C H P LAYOUT	CHP INCHARGE	
NOT TO SCALE	Letter No :	

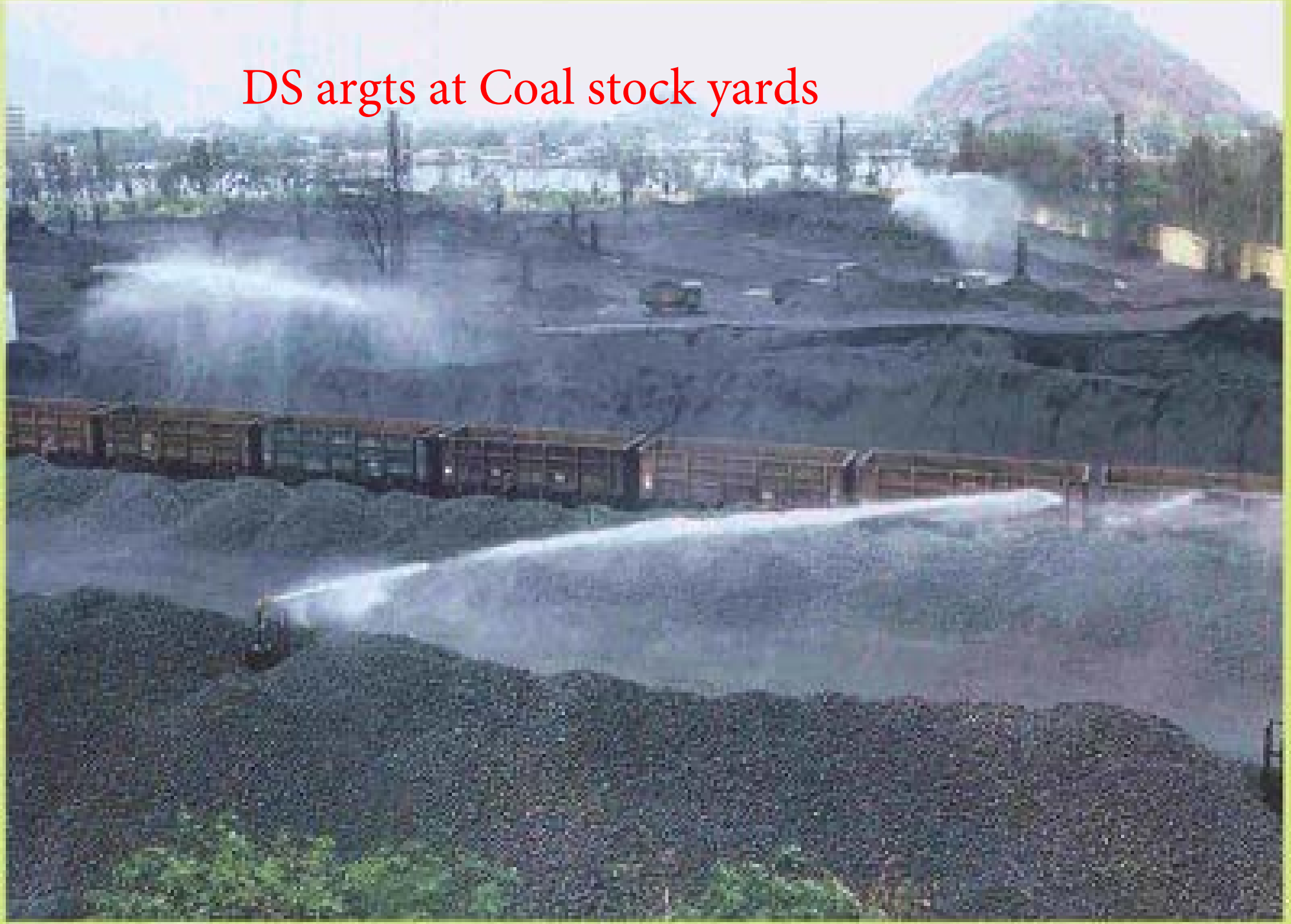

DS argts at transfer point

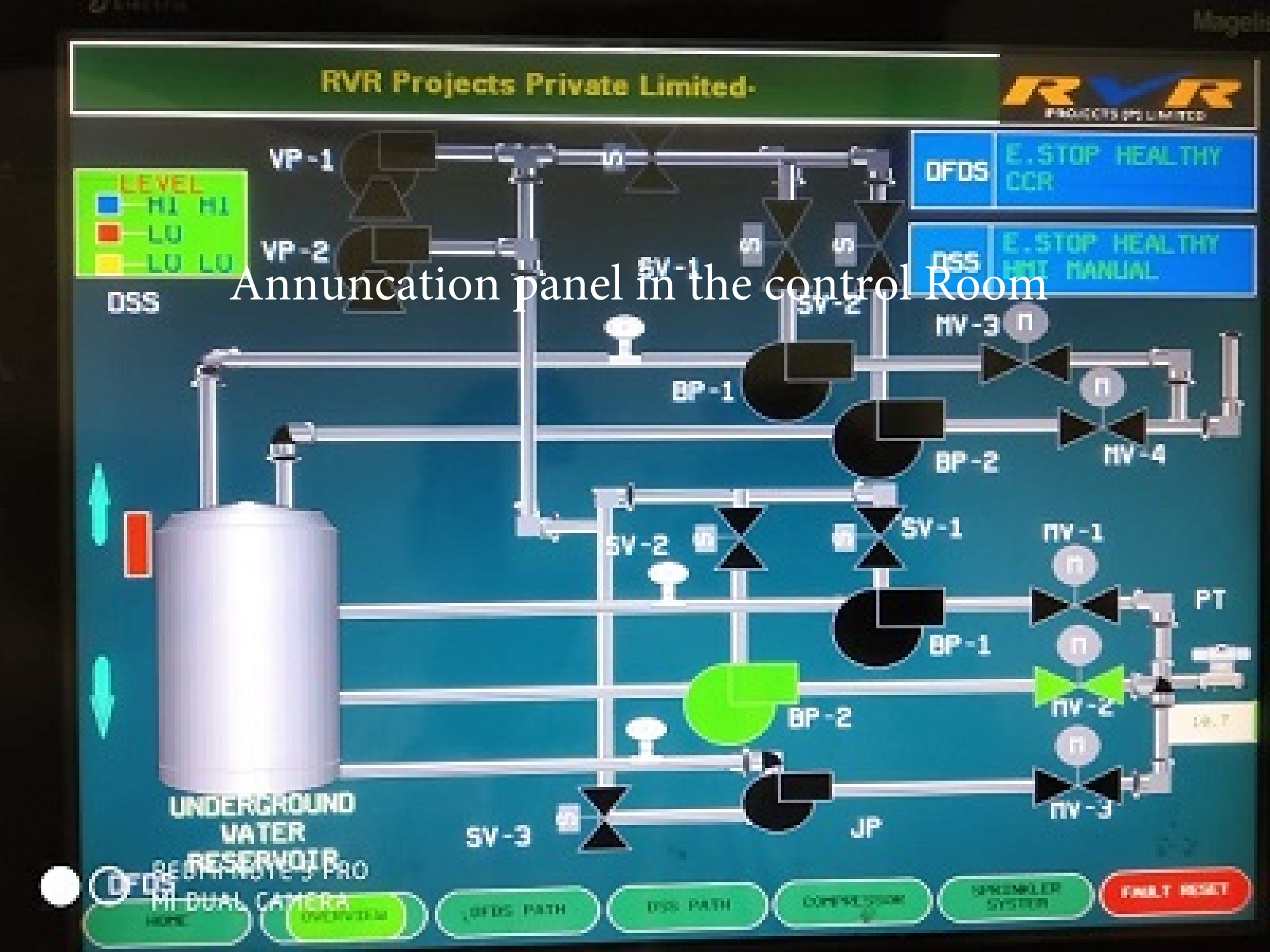

DS argts at swing chute of PWWL System
REDMI NOTE 5 PRO
MI DUAL CAMERA


DS argts at FB hopper


DS argts at FB discharge


DS argts at Coal stock yards


DS argts at Coal stock yards



Annuncation panel in the control Room