

**THE SINGARENI COLLIERIES COMPANY LIMITED**

(A Govt, Company)  
**MANUGURU MINING AREA**  
**U10102AP1920SGC000571**



**Half yearly environment monitoring reports of coal mines projects–  
SCCL, Manuguru area**

**Period From October-2014 to March-2015**

From,

**General Manager**

SCCL-Manuguru

Khammam Dist-507117

Telangana

Phone-08746-222032

Mail: [gm\\_mng@scclmines.com](mailto:gm_mng@scclmines.com)

[env\\_mng@scclmines.com](mailto:env_mng@scclmines.com)

## **ABRIEF NOTE ON MANUGURU AREA MINES**

The coal mine of SCCL are spread out in Godavari Valley coal belt over 4 districts of Telangana State viz., Khammam, Karimnagar, Adilabad and Warangal. Though coal reserves in SCCL are only 7% of the national reserves the production is about 10% of the local Indian coal production.

Manuguru area falls in the Kothagudem administrative region of the company. Environmental clearance from GOI was not required when mining operations commenced in this area in 1974 at PK.1 Incline (an underground mine). At Present two opencast mines working position in the area.

1. **MNG OC – II expansion**
2. **MNG OC – IV extension**

And Manuguru opencast coal mine project, Kodapuram under ground coal mine project yet to be start operation, due to R&R and forest land permissions are in process.

### **Mining Activities at Manuguru:**

Along with these mines besides other service departments like coal handling plant, Auto work shops, Base workshop, OC Stores ,SMS plant and a 50 bedded hospital also exist.

Here with submitting detailed project wise status report of above mentioned project as per EC conditions.

The report was prepared as part-I and Part-II with required information is enclosed as Annexure for your reference please.

**THE SINGARENI COLLIERIES COMPANY LTD.**  
**(A Govt. Company)**  
**Manuguru Collieries P.O.-507 117.**  
**Khammam Dist. (A.P)**  
**U10102AP1920SGC000571**

**PHONE.NO.08746-222032**  
**Fax No.222206**

Ref.No.MNG/ENV/15/562/392

Date: 30.-05-2015.

From:  
Chief General Manager,  
SCCL,Manuguru Mandal,Khammam Dist.  
**Telangana State.**

To  
The Director (Scientific),  
Ministry of Environment and Forests&Climate Change(MoEF&CC)  
Regional Officer, Southern Zone,1<sup>st</sup>&2<sup>nd</sup> floor HEPC Building No.34,  
Cathedral garden Road,Nungambakkam,  
**Chennai.600034.**

Sir,


Sub: Submission of Half Yearly Compliance Report of Manuguru area Mines for the  
period ending 31-03-2015 - Regarding.

\*\*\*

With reference to the above please find enclosed herewith Half Yearly Compliance  
Report, giving the status of implementation of clearance conditions, for the period ending 31-  
03-2015 in respect of Manuguru Area Mines of SCCL.

Thanking you

Yours faithfully,

  
**Chief General Manager,**  
**SCCL/ Manuguru.**

Encl: As above.

Cc to: Director(Scientific) Bangalore – 560 034.  
Member Secretary/Sanathnagar,Hyd,  
Joint Chief Environment/Nampalli.  
E.E, AP. Pollution Control Board, Kothagudem  
General Manager (Environment)/KGM  
Project Officer, MNG.OC/PKOC  
Project Manager, PKOC./MNG.  
Dy.Manager (ENV)/MNG



**Half yearly compliance Report –Manuguru Opencast –II expansion project  
for the period October-14 to March -15**

**PART - I**

**A. SALIENT FEATURES OF THE PROJECT:**

1.	Name of the Project	: Manuguru Opencast-II Coal Mine expansion Project
2.	Organization	: Singareni Collieries Company Limited
3.	Coalfield	: Godavari Valley Coal Field
4.	Type of Mine	: Opencast Project
5.	Technology	: Shovel Dumper Combination
6.	Environmental Clearance	
	A. Letter No & date	: 1) J-11015/ 144/2007- IA.II (M) dated: 31.7.2008 2) J-11015/78/2013-IA-II(M) Dated 21.02.2014 3)EC amendment Lt No J-1105/78/2013-14.II-M Dt 05.01.2015
	B. Sanctioned Capacity	: 6.25MTPA
	C. Mining Lease Area.	: Total land required for this project- 3205.76 Ha, presently mine lease area as per new EC1526.20 ha only.
	D. Date of Public Hearing	: 28.08.2007
7.	Location of the Project	
	A. Village	: Manuguru
	B. Tehasil / Mandal	: Manuguru
	C. District	: Khammam
	D. State	: Telangana
	E. Latitude	: North 17 <sup>0</sup> 55'34" to 17 <sup>0</sup> 59'11"
	F. Longitude	: East 80 <sup>0</sup> 43'57" to 80 <sup>0</sup> 47'27"
	G. Topo Sheet	: 65C/9 and 65C/13
	H. Nearest Railway Station	: Manuguru
	I. Nearest Airport	: Gannavaram (Vijayawada)
	J. Nearest Town	: Manuguru
8.	Address for Correspondence	
	A. Name	: L.V. Surya Narayana
	B. Designation	: Project Officer
	C. Address	: Project officer, PKOCP/MNG.
	D. PIN Code	: 507117
	E. E-mail ID	: oc2_mng @scclmines.com
	F. Telephone No.	: 08746-221161
	G. Fax No.	: 08746-220006
9.	Life of the Project	

a	Date of starting of Manuguru OC-II project operations	:	April 1985	
b	Date of commissioning of expansion operations	:	January, 2009	
c	Total Life of the project as per EMP	:	66 Years	
d	Balance Life	:	39 (as per EC)	
10.	Seams			
A.	No. of Seams Present	:	12 No.s	
B.	Seams being worked	:	06	
11.	Depth			
A.	Minimum Depth	:	10 m	
B.	Maximum Depth	:	420 m	
C.	Present working depth	:	172 m	
12.	Reserves			
A.	Total Geological Reserves	:	344.88 MT	
B.	The mineable reserve	:	264.20 MT	
C.	Total Extractable Reserves	:	244.78 MT	
D.	Reserves already Extracted	:	30.08 M.T.	
E.	Balance Reserves	:	214.70 MT	
F.	Coal production during last 6 months	:	2.609	
G.	Coal production since inception	:	30.08 MT	
13.	Over Burden			
A.	Total OB	:	1729.75 M.Cu.M	
B.	OB extracted since inception	:	390.96 M.m <sup>3</sup> (163.54 M.m <sup>3</sup> from 2008)	
C.	OB removed in last 6 months	:	12.864 M.m <sup>3</sup>	
D.	Stripping Ratio	:	1: 7.30	
14.	Top Soil			
A.	Total Topsoil	:	18.62 M.m <sup>3</sup>	
B.	Topsoil extracted since inception	:	8.662 M.m <sup>3</sup>	
C.	Topsoil removed in last six months	:	0.044 M.m <sup>3</sup>	
15.	Land Requirement		<b>Land required (in Ha)</b>	<b>Land acquired (in Ha)</b>
A.	Total Requirement	:	3205.76	1071.74
B.	Forestland Involved	:	2673.70	994.14
C.	Non-forestland	:	532.06	77.60
16.	Activity wise Land Requirement		<b>Required Land (in Ha)</b>	<b>Present Status (in Ha)</b>
A.	Quarry Area	:	1426.74	678.99

	B.	External OB Dumps	:	1070.06	275.80
	C.	Safe barrier, drainage, protection bund etc.	:	233.76	39.78
	D.	Service buildings, railway sidings, CHP, etc	:	106.03	77.17
	E.	Vagu Diversion	:	367.13	Not acquired
	F.	Diversion of Road	:	2.04	Not acquired
	G.	Total	:	<b>3205.76 Ha</b>	<b>1071.74</b>
17.	Statutory Clearances				
	A.	Mining Plan Approval	:	MoC approved on 18.03.2008	
	B.	Ground Water Clearance	:	no.483/T/SCCL/2007,dt.20.10.2007	
	C.	Consent for Establishment	:	APPCB Consent No. 52/PCB/CFE/RO-KTM/HO/2008-2639, dated 06.01.2009.	
	D.	Consent for Operation	:	Order no.APPCB/VJA/KGM/CFO/HO/2011-3297.dtd.11.03.2011 Valid up to 30.06.2012 and applied for renewal on 25.05.2012 Applied for enhanced production in renewal CFO application as per revised EC Lr. No. MNG/ENV/14/563/181 Dtd 31.03.2014	
	E.	Forest Clearance	:	1)8-73/2005-FC Dtd 10.07.2008 -131.80 Ha 2) 8-24/86-FC Dtd.30.19.12.1988 -199.50.Ha(in a part of 308.40 Ha) 3)8-56/2004-FC Dtd.14.07.2004 - 125.90 Ha 4)8-37/2001-FC Dtd.31.12.2003 - 75.00 Ha 5)8-8/1996-FC Dtd.10.10.1997 - 286.25 Ha 6)8-7/2008-FC Dtd.30.12.2008 - 175.69 Ha <b>Total - 994.14 Ha</b> Applied for diversion of FL Land of <b>1679.56 Ha</b>	
	F.	Mining Lease	:	i).G.O.Ms.No.217 dtd.12.08.2008 of I & C (M-III) dept. – 2186.00 Ha.(valid upto22.07.2035) ii). G.O.Ms.No.259 dtd.23.09.2008 of I & C (M-III) dept. – 125.90 Ha.(valid upto 09.04.2027) iii).GO.MS.NO.63dtd.06.03.1999 198.22Ha (valid upto04.08.2009) iv). G.O.Ms.No.91 dtd.24.03.2005 of I & C (M-III) dept. – 75.00 Ha. (valid upto 29.05.2025) v). G.O.Ms.No.238 dtd.27.08.2008 of I & C (M-III) dept. – 175.69 Ha.(valid upto 21.11.2028)	
	G.	Others (Specify)	:	Mining lease application Phase-II pending at DMG office to be forwarded to MoC,Gol	
18.	R & R Involved		:	R & R is required for three villages: (i) Srirangapuram– already implemented for 127 families (Rs.12.13 Crores spent) (ii) Gollakothuru- This village will be acquired after 8 years (iii) Shantinagar - This village will be acquired after 10 years	

**A.Specific Conditions.(EC Ref No. J-11015/78/2013-IA-II(M) Dated 21.02.2014)**

Sl. No.	Condition	Compliance Status
(i)	No mining operations shall be undertaken in the 1679.56ha forestland until clearance has been obtained under the provisions of FC Act, 1980.The guideline issued by FC Division of the Ministry of Environment & Forest Vide Lt no.11-362/2012-FC dated 01.02.2013	In the project proposed mine lease is 3205.76 Ha,in which 2673.70 Ha of forest land is involved and it is proposed to be diverted in phased manner. According EC present mine lease for 1526.20 Ha only. The present mining operations are being carried in already diverted forestland (175Ha) under the provisions of Forest (Conservation) Act Vide letter No.8-7/2008-FC Dtd 30.12.2008., Application is being made for diversion of remaining forest land of 1679.56 Ha. 1.FC land (II phase) 447.21 Ha application forwarded to MOEF by PCCF-Telangana on 02.08.2014,FAC conducted on17.03.2015 to issue I stage clearance. 2.FC land 978.45 Ha in III rd phase has been submitted to PCCF,telangana On 06.01.2015 Gorrepet vagu diversion for length of 6.13 KM in I phase is to be executed,I& CAD daprtnment was approved design issued no objection certificate, awaiting for FC clarence
(ii)	Environmental clearance to the proposal is subject to obtaining clearance under the Wildlife (protection)Act.1972 from the standing committee of National Board for Wildlife., as applicable.	Wild life clearance application is being submitted to obtain clearance under the wildlife (Protection) Act-1972 from the standing committee of National Board for Wild life
(iii)	Conservation plan for flora and fauna shall be prepared in consultation with the Andhra Pradesh forest department /Chief wildlife warden for Implementation of the plan with adequate budgetary provision.	For improvement of bio diversity of flora and fauna plantation development activities continuing in the dump yards and other vacant lands within mine lease area with raising of multi species,like redgrams, sesbania, janum, subabul, hamata, bamboo and babul etc. on account of Conservation plan, under the supervision of Forestry department of SCCL. presently 296.50 Ha land brought under plantation in mining area And this year also proposed for plantation 27.30 Ha of area in this project
(iv)	The maximum production from the Mine at any given time shall not be exceeding limit as prescribed in the EC.	The coal production details furnished in Table. No 1 of Part-II. The maximum production was not exceeded limit as mentioned in the EC
(v)	The condition as stipulated in the earlier EC.No.J-11015/144/2007-1A-II(M) dated 31.07.2008 shall also be complied with.	All the conditions stipulated in the earlier EC are being complied.
(vi)	The barren OBD shall be handled so as to have minimum void.	To maintained minimum void, the barren OBD will be handled if need.
(vii)	Project Authorities should obtained clearance from National Board for Wildlife (NBWL), as applicable.	Wild life clearness application is being submitted to obtain clearance under the wildlife (Protection) Act-1972 from the standing committee of National Board for

		Wild life
(viii)	Rs.796.55 lakhs as has be earmarked for CSR activities be spent and the progress be uploaded in the Company's Website.	An amount of Rs 796.55 Lakhs is earmarked for CSR activities, Roads widening, de-silting water tanks, public toilets at Bandarigudem, supply of drinking water in tractors hauled 3KL tankers and construction of building & compound wall of Govt degree College and drains repair Etc. in which some of the works are under progressive and some of them completed. Details of CSR activities taken up in manuguru area are given <b>Annexure-XIII</b>
(ix)	A detailed soil management plan should be in place.	Total 607.65 M mt <sup>3</sup> of O.B produced out of this 596.83 M.mt <sup>3</sup> is hard O.B, 10.82 M.mt <sup>3</sup> is top soil, the hard O.B is accommodated in 3 external dump yards and internal dump yard. Present details of top soil and O.B management are furnished in Part-II topsoil management(Table.No.2) and overburden management (Table.No.3)
(x)	The Mining area should be grounded by green belt having thick closed thick canopy of the tree cover.	Thick Green belt is being developed as in dumps, haul roads, vacant areas all other service buildings and around the mine boundary. About 296.80 Ha total area brought under green belt so far
(xi)	The committee desired that the plan for repairing/plugging the cracks found in houses should be drawn up and implemented	Presently there is no habitation near the working area. However Safe method of control blasting technique (Nonels) is being practiced for reducing of blasting affects, like air blast, noise and vibrations.
(xii)	Coal transportation in pit to surface CHP by Belt conveyors and siding to Loading by wagon.	In-pit crusher of 3X500TPH has been installed, coal is being transported to surface by Belt conveyors of capacity 500TPH to CHP and Rail way siding is provided for coal loading in to wagons at KCHP
(xiii)	The production shall be within the Mining Lease area.	Presently coal is being extracted from area of 1526.60 Ha only which permitted in EC out of total land required for project is 3205.76 Ha(1679.56 Ha forest land applied permission for diversion to MOEF&CC),board official inspected the site.
(xiv)	The OB shall be completely re-handled at the end of the Mining.	At the end of mining operation this closer operation will be taken up as per approved Plan
(xv)	Final Mine void depth will not be more than 45m.The void area will be converted into water body. The rest of the area will be back filled up to the ground level and covered with about a meter thick top soil and put to use.	Noted, At the time closing of mine this condition will be complied as per approved plan
(xvi)	Garland drains to be provided.	12.50 Km (2.0Mt X3.0Mt ) garland drains are made and maintained around the external dump area and quarry for regulating and arresting the flow of silt in surface run-off and proper drainage of water.
(xvii)	Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine.	An embankment was made along the Gorrepeta vagu with stone pitching. An earthen bond of 3Mt with,2Mt Height and 1Mt top width was made around the mine area to arrest the water entry into the mine from

		surface surroundings.
(xviii)	The land after mining shall be brought back for agriculture purpose.	The land reclamation is being done as per the approved solid waste management plan as per EMP. Accordingly Stage wise OB dumping with subsoil spreading is in progress along with plantation also following.
(xix)	Mine water should be treated for discharge in to the lagoon. The quality of lagoon water shall be regularly monitored and mitigation measures taken.	Mine water is being collected in a sump where the solid particles will be settled and clean water is being pumped in to lagoon at surface. This water is being distributed for different purposes like ,domestic and Industrial use. Excess water in rain season is being sent out near nallah and it is turn in to near by irrigation tanks, EPTRI regularly collecting water samples for monitoring of effluent quality.
(xx)	The CSR cost should be Rs 5 per Tones of Coal production which should be adjusted as per the annual inflation.	The CSR activities taken up in and around the project area are enclosed as <b>Annexure-XIII</b> , Sccl Board has accorded approval for CSR policy to be adopted in SCCL also for spending 2% of net profit of next three proceeding years towards CSR activities..
(xxi)	A project specific R&R prepared for the project shall be implemented. R&R for a cost of not less than Rs.12.37crores for the 330PAFs shall be completed within an agreed time schedule. Land oustees shall be compensated as per the norms laid out R&R Police of CIL or the National R&R policy or R&R policy of the state Government with ever is higher.	R & R for the two villages Shantinagar and Gollakotturu is required in future after 10 years. R&R Package is implemented for 127 families of Srirangapuram (V) as approved by A.P. Government (an amount spent Rs.2.13 Crores).R&R of two villages i.e Shanthi nagur and Gollakotturu will be taken up at appropriate stage. The same will be implemented in future.
(xxii)	Every person in the core area should be provided with mask for protection against fugitive dust emissions.	In core zone persons who are probable to exposed in dusty environment provided with dust caps for protection against fugitive dust emission.. During last six months 840 dust masks was issued, HEMM are being provided with AC cabins. Now 500 dust masks stock are available in hand at pit store for meet further requirement.
(xxxiii)	Dust mask to be provided to every one working in the mine area.	
(xxiv)	The supervisor staff should be held personally responsible for ensuring compulsory regarding wearing of dust mask in the core area.	Proper instructions are given to all supervisors on this issue, making awareness about wearing of dust masks by the all workmen,
(xxv)	People working in the core area should be periodically tested for the lung diseases and the burden of cost on account of working in the coal mine area.	As per mines act provision workmen are being sent periodically for under go medical examination and tested for all diseases including lungs also, cost is accounted under the coal mine area.
(xxvi)	The mining should be grounded by green belt having thick closed thick canopy of the tree cover.	Green belt developed all along approach roads, KCHP ,site office building premises ,Haul roads and in and around vacant land of the mine area about 48 Ha of area is covered under green belt development

<b>(xxvii)</b>	The embankment constructed along with the river boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side and stabilized with plantation so as to with stand the peak water flow and prevent mine inundation.	The embankment is being constructed all along the Gorrepet vagu, the dimensions are as follows Height above GL < 3Mts Top width 10Mts Bottom width 30Mts Length 4 Km Critical patches of 450Mts long along this length stone pitching is also has been done.
<b>(xxviii)</b>	There shall be no over flow of OB in the river and in to the agriculture fields and massive plantation of native species shall be taken up in the area between the river and the project.	The toe wall of 3.25KM length constructed and maintained properly at toe of the dump and plantation of native species was grown around the dumps to prevent over flow of dumped material.
<b>(xxix)</b>	OB shall be stacked at two earmarked external OB dump site(s) only. The ultimate slope of the dump shall not exceed 28 degrees Monitoring and Management of existing reclaimed dumpsites shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and it concerned Regional office on yearly basis.	Over burden dumping in progressing in earmarked external OB dump site(s) i.e West external dump, East external dump and internal dump with ultimate slope angles are being maintaining about 28 degrees ,Reclaimed dumpsites are being continuously monitored and has been maintained by SCCL forestry department. compliancy report of the same is being submitted every six months to MoEF.& CC
<b>(xxx)</b>	Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilized for watering the mine area, roads, green belt development, etc. The drains shall be regularly desilted and maintained properly. Garland drains (size,gradient and length) and sump capacity shall be deigned keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow proper settling of site material.	Deck drains with, Bio-engineering structures like gabions 06 no.s , cribs 80 no.s and rock fill dams 5 No.s and siltation ponds 4no.s of appropriate size constructed and maintained regularly, to arrest silt and sediments flows from soil and mineral dumps. The collected water has been reusing within mine premises for water spraying, Green belt development. The drains, Garland drains and sumps are being designed and maintained properly. Details area mentioned in part-II Table No. 6
<b>(xxxi)</b>	Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off and siltation shall be based on the rail fall data.	Rock Toe walls/retaining walls at the dumps and OB benches are designed with proper dimension (bottom width -3mt ,height-2mt and top width 1mt) for a length of 3.25 KM and toe wall with OB soil/stone at the toe of the dumps and band with ob soil at OB benches is being constructed for prevent the run-off and siltation from dump/bench slopes.
<b>(xxxii)</b>	Crushers at the CHP of adequate capacity for the expansion project shall be operated with high efficiency bag filters, water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc.	Coal Crushers at the CHP of 3X500Tph capacity are operated. In pit coal crushers and also conveyor, haulage roads, transfer points, etc are being operated along with mist spray and water sprinkling system provided to control fugitive dust emissions .
<b>(xxxiii)</b>	Drills shall be wet operated.	All drill machines are being provided and maintained with wet drilling arrangement
<b>(xxxiv)</b>	The project authorities shall undertake regular repairing and tarring of roads used for mineral transportation. A3-tier green belt comprising of a mix of native species shall be developed all	Coal transport roads from KCHP and around the KCHP is being maintained with black top roads, with manual cleaning for coal dust and also green belt comprising of a mix of native

	along the major approach roads.	species has been developed and maintained
(xxxv)	Controlled blasting shall be practiced with use of delay detonators and only during daytime. The proponent would need to repair the cracks in the housed if it occurred on account of blasting. The mitigate measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.	Only controlled blasting with NONELs(Non-Electric delay detonators) are being practiced and blasting being done exclusively in day time only. This controlled technique of blasting is very effective in controlling ground vibrations and to arrest the fly rocks and boulders.
(xxxvi)	A progressive afforestation plan shall be implemented covering an area of 1967.78ha at the end of mining, which includes reclaimed External OB dump area (1070.06ha), Internal OB dump area (616.84ha), and green belt (173.95ha) in town ship located outside the lease by planting native species in consultation with the local DFO/Agricultural Department. The density of the trees shall be around 2500 plants per ha. Massive plantation shall be carried out in open spaces in and around the mine and a 3-tier avenue plantation along the main approach roads to the mine. A progressive afforestation plan shall be implemented covering an area of 1961.78ha at the end of mining, which includes reclaimed External OB dump area (1070.06ha), Internal OB dump area (616.84ha), and green belt (274.88 ha)in town ship located outside the lease by planting native species in consultation with the local DFO/Agricultural Department.	A progressive afforestation plan has been prepared and implemented an in this project Vacant land in mine lease area and dumps are being planted different native species by forest department SCCL .The density of the trees is around 2500 plants per Ha. Open areas are covered with massive plantation and avenue plantation along the Main approach roads to the mine area are being maintained. In the mining area presently 296.50 Ha land brought under plantation in mining area Details plantation is furnished in part – II table No-4 and also shown in EMP plan as <b>Annuxure- XI</b>
* (xxxvi) Corrected in 19 <sup>th</sup> EAC Meeting		
(xxxvii)	An estimated total 1923.796Mm <sup>3</sup> of OB will be generated during the entire life of the mine. Out of which 695.296Mm <sup>3</sup> of OB will be dumped in four external OB dumps in an earmarked area covering 1076.56ha of land.1228.5mm <sup>3</sup> of OB will be one internal OB dumps in an earmarked area covering 973.51 ha of land. The maximum height of external OB dump for hard OB will not exceed 90Mt and that soft OB shall not exceed 60Mt The maximum slope of the dump shall not exceed 28 degrees. Monitoring and management of reclaimed dump sites shall continue till the vegetation becomes self – sustaining and compliance status shall submitted to MOEF and its Regional Office on yearly basis.  An estimated total 1929.75Mm <sup>3</sup> of OB will be generated during the entire life of the mine. Out of which 682.63Mm <sup>3</sup> of OB will be dumped in four external OB dumps in an earmarked area covering 1070.06ha of land.1228.50Mm <sup>3</sup> of OB will be one internal OB dumps in an earmarked area covering 973.51 ha of land. The maximum height of external OB dump for hard OB will not exceed 120Mt and that soft OB shall not exceed 10Mt The maximum slope of the dump shall not exceed 28 degrees. Monitoring and management of reclaimed dump sites shall	Presently Over burden dumping is proceeding in two earmarked west external OB dump & east external dump, internal dumping dump sites only, maximum restrict height is 120 Mts and over all slope angles of dumps are being maintained 28 degrees ,reclaimed Dumpsites are being continuously monitored and management is being done by SCCL forestry department, the compliancy status report is being submitted regularly every year to MoEF&CC and its R.O at Chennai  The quantities of OB accommodated in external dumps and de-coaled area details are shown in part-II in table No-3
* (xxxvii) Corrected in 19 <sup>th</sup> EAC Meeting		

	continue till the vegetation becomes self – sustaining and compliance status shall submitted to MOEF and its Regional Office on yearly basis.	
(xxxviii)	The proponent should prepare restoration and reclamation plan for the degraded area. The land be used in a productive and sustainable manner.	All areas affected by mining activities has been re-vegetating to control erosion and restore the site's natural condition. Also extensive plantation has been taken up over back filled area, dump area along the Haul roads, approach roads and the quarry boundary. It is proposed to re-vegetate 616.84 ha of backfilled area reclamation of mining according to proceeding of mine workings. Presently 296.50 ha of area brought under plantation.
(xxxix)	Compensatory Ecological - & Restoration of waste land, other degraded land and OB dumps in lieu of breaking open land be carried out.	In vacant lands and waste lands and other OB dumps with slope not in active temporarily has been developed with planting different types of species.
(xl)	The mining should be phased out in sustainable manner. No extra over burden dumps are permitted.	The method of mining is being follow phased out in an approved EMP sustainable manner. As dumping of over burden is being proceeded only in permitted dumpsites
(xli)	No ground water shall be used for mining operations.	Only mine water is being using for mining operations, like washing of HEMM, water spraying to control dust and fire prevention in coal benches and plantation purposes.
(xlii)	Of the total quarry area of 3205.76ha,the backfilled quarry area of 616.84shall be reclaimed with plantation and avoid of 809.90ha, at a depth of 45 m which is proposed to be converted into a water body shall be gently sloped and the upper benches shall be terraced and stabilized with plantation/afforestation by planting Native plant species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500plants per ha.	At closing time of the mining operations, it will be taken up in the project as per the approved EMP
(xliii)	Regular monitoring of ground water level and quality shall be carried out by establishing a net work of existing wells and construction of new peizometers. The monitoring for quantity shall be done four times a year in pre-monsoon (may) monsoon (August),post – monsoon (November)and winter (January) seasons and for quality in May. Data thus collected shall be submitted to the Ministry of Environment & Forests and to the Central pollution control Board quarterly within one month of monitoring.	From Peizometric & phearometric wells around the project water levels monitoring regularly is being carried out four times a year in premonsoon(may),monsoon(august),post-monsoon (November) and winter (January) seasons with Hydro geological department of SCCL- water quality samples also being collected by EPTRI (govt agency, recognized Lab by CPCB&DSIR, analysis results of the same are being submitting every quarter to GW department, MoEF CPCB within one month of monitoring. last quarter report was submitted on 31/03/2015, the detailed of report enclosed as <b>Annexure-XV</b>
(xliv)	The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case monitoring indicates in decline in water table. The project authorities shall meet water	The SCCL authorities constructed artificial ground water recharge pits wherever necessary and also arrangement was made tap water supply to near by colonies and villages for drinking and domestic water

	requirement of near by village(s) in case The village wells go dry due to dewatering of mine.	supply to meet water requirement. The total Quantity of Water-26.50 lakhs liters/day has been supplying.
(xliv)	Sewage treatment plant shall be installed in the existing colony. ETP shall be provided for workshop and CHP wastewater .	1.5 MLD capacity STP is being provided & maintained properly for the existing colony.ETP is being provided and maintained for workshop and another ETP under construction for KCHP
(xlvi)	Besides carrying out regular periodic health cheek up of their workers. 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health cheek-up for occupational diseases and hearing impairment. If any, through an specialized agency /institution within the District /State and the results reported to this Ministry and to DGMS.	Initial and periodical health check up has been carrying out regularly for employees of SCCL and contractual labour engaged in mining operations through SCCL PME cell. Doubtful cases special for occupational diseases and hearing impairment sending for consult specialists at Main Hospital-SCCL-Kothagudem and also corporate hospitals at Hyderabad. Present period no such case is noticed. And result of reports are being submitted to this Ministry and DGMS, copy of the report enclosed as <b>Annexure-VI</b>
(xlvii)	Land oustees shall be compensated as per the norms laid out R&R policy of CIL or the National R&R Policy or R&R policy of the State Government whichever is higher.	R & R is required for three villages: i.Srirangapuram– already implemented for 127 families (Rs.12.13 Crores spent) ii.Gollakothuru - This village will be acquired after 8 years iii.Shantinagar - This village will be acquired after 10 years
(xlviii)	For monitoring land use pattern and for post mining land use, a time series of land use maps, based on satellite imagery (on a scale of 1:5000of the core Zone and buffer Zone, from the start of the project until end of mine life shall be prepared once in 3years (for any one particular season which is consistent in time series),and the report submitted to MOEF and concerned Regional office.	Satellite imagery land survey was conducted last year and report was submitted along with March-2014 Half yearly report.
(xlix)	A detailed Final Mine Closure plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests within 6 months of grant of Environmental Clearance.	The final mine closure plan for an part of mining plan approved by MOC the details of same and corpus Fund is enclosed in EMP report Fig 6.3.7.1(a)&(b)
	i)The project authorities shall in consultation with the Panchayats of the local villages and administration identify socio-economic and welfare measures under CSR to be carried out over the balance life of the mine	The socio –economic and welfare measures under CSR works are given in part-II under heading of Socio-Economic measures. And CSR details are furnished as <b>Annexure-XIII</b> . This works are being carried out under SHAPE programme and also Singareni Seva samithi
	ii)The commitment made by the Proponent to the issue raised during Public Hearing shall be implemented by the Proponent.	1.Gorrepet Vagu realignment done 2 each family was allotted 2 acres of land for agricultural purpose. 3. In R&R centers roads were constructed, drinking water is being supplied and power supply is provided in consultation with APSEB.
	iii) Corporate Environment Responsibility:	Yes, SCCL has a well laid down Environmental policy, which is approved by

	Environment Policy approved by the Board of Directors.	Board of Directors. Details are being furnished as <b>Annexure-IX</b>
	b) THE Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.	
	c)The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.	Yes, SCCL has the hierarchical system for dealing with environmental issues and ensuring compliance with environmental clearance conditions status and furnishing required report/data. Details are being enclosed as <b>Annexure-XII</b>
	d) To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and /or shareholders or stakeholders at large.	The report of compliance/non compliance/violations of environmental norms on quarterly basis sending regularly to BoD of the SCCL
<b>B.General Conditions</b>		
<b>i</b>	No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests	Shovel & Dumper combinations technology and Scope of working for coal extraction as approved as per EC
<b>ii</b>	No change in the calendar plan of production for quantum of mineral coal shall be made.	Coal Production from the project as per permitted limits only in the calendar plan details of the production are shown in Table No 1 of part-II
<b>iii</b>	Four ambient air quality monitoring stations shall be established in core zone as well as in the buffer zone for PM10, PM2.5 , SO2 and NOx monitoring. Location of the stations shall be decided based on the metrological data, topographical features and environmentally and ecologically sensitive targets in consultation with the state Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc carried out at least once in six months	Post project environment monitoring work is being carried out by EPTRI (govt agency, recognized Lab by CPCB & NABL accredited.. AAQ, in core zone and buffer zone The air quality data is being submitted to MoEF,on six monthly basis. Details of analysis report is furnished as <b>Annexure-I</b> And the Monitoring of heavy metals such as Hg,As,Ni,Cd,Cr, etc are being carried out once in six months the result of the same submitting regularly The analysis of Heavy metals report is enclosed as <b>Annexure-X</b>
<b>iv</b>	Data on ambient air quality (PM10, PM2.5 , SO2 and NOx ) and heavy metals (Hg, As, Ni, Cd, Cr, etc) and other monitoring data shall be regularly submitted to the Ministry including Its concerned regional office and state pollution Control Board and Central Pollution Control Board once in six months. Random verification of samples through analysis from Independent laboratories recognized under the EPA Rules,1986 shall be furnished as part of compliance report	Data on AAQ & heavy metals and other monitoring data is being submitted regularly to the Ministry including its concerned R.O and State Pollution Control Board and Central Pollution Control Board. Presently, Post project environment monitoring work is regularly carried out by EPTRI ( recognized Lab by CPCB & NABL accreted Lab.

v	Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc. shall be provided with ear plugs/muffs.	All HEMM provided with sound proof AC cabins, Persons likely to expose to high noise levels are being provided with ear plugs/muffs like works of blasting & drilling operations and operation of HEMM other than sound proof cabins
vi	Industrial waste water(workshop and wastewater from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422(E) dated 19 <sup>th</sup> May 1993 and 31 <sup>st</sup> December 1993 or as amended from time to time before discharge. Oil and grese trap shall be installed before discharge of workshop effluents.	Industrial waste water from mine is being properly collected and passed through settling ponds for removal of suspended solids. ,Oil & Grease trap installed for treating work shop effluents. The ETP treated water is being reuse for plantation and HEMM washing. Details of the effluent analysis report enclosed <b>Annexure-II</b> The Treated water within prescribed standards only
vii	Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulin and optimally loaded.	All vehicles deployed in mining operation maintained properly to control vehicular exhaust emission and regularly being monitored by EPTRI. The report enclosed as <b>Annexure-XIV</b> . Lorries transporting coal are covered with tarpaulin and optimally loaded.,
viii	Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analysed through a laboratory recognized under EPA Rules,1986	All environmental quality parameters are being monitored by EPTRI.
ix	Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.	Protective equipment is being provided persons working in dusty areas and training on safety and health aspects is being importing regularly at mine site office and MVTC
(x)	Occupational health surveillance programme of the works shall be undertaken periodically to observe any contractions due to exposure to dust to take corrective measures, if needed and records maintained thereof. The quality of environment due to outsourcing and the health and safety issues of the outsourced manpower should be addressed by the company while outsourcing.	All contract workmen are being provided dust masks and medical examination is being carried out at SCCL hospital PME cell. The condition is being incorporated in NIT regarding environment of worksite and health and safety issues of manpower engaged by contractor. Refraction and audiometry test are being conducted regularly during initial and periodical medical examination of all workmen, who are crossed age of 45 years every three years, other workmen every five years. Occupational health monitoring and PME details are enclosed as <b>Annexure-VI</b>
(xi)	A separate environmental management cell with suitable qualified personnel shall be set up under the control of a senior Executive, who will report directly to the Head of the Company.	An Environmental Management Management cell for MNG OC-II expansion project is functioning for implementing environmental safe guards <u>Members of Environment management cell</u> 1.Project officer Chairman 2.Project Manager Member 3.Project engineer Member 4.DGM(Stores) Member

		<p>5.DGM(Civil) Member  6.Dy.Mgr(Env) Member  7.Sr.U.Mgr (Env) Member  8.Sr Survey officer Member  9.Dy.Est.Manager Member  10.Sr. Forest officer Member  Last meeting held on 25..03.2015 at project office. The meeting minutes are enclosed as <b>Annexure –XIII</b></p>
(xii)	<p>The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year wise expenditure shall be reported to this Ministry and its concerned Regional Office.</p>	<p>A separate capital funds provision is made for various Environmental Protection measures like Environmental monitoring, Pollution abatement, Green belt development, pollution monitoring facilities etc. Total Rs 1449.57 Lakhs(as Direct cost)and machinery for construction of roads, fencing around quarry, garland drains and funds for NPV &amp; compensatory afforestation etc.is Rs 10,505.63 lakhs(Indirect Cost)  The annual Revenue expenditure for implementation of EMP is estimated At Rs 1021.43 Lakhs per Annum which amounts to Rs 25.54 per Tonne of coal produced.  The summary of expenditure details are mentioned in part-II S.No.11</p>
(xiii)	<p>The project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and may also be seen at the website of the ministry of Environment &amp; Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a>.</p>	<p>News paper notification given about EC in two News papers</p>
(xiv)	<p>A copy of environmental clearance letter shall be marked to concern Panchayat/ Zila Parished, Municipal Corporation or urban local body and local NGO, if any from whom any suggestion/representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on company's website.</p>	<p>The Copies of EC letters was submitted by post to Panchayat of Samithisigaram, Ramunjavaram, Zilla Parished Khammam and Municipality Manuguru and others and a copy of the same is displayed on SCCL web site also.</p>
(xv)	<p>A copy of the environmental clearance letter shall be shall also be displayed on the website of the concerned State pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Sector and Collector's Office/Tehsildar;s Office for 30 days.</p>	<p>.The copy of the environmental clearance letter has been send to STPCB-Kothagudem Collector's office-Khammam/Tehsildar's Office-Manuguru for display on the website of concerned department.</p>
(xvi)	<p>The Clearance letter shall be uploaded on the company's website; The compliance status of the stipulated environmental clearance conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in public domain. The monitoring data of</p>	<p>The clearance letter has been up loaded on SCCL web site, The latest compliance status of the stipulated environmental clearance conditions is also being up loaded to SCCL web site once in six months with updated information along with Environment quality Monitoring data and . The environment</p>

	environmental quality parameter (air, water, noise and soil) and critical pollutant such as Pm10, Pm2.5, SO2 and NOx(ambient ) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on company's website.	quality parameters also being displayed regularly at the project premises and mine offices and in corporate offices
(xvii)	The project proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the Ministry, respective Zonal Offices of CPCB and the SPCB.	Six monthly compliancy report on status of compliancy of the stipulated environmental clearance conditions are being submitting both in Hard and soft copy) to the R.O of ministry, Z.O of CPCB and the SPCB.
(xviii)	The Regional office the Ministry located in the Region shall monitor compliance of the stipulated conditions. The project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/information/monitoring reports.	The requisite data/information/Monitoring reports/compliance report for stipulated conditions are being submitted regularly to regional office of MoEF ,Chennai and extending co-operation during their visits and producing necessary information to officials.
(xix)	The environmental statement for each financial year ending 31 March in Form-V is mandated to be submitted by the project proponent for the concerned State pollution Control Board as prescribed under the Environment (protection) Rules, 1986, as amended subsequently, shall also be uploaded on the company website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MOEF by e-mail.	The Environmental statement for last financial year ending 31 March 2014 In FORM-V,was submitted on 28.09.2014 R.O of the MOEF in soft &hard copies along with status of compliance of EC conditions And This EC copy uploaded in SCCL web site also.

**Project officer,  
ManuguruOC-2  
Expansion coal project  
SCCL-Manuguru**

## A periodic progress report regarding environmental protection measures till 31.03.2015

is enclosed as Part - II. \_Pertaining to Manuguru Opencast-II expansion coal project

1. Production Details								
Year	Coal production MT				OB removal(in MCu.m)			
	EC	Prog.	Actual	Prog.	FR/E MP	Prog.	Actual	Prog
2008-09	5.00	5.0	3.58	3.58	31.43	31.43	16.17	16.17
2009-10	5.00	10.0	3.55	7.13	20.41	51.84	24.51	40.68
2010-11	5.00	15.0	3.93	11.06	23.08	74.92	32.84	73.52
2011-12	5.00	20.0	4.91	15.97	22.46	97.38	32.67	106.19
2012-13	5.00	25.0	4.99	20.96	18.46	115.84	19.94	126.13
2013-14	6.25	31.25	4.46	25.41	16.96	132.80	16.91	143.04
2014-15	6.25	37.50	4.68	30.09	27.45	160.25	20.90	163.94
2. Topsoil Management (in M.Cu.m) from the year-2010								
Total Topsoil to be removed					10.87 M.m <sup>3</sup>			
Topsoil removed so far					8.62 M.m <sup>3</sup>			
Topsoil stored in temporary stockyard					0.60 M.m <sup>3</sup>			
Topsoil spread on Dumps					7.99 M.m <sup>3</sup>			
Topsoil removed in last six months					0.044 M.m <sup>3</sup>			
3. Overburden Management (in M.Cu.m) from the year -2010								
Total Overburden to be removed					1923.796 M.m <sup>3</sup>			
Total OB removed since inception					370.46 M.m <sup>3</sup>			
Total OB removed during last six months					12.864 M.m <sup>3</sup>			
Details of OB dumps		O.B (M.m <sup>3</sup> )		Height (M)		Area (Ha)		Overall slope
		EC(Total)	present	EC	present	EC	present	
Dump-I		695.296	92.35	120	120	1076.5	149.93	28.2 <sup>0</sup>
Dump-II			39.645	120	120	6	73.90	
Internal dump		1228.5	232.539	120	60 mt deck	973.51	343.20	27.3 <sup>0</sup> (w. r.t.Ground level))
4. Plantation Deatails								
1	No of plants planted during last six months/ last year				62,000			
2	Area covered in Ha				24.80 Ha.			
3	Expenditure incurred in Rs.				3,17,205-00			
4	Total area brought under plantation so far in Ha				296.80			
5	Total no of plants planted so far since inception				6,87, 200			
6	Species of plants planted				Native species like Pongamia, Bamboo, Neem, Ficus, Tamarind, Sisso , Inga dulce , Chindega, Casia Seama, Buruga, babul and Amla Pepal,Hardwickia binata egisa,Thani Neeruddi Juvi, Maredu ,Karaka Holoptelia etc.,			
7	Seeds sown so far				1590 Kgs.			
8	Small plants planted so far				500			
9	Total expenditure in Rs. lakhs -				42.76 lakhs			
Note: A plan showing year-wise plantation details is furnished as <b>Annexure- XI</b>								

<b>5. Water Balance Statement</b>						
<b>Sl. No</b>	<b>Description</b>	<b>Quantity in KLD</b>				
1	Average quantity of water pumped out of the mine	3432				
2	Water used for drinking/bathing and other industrial requirement	1900				
3	Water used for washing of HEMM/fire fighting	80				
4	Water used for plantation	---				
5	Water supplied for nearest township/village for domestic purpose	---				
6	Excess water let out	1452				
7	Point of discharge (as per CFO)	Tanks via nallahs				
8	Discharge Consent from APPCB	--Surface drainage(nearby nallah) for ground water recharging & agricultural purpose				
<b>6. Soil Erosion Control Measures</b>						
1	Toe Walls	3.25 kms				
2	Garland drains	12.50 kms				
3	Settling ponds	04nos.				
4	Gabions	06nos.				
5	Deck drains	6.5km.				
6	Cribs	80nos				
7	Rock Fill Dams	5 No.s				
<b>7. Micro-meteorological Monitoring: Online Micro-meteorological station detailed report</b>						
<b>Sl. No.</b>	<b>Parameter</b>	<b>Min.</b>	<b>Max.</b>	<b>Mean</b>		
1.	Temperature	11.9	41.9	26.1		
2.	Wind Speed (Km/hr)	0.0	9	3.5		
3.	Relative Humidity (%)	9.4	98.9	58.3		
4	Predominant Wind direction for the entire study period	NE				
5	Total rainfall (mm)	100.6 mm				
<b>8. Ambient Air Quality Monitoring summary Details</b>						
<b>Location (Core zone Stations)</b>		<b>Direction &amp; Distance</b>	<b>PM<sub>10</sub>(ug/m<sup>3</sup>)</b>			
			<b>Min.</b>	<b>Max.</b>	<b>98%tile</b>	<b>STD</b>
MNG OC - II Extn. Site Office		South	161	256	249.5	250
MNG OC - II Extn. B.W.S		East	123	245	241.2	250

KCHP	west	185	275	274.78	250
MNG OV - IV Field Sub-Station	North	114	173	172.5	250
	<b>PM<sub>2.5</sub>(ug/m3)</b>				
MNG OC - II Extn. Site Office	South	58.3	75.0	74.4	-
MNG OC - II Extn. B.W.S	East	54.7	70.8	70.0	-
KCHP	west	66.7	83.3	83.3	-
MNG OV - IV Field Sub-Station	North	45.8	63.6	62.9	-
	<b>SO<sub>2</sub>(ug/m3)</b>				
MNG OC - II Extn. Site Office	South	10.7	16.8	16.6	120
MNG OC - II Extn. B.W.S	East	10.4	15.1	15.1	120
KCHP	west	11.2	15.4	15.3	120
MNG OV - IV Field Sub-Station	North	10.8	15.7	15.6	120
	<b>NO<sub>x</sub>(ug/m3)</b>				
MNG OC - II Extn. Site Office	South	17.8	24.5	24.5	120
MNG OC - II Extn. B.W.S	East	16.1	25.2	25.0	120
KCHP	west	18.2	24.4	24.3	120
MNG OV - IV Field Sub-Station	North	16.4	25.6	25.5	120
	<b>PM<sub>10</sub>(ug/m3)</b>				
Pagideru (V)	North,3.40kms	61	89	88.4	100
Shanti nagar (V)	North,2.15kms	60	89	88.3	100
Bugga (V)	West,2.90kms	45	76	73.3	100
P.V. colony (V)	South,3.00kms	50	95	94.78	100
Kunavaram (V)	South,2.30kms.	72	92	91.6	100
	<b>PM<sub>2.5</sub>(ug/m3)</b>				
Pagideru (V)	North,3.40kms	30.1	45.9	44.9	100
Shanti nagar (V)	North,2.15kms	33.3	46.1	46.0	100
Bugga (V)	West,2.90kms	17.1	35.1	34.6	100
P.V. colony (V)	South,3.00kms	40.0	49.4	49.4	100
Kunavaram (V)	South,2.30kms.	36.4	50.0	49.8	100
	<b>SO<sub>2</sub>(ug/m3)</b>				
Pagideru (V)	North,3.40kms	10.3	14.3	14.1	80
Shanti nagar (V)	North,2.15kms	10.1	14.2	14.1	80
Bugga (V)	West,2.90kms	9.4	13.6	13.4	80
P.V. colony (V)	South,3.00kms	11.1	15.5	15.2	80
Kunavaram (V)	South,2.30kms.	10.3	14.2	14.1	80
	<b>NO<sub>x</sub>(ug/m3)</b>				
Pagideru (V)	North,3.40kms	15.4	21.6	21.5	80

Shanti nagar (V)	North,2.15kms	14.2	22.2	22.0	80
Bugga (V)	West,2.90kms	13.5	18.3	18.3	80
P.V. colony (V)	South,3.00kms	16.1	24.9	24.4	80
Kunavaram (V)	South,2.30kms	15.4	23.5	23.3	80

**Detailed report of AAQ enclosed as Annexure-I**

**9.Effluent analysis**

**Ph**

Location	Direction & Distance	Min.	Max	98%tile	STD
MNG OC – Extn Mine Discharge	South	7.1	7.9	7.9	5.5-9.0
MNG OC – Extn BWS ETP	South	7.2	7.9	7.8	5.5-9.0
KCHP	South	6.7	7.9	7.9	5.5-9.0
MNG OC – II Extn . Dump run off	West	7.3	7.9	7.8	5.5-9.0

**TSS(mg/l)**

Location	Direction & Distance	Min.	Max	98%tile	STD
MNG OC – Extn Mine Discharge	South	12	36	34.6	100
MNG OC – Extn BWS ETP	South	12	22	21.5	100
KCHP	South	22	59	55.4	100
MNG OC – II Extn . Dump run off	West	9	25	24.6	100

**COD(Mg/l)**

Location	Direction & Distance	Min.	Max	98%tile	STD
MNG OC – Extn Mine Discharge	South	17	23	22.1	250
MNG OC – Extn BWS ETP	South	15	28	27.7	250
KCHP	South	26	60	59.7	250
MNG OC – II Extn . Dump run off	West	17	29	29	250

**Oil & Grease**

Location	Direction & Distance	Min.	Max.	98%tile	STD
MNG OC – Extn Mine Discharge	South	<1	<1	<1	10
MNG OC – Extn BWS ETP	South	3.2	4.2	4.2	
KCHP	South	3.1	4.0	3.9	
MNG OC – II Extn . Dump run off	West	<1	<1	<1	

**Details of effluent analysis report enclose as annexure-II**

**10.Noise Level Monitoring**

**DayTime**

MNG OC-II Extn Site Office	64	73.1	72.3	75
OC-II Exp B.W.S	67.5	76.6	76.1	
KCHP	67.1	73.2	72.9	
MNG OC-IV site office	65.5	74	73.8	

**Night Time**

MNG OC-II Extn Site Office	47.7	65	64.4	70
OC-II Exp B.W.S	46.5	63.2	63.02	
KCHP	60.1	64.9	64.8	
MNG OC-IV site office	55	64	63.6	

**Location (Buffer Zone)**

**Direction & Distance**

**Day Time**

Pagaderu Village, 3.4kms	North,	39.3	44.9	41.7	75
Bugga (V),2.90 kms.	West	31.6	37.6	35.3	
P.V.Colony (V),3.00 kms.	south	37.8	46.6	42.6	

		Night Time			70
Pagaderu Village, 3.4kms	North,	39.3	44.9	41.7	
Bugga (V),2.90 kms.	West	31.6	37.6	35.3	
P.V.Colony (V),3.00 kms.	south	37.8	46.6	42.6	
<b>Detailed report of Noise analysis is enclosed as Annexure-III</b>					
<b>11.Revenue expenditure in lakhs</b>					
SL.No	Particulars	Upto the month			
A	Air Polution(Prevention & Control)	350.00			
B	Water Polution(Prevention& Control)	34.88			
C	Land Development	--			
D	Plantation	3.10			
E	P & M for Environment protection	109.1			
F	Consultancy Payments/Scientific Studies.	0.0			
G	OB dumps/subsidence stabilization	2.0			
H	Others	0.0			
I	Noise & Blast vibrations	79.473			
<b>Total</b>		<b>581.653</b>			

## I. Air

### **Air Pollution Control Measures:**

#### ***Dust Control***

- Water spraying along haul roads and coal transport routes are being done to keep the road surface wet and to reduce the dust rising due to movement of vehicles and wind.
- All drill machines have been provided with dust collectors, dust disposal arrangement and wet drilling arrangement.
- Road leading to project is being black topped, pot holes being repaired regularly
- 3 tiers Plantation along the roads has been undertaken up for dust control along the roads and also thick green belt along mine boundary.
- Speed of the vehicles is controlled to minimize dust generation.
- Proper loading of the Lorries and also covering the coal Lorries with tarpaulins to avoid coal spillage along the road.
- Control blasting technique is being adopted with delay action non-electrical detonators to control ground vibrations, noise, dust and also gases emissions.
- Rock breaker is being used for the boulders to avoid secondary blasting to control noise and dust from blasting
- Mist spray and dry fog dust suppression system is provided and maintained in CHP at all transfer points, crusher plant and loading/un loading points etc.,.

#### ***Gaseous Pollution Control Measures:***

- Regular maintenance of Heavy Earth Moving Machinery and other vehicles is being done to reduce vehicular emissions. Tuning of engine is taken up as per the recommendations of Vehicle manufacturer.
- In pit crusher is established in the quarry and coal is being transport by the belt for a length of 1.5 km to avoid dumpers movement in order to reduce vehicular pollution.
- All employees are being provided with LPG cylinders to prevent burning of coal/wood.
- Delay action detonators are being used by adopting control blasting technique to mitigate gaseous emission.
- Separate coal stockyard is provided. Dumping of coal at mine surface is practically negligible.
- To avoid spontaneous heating of coal wetting is being practiced at coal benches and coal stocks.

## II. Water

### Water Pollution Control Measures:

- RO- plants are installed all the departments and mines for supply of clean and pure drinking water is being supplied to all the employees.
- Water used for other domestic supply is being treated and chlorinated before distribution.
- Sewage collection lines and the septic tanks are provided in colonies. Health department of SCCL-Manuguru is looking after regular works of sanitation in all the colonies. A sewage treatment plant of 1.5 MLD capacity has been operating at PV colony for treating domestic sewage. After treatment, water is being used for parks and gardens and also by local villagers for agriculture (72 Acres).
- Soil moisture construction (SMC) structures like toe wall, check dams, gabions, settling ponds etc., are being constructed to prevent soil erosion.
- Settling tanks are being used for removal of suspended solids etc. from the mine discharge water.
- Miscellaneous plantation and hamata grass, agave sucker are planted on the slopes of the dumps to control soil erosion.
- ETP is provided at base workshop for treating the vehicle wash effluent for removal of suspended solids and oil and grease. Treated water is being used for washing of vehicles and also for plantation.
- Two settling ponds are provided at CHP for removal of suspended solids and a separate ETP for CHP is under construction stage.

### Water Conservation Measures

**I. Effluent Quality Monitoring:** The samples for Effluent Quality Monitoring samples are being collected every fortnight by EPTRI, Post project monitoring team under the supervision of EPTRI scientist and Environment officer of the concerned project. The analysis report for the period from Oct-2014 to Mar-2015 furnished here under in **Annexure- II**

**I. Surface Water Quality Monitoring:** The samples for Surface Water quality are being collected every quarter by EPTRI Post project monitoring team Environment officer of the concerned project, analysis report is sent with in one month of samples collection, result of the same from Oct-2014 to Mar-2015 is furnished here under in **Annexure- IV**

**ii. Ground water Quality Monitoring:** The samples for Ground Water quality Monitoring are being collected every quarter by EPTRI, Post project monitoring team under the supervision of EPTRI scientist and Environment officer of the concerned project, analysis report for the period Oct-2014 to Mar-2015 is furnished here under in **Annexure- V**

## III. Noise

### Noise Pollution Control Measures:

- Control blasting technique is being adopted with delay action non-electrical detonators to control ground vibrations, noise, dust and also gases emissions.
- Rock breaker is being used for the boulders to avoid secondary blasting to control noise and dust from blasting.

**Noise Level Monitoring:** The detailed noise level data monitored during the period Oct-2014 to Mar-2015 is enclosed as **Annexure-:III**

## IV. Socio-economic Measures:

1. Environmental awareness programmes are being conducted in all mines, departments,

Colonies and schools at regular intervals to bring environmental awareness on conservation of Water, Power, Waste management and pollution prevention measures from time to time. Competitions like quiz, elocution and essay writing and also drawing were conducted among the SCCL employees and all school children of Manuguru area on environment and bio-diversity. World Environmental Day on June 5<sup>th</sup> is conducted at all mines and departments by displaying banners and administering pledge. On 19th June 2014 a big rally was organized by the employees of the SCCL, all school children of Manuguru and also with Government officials as well as local organizations, human garland was organized at Manuguru center as a part of environment awareness campaign.

2. Wide publicity is being given at mines and departments to undergo Family Planning operations. Twenty eight (Tubectomy-32, Vasectomy – 2) family planning were done during the last six months period. Management is providing Rs.220/- for vasectomy operation and Rs.150/- for Tubectomy operation in addition to the 6 days special leave with pay to the employees who are undergoing family planning operations in the colliery hospitals.
3. Weekly vaccination for polio, triple antigen, measles, BCG is given regularly at the dispensaries.
4. All company quarters are provided with safe drinking water drawn from Godavari River and water is supplied after filtration and chlorination.
5. R.O. Plants were provided with capacity 250 ltrs/hour each at mines & units for safe drinking water.
6. Primary and higher education institutions managed by company have been established Playgrounds, recreation clubs library and physical fitness centre is being maintained provided for the workmen.
7. 17.50 Tones of Paper waste has been collected from the colonies, townships, offices and departments during last six months, to reduce and recycle waste like paper and plastic. special awareness programme has been taken up with ITC, Bhadrachalam Paper Board Limited.
8. **Plastic Free SCCL** “programme has been taken up to ban the utilization of carry bags, glasses, cups and plates etc., in the mine premises and colonies, to control environmental pollution and also health hazards
9. All quarters are provided with sanitary facilities. Sanitary department of company is doing regular maintenance. Special measures are taken for well water chlorination. Fogging is done as a special measure in the colonies for preventing malaria and Dengue fever.
10. Occupational health check-up was done for 696 employees including contract labour. during the last six months details are enclosed in as **Annexure-VI**
11. Health awareness programs conducted regularly at mines and village.
12. Free training in tailoring for ladies of Vippala singaram village & Mallaram colony for house wife and children of near by residents in villages of mines area.

## V. Following CSR Activities implemented in the surrounding villages

1.Mobile Health Camps being organized surrounding villages details of the same furnished here:-

S.NO	MOBILE CAMPS	DATE	M	F	M.Child	F.Child	TOTAL
1.	Gandhinagar	13.10.2014	16	33	4	8	61
1.	Kommuagudem & Yeggadi	14.10.2014	25	31	3	1	60
2.	Regulagandi	16.10.2014	22	20	8	5	55
3.	Gollakothuru	27.10.2014	10	26	6	1	43
4.	Deaf & Dumb	28.10.2014	10	9	NIL	NIL	19
5.	Vippalasingaram	17.11.2014	10	45	10	15	80
6.	Besthagudem	18.11.2014	22	27	17	25	91
7.	Bugga	20.11.2014	9	12	10	12	43
8.	Padmagudem	25.11.2014	32	46	8	4	90
9.	Deaf & Dumb	28.11.2014	NIL	6	10	12	28
10.	Ramanujavaram	02.12.2014	15	42	10	8	75

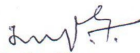
11.	Dammakkapeta	08.12.2014	24	26	6	9	65
12.	Thirlapuram	09.12.2014	25	42	10	16	93
13.	Gandhinagar	12.12.2014	26	30	3	13	72
14.	Satyasai Sai Deaf & dumb	18.12.2014	7	6	8	6	27
15.	Besthagudem	06.01.2015	28	26	5	6	65
16.	Kondaigudem	09.01.2015	25	20	15	10	70
17.	Kommugudem & Yeggadi	20.01.2015	12	14	0	3	29
18.	Mallepalli	23.01.2015	14	15	7	4	40
19.	Satyasai Sai Deaf & dumb	28.01.2015	0	6	13	9	28
20.	Pamagudem	16.02.2015	22	18	7	3	50
21.	Pagideru	17.02.2015	18	23	1	0	42
22.	Yeggadigudem	21.02.2015	27	46	12	5	90
23.	Satyasai Sai Deaf & dumb	28.02.2015	2	5	5	9	21
24.	Gollakothuru	13.03.2015	10	13	10	7	40
25.	Bugga	19.03.2015	2	4	3	2	11
26.	Satyasai Sai Deaf & dumb	30.03.2015	0	4	9	9	22
27.	Thirlapuram	24.03.2015	12	18	22	18	70
28.	Ramanujavaram	30.03.2015	18	25	5	3	51

During the above dates, wide publicity was given on health and sanitation in colonies and main centers through Public Address System, by displaying banners, distributing pamphlets and created awareness on health related issues to the public via wall writings and posters display etc.

Details of occupational monitoring are furnished an **Annexure-VIII**.

2. Supply of drinking water (Godavari treated) to the surrounding villages i.e. Manuguru (v), Mallepalli(v), Eggadigudem(v), Kommugudem(v), Rajupet(v), Sivalingapuram, Bhagatsingh Nagar, Seshagiri Nagar, Sundaraiyah Nagar and Sri Nagar. The total Quantity of Water : - 26.50 lakhs liters/day. Excess mine water supplying to irrigation tanks i.e. Naidu Kunta Nerellakunta and Gopidevikunta etc. Excess water from STP is supplying to the agriculture fields of Kunavaram (V) i.e. 72 Acs.
3. Providing logistic support for S.T.Home, Deaf and dumb school children, financial help and also providing free education at SC High School, Woman's Degree College, Kothagudem.
4. Plantation in the vacant areas in Schools, Govt. Offices, Colleges in Manuguru Town under " **Green Manuguru** " Programme. Free supplied shady and flower plants to surrounding institutions and villagers about 2500, Providing tree guards and donating corpus fund for "Green Manuguru Programme.
5. Under shape programme 2008-09, 136.308 Lakhs; 2011-12, 108.313 Lakhs; 2012-13, 24.793 lakhs expend for CSR works, **detailed report enclosed as Annexure-XIII**
6. Besides this mobile Medical camps are being conducted frequently including free medicines for the benefit of surrounding villagers of proposed opencast project. The medical camps is being conducted at Pagideru, Tirlapur, Bugga, Golla Kothur, Kotha Kondapur, Shanti Nagar, Padmagudem, Khammam Togu, Eggadigudem, Chinna Ramavaram and Mallepalli. During last six months 29 mobile camps were conducted in which 1531 persons were taken treatment. Free treatment is given for Project Affected Families as in-patients in case of emergency in SCCL-Hospital. PAPs have provided with Health Cards to avail the facility at SCCL Hospitals.
7. This year-2014-15, under medical treatment expenditure spend for PAP's Rs 61,831 organization training and awareness camps for education, self development trainings women's day celebrations and Singareni day celebrations expenditure spend Rs 1,20,132.

- VI. Occupational health checkup details enclosed as annexure-VI
- VII. The compliance of Groundwater Clearance is enclosed in Annexure -VII
- VIII. The minutes of EMC is enclosed as Annexure-VIII
- IX . SCCL environment policy enclosed as Annexure-IX
- X. Analysis of Heavy metals in coal sample details enclosed as Annexure-X
- XI. EMP Plan with detailed plantation & SMC works is enclosed as Annexure-XI
- XII. The hierarchical system for dealing environmental issues and ensuring compliance with environmental clearance conditions status XII
- XIII. CSR Expenditure under SHAPE programme details are enclosed as Annexure-XIII
- XIV. Vehicular emission details enclosed as annexure-XIV
- XV . phareatic and Piezometric wells water level data-XV

  
Project officer,  
ManuguruOC-2  
Expansion coal project  
SCCL-Manuguru

**Half yearly compliancy report**  
**Opencast -IV extension Coal project for the period from OCT-2014 to MAR-2015**

**PART-I**

**A. SALIENT FEATURES OF THE MANUGURU OPENCAST-IV EXTENSION COAL PROJECT**

1.	Name of the Project	: Manuguru Opencast-IV Extension coal project
2.	Organization	: Singareni Collieries Company Limited
3.	Coalfield	: Godavari Valley Coal Field
4.	Type of Mine	: Opencast Project
5.	Technology	: Shovel Dumper Combination
6.	Environmental Clearance	
	A. Letter No & date	: MOEF&CC Ltr No.J-11015/286/2010-IA.II(M) Dtd 10.12.2014
	B. Sanction Capacity	: 3.00 MTPA
	C. Mining Lease Area.	: 734.60Ha.
	D. Date of Public Hearing	: 25.08.2012
7.	Location of the Project	
	A. Village	: Manuguru
	B. Tehasil / Mandal	: Manuguru
	C. District	: Khammam
	D. State	: Telangana
	E. Latitude	: N17 <sup>0</sup> 56'29" to N 17 <sup>0</sup> 57'12"
	F. Longitude	: E 80 <sup>0</sup> 46' 13" to E 80 <sup>0</sup> 49' 12"
	G. Topo Sheet	: 65C/13
	H. Nearest Railway Station	: Manuguru
	I. Nearest Airport	: Gannavaram (Vijayawada)
	J. Nearest Town	: Manuguru
8.	Address for Correspondence	
	A. Name	: L.V. Surya narayana
	B. Designation	: Project Officer
	C. Address	: PKOC, MNG. Project office
	D. PIN Code	: 507117
	E. E-mail ID	: Oc4_mng @scclmines.com
	F. Telephone No.	: 08746-221171
	G. Fax No.	: 08746-220006
9.	Life of the Project	

	A.	Date of commencement of operation of MNG OC-IV project	:	1996	
	B.	Commencement of operation in expansion	:	2010 (Approved by Board of Directors)	
	C.	Total Life of the project as per present EC	:	20 Years	
	D.	Balance Life	:	15 years	
10.	Seams				
	A.	No. of Seams Present	:	10 Nos.	
	B.	Seams being worked	:	4 Nos.	
11.	Depth				
	A.	Minimum Depth	:	20m as per EC	
	B.	Maximum Depth	:	270m as per EC	
	C.	Present working depth	:	130m	
12.	Reserves				
	A.	Total Geological Reserves	:	65.90 MT	
	B.	Total Extractable Reserves	:	58.90 MT	
	C.	Reserves already Extracted	:	16.30MT(from-2008)	
	D.	Balance Reserves	:	6.301 MT	
	E.	Coal production during last 6 months	:	<b>2.187</b> MT	
	F.	Coal production since inception	:	16.30MT(from -2008)	
13.	Over Burden				
	A.	Total OB	:	369.04 M Cu.M	
	B.	OB extracted since inception	:	45.11 M.Cu.m (From 1.04.2010)	
	C.	OB removed in last 6 months	:	7.898 M CuM	
	D.	Stripping Ratio	:	6.27Cu.M/Ton	
14.	Top Soil				
	A.	Total Topsoil	:	3.00 M CuM	
	B.	Topsoil extracted since inception	:	2.768 M CuM	
	C.	Topsoil removed in last six months	:	0.055	
15.	Land Requirement			<b>Land required(Ha) as per EC</b>	<b>Land acquired (Ha)</b>
	A.	Total Requirement	:	734.60	548.76
	B.	Forestland Involved	:	654.95	470.00
	C.	Non-forestland	:	79.65	78.76
16.	Activity wise Land Requirement				
	A.	Quarry Area	:	428.74	242.90

	B.	OB Dumps External dump Safe barrier, drains & road	: 111.58	111.58
	C.	Internal dump area (Void of OC-I & COC)	: 178.52	178.52
	D.	Service buildings, CHP	: 15.76	15.76
	E.	<b>Total</b>	: <b>734.60</b>	<b>548.76</b>
17.	Statutory Clearances			
	A.	Revised Mining Plan Approval	: 08.05.2014	
	B.	Ground Water Clearance	: Lr.No.907/T/SCCL/2010, dt.17.09.2012	
	C.	Consent for Establishment	: ---Awaiting to receive renewal of CFO was applied in 2012, then after application made for fresh CFE	
	D.	Consent for Operation	: APPCB/VJA/KTM/89/HO/CFO/2011 DT 21.03.2011 (applied for renewal on 30.06.2012): CFO meeting hold on 26.02.2015	
	E.	Forest Clearance	: Lr No.8-14/94 DT14.02.1997 for 104Ha	
	F.	Mining Lease	: GO.MS.No.217, DT.12.08.2008 For 2186 Ha.	
	G.	Others (Specify)	: Previous EC Vide Lr No.J-11015/9/92-1A.II(M), Dated 06.12.1996	
18.	R & R Involved		: No R&R is involved in this extension project	

**A. Specific Conditions.[EC No.MoEF&CC Lt No.J-11015/286/2010-1A.II(M),Dt 10.12.2014]**

<b>Sl. No.</b>	<b>Condition</b>	<b>Compliance Status</b>
<b>i</b>	The Maximum production from the mine at any time shall not exceed the limit as prescribed in the EC.	Mine Production was not exceeded limit specified in the EC condition. The Production details are given in Part –II Table No.1
<b>ii</b>	The Validity of the EC is for the life of the Mine or as specified in the EIA Nitification.2006, which ever is earlier.	The Life of mine is 20 years specified in EC, board approved for project extension from 2010 remaining period is 15 years
<b>iii</b>	Old stabilized dumps which are vegetated will not be disturbed.	The finished dumps vegetated has not disturbed for ever, The height of the new dumps is maintained up to 90 meters as per comprehensive report on solid waste management and land reclamation submitted as per MoEF additional guidelines Lr.No. 2.2/2000-FC dtd.27.03.2000. FR/ amended solid waste management plan.
<b>iv</b>	Active internal dumps shall be re-handled to reduce the size of the void.	If it is necessary for reduction the size of void, at end of mining operation will done re-handling of Active internal dumps
<b>v</b>	The plantation be carried out with the minor forests produce plants.	The plantation in final dumps planed with Native species like Pongamia, Bamboo, Neem, Ficus, Tamarind, Sisso , Inga dulce ,Chindega, Casia Seama, Buruga, babul and Amla Pepal,Hardwickia binata egisa,Thani Neeruddi Juvi, Maredu ,Karaka Holoptelia etc.,
<b>vi</b>	Action plan prepared for implementation for afforestation and live hood (e.g. piggery, goatry ect.)of the PAFs	Action plan on afforestation was being included in EMP and There are no PAFs in the present proposed area. However, for benefit of the villagers, who were rehabilitated with other project following progrmmes has been prepared. 1.Giving Training on vocational courses for un employed youth ,like volva driving, light vehicles driving, physical training for selection of recruitment in military, police Etc, 2.Paper glass and soft toys making, embroidery, Sarries painting, Tailoring Indian leaf plate making ,Paper bags making etc, were continuing through Singareni seva samithi and also Under CSR. 3. Different types of Fruit bearing plants and shady trees distribution for surrounding village peoples for economic growth and development of greenery. 4. Providing contractual jobs in civil and sanitary and M&R works. 5.Offering contract vehicle deployment for PDFs PEFs Etc 6.Provided health amenities by conducting regular medical camps and provided PAPs with Health Cards for getting free emergency treatment at SCCL- Hospitals.
<b>vii</b>	There shall be no external dumps in the new mining areas.	External dumping will be done in the approved site as per FR/Solid waste management Plan.

<b>viii</b>	The proponent is advised to prepare a feasibility report and model forest plan for implementation and the report be submitted to the MoEF. .	Forest department of SCCL is preparing feasibility report and model forest plan is under preparation details of stage wise plantation details are given EMP and also same incorporated in EC
<b>ix</b>	Coal will be transported from pit head CHP to railway siding through belt conveyor.	Proposal is in process for erection of belt conveyor to transport coal from pit head CHP to railway siding
<b>x</b>	The coal production shall be within the same Mining lease area.	Presently the mining activity is in 548.76 Ha of mine lease are only
<b>xi</b>	The OB shall be completely re-handled at the end of the Mining.	This operation will be taken up at the time of end of the Mining
<b>xii</b>	Final mine void depth will not be more than 35m. The void area will be converted into water body.	it is being followed as per EMP at the time of final mine closing
<b>xiii</b>	Garland drains shall be provided.	2.7Km (2.0Mt X3.0Mt ) garland drains are made and maintained around the external dump area and quarry for regulating and arresting the flow of silt in surface run-off mine for proper drainage of water
<b>xiv</b>	Appropriated embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine	An embankment is being maintained along the sides of nallahs/river flowing near or adjacent to the mine during progress of mining operations towards dip side
<b>xv</b>	The land after mining shall be brought back for agriculture purpose.	On final dumps subsoil being dumped for plantation and same will be followed according to progress of dump area. Presently 2.768 M.Cu.M of top soil being spread for plantation
<b>xvi</b>	Mine water should be treated for discharge in to the lagoon. The quality of lagoon water shall be regularly monitored mitigation measures taken.	Mine water is collecting in sump bottom most area where the solid particles, will be settled and clean water was pumped in to lagoon at surface from this lagoon water will be distributed for different purpose of ,domestic and Industrial use , excess water in rain season is sent out near by nallahs leading to near by irrigation tanks, EPTRI regularly collecting water samples for regular quality monitoring. The analysis result are enclosed as <b>Annuxure-II</b>
<b>xvii</b>	The CSR cost should be Rs 5 per Tones of Coal production which should be adjusted as per the annual inflation.	Details of CSR activities mentioned in part-II, and the progressive CSR activities planed and proposals are under review stage.
<b>xviii</b>	Everybody in the core area should be provided with mask for protection against fugitive dust emissions.	The persons who are exposed for outer atmosphere In core zone are being provided with dust musks for protection against fugitive dust emission. In the period of six months 100 dust musk and150 ear plugs issued to work men HEMM provided with AC cabins
<b>xix</b>	The supervisory staff should be held personally responsible for ensuring compulsory regarding wearing of dust mask in the core area.	Supervisor staffs are made responsible for creating awareness about wearing dust masks ad their usage.
<b>xx</b>	People working in the core area should be periodically tested for the lung diseases and the burden of cost on account of working in the coal mine area.	As per the provisions of mines act all workmen are sending for medical examination initially and periodically for under go medical examination and testing for lung diseases, cost is accounted to the company.

xxi	The mining area should be surrounded by green belt having thick closed thick canopy of the tree cover.	124 ha of Green belt developed all along approach roads, KCHP ,site office building premises ,Haul roads and in and around vacant land of the mine area , The details of plantation is enclosed as <b>Annexure-XI</b> in EMP plan
xxii	The embankment constructed along with the river boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side and stabilized with plantation so as to withstand the peak water flow and prevent mine inundation.	The embankment i.e earthen bond of suitable dimension on the dip side of quarry operations and surrounding area of the mine with growing plantation all along the bond has been maintaining for prevent water flow into the mine.
xxxiii	There shall be no over flow of OB in to the river and in to the agriculture fields and massive plantation of native species shall be taken up in the area between the river and the project.	As a precautionary measure toe wall of 2.4KM length constructed and maintained properly at toe of the dump further extension work for toe wall along the south external dump is under progressing construction proposed for length of 1.5KM, some part of previous dump areas developed plantation with native species around it,to prevent over flow of dumped material.
xxiv	OB shall be stacked at two earmarked external OB dump site(s) only. The ultimate slope of the dump shall not exceed 28 degrees Monitoring and Management of existing reclaimed dumpsites shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forests & Climate change and its concerned Regional office on yearly basis.	Presently, over burden dumping is proceeding in earmarked external OB dump site(s) i.e South external dump and internal dump with ultimate slope angles are maintaining below 28 degrees, reclaimed Dumpsites are being continuously monitored and management is done by SCCL forestry department compliancy report was submitting every year to MoEF & CC and its concerned R.O
xxv	Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilized for watering the mine area, roads, green belt development, etc. The drains shall be regularly desilted and maintained properly. Garland drains (size,gradient and length) and sump capacity shall be deigned keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow proper settling of site material.	Deck drains with, Bio-mechanical structures and siltation ponds of appropriate size are being constructed and maintained regularly, to arrest silt and sediments flows from soil and mineral dumps, The collected water is being reused within mine premises for water spraying, Green belt development. The drains, Garland drains and sumps are being designed and maintained properly Keeping 50% safety margin for capacity in view of rain season in coming water.
xxvi	Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off and siltation shall be based on the rail fall data.	2.7 KM Rock Toe walls/retaining walls at the toe of dumps and OB benches are being constructed with bottom width -3mt ,height-2mt and top width 1mt 1.5 KM toe wall is under construction stage near toe of the south external dump area and for a length of 2.4 KM and toe wall with hard OB soil at the toe of each deck of dumps and OB benches constructed with siltation ponds to check run-off and siltation by considering

		previous rain fall data as a base.																																				
<b>xxvii</b>	Crushers at the CHP of adequate capacity for the expansion project shall be operated with high efficiency bag filters, water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc.	Crushers at the CHP of 3X500Tph capacity operated in pit crushers and also conveyor, haulage roads, transfer points, etc are provided with water sprinkling system provided to control fugitive emissions from crushing operations.																																				
<b>xxviii</b>	Drills shall be wet operated.	All drill machines are being provided and maintained with wet drilling arrangement																																				
<b>xxix</b>	The project authorities shall undertake regular repairing and tarring of roads used for mineral transportation. A3-tier green belt comprising of amix of native species shall be developed all along the major approach roads.	Roads used for Coal transport are being maintained with black top roads, with manual cleaning for coal dust ,pot holes on road way were repairing regularly whenever it noticed and also A3-Tier green belt comprising of a mix of native species was developed and being maintained																																				
<b>xxx</b>	Controlled blasting shall be practiced with use of delay detonators and only during daytime. The proponent would need to repair the cracks in the housed if it occurred on account of blasting. The mitigate measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.	Blasting with non-electrical detonators with controlled techniques has been practicing and it is doing exclusively in day time only. Keeping in view of control of ground vibration, flying fragments and air blast etc. Secondary blasting is avoided.																																				
<b>xxxi</b>	A progressive afforestation plan shall be implemented covering an area of 402.76ha at the end of mining, which includes reclaimed External OB dump area (105.92ha), Internal OB dump area (284.87ha), and green belt (11.97ha) in town ship located outside the lease by planting native species in consultation with the local DFO/Agricultural Department. The density of the trees shall be around 2500 plants per ha. Massive plantation shall be carried out in open spaces in and around the mine and a 3-tier avenue plantation along the main approach roads to the mine.	<p>The details of a progressive Green belt development programme for implementation in mining area. (The details of same is given clearly in 4.3.8.12 of EMP)</p> <table border="1"> <thead> <tr> <th>Stages</th> <th>Plantation</th> <th>Loss of plantation</th> <th>Pro. plantation</th> </tr> </thead> <tbody> <tr> <td>Initial</td> <td></td> <td></td> <td>60.22</td> </tr> <tr> <td>I</td> <td>---</td> <td>-26.56</td> <td>33.66</td> </tr> <tr> <td>II</td> <td>40.03</td> <td>-3080</td> <td>42.89</td> </tr> <tr> <td>III</td> <td>29.11</td> <td></td> <td>72.00</td> </tr> <tr> <td>IV</td> <td>21.47</td> <td></td> <td>93.47</td> </tr> <tr> <td>V</td> <td>289.08</td> <td></td> <td>382.55</td> </tr> <tr> <td>Final</td> <td>--</td> <td></td> <td>382.55</td> </tr> <tr> <td>Closing</td> <td>20.21</td> <td></td> <td>402.76</td> </tr> </tbody> </table> <p>The Plans is enclosed in EMP/EIA report S.No 390-397</p>	Stages	Plantation	Loss of plantation	Pro. plantation	Initial			60.22	I	---	-26.56	33.66	II	40.03	-3080	42.89	III	29.11		72.00	IV	21.47		93.47	V	289.08		382.55	Final	--		382.55	Closing	20.21		402.76
Stages	Plantation	Loss of plantation	Pro. plantation																																			
Initial			60.22																																			
I	---	-26.56	33.66																																			
II	40.03	-3080	42.89																																			
III	29.11		72.00																																			
IV	21.47		93.47																																			
V	289.08		382.55																																			
Final	--		382.55																																			
Closing	20.21		402.76																																			

<b>xxxii</b>	An estimated total 367.96Mm <sup>3</sup> of OB will be generated during the entire life of the mine. Out of which 155.55Mm <sup>3</sup> of OB will be dumped in two external OB dumps in an earmarked area covering 111.58ha of land.181.29Ha belong to adjacent MNGOC.II project .212.41Mm <sup>3</sup> of will be one internal OB dump in covering an area of 395.78 Ha. The maximum height of external OB dump for hard OB will not exceed 90 M Monitoring and management of reclaimed dump sites shall continue till the vegetation becomes self – sustaining and compliance status shall submitted to MOEF& &CC and its Regional Office on yearly basis	Presently Over burden dumping is proceeding in south external OB dump &, internal dumping dump sites only, maximum restrict height is 90Mts and over all slope angles of dumps are being maintained 28 degrees ,reclaimed Dumpsites are being continuously monitoring and management is being done by SCCL forestry department Headed by Advisory forestry (IFS), the compliancy status report is being submitted regularly every year to MoEF & CC and its regional offices.
<b>xxxiii</b>	The proponent should prepare restoration and reclamation plan for the degraded area. The land be used in a productive and sustainable manner.	All areas affected by mining activities will be re-vegetated to control erosion and restore the site's natural condition extensive plantation is being taken up over back filled area, dump area along the Haul roads, approach roads and the quarry boundary. It is proposed to revegetate 402.76 ha. At end of mining. Reclaimed external dump(in 105.92Ha, internal dump (in 284.87Ha) and Green Belt over an area of (11.97Ha). With phased manner planning was prepared for plantation and reclamation of mining area according to proceeding of mine workings. Presently plantation developed in 124 ha of mine surroundings
<b>xxxiv</b>	Compensatory Ecological & Restoration of waste land, other degraded land and OB dumps in lieu of breaking open land be carried out.	As part of Compensatory Ecological development & Restoration of waste land, other degraded land OB dumps and in open lands also Brocken up regularly.
<b>xxxv</b>	The mining should be phased out in sustainable manner. No extra over burden dumps are permitted.	The method of mining is being following phased out in sustainable manner. Over burden dumping is being proceeded only in approved dumpsites as per EMP only, ie south external dump.
<b>xxxvi</b>	No ground water shall be used for mining operations.	Only mine water is being used for mining operations, like washing of HEMM, water spraying to control dust rising and fire prevention in coal benches and plantation purposes.
<b>xxxvii</b>	Of the total quarry area of 428.74ha,the backfilled quarry area of 107.12 ha shall be reclaimed with plantation and avoid of 314.98ha, at a depth of 35 m which is proposed to be converted into a water body shall be gently sloped and the upper benches shall be terraced and stabilized with plantation/afforestation by planting Native plant species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha.	The same will be complied at the end of mining operations
<b>xxxviii</b>	Regular monitoring of ground water level	construction of new peizometers is being carried

	<p>and quality shall be carried out by establishing a net work of existing wells and construction of new peizometers. The monitoring for quantity shall be done four times a year in pre-monsoon (may) monsoon (August),post – monsoon (November)and winter (January) seasons and for quality in May. Data thus collected shall be submitted to the Ministry of Environment &amp; Forests and to the Central pollution control Board quarterly within one month of monitoring.</p>	<p>out Water level from existing wells and new wells being carried out four times a year in pre-monsoon(may),monsoon(august),post-monsoon (November) and winter (January) seasons with Hydro-geological department, SCCL-Kothagudem and EPTRI (Govt agency, recognized Lab by CPCB &amp; DSIR) being collected water samples seasonal wise for water quality (last samples collected in the month of feb-2015) results of analysis being submitted regular to the MoEF within one month of monitoring.Ist quarterly report for the year-2015 being submitted as per ref No.MNG/ENV/15/560/363 Dt31/3/2015 Peizometric &amp; phearometric wells data enclosed as <b>Annexure-XV</b> Surface water quality report enclosed as <b>Annexure-IV</b> Ground water quality report enclosed as <b>Annexure-V</b></p>
<b>xxxix</b>	<p>The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case monitoring indicates in decline in water table. The project authorities shall meet water requirement of near by village(s) in case The village wells go dry due to dewatering of mine.</p>	<p>The SCCL constructed artificial ground water recharges pits and also arrangement was made tap water supply near around the colonies and villages for drinking and domestic water supply to meet water requirement from Godavari river Intake well after purification, Though there is no report on drying of wells in summer seasons also.</p>
<b>xl</b>	<p>Sewage treatment plant shall be installed in the existing colony. ETP shall be provided for workshop and CHP waste water .</p>	<p>1.5MLD Capacity of STP being provided &amp; maintained properly Residential area of P.V colony Manuguru . ETP being provided and maintained for workshop effluents with settling tank capacity 3.00 Lakh Liters and another ETP for KCHP is made ready for commissioning.</p>
<b>xli</b>	<p>Besides carrying out regular periodic health cheek up of their workers. 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health cheek-up for occupational diseases and hearing impairment. If any, through an specialized agency /institution within the District /State and the results reported to this Ministry and to DGMS.</p>	<p>Initial and periodical health check up being carried out regularly for employees of SCCL and contractual labour engaging in mining operations in SCCL PME cell. Doubtful cases special for occupational diseases and hearing impairment sending for consult specialists at Main Hospital-SCCL- Kothagudem and also corporate hospitals at Hyderabad. No such case is noticed.And result of reports submitting to this Ministry and DGMS, copy of the report enclosed as <b>Annexure-VI</b></p>
<b>xlii</b>	<p>Land oustees shall be compensated as per the norms laid out R&amp;R policy of CIL or the National R&amp;R Policy or R&amp;R policy of the State Government whichever is higher.</p>	<p>As per EC There no R&amp;R is involved</p>
<b>xliii</b>	<p>For monitoring land use pattern and for post mining land use, a time series of land use maps, based on satellite imagery (on a scale of 1:5000of the core Zone and buffer Zone, from the start of the project until end of mine life shall be prepared once in 3years (for any one</p>	<p>Satellite imagery land survey conducted last year with out side agency DATUM Pvt Ltd and report also submitted along with March-2014 Half yearly report.</p>

	particular season which is consistent in time series),and the report submitted to MOEFCC and concerned Regional office.	
<b>xliv</b>	A detailed Final Mine Closure plan along with details of Corpus Fund shall be submitted to the Ministry of Environment Forests & Climate change within 6 months of grant of Environmental Clearance.	The final mine closure plan along with details of corpus Fund is prepared and submitted to the Ministry of Environment & Forests along with EMP/EIA detail are mentioned in page no.334 in chapter no 10.7 under heading of Mine closure plan & 4.4.13 Abandonment Cost Total Mine closure cost estimated Rs 75.02 Cr. and the annual closure cost to be deposited year wise @5% increment Rs 117.25 cr. A Plan enclosed in EMP/EIA report is No 397
<b>xlv</b>	i)The project authorities shall in consultation with the Panchayats of the local villages and administration identify socio-economic and welfare measures under CSR to be carried out over the balance life of the mine	it is being followed, the details socio –economic and welfare measures and the details of the CSR works are given in part-II under heading of Socio-Economic measures.
	ii)The commitment made by the Proponent to the issue raised during Public Hearing shall be implemented by the Proponent.	All the issues has been dealt by SCCL management, which are brought during Public Hearing.
	lii) Corporate Environment Responsibility: a) The Company shall have a well laid down Environment Policy approved by the Board of Directors.	Yes, SCCL have a well laid down Environmental policy, which is approved by Board of Directors Details are being furnished as <b>Annexure-IX</b>
	b) The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.	The SCCL have approved & standard Environment policy is in force with approval of Board of Directors
	c) The hierarchical system or Administrative order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.	The SCCL have the hierarchical system for dealing environmental issues and ensuring compliance with environmental clearance conditions status and being furnished required report/data, Details are being enclosed as <b>Annexure-XII</b>
	d) To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and /or shareholders or stakeholders at large.	The report of compliance/non compliance/violations of environmental norms on quarterly basis sending regularly to Board of Directors of the SCCL
<b>B. General Conditions</b>		
<b>S.No</b>	<b>Conditions</b>	<b>Status</b>
<b>I</b>	No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests & Climate	Following approved mine technology and scope of working as per EMP ie. Shovel & dumpers/trucks combination

ii	No change in the calendar plan of production for quantum of mineral coal shall be made.	The details of actual production of Coal and over burden is furnished in part-II of S.No.1
iii	Four ambient air quality monitoring stations shall be established in core zone as well as in the buffer zone for PM10, PM2.5 , SO2 and NOx monitoring. Location of the stations shall be decided based on the metrological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc carried out at least once in six months	To assess the AAQ monitoring following stations established in <b>Core zone</b> MNG OC-IV (project site office) MNG OC-IV (field sub-station) GM Office-old (MNG OC-IV) MNG OC-IV Pit head CHP SMS Plant <b>and Buffer zone</b> Shivalingapuram Vilage Bandarugudem Village Ippal Singaram Village Kunavaram village Keeping in view of the metrological data, topographical features and environmental parameters in consultation with the State Pollution Control Board. Summary report is given in part –II under heading of Ambient air quality monitoring and details of analysis is enclosed as <b>Annexure-I</b> Effluent quality is being carried out once in six months the result of the same submitting regularly, summery report given in part-II under heading of Effluent quality and detailed analysis report enclosed as <b>Annexure-II</b> And Monitoring of heavy metals such as Hg,As,Ni,Cd,Cr, etc analysis reports enclosed as <b>Annexure-X</b>
iv	Data on ambient air quality (PM10, PM2.5 , SO2 and NOx ) and heavy metals (Hg, As, Ni, Cd, Cr, etc) and other monitoring data shall be regularly submitted to the Ministry including its concerned regional office and state pollution Control Board and Central Pollution Control Board once in six months. Random verification of samples through analysis from Independent laboratories recognized under the EPA Rules,1986 shall be furnished as part of compliance report	Data on AAQ & heavy metals and other monitoring data being submitting regularly to the Ministry including its concerned R.O and State Pollution Control Board and Central Pollution Control Board. Presently Post project environment monitoring work is regularly carried out by EPTRI (Govt. agency, recognized Lab by CPCB ,NABAT & DSIR.
v	Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc. shall be provided with ear plugs/muffs.	HEMM provided with sound proof AC cabins for operators, Person present for working running machinery provided with ear plugs/muffs and also keeping safe distance from sound effect, Blasting & drilling operations and operation of HEMM other than sound proof cabins is being provided with Ear Plugs/muffs.
vi	Industrial waste water(workshop and wastewater from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422(E) dated 19 <sup>th</sup> May 1993 and 31 <sup>st</sup> December 1993 or as amended from time to time before discharge. Oil and grease	Industrial waste water from mine being properly collected, being treated through ETP before discharging, the discharge water being conformed for meeting to the standards prescribed in this condition. Oil and grease trap being installed before discharge of workshop effluents. The discharge water reusing for

	trap shall be installed before discharge of workshop effluents.	plantation and HEMM washing, for conserve the water.
<b>vii</b>	Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulin and optimally loaded.	The vehicles are deployed in mining operation have been maintaining properly to control vehicular emission and vehicular emissions regularly being monitored by EPTRI. (Govt. agency recognized Lab by CPCB & DSIR) A copy of the report enclosed as <b>Annexure-XIV</b> . Lorries transporting coal are covered with tarpaulin and optimally loaded. All approach roads for KCHP were black tapped and being maintained free from pot holes.
<b>viii</b>	Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analyzed through a laboratory recognized under EPA Rules, 1986	All environmental quality parameters has been monitoring and Data analysis is being carried out by EPTRI. (Govt agency recognized Lab by CPCB & DSIR)
<b>ix</b>	Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.	Persons working in dusty areas are being provided with protective equipment and trained for proper wearing of the same and also information on safety and health aspects awareness programmes are being conducting regularly at mine site office and MVTC
<b>(x)</b>	Occupational health surveillance programme of the works shall be undertaken periodically to observe any contractions due to exposure to dust to take corrective measures, if needed and records maintained thereof. The quality of environment due to outsourcing and the health and safety issues of the outsourced manpower should be addressed by the company while outsourcing.	The contract workmen, who are engaged in contractual works are being provided dust mask and These contractor persons before providing job are being send for medical examination at SCCL hospital PME cell initially and periodically. Keeping in view of occupational health hazards. Like dust related diseases, hearing impairment and other. Refraction and audio-metric test are being carried out, who is crossed age of 45 years every three years only, other workmen every five years. (Its includes contract work men also).Detailed report regarding Occupational medical examination are enclosed as <b>Annexure-VI</b>
<b>(xi)</b>	A separate environmental management cell with suitable qualified personnel shall be set up under the control of a senior Executive, who will report directly to the Head of the Company.	The following Environmental Management Management cell for MNG OC-IV extension project is functioning for implementing environmental safe guarding, meeting are being held regularly for improve environmental safe guards. Recently review meeting was conducted on 03.01.2015 at P.O office.The meeting minutes are enclosed as <b>Annexure –VIII</b> <u>Members of Environment management cell</u> 1.Project officer Chairman 2.Project Manager Member 3.Project engineer Member 4.DGM(Stores) Member 5.DGM(Civil) Member 6.Dy.Mgr(Env) Member

		7.Sr.U.Mgr (Env) 8.Sr Survey officer 9.Dy.Est.Manager 10.Sr. Forest officer	Member Member Member Member
<b>xii</b>	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year wise expenditure shall be reported to this Ministry and its concerned Regional Office.	A separate capital funds were provided for various Environmental Protection measures like Environmental monitoring, Pollution control, Green belt development, pollution monitoring facilities etc. and machinery for construction of roads, fencing around quarry, garland drains and funds for NPV & compensatory afforestation etc. the report furnished in part-II Table. No 11	
<b>xiii</b>	The project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and may also be seen at the website of the ministry of Environment, Forest & Climate Change at <a href="http://envfor.nic.in">http://envfor.nic.in</a> .	Advertisement were published in Telugu News paper Eenadu and English News paper Deccan Chronical On 19.12.2014	
<b>xiv</b>	A copy of environmental clearance letter shall be marked to concern Panchayat/ Zila Parishad, Municipal Corporation or urban local body and local NGO, if any from whom any suggestion/representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on company's website.	The Copies of EC letters was submitted by post to Panchayat of Samithisigaram, Ramunjavaram, Zilla Parishad Khammam and Municipality Manuguru and others and a copy of the same is displayed on SCCL web site also	
<b>xv</b>	A copy of the environmental clearance letter shall be shall also be displayed on the website of the concerned State pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Sector and Collector's Office/Tehsildar;s Office for 30 days.	The copies of EC letter was submitted by post to R.O &Z.O of TSPCB & District industry Sector and Collector'/Tehsildars office for display in their Web site and office premises	
<b>xvi</b>	The Clearance letter shall be uploaded on the company's website; The compliance status of the stipulated environmental clearance conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in public domain. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as Pm10, Pm2.5, SO2 and NOx(ambient ) and critical sectoral parameters shall also be displayed at the	The clearance letter and the compliance status of the stipulated environmental clearance conditions being up loaded in SCCL web site. And the web site is update latest information along with Environment quality parameters Monitoring latest data and critical sectoral parameters are being updated. The environment quality parameters also being displayed regularly at the project premises and mine site offices and in corporate offices & SCCL website also.	

	entrance of the project premises and mine office and in corporate office and on company's website.	
<b>xvii</b>	The project proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the Ministry, respective Zonal Offices of CPCB and the SPCB.	six monthly compliancy report on status of compliancy of the stipulated environmental clearance conditions( both in Hard copy and e-mail) is being submitted regularly to the R.O of ministry, Z.O of CPCB and the SPCB
<b>xviii</b>	The Regional office the Ministry located in the Region shall monitor compliance of the stipulated conditions. The project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/information/monitoring reports.	The requisite data/information/Monitoring reports/compliance report for stipulated conditions are being submitted regularly, for monitoring regional office of MoEF ,Chennai And extending co-operation during their visits for inspection.
<b>xix</b>	The environmental statement for each financial year ending 31 March in Form-V is mandated to be submitted by the project proponent for the concerned State pollution Control Board as prescribed under the Environment (protection) Rules, 1986, as amended subsequently, shall also be uploaded on the company website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MOEF by e-mail.	The Environmental statement for each financial year ending 31 March In FORM-V, is being submitted regularly to the STPCB and R.O of the MOEF. Date of last report submitted on 27.09.2014

**Project officer,  
ManuguruOC-IV  
Extension coal project  
SCCL**

**A periodic progress report regarding environmental protection measures till 31.03.2015 is enclosed as Part – II pertaining to Manuguru Opencast –IV extension project**

<b>1.Production Details</b>									
Year	Coal production MT				OB removal(in MCu.m)				
	FR/EMP	Prog.	Actual	Prog.	FR/EMP	Prog.	Actual	Prog	
2010-11	1.50	1.50	3.67	3.67	19.08	19.08	10.50	10.50	
2011-12	3.00	4.50	3.73	7.40	9.99	29.07	13.61	24.11	
2012-13	3.00	7.50	3.55	10.95	10.56	39.63	4.01	28.12	
2013-14	3.50(EC)	11.00	2.02	12.97	15.60	55.23	3.14	31.26	
2014-15	3.50(EC)	14.50	3.33	16.30	15.76	70.99	13.85	45.11	
2015-16	3.50(EC)	18.00			25.15	96.14			
<b>2. Topsoil Management (in M.Cu.m) from the year-2010</b>									
Total Topsoil to be removed					3.000 M.Cu.M				
Topsoil removed so far					2.768 M.Cu.M				
Topsoil stored in temporary stockyard									
Topsoil spread on Dumps					2.768 M.Cu.M				
Topsoil removed in last six moths					0.055 M.Cum.				
<b>3.Overburden Management (in M.Cu.m) from the year -2010</b>									
Total Overburden to be removed			367.96 M.Cu.M						
Total OB removed since inception			45.11 M.Cu.M						
Total OB removed during last six months			7.898 M.Cu.M						
Details of OB dumps			O.B (M.Cu.M)		Area (Ha)		Height (M)		Overall slope
			EMP	present	EMP	present	EMP	present	
South External dump			41.76	36.862	90	90	89.80	103.89	28.2 <sup>0</sup>
North external Dump			113.79	00.00	120	00	181.29		
Internal dump			212.41	5.480	90	60 mt deck	305.78	196.34	27.3 <sup>0</sup>
<b>4.Plantation Deatails</b>									
1	No of plants planted during last six months/ last year			50000					
2	Area covered in Ha			20.00 Ha.					
3	Expenditure incurred in Rs.			2.60 lakhs					
4	Total area brought under plantation so far in Ha			124Ha					
5	Total no of plants planted so far since inception			3,11,000					
6	Species of plants planted			Native species like Pongamia, Bamboo, Neem, Ficus, Tamarind, Sisso , Inga dulce , Chindega, Casia Seama, Buruga, babul and Amla Pepal,Hardwikia binata egisa,Thani Neeruddi Juvi, Maredu ,Karaka Holoptelia etc.,					
7	Seeds sown so far in the year			800 Kgs.					
8	Small plants planted so far in the year			500					
9	Total expenditure in Rs. lakhs -			18.74 lakhs					
Note: A plan showing year-wise plantation details is furnished as <b>Annexure- XI</b>									
<b>5. Water Balance Statement</b>									
Sl. No	Description				Quantity in KLD				
1	Average quantity of water pumped out of the mine				3677				

2	Water used for drinking/bathing and other industrial requirement	1455
3	Water used for washing of HEMM/fire fighting	110
4	Water used for plantation	10
5	Water supplied for nearest township/village for domestic purpose	
6	Excess water let out	2212
7	Point of discharge (as per CFO)	Tanks via nallahs
8	Discharge Consent from TSPCB	19328

#### 6. Soil Erosion Control Measures

1	Toe Walls	1.5 kms
2	Garland drains	15.00 kms
3	Settling ponds	05nos.
4	Gabions	06nos.
5	Deck drains	2.nos
6	Cribs	50nos.
7	Rock Fill Dams	05 nos

#### 7. Micro-meteorological Monitoring: Online Micro-meteorological station detailed report

Sl.No.	Parameter	Min.	Max.	Mean
1.	Temperature	11.9	41.9	26.1
2.	Wind Speed (Km/hr)	0.0	9.0	3.5
3.	Relative Humidity (%)	8.5	99.7	58.3
4	Predominant Wind direction for the entire study period	NE		
5	Total rainfall (mm)	100.6mm		

#### 8. Ambient Air Quality Monitoring Details

Location (Core zone Stations)	Direction & Distance	PM <sub>10</sub> (ug/m <sup>3</sup> )			
		Min.	Max.	98%tile	STD
MNG OV - IV Field Sub-Station	North	114	173	172.5	250
MNG OC - IV, Site Office	West	176	248	435.3	
GM Office-MNG	South	112	226	220.2	
MNG OC-IV Pit head CHP	East	165	251	247.9	
Stations		PM <sub>2.5</sub> (ug/m <sup>3</sup> )			
MNG OV - IV Field Sub-Station	North	45.8	63.6	62.9	-
MNG OC - IV, Site Office	West	54.2	71.8	71.5	-
GM Office-MNG	South	48.3	66.7	52.103	
MNG OC-IV Pit head CHP	East	60.2	72.8	71.8	

<b>Stations</b>		<b>SO<sub>2</sub>(ug/m3)</b>			
MNG OV - IV Field Sub-Station	North	10.8	15.7	15.5	120
MNG OC - IV, Site Office	West	11.2	14.6	14.53	
GM Office-MNG	South	11.8	15.9	15.6	
MNG OC-IV Pit head CHP	East	10.5	15.3	15.2	
<b>Stations</b>		<b>NO<sub>x</sub>(ug/m3)</b>			
MNG OV - IV Field Sub-Station	North	16.4	25.6	25.5	120
MNG OC - IV, Site Office	West	17.5	23.3	23.1	
GM Office-MNG	South	16.4	24.2	24.1	
MNG OC-IV Pit head CHP	East	15.2	23.7	23.6	
<b>Buffer Zone Station</b>		<b>PM<sub>10</sub>(ug/m3)</b>			
Pagideru (V)	North 3.04kms	61	89	87	100
Ramunjavaram(v)	North3.8 km	65	91	90	
Besthagudem(v)	West 3.4km	70	89	89	
Shanti nagar (V)	South 1.10 km	60	89	88	
Kunavaram (V)	South	72	92	92	
<b>Stations</b>		<b>PM<sub>2.5</sub>(ug/m3)</b>			
Pagideru (V)	North 3.04kms	30.1	45.9	44.9	60
Ramunjavaram(v)	North3.8 km	32.7	48.5	47.3	
Besthagudem(v)	West 3.4km	32.0	49.4	49.4	
Shanti nagar (V)	South 1.10 km	33.3.	46.1	46.0	
Kunavaram (V)	South	336.4	50	49.8	
<b>Stations</b>		<b>SO<sub>2</sub>(ug/m3)</b>			
Pagideru (V)	North 3.04kms	10.3	14.3	14.1	80
Ramunjavaram(v)	North3.8 km	9.9	14.7	14.7	
Besthagudem(v)	West 3.4km	10.0	15.8	15.4	
Shanti nagar (V)	South 1.10km	10.1	14.2	14.1	
Kunavaram (V)	South	10.3	14.2	14.1	
<b>Stations</b>		<b>NO<sub>x</sub>(ug/m3)</b>			
Pagideru (V)	North 3.04kms	15.4	21.6	21.5	80
Ramunjavaram(v)	North3.8 km	14.6	23.4	23.2	
Besthagudem(v)	West 3.4km	14.4	22.4	22.3	
Shanti nagar (V)	South 1.10 km	14.2	22.2	22.0	
Kunavaram (V)	South	15.4	23.5	23.3	
<b>Detailed report of analysis enclosed as Annexure-I</b>					
<b>9.Effluent analysis</b>		<b>P<sup>H</sup></b>			

		Min	Max	98%tile	STD	
MNG OC IV–Mine Discharge	South	7.3	8.0	7.9	5.5-9.0	
MNG OC – Extn BWS ETP	South	7.2	7.9	7.8	5.5-9.0	
KCHP	South	6.7	7.9	7.9	5.5-9.0	
MNG OC – II Extn . Dump run off	West	7.1	7.9	7.9	5.5-9.0	
Location	Direction & Distance	TSS (mg/l)				
MNG OC – Extn Mine Discharge	South	12	36	34.6	100	
MNG OC – Extn BWS ETP	South	12	21	21.5	100	
KCHP	South	22	59	55.4	100	
MNG OC – II Extn . Dump run off	West	9	22	20	100	
Location	Direction & Distance	COD (mg/l)				
MNG OC – Extn Mine Discharge	South	17	23	22.7	250	
MNG OC – Extn BWS ETP	South	15	28	27.7	250	
KCHP	South	26	60	59.7	250	
MNG OC – II Extn . Dump run off	West	14	22	22	250	
Location	Direction & Distance	Oil & Grease (mg/l)				
MNG OC – Extn Mine Discharge	South	0	0	0	10	
MNG OC – Extn BWS ETP	South	3.2	4.2	4.18	10	
KCHP	South	3.1	4.0	3.9	10	
MNG OC – II Extn . Dump run off	West	0	0	0	10	
<b>Details of effluent analysis enclosed as annexure-II</b>						
<b>10.Noise Monitoring</b>		<b>Day Time</b>				
MNG OC-II Extn Site Office	South	64.0	73.1	72.92	75	
MNG OC-II Extn BWS	South	67.5	77.2	76.1		
KCHP	South	67.1	73.2	72.9		
MNG OC-IV Site Office		65.5	74.0	73.8		
		<b>Night Time</b>				70
MNG OC-II Extn Site Office	South	47.7	65.0	64.4		
MNG OC-II Extn BWS	South	46.5	63.2	63.02		
KCHP	South	60.2	64.9	64.8		
MNG OC-IV Site Office		55	64	63.6		
Location (Buffer Zone)	Direction & Distance	Day Time				75
Pagaderu Village, 3.4kms	North,	39.3	44.9	41.7		
Bugga (V),2.90 kms.	West	31.6	37.6	35.3		
P.V.Colony (V),3.00 kms.	south	37.8	46.6	42.6		

		Night Time			70
Pagaderu Village, 3.4kms	North,	39.3	44.9	41.7	
Bugga (V),2.90 kms.	West	31.6	37.6	35.3	
P.V.Colony (V),3.00 kms.	south	37.8	46.6	42.6	
<b>Details of noise analysis enclosed as annexure-III</b>					
<b>11.Revenue expenditure in lakhs</b>					
SL.No	Particulars	Up to the month			
A	Air Polution(Prevention & Control)	182.172			
B	Water Polution(Prevention& Control)	26.47			
C	Land Development	0			
D	Plantation	0			
E	P & M for Environment protection	76.258			
F	Consultancy Payments/Scientific Studies.	0.0			
G	OB dumps/subsidence stabilization	47.00			
H	Others	0.0			
I	Noise & Blast vibrations	54.046			
	<b>Total</b>	<b>385.946</b>			

## I. Air

### **Air Pollution Control Measures:**

#### ***Dust Control***

- Water spraying along haul roads and coal transport routes are being done to keep the road surface wet and to reduce the dust rising due to movement of vehicles and wind.
- All drill machines have been provided with dust collectors, dust disposal arrangement and wet drilling arrangement.
- Road leading to project is being black topped, pot holes being repaired regularly
- 3 tiers Plantation along the roads has been undertaken up for dust control along the roads and also thick green belt along mine boundary.
- Speed of the vehicles is controlled to minimize dust generation.
- Proper loading of the Lorries and also covering the coal Lorries with tarpaulins to avoid coal spillage along the road.
- Control blasting technique is being adopted with delay action non-electrical detonators to control ground vibrations, noise, dust and also gases emissions.
- Rock breaker is being used for the boulders to avoid secondary blasting to control noise and dust from blasting
- Mist spray and dry fog dust suppression system is provided and maintained in CHP at all transfer points, crusher plant and loading/un loading points etc.,.

#### ***Gaseous Pollution Control Measures:***

- Regular maintenance of Heavy Earth Moving Machinery and other vehicles is being done to reduce vehicular emissions. Tuning of engine is taken up as per the recommendations of Vehicle manufacturer.
- In pit crusher is established in the quarry and coal is being transport by the belt for a length of 1.5 km to avoid dumpers movement in order to reduce vehicular pollution.
- All employees are being provided with LPG cylinders to prevent burning of coal/wood.
- Delay action detonators are being used by adopting control blasting technique to mitigate gaseous emission.

- Separate coal stockyard is provided. Dumping of coal at mine surface is practically negligible.
- To avoid spontaneous heating of coal wetting is being practiced at coal benches and coal stocks.

## II. Water

### Water Pollution Control Measures:

- RO- plants are installed all the departments and mines for supply of clean and pure drinking water is being supplied to all the employees.
- Water used for other domestic supply is being treated and chlorinated before distribution.
- Sewage collection lines and the septic tanks are provided in colonies. Health department of SCCL-Manuguru is looking after regular works of sanitation in all the colonies. A sewage treatment plant of 1.5 MLD capacity has been operating at PV colony for treating domestic sewage. After treatment, water is being used for parks and gardens and also by local villagers for agriculture (72 Acres).
- Soil moisture construction (SMC) structures like toe wall, check dams, gabions, settling ponds etc., are being constructed to prevent soil erosion.
- Settling tanks are being used for removal of suspended solids etc. from the mine discharge water.
- Miscellaneous plantation and hamata grass, agave sucker are planted on the slopes of the dumps to control soil erosion.
- ETP is provided at base workshop for treating the vehicle wash effluent for removal of suspended solids and oil and grease. Treated water is being used for washing of vehicles and also for plantation.
- Two settling ponds are provided at CHP for removal of suspended solids and a separate ETP for CHP is under construction stage.

### Water Conservation Measures

**I. Effluent Quality Monitoring:** The samples for Effluent Quality Monitoring samples are being collected every fortnight by EPTRI, Post project monitoring team under the supervision of EPTRI scientist and Environment officer of the concerned project. The analysis report for the period from Oct-2014 to Mar-2015 furnished here under in **Annexure- II**

**I. Surface Water Quality Monitoring:** The samples for Surface Water quality are being collected every quarter by EPTRI Post project monitoring team Environment officer of the concerned project, analysis report is sent within one month of samples collection, result of the same from Oct-2014 to Mar-2015 is furnished here under in **Annexure- IV**

**ii. Ground water Quality Monitoring:** The samples for Ground Water quality Monitoring are being collected every quarter by EPTRI, Post project monitoring team under the supervision of EPTRI scientist and Environment officer of the concerned project, analysis report for the period Oct-2014 to Mar-2015 is furnished here under in **Annexure- V**

## III. Noise

### Noise Pollution Control Measures:

- Control blasting technique is being adopted with delay action non-electrical detonators to control ground vibrations, noise, dust and also gases emissions.
- Rock breaker is being used for the boulders to avoid secondary blasting to control noise and dust from blasting.

**Noise Level Monitoring: The detailed noise level data monitored during the period Oct-2014 to Mar-2015 is enclosed as Annexure-:III**

**IV. Socio-economic Measures:**

1. Environmental awareness programmes are being conducted in all mines, departments, Colonies and schools at regular intervals to bring environmental awareness on conservation of Water, Power, Waste management and pollution prevention measures from time to time. Competitions like quiz, elocution and essay writing and also drawing were conducted among the SCCL employees and all school children of Manuguru area on environment and bio-diversity. World Environmental Day on June 5<sup>th</sup> is conducted at all mines and departments by displaying banners and administering pledge. On 19th June 2014 a big rally was organized by the employees of the SCCL, all school children of Manuguru and also with Government officials as well as local organizations, human garland was organized at Manuguru center as a part of environment awareness campaign.
2. Wide publicity is being given at mines and departments to undergo Family Planning operations. Twenty eight (Tubectomy-32, Vasectomy – 2) family planning were done during the last six months period. Management is providing Rs.220/- for vasectomy operation and Rs.150/- for Tubectomy operation in addition to the 6 days special leave with pay to the employees who are undergoing family planning operations in the colliery hospitals.
3. Weekly vaccination for polio, triple antigen, measles, BCG is given regularly at the dispensaries.
4. All company quarters are provided with safe drinking water drawn from Godavari River and water is supplied after filtration and chlorination.
5. R.O. Plants were provided with capacity 250 ltrs/hour each at mines & units for safe drinking water.
6. Primary and higher education institutions managed by company have been established Playgrounds, recreation clubs library and physical fitness centre is being maintained provided for the workmen.
7. 17.50 Tones of Paper waste has been collected from the colonies, townships, offices and departments during last six months, to reduce and recycle waste like paper and plastic. special awareness programme has been taken up with ITC, Bhadrachalam Paper Board Limited.
8. **Plastic Free SCCL** “programme has been taken up to ban the utilization of carry bags, glasses, cups and plates etc., in the mine premises and colonies, to control environmental pollution and also health hazards
9. All quarters are provided with sanitary facilities. Sanitary department of company is doing regular maintenance. Special measures are taken for well water chlorination. Fogging is done as a special measure in the colonies for preventing malaria and Dengue fever.
10. Occupational health check-up was done for 696 employees including contract labour. during the last six months details are enclosed in as **Annexure-VI**
11. Health awareness programs conducted regularly at mines and village.
12. Free training in tailoring for ladies of Vippala singaram village & Mallaram colony for house wife and children of near by residents in villages of mines area.

**IV. Following CSR Activities implemented in the surrounding villages**

1.Mobile Health Camps being organized surrounding villages details of the same furnished here:-

S.NO	MOBILE CAMPS	DATE	M	F	M.Child	F.Child	TOTAL
1.	Gandhinagar	13.10.2014	16	33	4	8	61
1.	KommuGudem & Yeggadi	14.10.2014	25	31	3	1	60
2.	Regulagandi	16.10.2014	22	20	8	5	55
3.	Gollakothuru	27.10.2014	10	26	6	1	43
4.	Deaf & Dumb	28.10.2014	10	9	NIL	NIL	19

5.	Vippalasingaram	17.11.2014	10	45	10	15	80
6.	Besthagudem	18.11.2014	22	27	17	25	91
7.	Bugga	20.11.2014	9	12	10	12	43
8.	Padmagudem	25.11.2014	32	46	8	4	90
9.	Deaf & Dumb	28.11.2014	NIL	6	10	12	28
10.	Ramanujavaram	02.12.2014	15	42	10	8	75
11.	Dammakapeta	08.12.2014	24	26	6	9	65
12.	Thirlapuram	09.12.2014	25	42	10	16	93
13.	Gandhinagar	12.12.2014	26	30	3	13	72
14.	Satyasai Sai Deaf & dumb	18.12.2014	7	6	8	6	27
15.	Besthagudem	06.01.2015	28	26	5	6	65
16.	Kondaigudem	09.01.2015	25	20	15	10	70
17.	Kommugudem & Yeggadi	20.01.2015	12	14	0	3	29
18.	Mallepalli	23.01.2015	14	15	7	4	40
19.	Satyasai Sai Deaf & dumb	28.01.2015	0	6	13	9	28
20.	Pamagudem	16.02.2015	22	18	7	3	50
21.	Pagideru	17.02.2015	18	23	1	0	42
22.	Yeggadigudem	21.02.2015	27	46	12	5	90
23.	Satyasai Sai Deaf & dumb	28.02.2015	2	5	5	9	21
24.	Gollakothuru	13.03.2015	10	13	10	7	40
25.	Bugga	19.03.2015	2	4	3	2	11
26.	Satyasai Sai Deaf & dumb	30.03.2015	0	4	9	9	22
27.	Thirlapuram	24.03.2015	12	18	22	18	70
28.	Ramanujavaram	30.03.2015	18	25	5	3	51

During the above dates, wide publicity was given on health and sanitation in colonies and main centers through Public Address System, by displaying banners, distributing pamphlets and created awareness on health related issues to the public via wall writings and posters display etc.

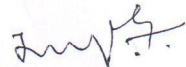
Details of occupational monitoring are furnished an **Annexure-VIII**.

2. Supply of drinking water (Godavari treated) to the surrounding villages i.e. Manuguru (v), Mallepalli(v), Eggadigudem(v), Kommugudem(v), Rajupet(v), Sivalingapuram, Bhagatsingh Nagar, Seshagiri Nagar, Sundaraiah Nagar and Sri Nagar. The total Quantity of Water : - 26.50 lakhs liters/day. Excess mine water supplying to irrigation tanks i.e. Naidu Kunta Nerellakunta and Gopidevikunta etc. Excess water from STP is supplying to the agriculture fields of Kunavaram (V) i.e. 72 Acs.
3. Providing logistic support for S.T.Home, Deaf and dumb school children, financial help and also providing free education at SC High School, Woman's Degree College, Kothagudem.
4. Plantation in the vacant areas in Schools, Govt. Offices, Colleges in Manuguru Town under " **Green Manuguru** " Programme. Free supplied shady and flower plants to surrounding institutions and villagers about 2500, Providing tree guards and donating corpus fund for "Green Manuguru Programme.
5. Under shape programme 2008-09, 136.308 Lakhs; 2011-12, 108.313 Lakhs; 2012-13, 24.793 lakhs expend for CSR works, **detailed report enclosed as Annexure-XIII**
6. Besides this mobile Medical camps are being conducted frequently including free medicines for the benefit of surrounding villagers of proposed opencast project. The medical camps is being conducted at Pagideru, Tirlapur, Bugga, Golla Kothur, Kotha Kondapur, Shanti Nagar, Padmagudem, Khammam Togu, Eggadigudem, Chinna Ramavaram and Mallepalli. During last six months 29 mobile camps were conducted in which 1531 persons were taken treatment. Free treatment is given

for Project Affected Families as in-patients in case of emergency in SCCL-Hospital. PAPs have provided with Health Cards to avail the facility at SCCL Hospitals.

7. This year-2014-15, under medical treatment expenditure spend for PAP's Rs 61,831 organization training and awareness camps for education, self development trainings women's day celebrations and Singareni day celebrations expenditure spend Rs 1,20,132.

- VI. Occupational health checkup details enclosed as annexure-VI
- VII. The compliance of Groundwater Clearance is enclosed in Annexure -VII
- VIII. The minutes of EMC is enclosed as Annexure-VIII
- IX . SCCL environment policy enclosed as Annexure-IX
- X. Analysis of Heavy metals in coal sample details enclosed as Annexure-X
- XI. EMP Plan with detailed plantation & SMC works is enclosed as Annexure-XI
- XII. The hierarchical system for dealing environmental issues and ensuring compliance with environmental clearance conditions status XII
- XIII. CSR Expenditure under SHAPE programme details are enclosed as Annexure-XIII
- XIV. Vehicular emission details enclosed as annexure-XIV
- XV . phreatic and Piezometric wells water level data-XV



Project officer,  
Manuguru OC – IV  
Extension coal project  
SCCL