

EXECUTIVE SUMMARY FOR KENTE EXTENSION OPENCAST COAL MINE & INTEGRATED WASHERY

**KENTE EXTENSION OPENCAST COAL MINE &
INTEGRATED WASHERY PROJECT 9 MTPA
(NORMATIVE)/11 MTPA (PEAK) IN MINE LEASE
AREA 1760 HA OF M/S RAJASTHAN RAJYA VIDYUT
UTPADAN NIGAM LIMITED (RVUNL), UDAYPUR,
SURGUJA (CG).**

**(Project is listed under activities 1(a) Mining of Minerals under the
Schedule of EIA Notification, 2006 and categorized as Category-A.)**

**STUDY PERIOD: OCTOBER TO DECEMBER 2019
OCTOBER TO DECEMBER 2023**

March 2024

APPLICANT

**M/s RAJASTHAN RAJYA VIDYUT UTPADAN
NIGAM LIMITED (RVUNL)
Vidyut Bhawan, Janpath, Jyoti Nagar, Jaipur**

ENVIRONMENT CONSULTANT

**VARDAN ENVIRONET
(QCI/NABET ACCREDITED NO: NABET/EIA/2326/RA 0284)
Plot No.: 82 A, Sector-5, IMT Manesar,
Gurugram -122052, Haryana
E-mail: mining@vardan.co.in
Contact: +91 9899651342, +91 9810355569**



Executive Summary for the Proposed Kente Extension Opencast Coal Mine & Integrated Washery Project 9 MTPA (Normative)/11 MTPA (Peak) in mine lease area 1760 ha of M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited (RVUNL), Udaypur, Surguja (CG)

Executive Summary

Contents

1. Introduction	3
2. Project Description.....	3
3. Description of The Environment	7
4. Anticipated Environmental Impacts and Mitigation Measures	9
5. Analysis of Alternatives	15
6. Environmental Monitoring Program.....	16
7. Additional Studies.....	16
8. Project Benefit.....	16
9. Resource Requirement	17
10. Environmental Management Plan	17
11. Conclusion.....	17





Executive Summary for the Proposed Kente Extension Opencast Coal Mine & Integrated Washery Project 9 MTPA (Normative)/11 MTPA (Peak) in mine lease area 1760 ha of M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited (RVUNL), Udaypur, Surguja (CG)

Executive Summary

1. INTRODUCTION

Rajasthan Rajya Vidyut Utpadan Nigam (RVUNL), a public utility service company, wholly owned by the Govt. of Rajasthan, made a request to Govt. of India, Ministry of Coal for allotment of suitable Coal Blocks for captive mining to meet the gap between demand and supply for its power plants. Accordingly, three coal blocks namely Parsa, Parsa East and Kanta Basan (PKEB) & Kente Extension Coal Block of Hasdeo-Arand Coalfield, Chhattisgarh State were allotted to RVUNL.

Kente Extension Coal Block is the eastern extension of the blocks allotted to RVUNL vide letter no. 13016/26/2004-CA-I/CA-III (Pt) (VOL.II) dated 31.03.2015 by Ministry of Coal, GoI. Total Mining Lease area as per the block allotment is 1760 Ha. Major part of the coalfield is still virgin with huge resources of power grade coal. Coal block is spread over an area of 17.60 sq. km. The total project area of 1760.00 ha includes forest land 1742.60 ha (RF & PF), 4.233 ha tenancy land (Pvt land area + Govt Revenue land area) and 13.167 ha. Government land. Mining plan has been approved by Ministry of Coal (MoC), GoI vide letter no. MPS-34011-26-2019-MPS dated 04.06.2021.

Terms of References (ToR) for the project was granted by Ministry of Environment, Forest & Climate Change (MoEF&CC) vide letter J-11015/48/2019-IA.II(M) dated 08.01.2020. The proposed project is listed under activities 1(a) under the Schedule of EIA Notification, 2006 and categorized as Category-A.

2. PROJECT DESCRIPTION

Rajasthan Rajya Vidyut Utpadan Nigam Limited (RVUNL) is making all possible efforts to bridge the gap between power demand and availability in the State through expeditious construction of new units. Presently installed capacity of RVUNL is 7548.35 MW from its Power Plants, as given below:

Table -1: RVUNL-List of Installed TPP

S. No.	Power Stations	Installed capacity
1.	Suratgarh TPS	1500 MW
2.	Kota TPS	1240 W
3.	Kalisindh TPS	1200 MW
4.	Ramgarh Gas Power Plant	273.5 MW
5.	Chhabra Thermal Power Project	2320MW





Executive Summary for the Proposed Kente Extension Opencast Coal Mine & Integrated Washery Project 9 MTPA (Normative)/11 MTPA (Peak) in mine lease area 1760 ha of M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited (RVUNL), Udaypur, Surguja (CG)

Executive Summary

S. No.	Power Stations	Installed capacity
6.	RPS	172 MW
7.	JS	99 MW
8.	Mahi Hydel	140 MW
9.	MMH Schemes	23.85 MW
10.	Giral Lignite TPS	250 MW
11.	Dholpur CCPP	330 MW
	Total	7,548.35 MW

Additionally, Construction work of the following is listed in Table-2.

Table - 2: RVUNL- under construction TPP

S. No.	Name of project	Capacity
1.	Suratgarh Supercritical Thermal Power Station U # 7 & 8	2 × 660 MW
	Total	1320.00 MW

The target production capacity of the mine is 9 MTPA (Normative)/11 MTPA (Peak). The total gross geological reserves, mineable reserves and overburden have been estimated as 419.898 MT, 339.29 MT and 1226.82 Mcum respectively. The overall stripping ratio works out as 4.44 Cum/Tonnes. The details of reserves are given in Table-3.

Table - 3: Reserves Details

1.	Gross Geological Reserves (Mt)	419.898
2.	Net Geological Reserve (Mt)	377.874
3.	Total Reserve Blocked in Barrier and Batter, Nalla River and road and not considered for Mining (Mt)	38.58
4.	Mineable Reserves within the proposed pit (Mt)	339.29





Executive Summary for the Proposed Kente Extension Opencast Coal Mine & Integrated Washery Project 9 MTPA (Normative)/11 MTPA (Peak) in mine lease area 1760 ha of M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited (RVUNL), Udaypur, Surguja (CG)

Executive Summary

5.	Mining loss (considering dirt band of shale and high carb. shale of >30 cm) (Mt)	63.18
6.	Extractable Reserves (Mt)	276.11

Source: Mine Plan

In Kente extension coal block a coal washery with raw coal throughput capacity of 9 MTPA have been proposed at mine pit head of Kente coal block to wash coal in order to meet the clean coal requirement of thermal power projects of RVUNL. The peak capacity of washery shall be 11 MTPA.

In view of the above, the proposal of augmentation in capacity for coal mine with coal washery project is considered justified from basic raw material requirement considerations.

Table - 4: Details of the Project

Sl No	Description	Proposed Mining Plan
1.	Block Area in "Ha"	1760
2.	Block Area Projectized "Ha"	1760
3.	Lease Area "Ha"	1760
4.	Life of the mine "Yrs"	33 (Excluding 2 years of construction)
5.	Minimum and Maximum Depth of working "m"	Minimum - 16 ; Maximum - 215
6.	Net Geological Block "Ha"	1656
7.	Production Target "Mt"	9
8.	Seams Available "as per GR"	8
9.	Seams not considered for Mining with Reasons	4 (Seam II, IB L2 & L1) classified under UG seam. They occur in isolated patches and only 1.46 Mt reserve is >1.5 thickness at range of 150 to 350 m.
10.	Gross Geological Reserve	419.860
11.	Net Geological Reserve "Mt"	377.874
12.	Blocked Reserve "Mt"	38.58





Executive Summary for the Proposed Kente Extension Opencast Coal Mine & Integrated Washery Project 9 MTPA (Normative)/11 MTPA (Peak) in mine lease area 1760 ha of M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited (RVUNL), Udaypur, Surguja (CG)

Executive Summary

13.	Mineable Reserve "Mt"	339.29
14.	Extractable Reserve "Mt"	276.11
15.	% of Extraction / Recovery	73.07%
16.	Reserve Depleted (till the base date) Reserve "Mt"	Nil
17.	Balance Extractable Reserve "Mt"	276.11
18.	Average Grade	G13
19.	OB in MM ³	1226.82
20.	SR m ³ /te	4.44
21.	Mining Technology	For OB: Shovel – 3 cum Hyd shovel + 35 T dumper & 10-12 cum Hyd shovel +100T Dumper. For Coal: Combination of surface miner – Pay loader – Dumper & Shovel – Dumper method.
22.	Coal Beneficiation envisaged	Proposed
23.	Handling of Rejects	As per guidelines issued by MoC
Land Use Pattern "Ha"		
24.	Excavation Area	1647.537
25.	Top Soil Dump	Nil (Rehandling)
26.	External Dump	48.066
27.	Safety Zone	12.66
28.	Other Use	23.267
29.	Infrastructure Area	5.241
30.	Undisturbed area	23.229
	Total	1760.00





Executive Summary for the Proposed Kente Extension Opencast Coal Mine & Integrated Washery Project 9 MTPA (Normative)/11 MTPA (Peak) in mine lease area 1760 ha of M/s Rajasthan Raja Vidyut Utpadan Nigam Limited (RVUNL), Udaypur, Surguja (CG)

Executive Summary

31.	Capacity of Washery	9 MTPA (Normative) / 11 MTPA (Peak) coal throughput
32.	Washing Technology & Process	Wet process comprising of crushing, screening, washing and material handling
33.	Power requirement	Power requirement - 7.5 to 12 MVA Will be met from 132/33 KV. Substation already established nearby ML area.
34.	Total Water requirement	4213 m ³ /day
35.	Transport of coal from mine face to CHP	By belt conveyors

Source: Mine Plan

3. DESCRIPTION OF THE ENVIRONMENT

Environmental data have been collected in relation to proposed mining for Air, Noise, Water, Soil, Ecology and Biodiversity. The generation of primary data, as well as collection of secondary data and information from the site and surroundings was carried out twice during Post Monsoon Season, i.e. Oct to Dec 2019 and Oct to Dec 2023 by Vardan EnviroLab, NABL Accredited Lab, in accordance with the guidelines of EIA issued by the Ministry of Environment Forest and Climate Change, Govt. of India and CPCB, New Delhi. Secondary data was collected from different Government sources. The scope of the study has been done as per ToR letter. The EIA study is being done for the Mine Lease (core zone) and area within 10 Km distance from the mine lease boundary (buffer zone), both of which together comprise the study area.

Table - 5: Baseline Environment Status (Oct to Dec 2019)

Parameters	Baseline Status
Ambient Air Quality	PM ₁₀ - 40.2 to 74.3 µg/m ³ PM _{2.5} - 20.3 to 53.5 µg/m ³ SO ₂ - 5.4 to 38.9 µg/m ³ NO _x - 10.30 to 49.2 µg/m ³ CO - 0.53 to 0.93 mg/m ³
Noise Level	Noise Level During Day Time - 48.60 to 53.00 dB (A) Noise Level During Night Time - 40.50 to 44.20 dB(A)





Executive Summary for the Proposed Kente Extension Opencast Coal Mine & Integrated Washery Project 9 MTPA (Normative)/11 MTPA (Peak) in mine lease area 1760 ha of M/s Rajasthan Raja Vidyut Utpadan Nigam Limited (RVUNL), Udaypur, Surguja (CG)

Executive Summary

Parameters	Baseline Status
Water Quality	Ground Water: All the Parameters Like pH varies from 7.24 to 7.81, Total Hardness varies from 72 to 120 mg/L, Total Dissolved Solids varies from 140 to 227 mg/L, Chlorides – 10.60 to 33.10 mg/l etc. are found within the permissible limits.
	Surface Water: All the Parameters Like pH varies from 7.25 to 7.90, Total Hardness varies from 190 to 310 mg/L, Total Dissolved Solids varies from 350 to 589 mg/L, Dissolved Oxygen – 4.6 to 5.6 mg/l, BOD – 8.30 to 21.00 mg/l, COD – 28 to 84 mg/l etc. are found within the permissible limits.
Soil Quality	pH- 6.20 to 7.20 Organic matter 0.30 % to 0.79 %
Ecology And Biodiversity	There is no wildlife sanctuary/biosphere reserve/national parks present within 10 Km radius of the study area. Few species of schedule-I was observed during study.
Socio Economic	The proposed case will have positive impact to the nearby area. The project will provide direct employment to the 919 persons which will be hired through the nearby villages.
Traffic	The proposed project will not cause major impacts as the mineral will be transported through the railway.

Table - 6: Baseline Environment Status (Oct to Dec 2023)

Parameters	Baseline Status
Ambient Air Quality	PM ₁₀ – 40.2 to 70.4 µg/m ³
	PM _{2.5} – 21.5 to 50.5 µg/m ³
	SO ₂ – 6.5 to 38.9 µg/m ³
	NO _x – 10.30 to 48.5 µg/m ³
	CO – 0.50 to 0.93 mg/m ³
Noise Level	Noise Level During Day Time – 49.58 to 54.60 dB (A)
	Noise Level During Night Time – 39.69 to 45.46 dB(A)
Water Quality	Ground Water: All the Parameters Like pH varies from 7.30 to 7.89, Total Hardness varies from 74 to 124 mg/L, Total





Executive Summary for the Proposed Kente Extension Opencast Coal Mine & Integrated Washery Project 9 MTPA (Normative)/11 MTPA (Peak) in mine lease area 1760 ha of M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited (RVUNL), Udaypur, Surguja (CG)

Executive Summary

Parameters	Baseline Status
	Dissolved Solids varies from 150 to 230 mg/L, Chlorides – 12.50 to 35.65 mg/l etc. are found within the permissible limits. Surface Water: All the Parameters Like pH varies from 7.26 to 7.92, Total Hardness varies from 192 to 312 mg/L, Total Dissolved Solids varies from 352 to 592 mg/L, Dissolved Oxygen – 4.8 to 5.9 mg/l, BOD – 9.00 to 18.00 mg/l, COD – 36 to 69 mg/l etc. are found within the permissible limits.
Soil Quality	pH- 7.00 to 7.54 Organic matter 0.32 % to 0.80 %.
Ecology and Biodiversity	There is no wildlife sanctuary/biosphere reserve/national parks present within 10 Km radius of the study area. Few species of schedule-I was observed during study.
Socio Economic	The proposed case will have positive impact to the nearby area. The project will provide direct employment to the 919 persons which will be hired through the nearby villages.
Traffic Study	The proposed project will not cause major impacts as the mineral will be transported through the railway.

4. ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

The proposed mining operations are not anticipated to raise the concentration of the pollutants beyond prescribed limits. However, the measures are suggested to mitigate any harmful impacts of pollutants. The mining of coal is likely to increase the per capita income of local people by which the socioeconomic status of the people will be improved. The local people have been provided with either direct employments or indirect employment such as business, contract works and development work like roads, etc. and other welfare amenities such as medical facilities, conveyance, free education, drinking water supply etc. Regular water sprinkling will be done with sprinkles mounted tankers and dust masks will be provided to the workers. All workers will be subjected to a medical examination as per Rule both at the time of appointment and at least once in a year. Medical camps will be organized for this activity. Insurance for all employees as per the rules will also be carried out.





Executive Summary for the Proposed Kente Extension Opencast Coal Mine & Integrated Washery Project 9 MTPA (Normative)/11 MTPA (Peak) in mine lease area 1760 ha of M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited (RVUNL), Udaypur, Surguja (CG)

Executive Summary

Table - 7: Anticipated Environmental impacts and mitigation

Environmental Component	Project Activities	Impacts	Adverse / Beneficial	Mitigative Measures
Air Quality	Drilling and Blasting	PM ₁₀ , PM _{2.5} , SO ₂ and NO _x	Adverse	Use of dust aprons by drillers and adopting wet drilling methods. A. The production of blast fumes containing noxious gases will be reduced by the following methods: <ul style="list-style-type: none">• Use of adequate booster/primer; and• Proper stemming of the blast hole.• Scientific design of blast. B. Drills fitted with dust collection system will be deployed or using wet drilling method. C. Development of greenbelt.
	Overburden removal	Increase in SPM levels in ambient air due to dust generation and NO _x , HC, SO ₂ and CO concentration levels in ambient air due to vehicular emissions.	Adverse	<ul style="list-style-type: none">• Sprinkling of water on haul roads at regular intervals.• Installing permanent water sprinklers at strategic areas/locations/stretchches.• Regular maintenance of vehicles and machinery will be carried out.• Cabins for shovel and dumpers and dust respirators to workmen will be provided. All HEMM cabins will be air-conditioned.• Dust suppression will be done on exposed area using water sprinkler.• Greenbelt development will be taken up all along the haul roads.• Separate storage of top soil for progressive reclamation of dumps and mined out area backfilled with overburden material.• Re-vegetation of mined out area and inactive dumps and• A good housekeeping and proper maintenance will be practiced which will help in controlling pollution.





Executive Summary for the Proposed Kente Extension Opencast Coal Mine & Integrated Washery Project 9 MTPA (Normative)/11 MTPA (Peak) in mine lease area 1760 ha of M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited (RVUNL), Udaypur, Surguja (CG)

Executive Summary

Environmental Component	Project Activities	Impacts	Adverse / Beneficial	Mitigative Measures
	Transportation of overburden	-do-	Adverse	<ul style="list-style-type: none"> Use of tarpaulin covered trucks for transportation of coal outside the ML area. Regular water sprinkling on haul, access roads and all transfer points. Haul roads to be maintained by surface grading to minimize excessive road surface wearing. Roads no longer required will be re-vegetated as soon as possible.
	General equipment operations	Increase in SPM, NO ₂ and CO concentrations in ambient air.	Adverse	<ul style="list-style-type: none"> Regular maintenance of all equipment to minimize particulate matter and gaseous emissions from diesel driven vehicles & equipment. Use of non-electric initiation and computerized blast design to maximize the explosive energy for fragmentation and minimum fume generation in blast.
	All activities	Excessive exposures to airborne particulate matter.	Adverse	Personal protective equipment (PPE) will be provided to all workers working in dusty environment.
Noise Levels and Ground Vibrations	Drilling and Blasting	High impulsive noise levels, overpressure and ground vibrations impacts and noise related community annoyance	Adverse	<p>Noise Control Measures</p> <ul style="list-style-type: none"> Controlled blasting with proper spacing, burden and stemming will be maintained; NONEL will be used for initiation of explosives in blasting The blasting will be carried out during favorable atmospheric condition and less human activity timings; Provision of sound insulated chambers for the workers deployed on machines (HEMM) Green belt has been developed all along the lease boundaries to attenuate noise. A thick green belt will be provided in phased manner around the periphery of the mine to attenuate noise;
	Machine and transportation of overburden within the ML area.	Increase in noise levels occupational hazard due to noise exposures and increase in ambient noise levels.	Adverse	





Executive Summary for the Proposed Kente Extension Opencast Coal Mine & Integrated Washery Project 9 MTPA (Normative)/11 MTPA (Peak) in mine lease area 1760 ha of M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited (RVUNL), Udaypur, Surguja (CG)

Executive Summary

Environmental Component	Project Activities	Impacts	Adverse / Beneficial	Mitigative Measures
				<ul style="list-style-type: none"> Trees will be planted on both sides of haul roads. Personal Protective Equipment (PPE) like ear muffs/ear plugs will be provided to the operators of HEMM and persons working near HEMM; and Reducing the exposure time of workers to the higher noise levels. Regular monitoring of Noise level will be carried out. <p>➤ Measures to Control Ground Vibration</p> <ul style="list-style-type: none"> Proper quantity of explosive, suitable stemming materials and appropriate delay system are to be adopted for safe blasting. Computerized blast design to be used. A safe blasting zone is kept around the periphery of the quarry. Overcharging will be avoided; The charge per delay will be minimized and preferably more number of delays will be used per blasts;
Water Resources and Quality	Mining will intersect the ground water table.	Depletion of ground water	Adverse	<p>Main source of industrial water will be through borewells and mine water.</p> <p>Mine Drainage:</p> <ul style="list-style-type: none"> The garland drains will be developed in advance for each mine stage such that water is collected in these garland drains and discharged properly into settling tanks to settle out suspended solids in the storm water. The clarified water is reused for green belt development. The overall drainage planning will be done in such a manner that the existing drainage conditions should be maintained to the extent possible, so that run off distribution is not affected. Working faces will be laid such that the water from the working
	Water required for mine, (dust suppression systems, workshop, domestic facilities and greenbelt development)	Except water demand for drinking & domestic purpose or quarry discharge.	Adverse	





Executive Summary for the Proposed Kente Extension Opencast Coal Mine & Integrated Washery Project 9 MTPA (Normative)/11 MTPA (Peak) in mine lease area 1760 ha of M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited (RVUNL), Udaypur, Surguja (CG)

Executive Summary

Environmental Component	Project Activities	Impacts	Adverse / Beneficial	Mitigative Measures
	Waste water generated from mine & domestic usage at mine.	Depletion of ground water level and soil quality when used untreated water for greenbelt development.	Adverse	<p>areas will flow into a sump by gravity from where it will be pumped out to settling ponds.</p> <ul style="list-style-type: none">• The pumped out water from mines shall be channelized through storm water drains• Pumps of adequate capacity will be provided at sump to keep these areas dry.• Stone pitching shall be made at suitable places to regulate water flow.• The settling tank and drains are cleaned periodically, especially during monsoons. <p>Surface Water Pollution Control Measures</p> <ul style="list-style-type: none">• Retaining walls of adequate dimensions will be provided at the toe of dumps and the unstable OB benches within the mine to prevent wash off from dumps and sliding of material from benches. This will help in preventing silting of water drains/channels;• The water channels/drain carrying the rain water from the mine will be provided with baffles and settling pits to arrest the suspended solids, if any, present in this water;• The worked out slopes will be stabilized by planting appropriate shrub/grass species on the slopes. This will help in preventing wash-off from these slopes;• The mine water will be regularly tested for presence of any undesirable elements and appropriate measures will be taken in case any element is found exceeding the limits prescribed by CPCB;





Executive Summary for the Proposed Kente Extension Opencast Coal Mine & Integrated Washery Project 9 MTPA (Normative)/11 MTPA (Peak) in mine lease area 1760 ha of M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited (RVUNL), Udaypur, Surguja (CG)

Executive Summary

Environmental Component	Project Activities	Impacts	Adverse / Beneficial	Mitigative Measures
				<p>Ground Water Pollution Control Measures</p> <ul style="list-style-type: none"> The domestic sewage from the canteen and toilets will be routed to septic tanks followed by soak pits/STP. Regular monitoring of water levels and quality in the existing open wells and bore well in the vicinity will be carried out.
Drainage pattern and Hydrogeology	Quarries, stack yards and waste dump	Catchment area inside the mine will be affected.	Adverse	Regular monitoring of water quality of the nearby water bodies will be done as per norms and MoEFCC conditions.
Landuse and Soil Characteristics	Mining & allied activities	Existing landuse of the core zone will alter. Land degradation due to disposal of waste materials.	Adverse	<p>Following measures will be taken:</p> <ul style="list-style-type: none"> Construction/ Installation of diversion drains and settling ponds Dust suppression on exposed areas using water tankers and automatic sprinkling systems. Properly terracing of overburden dump to minimize erosion. Plantation around service building, along road in and around the safety zone using native plant sapling. Backfilling & re-handling of external OB dump as per approved Progressive Mine Closure Plan. Compliance with mine decommissioning plan.
Flora and Fauna	Mine development and operations Mineral Transportation	Displacement of existing fauna. Loss of vegetation	Adverse	<ul style="list-style-type: none"> Management of flora and fauna both at core and buffer zone shall be done as per the approved site specific wildlife conservation plan. Suitable reclamation, rehabilitation and restoration of the land shall be made to protect the biodiversity. However, progressive afforestation and green belt development in the ML area has been carried out and shall continue till the life of the mine.





Executive Summary for the Proposed Kente Extension Opencast Coal Mine & Integrated Washery Project 9 MTPA (Normative)/11 MTPA (Peak) in mine lease area 1760 ha of M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited (RVUNL), Udaypur, Surguja (CG)

Executive Summary

Environmental Component	Project Activities	Impacts	Adverse / Beneficial	Mitigative Measures
Occupational Health & Safety	Overall Mining & allied activities	Occupational health problems due to dust & noise. Accident probability due to slope failure, movement of HEMM, handling of explosives.	Adverse	<ul style="list-style-type: none"> Adoption of dust suppression measures like spraying water, use of drill with dust collection system or wet drilling etc. Plantation Avoid blasting during unfavorable wind & atmospheric conditions Use of personal protective equipment. Periodical training of workers Compliance with DGMS circulars <p>Emergency response plan that includes installation of emergency response equipment to combat events such as fire. All personnel required to handle hazardous materials will be provided with personal protective equipment. On-site first aid facilities have been provided to employees and are being extended to the local community in emergencies.</p>
	Land acquisition for mine site	displacement of people & loss of properties.	-	Suitable R&R plan shall be implemented for the PDFs and PAFs as per the guidelines.
Socio-economic Aspects	Mining operations	Increase in economic status of local people & in the region due to Increase in employment opportunities both direct and indirect.	Beneficial	The project will provide opportunity to the local people for direct and indirect employment. The proposed project will create opportunities for indirect employment in the field of transportation business, vehicle hiring, labours, trading of construction materials, carpenters etc.

5. ANALYSIS OF ALTERNATIVES

The Kente Extension Coal block has been selected based on the results of geological investigations and exploration carried out by the Geological Survey of India (GSI) during 2002-2009. The estimated gross geological reserves have been work out as 419.860 million tonnes, hence alternate sites were not considered. To facilitate easy transportation and reduce the pollution effects, a pit head coal washery is proposed in the the mine lease area.





Executive Summary for the Proposed Kente Extension Opencast Coal Mine & Integrated Washery Project 9 MTPA (Normative)/11 MTPA (Peak) in mine lease area 1760 ha of M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited (RVUNL), Udaypur, Surguja (CG)

Executive Summary

6. ENVIRONMENTAL MONITORING PROGRAM

In order to maintain the environmental quality within the stipulated standards, regular monitoring of various environmental components is necessary which will comply as per conditions. For this the lessee M/s. RVUNL has taken the decision to formulate an Environment Policy of the mine and constitute an Environmental Management Cell and committed to operate the proposed expansion mine with the objectives mentioned in approved Environment Policy. EMP may also require measurement of ambient environmental quality in the vicinity of a site using ecological/biological, physical and chemical indicators. Monitoring may include socioeconomic interaction, through local liaison activities or even assessment of complaints. Regular Monitoring of all the environmental parameters viz., air, water, noise, SE, EB and soil, as per the formulated program based on CPCB and MoEF&CC guidelines will be carried out every year. The location of the monitoring stations was selected on the basis of prevailing micro meteorological conditions of the area like; wind direction and wind speed, relative humidity, temperature.

7. ADDITIONAL STUDIES

The public hearing will be conducted after submission of draft EIA to CECB and public hearing issue along with the action plan and its budget will be incorporated in the Final EIA/EMP Report. Risk assessments will help mine operators to identify high, medium and low risk levels. Risk assessments will help to prioritize the risks and provide information on the need to safely control the risks. In this way, mine owners and operators will be able to implement safety improvements. Mining and allied activities are associated with several potential hazards to both the employees and the public at large. A worker in a mine will be able to work under conditions, which are adequately safe and healthy. At the same time the environmental conditions also will not impair his working efficiency. This is possible only when there is adequate safety in mines. Hence mine safety is one of the most essential aspects of any working mine.

8. PROJECT BENEFIT

In addition to the existing worker's management will recruit the semi-skilled and unskilled workers from the nearby villages. The project activity and the management will definitely support the local Panchayat and provide another form of assistance for the development of public amenities in this region. The company management will contribute to the Educational Development, Infrastructure Development etc. for the welfare of the villagers. It has proposed to plant 3365000 no. of native species will be planted till the life of mine. The officers of the IRO, Raipur and CECB will strictly monitor the compliance of the lease holder in this regard.





Executive Summary for the Proposed Kente Extension Opencast Coal Mine & Integrated Washery Project 9 MTPA (Normative)/11 MTPA (Peak) in mine lease area 1760 ha of M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited (RVUNL), Udaypur, Surguja (CG)

Executive Summary

9. RESOURCE REQUIREMENT

➤ Water Requirement

The total water requirement is 4213 m³/day for the proposed mine including mining activities, washery & potable water. It is envisaged that to meet the requirement of water for construction, drinking and sanitation as well as mine operation, at the initial stage of 2-3 years, will be met from ground water. After that mine quarry will collect sufficient water which will meet the industrial demand. However, the potable water demand at mine, mine facilities will be met through ground water by bore wells.

➤ Power Requirement

Maximum Demand will be 12 MVA for the life of mine. However, for initial year maximum demand can be considered as 7.5MVA.

The main 33 KV sub-station has been proposed to be located near to Kente washery location. 33 KV shall be stepped down to 6.6 KV and 6.6 KV to 415 V and 230 V for use of various machineries.

➤ Manpower Requirement

The total requirement of manpower for Kente Extension Coal Mine works out to as 916 including 16% manpower for leave & sick for an annual target production of 9.0 MTPA (normative). Output per Man Shift (OMS) of the mine works out as 9.89 tons.

10. ENVIRONMENTAL MANAGEMENT PLAN

As per Above discussion there is no major impact on the environment due to mining except fugitive emission in the form of dust generated during mining and its allied activity. The adequate preventive measures will be adopted to contain the various pollutants within permissible limits. Plantation program will be carried out which will be an effective pollution mitigate technique, and help avoid soil erosion during monsoon season. Employment opportunities will be provided to the locals. Capital Cost for Environment Protection for total project: Rs 2,177.90 Lakhs including Wildlife Conservation. Total Recurring Cost for Environmental protection: Rs 617.26 Lakhs per annum.

11. CONCLUSION

From the baseline study and various above discussions on the probable impacts of all the operational activity, it has been concluded that this project will have more positive impact and will generate the revenue and employment in the area. On the above facts and baseline study, the proposed activity is recommended for the commencement with proper mitigation measure as suggested.

