FORM 1

For

PRIOR ENVIRONMENTAL CLEARANCE

EXPANSION OF EXISTING & ADDITION OF NEW EXPLOSIVE PRODUCTS

At

Village Garamsur, Post Dudhala, Tehsil Katol, District Nagpur- 441103, Maharashtra.

Project Proponent

KELTECH ENERGIES LIMITED

Environment Consultant

M/s Anacon Laboratories Pvt. Ltd.

QCI-NABET Accredited EIA Consultant for Synthetic Organic Industries (Sector 21), Isolated Storage and Handling of Hazardous Chemicals (Sector 28)
MoEF&CC (GOI) and NABL Recognized Laboratory
ISO 9001:2008, ISO 14001:2004, OHSAS 18001:2007

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October, 2018

APPENDIX-I
FORM-1

(I) Basic Information

<table>
<tr><th>Sr. No.</th><th>Item</th><th>Details</th></tr>
<tr><td>1</td><td>Name of the project</td><td>Expansion of existing & addition of new explosive products</td></tr>
<tr><td>2</td><td>Sl. No. in the schedule</td><td>5(f) and 6(b)</td></tr>
<tr><td>3</td><td>Proposed capacity/ area/ length/ tonnage to be handled/ command area/ lease area/ number of wells to be drilled</td><td>
<table>
<tr><th colspan="5">PROPOSED PRODUCTS REQUIRING EC</th></tr>
<tr><th>Sl. No.</th><th>Product[2]</th><th>5(f) Maximum Quantity</th><th colspan="2">6(b) Maximum Quantity[1]</th></tr>
<tr><td>1.</td><td>*PETN</td><td>1,600 MTPA</td><td colspan="2">200 MT at any time</td></tr>
<tr><td>2.</td><td>Lead Styphanate</td><td>5 MTPA</td><td colspan="2">0.005 MT at any time</td></tr>
<tr><td>3.</td><td>Lead Azide</td><td>12 MTPA</td><td>0.005 MT(at any given time)</td><td>Max. Annual qty handled 12 MTPA</td></tr>
<tr><td>4.</td><td>Mono Methyl amine nitrate (MMAN)</td><td>5000 MTPA</td><td colspan="2">-</td></tr>
<tr><td>5.</td><td>TNT (purchased – only storage at site)</td><td>-</td><td>60 MT at any time</td><td>Max. Annual qty handled 100MTPA</td></tr>
<tr><td>6.</td><td>Ammonium nitrate (purchased – only storage at site)</td><td>-</td><td>1200 MT at any time</td><td>Max. Annual qty handled 100,000 MTPA</td></tr>
<tr><td>7.</td><td>Mono Methyl amine (purchased – only storage at site)</td><td>-</td><td>48 MT at any time</td><td>Max. Annual qty handled 15000 MTPA</td></tr>
<tr><td>8.</td><td>LPG /CNG (purchased – only storage at site)</td><td>-</td><td>48 MT at any time</td><td>Max. Annual qty handled 15000 MTPA</td></tr>
</table>
[1]Refer schedule II & III of MSIHC Rules 1989 amended 2000
[2]As is or in form of compounded products-hetero-mixed stabilized formulations (physical mixing as per explosive standard)
*Applied for DIPP license for enhancement in capacity
<table>
<tr><th>Sr.no.</th><th>Proposed product not required EC</th><th>Maximum Quantity</th><th>DIPP license</th></tr>
<tr><td>1.</td><td>SME Bulk</td><td>20,000 MTPA</td><td>20,000 MTPA (newly applied)</td></tr>
<tr><td>2.</td><td>Slurry/ Emulsion</td><td>45000 MTPA</td><td>45000 MTPA (applied for expansion)</td></tr>
<tr><td>3.</td><td>Detonators</td><td>150 million Nos.</td><td rowspan="3">150 million Nos.</td></tr>
<tr><td></td><td>a)Shock tube</td><td>50 million meters</td></tr>
<tr><td></td><td>b)Delay Elements</td><td>50 million Nos.</td></tr>
<tr><td>4.</td><td>Detonating Fuse</td><td>50 Million Meters</td><td>50 Million Meters</td></tr>
<tr><td>5.</td><td>Cast Booster</td><td>200MTPA</td><td>200 MTPA</td></tr>
<tr><td>6.</td><td>Expanded Perlite</td><td>10 MT/day</td><td>NA</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Sr. No.</th><th>Item</th><th>Details</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><th colspan="4">Existing and proposed storage details of products</th></tr>
<tr><th>Storage explosive Products</th><th>Existing capacity</th><th>Proposed Expansion</th><th>Total Capacity after Expansion</th></tr>
<tr><td>Slurry & Emulsion</td><td>195 MT at any time</td><td>220 MT at any time</td><td>415MT at any time</td></tr>
<tr><td>PETN/DF/ Cast Booster</td><td>60 MT at any time</td><td>140 MT at any time</td><td>200MT at any time</td></tr>
<tr><td>HSD</td><td>20 KL at any time</td><td>--</td><td>20KL at any time</td></tr>
<tr><td>Ammonium Nitrate</td><td>600 MT at any time</td><td>600 MT at any time</td><td>1200 at any time</td></tr>
<tr><td>TNT</td><td>7 MT at anytime</td><td>53 MT at any Time</td><td>60MT at any time</td></tr>
<tr><td>SME</td><td>-</td><td>40 MT at any time</td><td>40 MT at any time</td></tr>
<tr><td>Mono Methyl amine</td><td>-</td><td>48 MT at any time</td><td>Max. Annual qty handled 15000 MTPA</td></tr>
<tr><td>LPG /CNG</td><td>-</td><td>48 MT at any time</td><td>Max. Annual qty handled 15000 MTPA</td></tr>
<tr><td>Styphnic acid</td><td>-</td><td>2 MT at any time</td><td>Max. annual qty handled 10 MTPA</td></tr>
</table>
</td></tr>
<tr><td>4</td><td>New/Expansion/Modernization</td><td>New (first time applied for EC)
(However, the existing products before expansion does not fall under the purview of the EIA Notification 2006 and subsequent amendments with respect to its capacity to produce/storage of various explosive products. However, Keltech Energies Ltd. (KEL) has obtained valid consent; CTO/CTE from MPCB). (CTE Annexure I, Annexure II CTO)
Now, proposed expansion activity (addition of new products and enhancement of existing capacities of products) is falling under schedule 5(f) and 6(b) of EIA notification 2006 and prior environment clearance is needed to be obtained from MoEF&CC, GOI. (CTE for proposed product Annexure III)</td></tr>
<tr><td>5</td><td>Existing Capacity/ Area etc.</td><td>113.72 Acres (46.04 Ha.) land area is under possession (Annexure IV).
Industrial License issued by Govt. of India, Ministry of Commerce and Industry, Dept. of Industrial Policy and Promotion, Secretariat for Industrial Assistance. Annexure V
<table>
<tr><th>Sr.no.</th><th>Existing products</th><th>Maximum Quantity</th><th>DIPP license</th></tr>
<tr><td>1.</td><td>Slurry/ Emulsion</td><td>20000 MTPA</td><td>20000 MTPA</td></tr>
<tr><td>2.</td><td>PETN</td><td>350 MTPA</td><td>600MTPA</td></tr>
<tr><td>3.</td><td>Detonating Fuse</td><td>25 Million Meters</td><td>50 Million Meters</td></tr>
<tr><td>4.</td><td>Cast Booster</td><td>200MTPA</td><td>200 MTPA</td></tr>
<tr><td>5.</td><td>Expanded Perlite</td><td>10 MT/day</td><td>NA</td></tr>
</table>
<table>
<tr><th>Storage explosive Products</th><th>Existing capacity</th></tr>
<tr><td>Slurry & Emulsion</td><td>195 MT at any time</td></tr>
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<tr><td>HSD</td><td>20 KL at any time</td></tr>
<tr><td>Ammonium Nitrate</td><td>600 MT at any time</td></tr>
<tr><td>TNT</td><td>7 MT at anytime</td></tr>
</table>
</td></tr>
<tr><td>6</td><td>Category of Project i.e. ‘A’ or ‘B’</td><td>‘A’</td></tr>
<tr><td>7</td><td>Does it attract the general condition? If yes, please specify.</td><td>No.</td></tr>
</table>

Sr. No.	Item	Details
8	Does it attract the specific condition? If yes, please specify.	No.
9	Location	Village Garamsur, Post Dudhala, Tehsil Katol, District Nagpur-441103, Maharashtra, INDIA Topo-sheet nos. 55k_12, 55k_16 **Latitude:** $21^0$09'16.40" N, **Longitude:** $78^0$44'18.27 E **Annexure VI-** Google map
	Plot/Survey/Khasra No.	146,147,148/1, 149/1, 149/2, 151/1, 151/2, 152/2/2, 153, 154/1, 154/2, 155, 156/ 157, 158/1, 164, 165, 158/2
	Village	Garamsur, Post Dudhala
	Tehsil	Katol
	District	Nagpur
	State	Maharashtra
10	Nearest railway station/airport along with distance in kms.	Nagpur Railway Station ~36 Km, E Dr. Babasaheb Ambedkar International Airport. Nagpur ~34 Km, SE
11	Nearest Town, city, District Headquarters along with distance in kms.	Nearest village :Garamsur 1.3 km, N District Headquarters: Nagpur -36 km, E
12	Village Panchayats, Zilla Parishad, Municipal Corporation, Local body (complete postal addresses with telephone nos. to be given)	Village Garamsur, Post Dudhala. Tehsil Katol, District Nagpur – 441103. Maharashtra, INDIA.
13	Name of the applicant	KELTECH ENERGIES LIMITED
14	Registered Address	7th Floor, Embassy Icon,No.3, Infantry Road, Bangalore – 560 001 Ph. 080 22251451
15	Address for correspondence	
	Name	Dr. S.N. Sharma
	Designation Owner/Partner/CEO)	Sr. General Manager (Works & Development)
	Address	KELTECH ENERGIES LIMITED Village Garamsur, Post Dudhala. Tehsil Katol, District Nagpur Maharashtra, INDIA.
	Pin Code	441103
	E-mail	snsharma@keltechenergies.com
	Telephone No.	Works: 0712 - 2809201, Mobile no.09822737618
	Fax No.	
16	Details of Alternative Sites examined, if any. Location of these sites should be shown on a toposheet.	No alternative sites are examined. Proposed project is within existing plant premises, (**Annexure VII** 10km study area map on topo-sheet, **Annexure VIII:** Plant Site Layout).
17	Inter-linked Projects	Nil, Not Applicable
18	Whether separate application of interlinked project has been submitted	Not required, No interlink project
19	If yes, date of submission	Not Applicable

Sr. No.	Item	Details
20	If no, reason	The proposed expansion plant is located in private land, individual project.
21	Whether the proposal involves approval/clearance under: (a) The Forest (Conservation) Act, 1980 (b) The Wildlife (Protection) Act, 1972 The C.R.Z Notification, 1991	Not Applicable
22	Whether there is any Government Order/Policy relevant/relating to the site	Yes, Industrial Licence issued by Govt. of India, Ministry of Commerce and Industry, Deptt. of Industrial Policy and Promotion, Secretariat for Industrial Assistance : **Annexure V**: **Annexure IX**: Gram panchayat NOC, **Annexure X** NOC District magistrate**, Annexure XI:** NOC Additional district magistrate).
23	Forest land involved (hectares)	No
24	Whether there is any litigation pending against the project and/ or land in which the project is propose to be set up (a) Name of the Court (b) Case No. (c) Orders/ directions of the Court, if any and its relevance with the proposed project.	No litigation is pending against the project.
25	Project Cost	Existing Rs. 13.57 Cr.+ Proposed 50.6 Cr.= Total 63.17 Cr.

[II] Activity

Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)

Sr. No.	Information/Checklist Confirmation	Yes/No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
1.1	Permanent or temporary change in landuse, land cover or topography including increase in intensity of land use (with respect to local landuse plan)	Yes	There will be change in land use on permanent basis due to installation of machineries and equipment. The land is already owned by project proponent. (**Annexure IV)**
1.2	Clearance of existing land, vegetation and building?	No	The land is owned by project proponent within existing plant premises. **(Annexure IV)**
1.3	Creation of new land uses	Yes	As 1.1
1.4	Pre-construction investigations e.g. bore houses, soil testing?	No	The same will be carried out before commencement of construction work.
1.5	Construction Works?	Yes	Civil / structural works, Mechanical &

Sr. No.	Information/Checklist Confirmation	Yes/No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
			Electrical erection etc. to implement the proposed expansion project.
1.6	Demolition Works ?	No	Not applicable
1.7	Temporary sites used for construction works or housing of construction workers?	Yes	KEL has separate space will be allocated for construction workers like toilets, rest room, canteen facilities which will be on temporary basis during construction period.
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations	Yes	As per approved plans
1.9	Underground works including mining or tunneling?	No	Not applicable
1.10	Reclamation works?	No	Not applicable
1.11	Dredging?	No	Not applicable
1.12	Offshore structures?	No	Not applicable
1.13	Production and manufacturing Process?	Yes	Details are given in pre-feasibility project report.
1.14	Facilities for storage of goods or materials?	Yes	Facilities will be created for the storage of goods or materials, as per approved plans.
1.15	Facilities for treatment or disposal of solid waste or liquid effluents?	Yes	Provision will be made for the disposal of solid/hazardous wastes in the nearest TSDF site. Liquid waste effluents will be treated in the wastewater treatment plant (ETP).
1.16	Facilities for long term housing of operational workers?	No	No facilities provided for staff
1.17	New road, rail or sea traffic during construction and operation?	No	Not applicable, no new roads, rail is required as these facilities are already available.
1.18	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc.?	No	Not applicable, all infrastructural facilities are already available in the area.
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	No	Not applicable, infrastructure already exists.
1.20	New or diverted transmission lines or pipelines?	No	Not required
1.21	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	Not applicable
1.22	Stream crossings?	No	Not applicable
1.23	Abstraction or transfers of water from ground or surface waters?	Yes	NOC-CGWA **(Annexure XII)**
1.24	Changes in water bodies or the land	No	Not applicable

Sr. No.	Information/Checklist Confirmation	Yes/No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
	surface affecting drainage or run-off		
1.25	Transport of personnel or materials for construction, operation or decommissioning?	Yes	Required construction materials will be sourced from the nearest local market.
1.26	Long-term dismantling or decommissioning or restoration works?	No	Not applicable
1.27	Ongoing activity during decommissioning which could have an impact on the environment?	No	Not applicable
1.28	Influx of people to an area in either temporarily or permanently?	Yes	Mostly local people will employed for project related activities. Outsiders will also be employed during construction and operation phase in case of non-availability of local skilled person.
1.29	Introduction of alien species?	No	Not applicable
1.30	Loss of native species or genetic diversity?	No	Not applicable.
1.31	Any other actions?	No	Not applicable

<table>
<tr><td>2.0</td><td colspan="3">Use of Natural resources for construction or operation of the project (such as land, water, materials or energy, especially any resources which are non -renewable or in short supply):</td></tr>
<tr><td>2.1</td><td>Land specially undeveloped or agricultural land (ha)</td><td>No</td><td>Not applicable.</td></tr>
<tr><td>2.2</td><td>Water (expected source & competing users) unit KLD)</td><td>Yes</td><td>
<table>
<tr><td>Sr. no.</td><td>Existing</td><td>Proposed additional</td><td>Total after expansion</td></tr>
<tr><td>1.</td><td>16.5</td><td>63.5</td><td>80</td></tr>
</table>
Source: Ground Water (CGWA NOC received for 16.5 m^3/day Annexure XII and applied for 80 m^3/day) Two existing bore-wells within plant area.
</td></tr>
<tr><td>2.3</td><td>Minerals (MT)</td><td>Yes</td><td>Coal powder 50TPA</td></tr>
<tr><td>2.4</td><td>Construction material – stone, aggregates, and/soil (expected source-MT)</td><td>Yes</td><td>As per requirement and will be sourced from local market.</td></tr>
<tr><td>2.5</td><td>Forests and Timber (source-MT)</td><td>No</td><td>--</td></tr>
</table>

<table>
<tr><td>2.6</td><td>Energy including electricity and fuels (source, competing users) Unit: Fuel (MT), Energy (MW)</td><td>Yes</td><td>The industry has obtained contract demand for 500 KVA
<table>
<tr><th>Sr. no.</th><th>Existing</th><th>Proposed addition</th><th>Total after expansion</th></tr>
<tr><td>1.</td><td>500</td><td>500</td><td>1000</td></tr>
</table>
(Source - Dedicated grid supply - approval Letter issued by MSEDCL- Annexure XIII)
<table>
<tr><th colspan="3">DG sets with capacity(KVA)</th></tr>
<tr><th>Existing</th><th>Proposed addition</th><th>Total after expansion</th></tr>
<tr><td>1x200 + 1x500</td><td>1x500</td><td>1200</td></tr>
</table>
In normal operating condition DG sets will be on standby mode only.</td></tr>
<tr><td>2.7</td><td>Any other natural resources (use appropriate standard units)</td><td>No</td><td>Not applicable</td></tr>
</table>

3.0	**Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health.**		
3.1	Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies)	Yes	For storage of hazardous chemicals/ materials, separate arrangement/ space will be made available as per Hazardous Waste Storage/Disposal Rules, 2016. In such case, there will not be any harmful effect on flora/fauna and health also.
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No	Not applicable, however provision for regular checkup will be carried out for the workers working in the factory on regular basis.
3.3	Affect the welfare of people e.g. by changing living conditions?	Yes	The project has overall positive impact and M/s. KEL is presently employing 164 persons comprising of various categories such as managers, officers, supervisors and all types of workers and van drivers. The additional manpower requirement for proposed expansion is 90 persons which will be helping to improve quality of life of the people.
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.,	No	Not applicable.
3.5	Any other causes	No	Not applicable.

4.0	**Production of solid wastes during construction or operation or decommissioning (MT/Month)**		
4.1	Soil, Overburden or wastes	Yes	The overburden /excavation soil will be utilized for leveling of land inside the factory premises.

4.2	Municipal waste (domestic and or commercial wastes)	Yes	The waste generated will be collected, segregated for organics and inorganics. The organic waste will be sent for composting and inorganic incinerable wastes will be used in boiler as fuel substitute, in order to disposed off properly. The quantities and further details will be provided in EIA report.
4.3	Hazardous wastes (as per hazardous waste management rules)	Yes	Hazardous waste as per MPCB will be handed over to authorized vendor TSDF. **Annexure XIV** Details will be provided in EIA report.
4.4	Other industrial process wastes	Yes	Being disposed to TSDF/authorized vendor.
4.5	Surplus product	No	Not applicable
4.6	Sewage sludge or other sludge from effluent treatment	Yes	For disposal of domestic waste water KEL has installed septic tank followed by soak pit for 7m^3/day capacity. Outlet of soak pit is used for gardening and irrigation within plant premises. Valid CTO is obtained from MPCB. After proposed expansion the entire domestic waste water will be collected at one point (ref layout plan and sewage treatment plant is proposed with constructed wet land technology for treatment of sewage waste water of factory premises. The proposed STP capacity will be 15 m^3/day As per CPHU guidelines 8 hr shift per person/day 45 lit – planning Zero discharge norms will be Complied.
4.7	Construction or demolition wastes	Yes	The construction waste consists of excess earth and construction debris along with cement bags, steel in bits and pieces, insulating and packaging materials etc. Recyclable waste construction materials will be sold to recyclers. Unusable and excess construction debris /excavation soil will be utilized for leveling of land inside the factory premises.
4.8	Redundant machinery or equipment	No	Not applicable
4.9	Contaminated soils or other materials	No	Not applicable
4.10	Agricultural wastes	No	Not applicable
4.11	Other solid wastes	No	Not applicable

5.0	**Release of pollutants or any hazardous, toxic or noxious substances to air (Kg/hr)**		
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources	Yes	Emission sources will be DG sets, Boiler etc., Expected pollutants will be PM, SO_2, NOx.
5.2	Emission from production processes	Yes	The process emission will be of NOx and acid vapors.
5.3	Emissions from materials handling including storage or transport	Yes	Nitric acid vapors may be included

5.4	Emissions from construction activities including plant and equipment	Yes	During construction, excavation will generate particulate matter and if DG sets are used, SO_2, NOx and CO will be generated.
5.5	Dust or odours from handling of materials including construction materials, sewage and waste	Yes	Proper care will be taken during handling of construction materials. Domestic waste will be treated properly and waste materials will be collected, stored and disposed-off through vendors.
5.6	Emissions from incineration of waste	Yes	Chemicals scrubber system will be provided for process wastes.
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)	Yes	Presently explosives contaminated waste is burnt in burning pits as per explosives rule 2008.
5.8	Emissions from any other sources	No	Not applicable

6.0	**Generation of Noise and Vibration, and Emissions of Light and Heat:**		
6.1	From operation of equipment e.g. engines, ventilation plant, crushers.	Yes	Ear muffs and plugs will be supplied to the workers at plant site. The DG set are silent approved by MoEF.
6.2	From industrial or similar processes	Yes	All required safety precautions as per guidelines will be followed.
6.3	From construction or demolition	No	Not applicable
6.4	From blasting or piling	No	No significant ground and noise vibration or emission of light and heat.
6.5	From construction or operational traffic	No	Not applicable, all safety arrangements are in placed within the factory premises.
6.6	From lighting or cooling systems	No	Not applicable
6.7	From any other sources	No	Not applicable
7.0	**Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal wasters or the sea**		
7.1	From handling, storage, use or spillage of hazardous materials	Yes	ETP will be setup and dried sludge will be disposed-off to TSDF. Spillages from handling, storages will be taken care properly.
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)	Yes	For disposal of domestic waste water KEL has installed septic tank followed by soak pit for 7m^3/day capacity. Outlet of soak pit is used for gardening and irrigation within plant premises. Valid CTO is obtained from MPCB. After proposed expansion the entire domestic waste water will be collected at one point (ref layout plan and sewage treatment plant is proposed with constructed wet land technology for treatment of sewage waste water of factory premises. The proposed STP capacity will be 15 m^3/day As per CPHU guidelines 8 hr shift per person/day 45 lit – planning

			Zero discharge norms will be Complied.
7.3	By deposition of pollutants emitted to air into the land or into water.	Yes	Adequate APC facilities (multiclone dust collector (to boiler), scrubbers, bag filters) will be installed.
7.4	From any other sources	No	Not applicable
7.5	Is there a risk of long term buildup of pollutants in the environment from these sources	No	Not applicable, there will not be long term buildup of pollutants. Proper implementation of management plan will take care of any risk or buildup of pollutants emitted from the industry.

8.0	**Risk of accidents during construction or operation of the project, which could affect human health or the environment**		
8.1	From explosions, spillages, fires etc. from storage, handling, use or production of hazardous substances	Yes	Adequate precaution will be taken during construction and in operation.
8.2	From any other causes	No	Not applicable
8.3	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloud burst etc.)	No	No, the project area falls under seismic zone II (low) as per seismic zone classification for India.

9.0	**Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality**		
9.1	Lead to development of supporting, facilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: Supporting infrastructure (roads, power supply, waste or waste water treatment, etc)	Yes	Existing manpower: 164 Additional manpower:90 Total after completion of Project: 254 Including Skilled/Unskilled workers, Supervisory Staff, Managerial Staff. All infrastructural facilities related to roads, power supply, water and wastewater treatment are already developed in the industry.
	Housing development	No	
	Extractive industries	No	
	Supply industries	No	
	Other	NA	
9.2	Lead to after use of the site, which could have an impact on the environment.	No	Not applicable
9.3	Set a precedent for later developments.	No	Not applicable
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects	No	Cumulative effect will be found out through modelling studies related to emission load and will be elaborated in EIA report.

(III) Environmental Sensitivity

Sr. No.	Areas	Name/ Identity	Aerial distance (within 15km.) Proposed project location boundary
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	No	Nil, within 10 Km radius
2	Areas which are important or sensitive of ecological reasons – wetlands, water courses or other water bodies, coastal zone, biospheres, mountains, forests	Yes	**Forest** • Kondhali RF – Adjacent towards East • Dhaga RF – 5.0 ,E • Madhogarh RF – 6.0, ENE • Jamni RF – 9.1 km, SSW • Sonegaon RF – 9.5 km, SSE • PF nr. Village Salai – 9.3km, WNW • PF nr. Village Chameli – 6.9 km, WSW **Water bodies** • Bor N – 2.6 km, S, • Jam River – 9.2 km, WNW, • Kotwalbardi Talav – 6.6 km, NNE, • Mortham Nala – 7.1 km, NE, • Unna Nala – 5.9 km, E • Ghorayo Nala – 4.6 km , N
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	No	Nil
4	Inland, coastal, marine or underground waters	No	Nil
5	State, national boundaries	No	Nil
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	No	Nil
7	Defense installations	No	Nil
8	Densely populated or built-up area	Yes	Nagpur is around ~36 km (E) from project site.
9	Areas occupied by sensitive man made land uses (hospitals, schools, places of worship, community facilities)	Yes	School, hospital, temples are present within 10 km radius.
10	Areas containing important, high quality or scarce resources (ground water resource, surface resources, forestry, agriculture, fisheries, tourism, minerals)	No	Nil
11	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	No	Nil
12	Areas susceptible to natural hazard	No	No evidence within 10 Km study area.

Sr. No.	Areas	Name/ Identity	Aerial distance (within 15km.) Proposed project location boundary
	which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)		

[IV] Proposed Terms of Reference for EIA Studies

Objective of the EIA study:

In order to identify the environmental impacts due to construction and operation of the proposed expansion project and associated facilities, a study will be undertaken to establish existing base line environmental conditions, predict impacts of the proposed expansion project, suggest Environmental Management Plan and developed post project monitoring program.

The Terms of reference for conducting EIA study for the proposed expansion project is described in the following sections.

Site Selection:

Plant is located on private land. The proposed expansion land is within existing plant premises and owned by the project proponent. Environmental sensitive areas within the study area will be identified and studied.

EIA Report:

- **Executive summary**

Executive summary contains objective of the proposal, use of resources, justification, etc. In addition, it will provide a compilation of EIA report, EMP and the post-project monitoring plan in brief.

- **Project description**
  - Justification for selecting the proposed unit size.
  - Process description with process flow chart, Process and operation flow diagram
  - Land requirement for the project including break up of land requirement and its availability.
  - Quantity of fuel required, source and transportation, fuel linkage will be provided.
  - Water requirement, Source, Water allocation letter from the competent authority will be provided.
  - Water balance (water intake, use, wastewater generation) taking into account reuse and re-circulation of effluents.
  - Details of rainwater harvesting scheme.
- **Environmental Baseline Status**

The data for EIA study is proposed to be collected through field studies, literature review, and interaction with concerned departments. The study area for the EIA study shall be the area within the 10 km radius of the area acquired for the project. The data/information for Environmental Baseline Status will be collected as per the following paragraphs.

Land use

The information on Land use pattern will be collected from the Revenue Department, Census of India book, District Gazetteer, SOI toposheets and NRSC satellite imageries. The land use classification of the 10 km radius study area based on the satellite imagery will be presented in the EIA report.

Based on the remote sensing data, GIS information and satellite imagery, a detailed land use map of the study area will be prepared.

Water use

The quantity of water required for the project at various stages will be estimated. The sources for water requirement and waste disposal points shall be identified.

Water quality

- The surface and groundwater sampling will be done at various locations in the study area.

- Fields studies will be conducted for one season as a part of the EIA study.

Meteorology

Micro-meteorological station shall be set up at plant site. The parameters to be monitored shall include wind speed, wind direction, temperature, and relative humidity. The collected data shall be used for preparation of wind roses to identify predominant wind direction and air quality modeling.

Ambient Air Quality

An ambient air quality monitoring network will be designed for assessment of the baseline status of ambient air quality. The parameters to be monitored are Fine Particulate Matter (PM 2.5), Particulate Matter (PM10), Sulphur Dioxide (SO_2), Oxides of Nitrogen (NOx), VOCs & Carbon Monoxide (CO). The frequency of sampling shall be twice a week for complete one season. Ambient air quality monitoring is proposed to be conducted for one season except monsoon.

Noise

Equivalent continuous noise level (Leq) in and around the project area will be monitored. Noise readings will be taken every hour for 24 hours at each location. The monitoring will be done for one season as a part of EIA study.

Biological Environment

Primary field study will be conducted to identify and enlist existing flora and fauna observed in the 10 km radius study area of the project. As a part of the study, secondary information on flora and fauna of the area will be collected from State Forest Department.

The publications available in the form of maps and documents will also be collected and utilized. The data on the availability of various floral and faunal species in the study area will also be collected from Department of Forests and utilized.

Socio-economic Environment

The data on demographic profile in the study area will be collected using secondary data sources. The data to be collected is as follows:

- Demography
- Caste profile
- Literacy profile
- Occupational profile

Environmental Attributes and Frequency of Monitoring

Sr. No.	Attributes	Parameters	Frequency
1	Meteorology	Wind speed and wind direction, Temperature, Relative humidity and Rainfall.	Continuous with hourly recording through setting up of automatic meteorological station at site and data from Secondary sources: i.e. nearest IMD station.
2	Ambient Air Quality	PM_{10}, $PM_{2.5}$, SO_2, NO_2, CO, VOC, NH_3. Heavy metals from particulate matter	24 hourly samples twice a week for three months identified at 8 locations. CO monitored 8 hourly samples in 24 hours.
3	Water quality	Physical and Chemical parameters.	Grab samples were collected once during study period prepared and brought to the laboratory for analysis.
4	Soil characteristics	Soil profile, characteristics, soil type and texture, heavy metals, NKP value, organic matter, CEC and exchangeable cations.	Once during study period at 8 locations within 10 km radius of study area.
5	Noise levels	Noise levels in dB(A)	At every location data monitored hourly for 24 hours, once during EIA study.
6	Land use	Land use for different categories.	Based on data collected from secondary sources like primary census abstracts of census of India 2011.
7	Geology	Geological history	Based on data collected from secondary sources.
8	Hydrogeology	Drainage pattern, nature of streams, aquifer characteristics, recharge and discharge areas	Hydro-geological data based on data collected from secondary sources

Sr. No.	Attributes	Parameters	Frequency
9	Biological Environment	Study of terrestrial flora and fauna diversity and aquatic ecological studies within 10 km radius	Through field visits, relevant sample collection as per standard and data collected from the District Forest Authority
10	Socio-Economic aspects	Socio-economic characteristics: infrastructure resources, health status, economic resources.	Based on data collected from secondary sources like abstracts of census of India 2011 and village directory 2001
11	Risk assessment and Disaster Management Plan	Identify the areas where disaster can occur by fires and explosions and release of toxic substances.	It is observed periodically and updated in-line with MSHIC rule 1989 (during operational phase).

- **Anticipated Environmental Impacts**

With the knowledge of the baseline conditions, project characteristics, the intensity of construction activities and current critical conditions, detailed projections shall be made of the influence of planned units of the project on all the areas of social, physical and biological environment in the area. Based on the predictions, the critically affected environmental parameters will be identified for the proposed expansion project.

The impacts on following environmental parameters will be considered during construction and operation phase of the project:

S. No.	Environmental Attributes	Activities during Operation Phase
1	Land Environment	Handling and storage of raw materials and finished products
2	Water Environment	Process effluent discharge, domestic effluent discharge, surface run-off from project area, rainwater harvesting
3	Noise Environment	Process manufacturing operations, transport vehicles, DG sets, etc.
4	Air Environment	Emissions from Raw materials handling, process manufacturing, DG sets, husk boiler.
5	Ecology	Dust deposition from plant activities and material transport, noise & light from plant operations
6	Socio-economic Environment	Improvement in infrastructure facilities, direct & secondary employment generation, CSR activities by project proponent

- **Environmental Management Plan (EMP)**

Environmental Management Plan will be developed to selectively mitigate the adverse impacts due to the construction and operation of various activities planned for the proposed expansion project. Any modification needed to make the project environmentally compatible will also be suggested. EMP will include all the aspects covered during impact assessment phase as mentioned above.

- **Analysis of alternatives**

The technology used in existing plant will be adopted.

- **Risk Analysis and Disaster Management Plan**

A detailed risk analysis study comprising of the following is to be conducted:

- Identification of potential accidents
- Consequence analysis for each identified failure will be conducted
- Assessment of what the calculated risk levels portray.

As a part of the study, a detailed onsite Disaster Management Plan shall be formulated as a part of the EIA Study.

- **Environmental Monitoring Program**
  - Appropriate monitoring network as per regulatory compliance will be suggested.
- **Conclusion and recommendations**
- **Disclosure of Consultant**

Declaration

I hereby give an undertaking that the data and information given in the application and enclosures are true to the best of my knowledge and belief and I am aware that if any part of the data and information submitted is found to be false or misleading at any stage, the project will be rejected and clearance given, if any, to the project will be revoked at our risk and cost:

Date: 23rd Oct 2018

Place: Village Garamsur, Post Dudhala,
Tehsil Katol, District Nagpur-441103, Maharshtra.

Dr. S.N. Sharma
Sr. General Manager (Works & Development)
KELTECH ENERGIES LIMITED,
Village Garamsur, Post Dudhala,
Tehsil Katol, District Nagpur-441103,
Maharashtra, INDIA

PRE–FEASIBILITY REPORT

For

PRIOR ENVIRONMENTAL CLEARANCE

EXPANSION OF EXISTING & ADDITION OF NEW EXPLOSIVE PRODUCTS

At

Village Garamsur, Post Dudhala, Tehsil Katol, District Nagpur-441103, Maharashtra.

Project Proponent

KELTECH ENERGIES LIMITED

Environment Consultant

M/s Anacon Laboratories Pvt. Ltd.

QCI-NABET Accredited EIA Consultant for Synthetic Organic Industries (Sector 21), Isolated Storage and Handling of Hazardous Chemicals (Sector 28)
MoEF&CC (GOI) and NABL Recognized Laboratory
ISO 9001:2008, ISO 14001:2004, OHSAS 18001:2007

Lab. & Consultancy: FP-34, 35, Food Park,
MIDC, Butibori, Nagpur – 441122
Mob.: +91-9372960077
Email: *ngp@anacon.in*
Website: *www.anaconlaboratories.com*

October, 2018

1. EXECUTIVE SUMMARY

1.1	Name of the project	:	Expansion of existing & addition of new explosive products.
	Name of the project proponent:		Keltech Energies Ltd. (KEL)
1.2	Location	:	Village Garamsur, Post Dudhala, Tehsil Katol, District Nagpur-441103. Maharashtra, INDIA Topo-sheet nos. 55k_12, 55k_16 **Latitude:** $21^0$09'16.40" N, **Longitude:** $78^0$44'18.27 E.
1.3	Office (Regd.)	:	7th Floor, Embassy Icon, No.3 , Infantry Road, Bangalore – 560 001
1.4	Name of Promoter/Director	:	SANTOSH L. CHOWGULE - Managing Director

1.5 Existing and Proposed products with their Capacities are provided in following tables.

PROPOSED PRODUCTS REQUIRING EC				
Sl. No.	**Product[2]**	**5(f) Maximum Quantity**	**6(b) Maximum Quantity[1]**	
1.	*PETN	1,600 MTPA	200 MT at any time	
2.	Lead Styphanate	5 MTPA	0.005 MT at any time	
3.	Lead Azide	12 MTPA	0.005 MT(at any given time)	Max. Annual qty handled 12 MTPA
4.	Mono Methyl amine nitrate (MMAN)	5000 MTPA	-	
5.	TNT (purchased – only storage at site)	-	60 MT at any time	Max. Annual qty handled 100MTPA
6.	Ammonium nitrate (purchased – only storage at site)	-	1200 MT at any time	Max. Annual qty handled 100,000 MTPA
7.	Mono Methyl amine (purchased – only storage at site)	-	48 MT at any time	Max. Annual qty handled 15000 MTPA
8.	LPG /CNG (purchased – only storage at site)	-	48 MT at any time	Max. Annual qty handled 15000 MTPA

[1]Refer schedule II & III of MSIHC Rules 1989 amended 2000

[2]As is or in form of compounded products-hetero-mixed stabilized formulations (physical mixing as per explosive standard)

*Applied for DIPP license for enhancement in capacity

Sr.no.	Proposed product not required EC	Maximum Quantity	DIPP license
1.	SME Bulk	20,000 MTPA	20,000 MTPA (newly applied)
2.	Slurry/ Emulsion	45000 MTPA	45000 MTPA (applied for expansion)
3.	Detonators	150 million Nos.	150 million Nos.
a	Shock tube	50 million meters	
b	Delay Elements	50 million Nos.	
4.	Detonating Fuse	50 Million Meters	50 Million Meters
5.	Cast Booster	200MTPA	200 MTPA
6.	Expanded Perlite	10 MT/day	NA

Existing and proposed storage details of products			
Storage explosive Products	**Existing capacity**	**Proposed Expansion**	**Total Capacity after Expansion**
Slurry & Emulsion	195 MT at any time	220 MT at any time	415 MT at any time
PETN/DF/ Cast Booster	60 MT at any time	140 MT at any time	200 MT at any time
HSD	20 KL at any time	--	20 KL at any time
Ammonium Nitrate	600 MT at any time	600 MT at any time	1200 MT at any time
TNT	7 MT at anytime	53 MT at any Time	60 MT at any time
SME	-	40 MT at any time	40 MT at any time
Mono Methyl amine	-	48 MT at any time	Max. Annual qty handled 15000 MTPA
LPG /CNG	-	48 MT at any time	Max. Annual qty handled 15000 MTPA
Styphnic acid	-	2 MT at any time	Max. annual qty handled 10 MTPA

*At any time quantity as per schedule II & III of MSIHC Rules 1989 amended 2000

Sr.no.	Existing products	Maximum Quantity	DIPP license
1.	Slurry/ Emulsion	20000 MTPA	20000 MTPA
2.	PETN	350 MTPA	600 MTPA
3.	Detonating Fuse	25 Million Meters	50 Million Meters
4.	Cast Booster	200 MTPA	200 MTPA
5.	Expanded Perlite	10 MT/day	NA

1.6	Total Project Area	:	113.72 Acres (46.04 Ha.) land area is under possession (**Annexure IV)**.
1.7	Water Requirement (m^3/day)	:	Sr. no. 1. Existing 16.5. Proposed additional 63.5. Total after expansion 80.0 Source: Ground Water (CGWA NOC received for 16.5 m^3/day **Annexure XII** and applied for 80.0 m^3/day) Two existing bore-wells within plant area.
1.8	Power Requirement(KVA)	:	The industry has obtained contract demand for 500 KVA Sr. no. 1. Existing 500. Proposed addition 500. Total after expansion 1000 (Source - Dedicated grid supply - approval Letter issued by MSEDCL- **Annexure XIII)** DG sets with capacity(KVA): Existing 1x200 + 1x500. Proposed addition 1x500. Total after expansion 1200 In normal operating condition DG sets will be on standby mode only.
1.9	Number of Shift	:	Three Shift Basis (Round the clock)
1.10	No. of Working Days	:	300 Days
1.11	Total Cost of Project	:	Existing Rs. 13.57 Cr.+ Proposed 50.60 Cr.= Total 63.17 Cr
1.12	Man Power Utilization	:	**Sr. No.** | **Category** | **Existing** | **To be included After Expansion** | **Total after expansion**

			1	Manager	6	3	9
			2	Engineers/ Supervisors	27	12	39
			3	Workers	131	75	206
			Total		**164**	**90**	**254**
1.13	Schedule of Implementation	:	**Particulars**			**Implementation Date/Time Period**	
			Commercial Production of proposed additional products will be started			After Receipt of Environmental Clearance	
1.14	Environment Consulting Organization	:	**Anacon Laboratories Pvt. Ltd.** FP-34, 35, Food Park, MIDC, Butibori, Nagpur – 441122 Ph. : (0712) 2242077, 9373287475 Fax: (0712) 2242077 Email: dattatraya.garway@anacon.in, ngp@anacon.in website: www.anaconlaboratories.com				

2.0 INTRODUCTION OF THE PROJECT/ BACKGROUND INFORMATION

2.1 Identification of project and project proponent

KELTECH ENERGIES LIMITED was incorporated in the year 1977 by the Chowgule Group of companies, Goa, for setting up an industrial Explosive manufacturing unit in the state of Karnataka for catering to the needs of mining and construction industry.

M/s. DuPont de Nemores Inc. USA, who were in explosives business since 1804 and who were world leaders in explosives technology were identified as technical collaborators. In 1974 DuPont announced phasing out of Dynamites in favour of Water Gel explosives.

The first cartridge manufacturing unit of the Company located at Vishwasnagar, Tehsil Karkala, Udupi Karnataka was commissioned in the year 1980 with DuPont Watergel Technology.

Subsequent expansion resulted in diversification of product range as well as establishment of manufacturing units at Garamsur, near Nagpur (Maharashtra), Waidhan near Singrauli (MP), Anuppur near Shahdol (MP), Chandrapur (Maharashtra). Later a satellite Units were setup at Manuguru and Ramagundam in Telangana , Korba and Bacheli in Chattisgarh, Donimalai in Karnataka, Koraput in Odisha and Mangampet in Andhra Pradesh.

The Manufacturing Unit at Garamsur, District Nagpur is located on the National Highway 6, about 40 km from Nagpur at village Garamsur, Tehsil Katol. The nearest Railway and Airport approach to the factory is at Nagpur.

The Unit has the facility to manufacture: Slurry and Emulsion explosives, PETN, Detonating Fuse, Cast Booster and Perlite. It is an ISO 9001, EMS : 14001 and OHSAS : 18001 certified Unit.

Efforts, in brief, made towards technology absorption, adaptation and innovation: KEL have indigenously developed emulsion explosives and made necessary improvements in SOP considering top priority in field requirements, complying relevant applicable acts. KEL is self reliant in technology development and product innovation for emulsion explosives.

In house benefits derived as a result of the above efforts e.g. best product quality, yield optimization and waste reduction, cost reduction, import substitution etc. All these struggles are yielding maximising profitability. Emulsion products with fully indigenous equipment have been produced and supplied. These products have been well accepted by customers for use in difficult strata conditions. Safety standards have been maintained, both during manufacture and usage, based on periodic feedback.

The existing products before proposed expansion do not fall under the purview of the EIA Notification, 2006 and subsequent amendments. M/s KEL has obtained valid consents (CTE/CTO) required from MPCB for the existing products. Hence, earlier compliance before expansion is fulfilled.

The project is not located in notified industrial zone so it is categorized as Category-A project. The proposed expansion will be within existing land area of 113.72 Acres (46.04 Ha.) (No additional land acquisition). The project is falling under schedule 5(f) and Schedule 6(b) of EIA Notification, 2006 and prior Environment Clearance needs to be obtained from MoEF&CC, GOI.

The existing and proposed products are mining explosives. These products play a vital role in national infrastructure development and mining. Therefore, special consideration may be granted to mask certain sensitive information for security reasons due to the explosive nature of products and in the interest of national safety and security. Since EIA is a public document, the mass balance may kindly be exempted from EIA. In consideration to the sensitive nature of the information, it should be kept restricted to the extent possible.

Background of Promoter Directors only (equity holders)

Sr. No.	Name of Directors	Designation	Qualification	Experience
1.	Ashok V. Chowgule	Chairman	B.Sc., MBA	40 Years
2.	Santosh L. Chowgule	Managing Director	B.A.	33 Years
3.	Umaji V. Chowgule	Director	M.A.	35 Years
4.	Arjun A. Chowgule	Director	M.A., Org. Studies	14 Years

Board of Directors

Sl. No.	Name of Directors	Designation
1	Ashok V. Chowgule	Promoter/Chairman
2	Santosh L. Chowgule	Promoter /Managing Director
3	Hemraj C.Asher	Independent Director
4	Harish Jagtiani	Independent Director
5	Umaji v. Chowgule	Promoter / Director
6	Ms. Arati Saran	Independent Director
7	Kaiyoze B. Billimoria	Independent Director
8	Arjun A. Chowgule	Promoter/ Director

2.2 Brief Description and Nature of the Project

The existing manufacturing facilities is located at Village Garamsur, Post Dudhala, Tehsil Katol, District Nagpur-441103, Maharashtra, INDIA

M/s. KEL has now planned to undertake proposed project expansion as mentioned above.

2.3 Need for the project and its importance to the country and / or region

M/s. KEL has setup manufacturing facilities for production of various types of explosives. Based upon its past performance and indigenous capability.

The project is located in industrially backward district classified as Group D+ by the Government of Maharashtra, and is the largest employer in the region providing direct and indirect employment to people.

Keltech is also a globally preferred Perlite insulation technology provider in the area of low temperature cryogenic insulation of LNG, Ethylene, Propylene, Butane, Propane, Ethane, LOX, LIN, LAR, Ammonia, Cold boxes and other cryogenic equipment.

2.4 Demand-Supply Gap

Explosives Division: There was marginal reduction of value and quantity in explosives sector. The Coal sectors had already finalized orders at aggressive prices which the Company did not accept. However, the Company's products are well accepted in other segments of business and the non-coal segment of business contributed to improve margins. In regard to Detonating Fuse and related products, the demand was consistent and the improved capacity utilization was achieved.
Perlite Division: The sale of Expanded Perlite products including Filter Aid showed significant growth during the year under review.
Industrial Relations: The industrial relations during the year under review were cordial and there were no industrial disputes.
Outlook For 2018-19: During the current financial year 2018-19, on account of stiff competition on price, sale of Explosives to Public Sector Units is expected to be under pressure. The Company is expected to consolidate its growth in the segment of packaged Emulsion Explosives and Explosives accessories on account of consistent product quality and service. Volume growth is expected in Perlite Filter Aid segment as the product is being accepted by and large by all consumers. Your Company will continue to make all efforts for optimizing the overall performance.
Therefore, the company expects to be able to achieve a high level of capacity utilization in a short period of time.

2.5 Imports vs. Indigenous production

Looking at the requirement of various commercial explosive products in near future and the Policy of GOI, to maximize the mineral exploration and infrastructure development, the industry does not anticipate any difficulty in selling of the products being considered under the proposed project expansion. KEL emulsion explosive products are the best quality within existing market scenario amongst comparable manufacturers, hence it enjoys certain benefits in marketing and these products are sold at a premium cost. The complete ranges of Explosives are manufactured indigenously. In addition Keltech is already exporting their explosive products like detonating fuse, emulsion explosives, slurry, cast boosters and Perlite (non explosive product) from existing plant. After proposed expansion Keltech is proposing to export more quantity of existing products and proposed additional products. This will fetch valuable Forex for GOI. Hence this project is of National importance.

2.6 Export possibility

The Company has exported goods worth Rs.1394.96 lakhs (C & F) during the year

2.7 Domestic / Export Markets

Manufacture of explosives, cryogenic insulation, perlite filter aid, horticulture products as well as perlite products for the construction, refractory & foundry Industries.

There is a strong demand of the proposed products in the domestic market from various mining activity. International demand for the products is also large as the numbers of international manufacturers of the proposed products are also limited. The sale of explosives in international markets will be subject to approvals from the Government of India.

2.8 Employment Generation (Direct and Indirect) due to the project

The present strength of persons employed of various categories such as managers, officers, supervisors and all types of workers and van drivers is given below. The additional manpower requirement for the proposed project is 90 persons, the details of which are also given below:

TABLE 1
EMPLOYMENT GENERATION

Sr No	Category	Existing	Proposed addition After Expansion	Total after expansion
1	Manager	6	3	9
2	Engineers/ Supervisors	27	12	39
3	Workers	131	75	206
Total		**164**	**90**	**254**

In addition to above direct employment of 90 employees after expansion, the indirect employment of around 200 persons with enhanced transport activities, canteen, security, maintenance, increased local vendors etc. Hence the proposed expansion involves additional 90 employees and 200 indirect employment potential.

3.0 PROJECT DESCRIPTION

3.1 Type of project including interlinked and interdependent projects, if any.

The proposed expansion project is for manufacturing of mining explosives and storage of explosive products which are categorized as (5f) and (6b) as per EIA notification and prior environment clearance will be obtained from MoEF&CC, GOI, falling under "**A**" category. Project is located at Village Garamsur, Post Dudhala-441103, Tehsil Katol, District Nagpur, Maharashtra,

3.2 Location (map showing general location, specific location and project boundary and project site layout) with coordinates.

Details about the Project area are presented in **Table 2.**

TABLE 2
DETAILS ABOUT THE PROJECT AREA

State	Maharashtra
Tehsil / District	Katol/Nagpur
Village	Garamsur, Post Dudhala-
Survey No.	146,147,148/1, 149/1, 149/2, 151/1, 151/2, 152/2/2, 153, 154/1, 154/2, 155, 156/ 157, 158/1, 164, 165, 158/2
Pin Code	441103
Area	113.72 Acres (46.04 Ha.)
Topo sheet No.	55k_12, 55k_16
Geo-coordinates	**Latitude:** $21^0$09'16.40" N, and **Longitude:** $78^0$44'18.27 E

The index map is presented in **Figure 1,** Location map showing 10 km radius of study area shown in **Figure 2** and site layout is given in **Figure 3.**

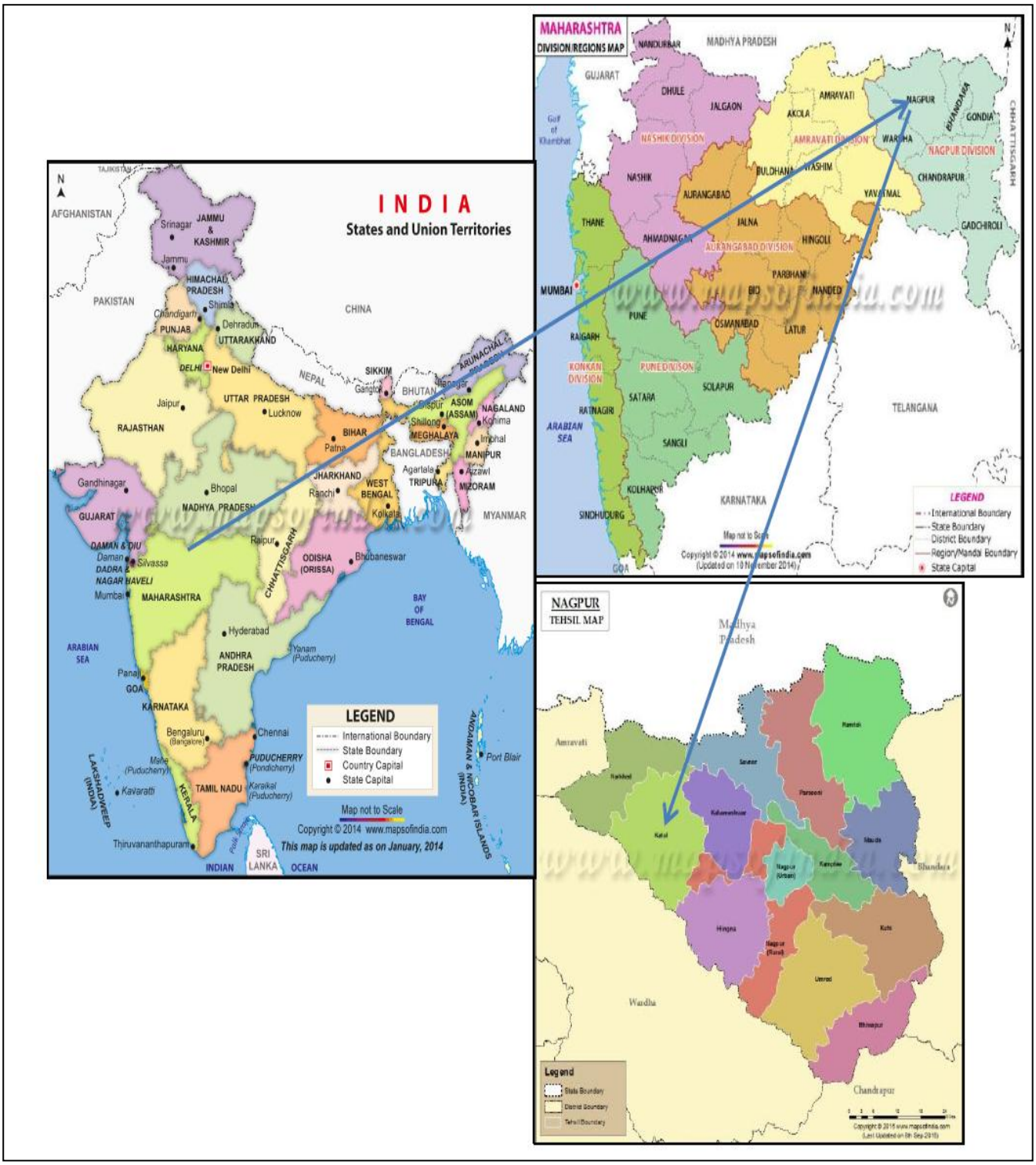


FIGURE 1: INDEX MAP

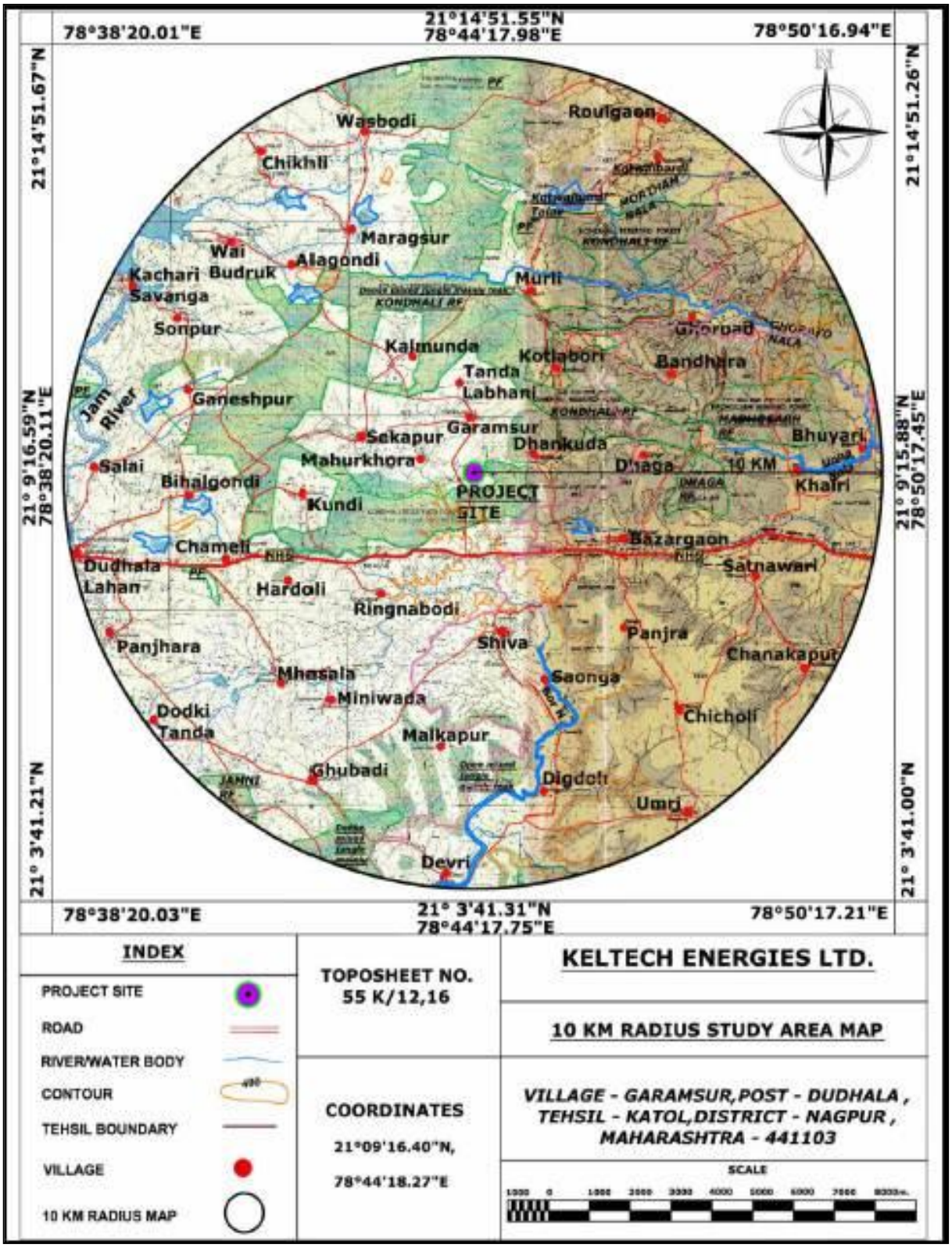


FIGURE 2: STUDY AREA MAP
(10 KM RADIAL DISTANCE FROM THE PROJECT SITE)

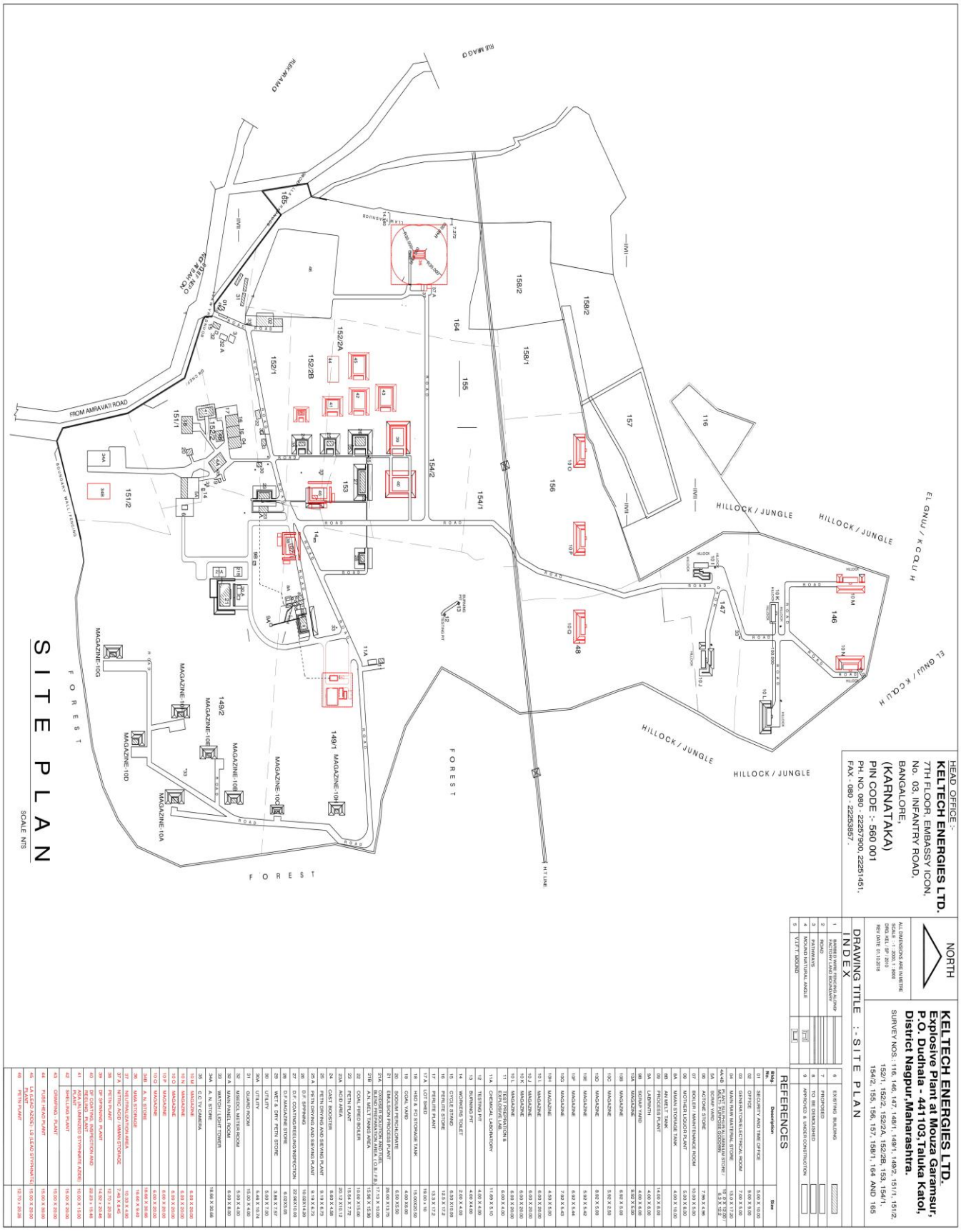


FIGURE 3: PLANT SITE LAYOUT

3.3 Details of alternate sites considered and the basis of selecting the proposed site, particularly the environmental considerations gone into should be highlighted.

The proposed project site is the location of the existing manufacturing plant of the project proponent for manufacturing of mining explosives. The location is private industrial land owned by M/s. KEL. Hence site is already selected by project proponent and no alternative site is required. M/s KEL has adequate land area for proposed expansion and hence expansion is proposed within existing land area. No additional land is required.

3.4 Size or Magnitude of operation

Existing and Proposed products with their Capacities are provided in following tables.

PROPOSED PRODUCTS REQUIRING EC				
Sl. No.	**Product[2]**	**5(f) Maximum Quantity**	**6(b) Maximum Quantity[1]**	
1.	*PETN	1,600 MTPA	200 MT at any time	
2.	Lead Styphanate	5 MTPA	0.005 MT at any time	
3.	Lead Azide	12 MTPA	0.005 MT(at any given time)	Max. Annual qty handled 12 MTPA
4.	Mono Methyl amine nitrate (MMAN)	5000 MTPA	-	
5.	TNT (purchased – only storage at site)	-	60 MT at any time	Max. Annual qty handled 100MTPA
6.	Ammonium nitrate (purchased – only storage at site)	-	1200 MT at any time	Max. Annual qty handled 100,000 MTPA
7.	Mono Methyl amine (purchased – only storage at site)	-	48 MT at any time	Max. Annual qty handled 15000 MTPA
8.	LPG /CNG (purchased – only storage at site)	-	48 MT at any time	Max. Annual qty handled 15000 MTPA

[1]Refer schedule II & III of MSIHC Rules 1989 amended 2000

[2]As is or in form of compounded products-hetero-mixed stabilized formulations (physical mixing as per explosive standard)

*Applied for DIPP license for enhancement in capacity

Sr.no.	Proposed product not required EC	Maximum Quantity	DIPP license
1.	SME Bulk	20,000 MTPA	20,000 MTPA (newly applied)
2.	Slurry/ Emulsion	45000 MTPA	45000 MTPA (applied for expansion)
3.	Detonators	150 million Nos.	150 million Nos.
a	Shock tube	50 million meters	
b	Delay Elements	50 million Nos.	
4.	Detonating Fuse	50 Million Meters	50 Million Meters
5.	Cast Booster	200MTPA	200 MTPA
6.	Expanded Perlite	10 MT/day	NA

Existing and proposed storage details of products			
Storage explosive Products	**Existing capacity**	**Proposed Expansion**	**Total Capacity after Expansion**
Slurry & Emulsion	195 MT at any time	220 MT at any time	415 MT at any time
PETN/DF/ Cast Booster	60 MT at any time	140 MT at any time	200 MT at any time
HSD	20 KL at any time	--	20 KL at any time
Ammonium Nitrate	600 MT at any time	600 MT at any time	1200 MT at any time
TNT	7 MT at anytime	53 MT at any Time	60 MT at any time
SME	-	40 MT at any time	40 MT at any time
Mono Methyl amine	-	48 MT at any time	Max. Annual qty handled 15000 MTPA
LPG /CNG	-	48 MT at any time	Max. Annual qty handled 15000 MTPA
Styphnic acid	-	2 MT at any time	Max. annual qty handled 10 MTPA

*At any time quantity as per schedule II & III of MSIHC Rules 1989 amended 2000

Sr.no.	Existing products	Maximum Quantity	DIPP license
1.	Slurry/ Emulsion	20000 MTPA	20000 MTPA
2.	PETN	350 MTPA	600 MTPA
3.	Detonating Fuse	25 Million Meters	50 Million Meters
4.	Cast Booster	200 MTPA	200 MTPA
5.	Expanded Perlite	10 MT/day	NA

3.5 Project description with process details

3.5.1 Project description

M/s KEL have applied for total 8 products (refer table point 3.4) which attract Environment Clearance. 4 products attract Environment Clearance under 5(f) and 4 products attract Environment Clearance under 6(b).

3.5.2 Process description of proposed expansion products

1. PETN

The PETN is manufactured by Nitrating of Penta Erythriotol (PE) with a mixture of concentrated Nitric acid at cold temperature and crude PETN obtained is stabilized by solvent Dissolution Method. The measured quantity of Nitric Acid is cooled to a specific temperature, after that a measured quantity of PE is slowly added to Nitric Acid at controlled temperature. After completion of Nitrating process, the crude PETN along with unreacted acid is filtered and washed with cold water and finally treated with Alkali. The acid recovered is stabilized by heating in presence of air. The crude PETN so obtained by Nitration is stabilized by dissolving in Acetone and recrystallized by water at a specific temperature to get pure PETN.

2. Slurrry/ emulsion explosive

The water gel is prepared by batch process in a Ribbon Blender. Required quantity of Ammonium Nitrate solution and MMAN solution is pumped into Blender for different products and other raw materials such as AN .Guar Gum, SN, cross linker, coal powder, and sulphur are added as required. Physical parameter like density, pH are checked and adjusted according to the specified parameter of the process. The reading of the physical parameters measured is recorded in the Log Book by the operator. After completion of the mixing and blending process, the conforming material is dropped in the product hopper by the gravity on opening the flush bottom valve of the blender.

The Emulsion Explosives are manufactured in following manner. The **OXIDISER BLEND** is prepared by mixing of Ammonium Nitrate, Sodium Nitrate, and Zinc Nitrate in sequence. The **FUEL BLEND** is

prepared by Melting Waxes. Emulsifiers like SMO/PIBSA, PIBLA after Melting and a uniform Mixture is made. The Oxidizer Blend and Fuel Blend are fed into the Mixer and then to Emulsifier in desired percentage. .The emulsification process is continuous. The Matrix is transferred to Doping Mixture where solid ingredients are added and controlled by PLC. The Emulsion Matrix is discharged to the Hopper. The product is then packed through KP Machines in different diameters with controlled gassing.

3. Mono methyl ammonium nitrate MMAN

Methyl ammonium nitrate is a salt with the molecular formula $CH_3NH_3^+NO_3^-$ ($CH_6N_2O_3$). It is the salt formed by the neutralization of methylamine with nitric acid. This substance is also known as methylamine nitrate or mono methyl amine nitrate.

4. SME:

The site mix emulsion is manufactured as follows. The **OXIDISER BLEND** is prepared by mixing of Ammonium Nitrate, Sodium Nitrate and Calcium Nitrate in sequence in the Dissolution Tank equipped with Coil and Agitator. The **FUEL BLEND** is prepared by Mixing in specified ratio and dissolving High Speed Diesel (HSD), Furnace Oil (F.O.) and Emulsifiers like SMO. An uniform Mixture is made with constant stirring. The Oxidizer Blend and Fuel Blend are mixed in Emulsifier in desired percentage. To form an Emulsion. It is known as MATRIX. The emulsification process is continuous. The Matrix is stored in SILOS.

5. Lead Styphnate

Solution of Magnesium Styphnate is made by dissolving Resorcinol and magnesium oxide in water and is manufactured in situ. Solution of Lead Nitrate is prepared in water. The Lead Nitrate solution of required quantity is added gradually to the Magnesium Styphnate solution to get Lead Styphnate

3.6 Raw material required along with estimated quantity, likely source, marketing area of final product/s, mode of transport of raw Material and Finished Product.

Estimated raw materials quantity likely to be sourced from outside, mode of transportation is given in **Table 3**.

TABLE 3
REQUIREMENTS OF RAW MATERIALS FOR EXISTING AND AFTER EXPANSION PRODUCTS ANNUAL CAPACITIES

Sr. No.	Raw Material	Existing MTPA	After Expansion MTPA
1	**For Slurry/ Emulsion/ Bulk**	**20000**	**65000**
a	Ammonium Nitrate	15000	50000
b	Sodium Nitrate/Calcium Nitrate	1000	3250
c	SMO	50	360
d	PIBLA/PIBSA	125	150
e	Mineral Oil	200	1500
f	Coal Powder	200	500
g	Guar Gum	80	300
h	Sulphur Powder	70	175
i	Waxes	200	500
J	PPA	2	5
k	Sodium Nitrite	20	50
L	MMAN	1800	4000
m	Aluminum Powder	100	250
n	Zinc Nitrate	12	30

Sr. No.	Raw Material	Existing MTPA	After Expansion MTPA
o	Thiourea	12	30
p	GMB/Q-cell	10	20
q	Alkali Solution	10	15
r	Starch	8	15
2	**PETN**	**350**	**1600**
a	Nitric Acid	780	3552
b	Pentaerytritol	155	710
c	Solvent	25 KL	120 KL
3	**MMAN**	**Nil**	**5000**
a	MMA	Nil	2125
b	Nitric Acid (75%)	Nil	2875
4	**PERLITE**	**3000**	**5000**
a	Perlite Ore	3800	6500
b	Peat Moss	120	250
5	**LEAD STYPHNATE**	**Nil**	**5**
a	Styphnic Acid	Nil	3.6
b	Magnesium Oxide	Nil	1
c	Lead Nitrate	Nil	7
d	IPA	Nil	6
6	**LEAD AZIDE**	**Nil**	**12**
a	Sodium azide	Nil	11
b	Sodium citrate	Nil	1
c	Sodium hydroxide	Nil	2
d	Dextrin	Nil	5
e	Lead nitrate	Nil	20
f	Ethanol	Nil	15
7	**DETONATING FUSE**	**25 Million Meter**	**50 Million Meter**
a	PETN	250	500
b	PVC compound	180	350
c	Merchandized Thread	15	30
d	PP Yarn	50	100
e	BOPP film	12	24
8	**CAST BOOSTER**	**200MT**	**200MT**
a	TNT	100	100
b	PETN	100	100

Source: All the raw materials are available from indigenous sources. Proposed raw materials will also be received by road transport from adjoining destinations of Maharashtra, Gujarat, TN, Haryana, Rajasthan, Odisha etc.

Markets: Consumer list and Supplier and will be supplied to various parts of India as mentioned in **Table 4.**

TABLE 4
LIST OF CONSUMERS

Sr. No.	Customers
1	Acc Limited
2	Ambuja Cement Limited,
3	Cdet Explosive Industries Private Limited
4	Century Cement
5	Chitransh Enterprises
6	Devanand Manohar Fiske
7	Dhar Construction Company
8	Gayatri Enterprises,West Godavari

Sr. No.	Customers
9	Gocl Corporation Limited
10	Hindustan Explosives
11	Hindusthan Copper Limited
12	Indian Explosives Private Limited
13	J. K. Cement Ltd
14	Jigar Agency
15	Joganiya Explosive
16	K N Bhatt & Sons
17	Keltech Energies Ltd. Salem
18	Krishna Valley Agrotech Llp
19	Kushal & Company
20	Lafarge India Pvt. Ltd.
21	M/S Shakti Explosive
22	M/S Universal Mine Tech Corporation
23	M/S. Coastal Project Limited, Awangkhul
24	Maa Kanka Durga Stone Crusher
25	Mangalam Cement Limited
26	Mateshwari Explosive
27	Nascent Mine Tech Corporation Pvt. Ltd
28	National Aluminium Company Limited
29	Niaz And Sons
30	Nmdc Ltd
31	Oil And Natural Gas Corporation Ltd
32	Oil India Ltd.
33	Orient Cement Limited
34	Pioneer Pile Foundation Construction Engineers
35	Progressive Refractory & Monolithics Pvt. Ltd.
36	Pruthavi Enterprises
37	Raigad Enterprises
38	Rajasthan State Mines & Minetals Limited
39	Rathi Sales Corp
40	S M Agency
41	S M Explosives
42	Sasan Power Limited
43	Shanker Lal Gupta
45	Shikhar Enterprises
46	Shitla Enterprises
47	Shree Cement Limited
48	Shree Khatu Shyam Traders
49	Sri Coastal Agencies
50	Sri Datri Industries
51	Sri Lakshmi Bhavani Traders
52	Srinath Enterprises
53	Srinivas Rao Vemula (Veer Enterprises)
54	Starex Minerals
55	Sunbeam Explosives
56	Tata Chemicals Limited
57	The A P Mineral Development Corporation Ltd.
58	The Hutti Gold Mines Company Limited
59	The India Cement
60	The Singareni Collieries Company Limited
61	Trinetra Cement Limited,
62	U K Explosive
63	Udaipur Cement Works Limited
64	Ultratech Cement Limited

Sr. No.	Customers
65	Unitech Mining And Minerals Pvt. Ltd
66	Wonder Cement Limited
67	Castwel Industries

TABLE 5
LIST OF SUPPLIERS

Sr. No.	Suppliers
1	RCF Ltd.
2	Deepak Fertilizers And Petrochemicals Ltd.
3	Deepak Nitrite Ltd.
4	Hindustan Gum & Chemical Ltd.
5	Raj Group
6	HPCL
7	Petrogel India Pvt. Ltd
8	Croda Chemicals
9	Krishana Spl. Chemicals Pvt Ltd
10	Asian Paints
11	Sankhla Industries
12	Hariwansh Packaging Products
13	Chawara Plastics
14	Prajakta Interprises
15	Kalyani Polymers Pvt Ltd.
16	Merck
17	GNFC Ltd.
18	Red Ray Laboratories
19	Shreyans Packaging
20	Smartchem Technologies
21	MMP Industries Ltd.
22	RK Industries
23	Singhasani Engineering System
24	Nuevo Polymers Pvt Ltd
25	Tankeshwari Metal Powder Products Pvt Ltd.
26	Jeevika Yugchem Pvt Ltd.

3.7 Resource optimization/ recycling and reuse envisaged in the project, if any, should be briefly outlined.

Resource optimization will be achieved by

- Proper and efficient handling of raw materials to minimize the wastage.
- Adopting continuous improvement in technology and processes for optimum yield, the minimum waste generation (product wise) will be achieved.

3.8 Availability of water its source, Energy/ power requirement and source:

3.8.1 Availability of water and its source:

The daily water requirement for the existing Explosive Industrial Unit is 16.5 m^3/day. KEL obtained NOC from CGWA for 16.5 m^3/day for ground water extraction. Water is being sourced from two existing bore-well within plant area

The proposed expansion is requires about 63.5 m^3/day of water. The break-up of existing and proposed water requirement is given below **table 6**.

TABLE 6
WATER REQUIREMENT (KLD)

S. No.	Activities	Existing	Proposed	Total after Water Requirement
1	Industrial cooling and boiler feed	4.1	37.9	42.0
2	Domestic purposes	7.4	4.6	12.0
3	Process	6.0	20.0	26.0
	Sub Total			
4	Gardening (treated domestic water used)	0	0	0
	Total	**16.5**	**63.5**	**80.0**

The water requirement will be met through ground water. As the factory area is large, there is scope for going for additional bore-wells to meet the additional water requirement.

3.8.2 Energy/ Power requirement and source:

The industry has obtained contract demand for 500 KVA. Proposed additional power requirement: 500KVA. Total power requirement after expansion: 1000 KVA.

Sr. no.	Existing	Proposed addition	Total after expansion
1.	500	500	1000

(Source - Dedicated grid supply - approval Letter issued by MSEDCL- **Annexure XIII)**

DG sets with capacity(KVA)		
Existing	Proposed addition	Total after expansion
1x200 + 1x500	1x500	1200

In normal operating condition DG sets will be on standby mode only.

Fuel

The fuel HSD is sufficiently available domestically. The process of steam generation boilers is based on agro based briquettes, which is procured from nearby areas.

3.9 Quantity of wastes to be generated (liquid and solid) and scheme for their Management/disposal:

3.9.1 Waste water generation & management plan

Based on the nature of effluent generated at different processes, the effluent treatment plants will be suitably designed and installed before commissioning of project.

Wastewater generated through process treated by ETP and domestic waste water shall be treated adequately to recycle it.

The quality of ground water & surface water around the project will not be affected due to the proposed activities. All required water pollution control measures are proposed to minimize any negative impacts.

The project proponent plans to recycle water as maximum as possible. It is proposed that the project proponent will also undertake rain water harvesting to ensure stability in ground water table.

Treated water discharge will comply to the required standard and zero liquid discharge norms will be followed.

Waste water generation given below in **Table 7.**

TABLE 7
WASTEWATER GENERATION (m^3/day)

S. No.	Activities	Existing	Proposed	Total Waste Water Generation
1	Industrial cooling and boiler feed	1	10	11
2	Domestic purposes	6	4	10
3	Process	2	10	12
4	Gardening	0	0	0
T o t a l		**9**	**24**	**33**

ETP details –The ETP capacity is 60 m^3/day.

The water and waste water management is described below:

Drinking and industrial water requirement of the factory is fulfilled by bore wells located within the factory. Bore Well water is treated via softeners as per process requirements or otherwise fed directly to the process tanks. Water purification units and water coolers are provided for drinking water in respective process buildings.

In all of the process plants effluent collection tanks have been provided to collect and recycle the effluent within the plant. The Softener's regeneration waste water and is recycled fully in the plants.

The processes wise effluent treatment plants are located in the factory premises are described below:

3.9.1.1 ETP for proposed products

1. ETP for PETN Plant Effluent:

The PETN plant effluent is collected in the effluent collection tank. The effluent is neutralized by mixing soda ash solution and sent to the main ETP via concealed PVC pipe line. This is then passed through flocculates and sand filter before sending to storage tank.

2. ETP for Lead Styphnate Effluent:

The mother liquor and washings of the process will be collected in FRP vats. The explosive constituents will be destroyed by addition of 10% Nitric Acid, Iron Filings and Sulphuric Acid. The resultant effluent is acidic and will be taken to a neutralization tank where it will be neutralised with lime solution. Bleaching Powder will be added to remove the colour of Amino bodies and ferric alum is added to help coagulation and settling of solid waste. There will be continuous air purging to assist intimate mixing. The solution will be then allowed to stand overnight and the supernant effluent is pumped into elevated evaporation lagoon and solar evaporated through spray nozzles. The settled solids will be collected, dried and packed in suitable containers and will be sent to CHWTSDF, Butibori.

3.9.2 Solid/hazardous waste generation and Management plan

Management plan for proposed EC

Solid and Hazardous wastes generated by the factory are boiler ash, chemical sludge and ash from burning of sweeping wastes of the plants, damaged cartridges, discarded liners/plastic bags, cardboard boxes, etc. The details of solid and hazardous wastes generation and their disposal practices are as discussed below:

1 Solid Waste (Non-Hazardous)

1.1 Boiler Ash

Boiler ash generated from boiler is collected from the bag filters. The bio fuel ash from briquettes will be utilised for levelling low lying areas within factory premises.

1.2 Perlite ore waste: 5 MT/ M disposal at own plant land filling

2 Solid Waste (Hazardous)

2.1 Chemical Sludge from ETP (Category 34.3)

ETP sludge is separated at the sludge drying beds of ETP. Sun dried sludge is collected and stored in LDPE lined bags and disposed to CHWTSDF. (Agreement Copy is attached as **Annexure XIV)**

2.2 Explosive Waste

Waste contaminated with explosives is safely burnt under supervision at location approved by the licencing authority as per Explosives Rules, 2008. The ash is collected and stored in LDPE lined bags and disposed to CHWTSDF.

2.3 Non Explosive Waste such as packing cartons, cotton waste, etc.

Waste such as packing cartons, liners etc. which have been used to pack explosives and cleaning items like cotton waste may have traces of explosives. These items are collected and safety stored in designated containers. This waste is safely burnt under supervision at location approved by the licencing authority as per Explosives Rules, 2008. The ash is collected and stored in LDPE lined bags and disposed to CHWTSDF.

TABLE 8
QUANTITY OF HAZARDOUS WASTE TO BE GENERATED & ITS MANAGEMENT / DISPOSAL

S.No.	Type of Waste	Quantity			category	Treatment	Disposal Facility
		Existing	Proposed	Total			
1.	Used spent oil	25/lit/ A	--	25/lit/ A	5.1	--	CHWTSD
2.	Waste/residue containing Oil	40kg/ A	--	40kg/ A	5.2	--	CHWTSD
3.	Discarded containers/ barrels/ liners	120 kg/day	120 kg/day	240kg/day	33.3	--	CHWTSD
4.	Chemical sludge from wastewater treatment	10kg/day	50Kg/ Day	60Kg/ Day	34.3	--	CHWTSD

3.10 Schematic representations of the feasibility drawing which give information of EIA purpose.

S. No.	Particulars	Impacts	Remediation Proposed
1.	Change in Land use.	There will be change in land use on permanent basis due to installation of machineries and equipment.	There will be change in land use on permanent basis due to installation of machineries and equipment. The land is already owned by project proponent and within existing plant premises. The proposed project area located within the existing plant at Village Garamsur, Post Dudhala, Tehsil Katol, District Nagpur-441103, Maharashtra. The land is being used for Industrial Purpose.
2.	Transportation of material	The existing network of transport gets pressurized	The proposed activity will marginally increase in Traffic density. The proposed project lies within existing plant thus, infrastructural facilities/road accessibility are already developed. However, will maintain the existing road.
3.	Gaseous and Particulate	Air quality	All necessary steps will be followed to minimize the emission from point sources as well as line

S. No.	Particulars	Impacts	Remediation Proposed
	Emission to the atmosphere		sources. Thus the standards of stack emission and ambient air quality will be maintained as per prescribed limits.
4.	Discharge of effluent	Impact of water quality.	Zero discharge maintained
5.	Withdrawal of ground / surface water	Availability of ground/surface water is affected.	Water will be sourced from dug / bore wells. Permission regarding drawl of water is granted from water resource department.
6.	Operation of equipment and vehicles likely to generate noise	Impact on human health due to excess noise level beyond permissible level.	All the process equipment will be installed on anti-vibration pad with sufficient provisions to minimize generation of noise. The high noise generating equipment like generator will be enclosed with noise suppressing enclosures. The buildings as well as boundary wall and green belt will ensure the attenuation of noise outside the boundary within the prescribed limits.
7.	Fire Hazard due to storage of fuel etc.	Risk to the surrounding habitation.	Necessary precautions to prevent fire and all the provisions to control fire shall be provided.
8.	Employment to outsiders	Socio-economic disparity with local community	Priority of employment will be given to local people, as already sufficient qualified and trained local youth are available.
9.	Cultural impact	Local population feels isolated	The promoters propose to employ local masses in the project hence no such impact on cultural diversity is likely to take place.
10.	Disposal of solid and hazardous wastes	Create odorous problem, nuisance condition related to the disposal of solid wastes. Deterioration of soil, productivity pollution in ground water/surface water due to leaching and surface runoff.	Domestic wastes will be segregated for organic and inorganic. Organic wastes will be used for composting and inorganic for approved vendors. Disposal of hazardous wastes will be done as per hazardous wastes handling and disposal rule.

4.0 SITE ANALYSIS

4.1 Connectivity

The site is well connected with Road/Rail. The details are as follows:

- Nagpur Railway Station ~36 Km, E
- Dr. Babasaheb Ambedkar International Airport. Nagpur ~34 Km, SE
- NH 6 – 2 KM, S

4.2 Land Form, Land use and Land ownership

The core zone includes Industrial area of 113.72 Acres (46.04 Ha.) land of KEL and 10 km radius from M/s KEL Explosives Industrial Unit (**Annexure IV**).

The details regarding the breakup of the land for the various activities of the proposed project is as follows (**Table 9**).

TABLE 9
AREA STATEMENT

Name of Building	Area in Sq.M.	Area in Acres	Area in %
Proposed Buildings	5300	1.3	1.15
Process Buildings	2242	0.6	0.49
Magazines & Stores Buildings	3285	0.8	0.71
Office & Other Amenity Buildings	1271	0.31	0.27
Utility Building	338	0.1	0.07

Name of Building	Area in Sq.M.	Area in Acres	Area in %
Green belt Area	234705.66	58	51
Road	21000	5.19	4.56
Open space	192062	47.42	41.75
Total	**460203.66**	**113.72**	**100.00**

4.3 Topography of the project area

The proposed project area located at Village Village Garamsur, Post Dudhala, Tehsil Katol, District Nagpur-441103, Maharashtra,. The project site lies at the **Latitude:** 21^{0}09'16.40" N, and **Longitude:** 78^{0}44'18.27 E on the Topo sheet No. 55k_12, 55k_16. The site specific Topography map is given in **Figure 4.**

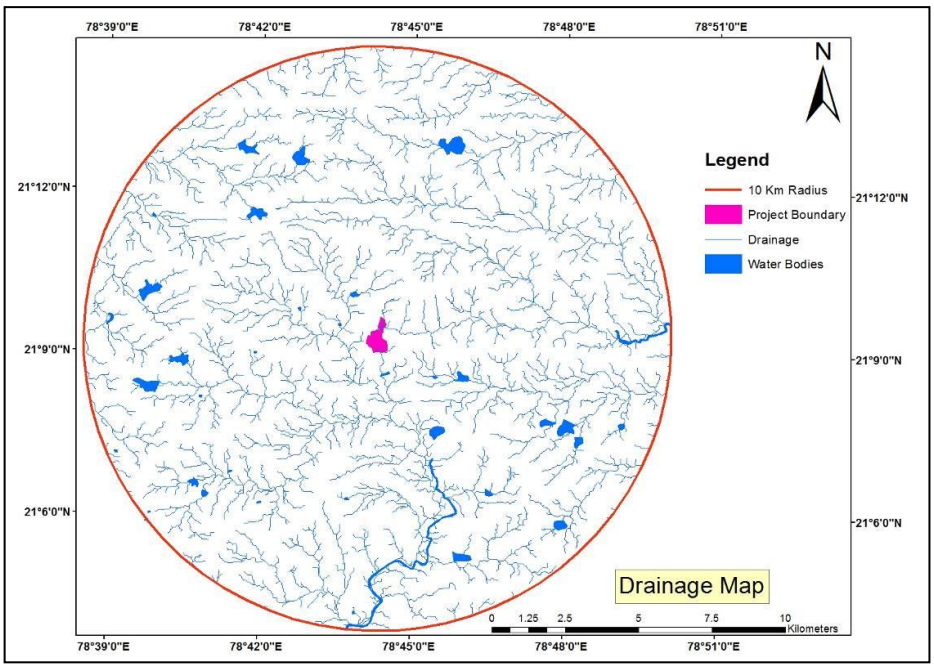


FIGURE 4: SITE SPECIFIC TOPOGRAPHY MAP (10 KM Radius)

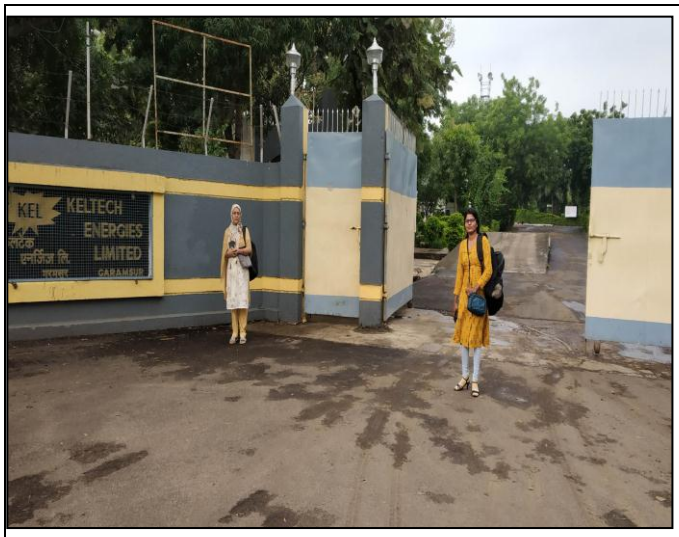
4.4 Existing land use pattern (agriculture, non-agriculture, forest, water bodies (distance from HFL to the river), CRZ. In case of notified industrial area, a copy of Gazette Notification should be given:-

The proposed project area located at Village Garamsur, Post Dudhala, Tehsil Katol, District Nagpur-441103, Maharashtra,. The land is being used for Industrial Purpose. Land ownership documents are enclosed as **Annexures IV.**

There is no national park, wild life sanctuary, eco sensitive areas in surrounding 10 Km from the plant boundary. CRZ is not applicable to the project.

Existing infrastructure

Project site photographs are attached in following **Photograph 1**.



PHOTOGRAPH 1: PROJECT SITE PHOTOGRAPHS

5.0 PLANNING BRIEF

5.1 Planning concept (type of industries, facilities transportation Town and Country Planning Development authority Classification.

Type of Industry and proposed expansion

Manufacture of mining explosives products. The proposed expansion is proposed in existing land area, open land is available as mentioned in above photographs. No tree cutting is envisaged. Kindly ref layout plan proposed expansion and new units are mentioned in red color codes. Also ref legand for area calculations.

Town and Country Planning Development authority Classification

The proposed project area located at Village Garamsur, Post Dudhala, Tehsil Katol, District Nagpur-441103, Maharashtra. Adequate road facilities are already available for transportation of raw materials as well as finished products.

5.2 Population Projection

M/s. KEL is presently employing 164 people and proposed expansion additional 90 direct manpower will be employed. Total after expansion manpower requirement will be 254. Since the proposed plant is located in Nagpur district where trained manpower is available, employment will be given mostly to local people, so there will not be any substantial increase in the population of local villages. However, due to increase economic growth, the local youth will be benefited with respect to employment.

5.3 Land use planning (breakup along with green belt etc.)

The plantation and green belt covered land is 58 Acres, which is 51% of total project area of 113.72acres. The breakup of the land along with greenbelt for the proposed project is given in **Table 10.**

TABLE 10
LAND USE BREAKUP ALONG WITH GREENBELT

Name of Building	Area in Sq.M.	Area in Acres	Area in %
Proposed Buildings	5300	1.3	1.15
Process Buildings	2242	0.6	0.49
Magazines & Stores Buildings	3285	0.8	0.71

Name of Building	Area in Sq.M.	Area in Acres	Area in %
Office & Other Amenity Buildings	1271	0.31	0.27
Utility Building	338	0.1	0.07
Green belt Area	234705.66	58	51
Road	21000	5.19	4.56
Open space	192062	47.42	41.75
TOTAL	**460203.66**	**113.72**	**100.00**

5.4 Assessment of Infrastructure Demand

The basic infrastructure (Roads, Water resources, etc.) required for the proposed project is available at the project site as the proposed project is within existing plant. Apart from that, additional infrastructure will be developed by the company as per requirement.

5.5 Amenities/ Facilities

Major basic facilities are available for the proposed project. Road, electricity, water, transportation facility etc. are well developed in the surrounding area. The major new facilities required to be set for the proposed project will be installation of process equipment at site within the premises along with all the necessary infrastructures like storage house, internal access roads, office buildings, equipment sheds, etc.

6.0 PROPOSED INFRASTRUCTURE

6.1 Industrial Area (Processing Area)

The proposed activities will be within the existing plant. Presently 113.72 Acres (46.04 Ha.) land area is under possession. Remaining open area will be for future development as well as green belt development, parking bay, etc. as given in land use statement (**Table 9, 10**).

6.2 Residential Area (Non Processing Area)

Not applicable.

6.3 Green Belt

The plantation and green belt covered land is 51 % of total project area. Additional 14 % will be covered in plantation so that after proposed expansion green belt area will be 65 %

6.4 Social Infrastructure:

The project area lies within the district of Nagpur. There is no requirement to build any social infrastructure within the proposed plant area. The infrastructure for amenities to the workers such as canteen, drinking water, sanitation, first aid room, etc. are already provided.

6.5 Connectivity (Traffic and Transportation Road, Rail/Metro/Waterways etc.).

The site is well connected with Road/Rail. The details are as follows:

- Nagpur Railway Station ~36 Km, E
- Dr. Babasaheb Ambedkar International Airport. Nagpur ~34 Km, SE
- NH 6 – 2 KM, S

6.6 Drinking Water Management (Source & Supply of water)

Drinking water will be sourced from ground water.

6.7 Sewerage system

For disposal of domestic waste water KEL has installed septic tank followed by soak pit for 7m^3/day capacity. Outlet of soak pit is used for gardening and irrigation within plant premises. Valid CTO is obtained from MPCB.

After proposed expansion the entire domestic waste water will be collected at one point (ref layout plan and sewage treatment plant is proposed with constructed wet land technology for treatment of sewage waste water of factory premises. The proposed STP capacity will be 15 m^3/day As per CPHU guidelines 8 hr shift per person/day 45 lit – planning

Zero discharge norms will be complied.

6.8 Industrial Waste/ Solid Waste Management

The industrial wastes generated in the form of solid wastes, and hazardous wastes will be collected, segregated and disposed-off as per CPCB guideline. Hazardous waste will be disposed off to nearest TSDF site at MIDC Butibori, Nagpur copy of agreement is enclosed, ref. **Annexure No. XIV.**

7.0 REHABILITATION AND RESETTLEMENT (R&R) PLAN

7.1 Policy to be adopted (Central/ State) in respect of the project affected persons including home oustees, land oustees and landless laborers

The proposed project does not have any directly displaced persons, due to acquisition of land. There are also no land oustees or project affected persons or home oustees, thus R&R plan is not applicable here. However, the priority for employment will be given to local persons living in the adjoining villages. In addition to this, the company will also contribute for the welfare of the people of local surrounding under company's CSR policy.

Details of corporate social responsibility program of M/s KEL

CSR Vision

Contribute to the Social and Sustainable Economic Development of the people of India.

CSR Mission

Promote socio-economic development in the community through different participatory and need-based initiatives in the best interest of underprivileged sections of the society, so as to help them to become self-reliant for a better future.

Activities

The CSR activities we pursue will be in line with our stated Vision and Mission, focused not just around our factory and work places, but also in other geographies based on the needs of the communities in rural areas all across the country.

1) Promotion of education especially among children and the differently abled including:

a) Non-formal education programmes.

b) Supporting schools with infrastructure like benches, toilets, potable water, fans etc.

c) Supporting other educational institutions.

d) Improving educational facilities in general.

2) Rural Development Projects for benefit of general population.

3) Other Activities:

a) Welfare for differently disabled persons

b) Employing people and incurring other costs to carry out aforesaid activities.

CSR Funds

The corpus for the purpose of carrying on the aforesaid activities would include the followings:

1) 2% of the average Net Profit made by the Company during immediately preceding three Financial Years.

2) Any income arising there from.

3) Surplus arising out of CSR activities carried out by the company and such surplus will not be part of business profit of the company.

Sr. No.	Year	Amount (Rs. In Lakhs) in surrounding area of Project	Amount for whole Company (Rs. In Lakhs)
1	2015-2016	0.43	13.89
2	2016-2017	0.79	13.56
3	2017-2018	2.12	14.71

8.0 PROJECT SCHEDULE & COST ESTIMATES

SCHEDULE FOR APPROVAL AND IMPLEMENTATION

❖ **Proposed Project**

Activities at the site will be carried out after grant of Environmental clearance from Ministry of Environment & Forests. The schedule for implementing the proposed project is given in **Table 11.**

TABLE 11
PROJECT IMPLEMENTATION SCHEDULE

Particulars	Implementation Date/Time Period
Commercial Production of proposed additional products will be started	After Receipt of Environmental Clearance

8.1 Estimated project cost along with analysis in terms of economic viability of the project.

Total investment of the industry in the proposed project is estimated to by approx. Existing Rs. 13.57 Cr.+ Proposed 50.6 Cr.= Total 63.17 Cr.

9.0 ANALYSIS OF PROPOSAL (FINAL RECOMMENDATIONS)

9.1 Financial and social benefits with special emphasis on the benefit to the local People Including Tribal Population, If Any, in the Area.

On overall assessment of the project with consideration of technical and financial aspects, it is concluded that the mining explosive products manufacturing plant is technically feasible and has high degree of financial viability.