



**STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY,
BIHAR**

Ref No. 132

Patna-23, dated:- 26/4/16

From,

Prof. R. C. Sinha
Chairman,
SEIAA, Bihar

To,

**M/S GE Diesel Locomotive Private Limited,
GE Diesel Locomotive Private Limited,
401, 402, 4th Floor,
Aggarwal Milleninum Tower,
E- 1, 2, 3, Netaji Subash Place,
Wazirpur, New Delhi
Pin- 110 034**

Sub: Environmental Clearance for the proponent "GE Diesel Locomotive Private Limited - A Diesel Locomotive Factory propped in Village Bajid Bhora Thana No. 45 and Talpuraina, Thana No. 47 Vill- Chanda, Tehsil- Marhorwa, Dist- Saran,"

Sir,

This has reference to your application submitted vide letter dated 29th January 2016 for environmental clearance, your application was appraised by SEAC in its meeting held on 09th April, 2016 as per EIA Notification, 2006 and its amendment thereof. On the recommendation of SEAC, SEIAA in its meeting held on 18th April, 2016 accords Environmental Clearance with the following conditions. The salient features of the Project are as follows:-

Brief description of the Project

S.N.	MAJOR PROJECT REQUIRMENT	DETAILS
1.	Name of the project/s	"GE Diesel Locomotive Private Limited - A Diesel Locomotive Factory proposed in Village Bajid Bhorhara Thana No- 45 and Talpuraina, Thana No- 47, Vill- Chanda, Tehsil- Marhowra, District- Saran, Chapra, Bihar"
2.	Location	Village Bajid Bhorhara, District- Saran, Chapra
3.	Category of the project i.e. 'A' or 'B'	"B-2"(8a)
4.	Name of the applicant	GE DIESEL LOCOMOTIVE PRIVATE LIMITED
5.	Registered Address	GE DIESEL LOCOMOTIVE PRIVATE LIMITED, 401, 402, 4 th floor, Agarwal Millennium Tower, E-1,2,3, Netaji Subash Place, Wazirpur, New Delhi- 110 034
6.	Address for correspondence:	Mr. Summet Banga General Manager, Commerical Operations 401, 402, 4 th floor, Agarwal Millennium Tower, E-1,2,3, Netaji Subash Place, Wazirpur, New Delhi- 110 034
7.	The surrounding features of the project is as follows	Marhowara Railway Stations- 9 Kms Lok Nayak Jayprakash Airport-85 Kms (by road)
8.	Total Project Cost	₹ 750 Crores
9.	Project Area	24.28 Hectare.
10.	Total built up Area (Factory + Quarter)	62,093 m ²
11.	Total Water Requirement	Construction Domestic Uses- 99-135 KLD Construction activities- 100 KLD Operational Phase Water requirement- 118.80 KLD (Non-Monsoon) 88.70 KLD (Monsson)
12.	Waste Water Generation	Quarter-50.16 KLD Factory- 21.3 KLD STP Capacity- 100 KLD Recycled Water Flushed- 27.07 KLD Plantation- 16.03 KLD Monsoon- 27.07 KLD

PART A – GENERAL CONDITIONS**I. Pre- Construction Phase**

- i. Provision shall be made for the housing of construction labour as convenient to the proponent with all necessary infrastructure and facilities such as fuel (kerosene/gas) for cooking, safe drinking water, medical health care, etc. The housing may be in the form of temporary structures to be removed after completion of the project.
- ii. Provision of waste water disposal & solid wastes management shall be ensured for labour force. Proper sanitation facilities shall be provided at the construction site to prevent health related problems. Domestic as well as sanitary wastes from construction camps shall be cleared regularly.
- iii. Adequate safety measures shall be adopted for the construction workers.
- iv. All the labourers to be engaged for construction works shall be screened for health and adequately treated before issue of work permits. The contractor shall ensure periodic health check-up of construction workers.
- v. Fencing of the project boundary wall shall be ensured before start of construction activities.
- vi. Use of energy efficient construction materials shall be ensured to achieve the desired thermal comfort.
- vii. Use of fly ash based bricks/blocks/tiles/products shall be explored to the maximum extent possible.
- viii. Lay out of proposed buildings and roads within premises etc. shall be made in such a way that it shall cause minimum disturbance to existing flora and fauna. Appropriate green belt shall developed to compensate the loss of tree cutting (if any) from competent authority as per prevailing Act/Rules. The exotic species existing within the existing premises, if any, shall be protected. The greening programme shall include plantation of both exotic and indigenous species.
- ix. Dedicated pedestrian paths shall be provided along the proposed Buildings. Appropriate access shall be provided for physically handicapped in the Pedestrian Paths.
- x. The design of service roads and the entry and exit from the buildings shall conform to the norms & standards prescribed by the State Public Works Department.
- xi. The road system shall have the road cross sections for general traffic, exclusive ways for public mass transport (bus) system, pedestrian paths and ways, utility corridors and green strip.
- xii. The project proponent should advertise in at least two local newspapers widely circulated in the region, one of which should in the vernacular language, informing

that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Environment Impact Assessment Authority, Bihar, and the same may also be seen on the website of SEIAA, Bihar, Patna. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional Office of this Ministry at Ranchi.

- xiii. Risk assessment study along with Disaster Management Plan (DMP) shall be prepared. The mitigative measures for disaster prevention and control shall be prepared and get approval from competent authority. All other statutory clearances/licenses/permissions from concerned State Governments Departments, Boards and Corporations shall be obtained.
- xiv. Baseline Environmental Condition of Project area i.e. Monitoring of AAQ as per NAAQS 2009, Monitoring of Ambient Noise Level & Analysis of Ground Water should be conducted and report be submitted to State Environment Impact Assessment Authority (SEIAA), Bihar and Bihar State Pollution Control Board (BSPCB), Patna prior to start of construction activities.

II. Construction Phase

- i. It shall be ensured that the construction debris is properly stored on the site prior to disposal. Such requirements shall be made part of the contractor agreement.
- ii. All the top soil excavated during construction activities shall be stored for use in horticulture/landscape development within the project site. Proper erosion and sediment control measures shall be adopted.
- iii. Disposal of muck, including excavated material during construction phase, shall not create any adverse effects on the neighbouring communities and shall be disposed off taking the necessary precautions for general safety and health aspects.
- iv. Low Sulphur diesel generator sets should be used during construction phase. Diesel generator sets during construction phase shall have acoustic enclosures and shall conform to Environment (Protection) Rules, 1986 prescribed for noise emission standards.
- v. All vehicles/equipment deployed during construction phase shall be in good working condition and shall conform to applicable air and noise emission standards. These shall be operated only during non-peaking hours.
- vi. The protective equipment such as nose mask, earplugs etc. shall be provided to construction personnel exposed to high noise levels.
- vii. Construction spoils, including bituminous material and other hazardous materials including oil from construction equipment must not be allowed to contaminate soil/ground water. The dumpsites for such material must be secured so that they shall not leach into the ground water.

- viii. Proper and prior planning, sequencing and scheduling of all major construction activities shall be done. Construction material shall be stored in covered sheds. Truck carrying soil, sand and other construction materials shall be duly covered to prevent spilling and dust emission. Adequate dust suppression measures shall be undertaken to control fugitive dust emission. Regular water sprinkling for dust suppression shall be ensured.
- ix. Use of Ready-Mix concrete is recommended for the project.
- x. Accumulation/stagnation of water shall be avoided for vector control.
- xi. Regular supervision of the above and other measures shall be in place all through the construction phase so as to avoid disturbance to the surroundings.
- xii. Water during construction phase should be as per the EMP submitted.
- xiii. All directions of the Airport Authority, Director of Explosives and Fire Department etc. shall be complied.
- xiv. Unskilled construction labourers shall be recruited from the local areas.
- xv. Provisions shall be made for the integration of solar water heating system.
- xvi. Provision of vermin-composting for the biodegradable solid wastes generated from the proposed extension buildings as well as the large amount of biomass shall be made.
- xvii. Monitoring of ground water table and quality once in three months shall be carried out. Construction of tube wells, bore wells shall be strictly regulated.
- xviii. Permeable (porous) paving in the parking areas, and walkways should be used to control surface runoff by allowing storm water to infiltrate the soil and to recharge ground water.
- xix. All intersections shall be designed and developed as roundabouts.
- xx. All utility lines (electricity, telephone, cable, water supply, sewage, drainage, etc. shall be laid below ground level. Ducts shall be provided along and across the roads to lay the utility lines. Major trunk (water/sewerage) lines are to be laid along the utility corridor.
- xxi. The road drainage shall be designed to enable quick runoff of surface water and prevent water logging.
- xxii. Adequate provision shall be made to cater the parking needs. Parking spaces standards as given in "Manual on Norms and Standards for Environmental Clearance of Large Construction Projects" issued by Ministry of Environment and Forests, Government of India shall be adopted.
- xxiii. Rest room facilities shall be provided for service population.
- xxiv. Monitoring of AAQ as per NAAQS 2009, Monitoring of Ambient Noise Level & Analysis of Ground Water Samples, should be conducted and report should be submitted on quarterly basis to SEIAA, Bihar & BSPCB, Patna.

Water Body Conservation :-

- i. Water body falling within premises (if any) shall not be lined or no embankment shall be cemented. The water bodies, if any, shall be kept in natural conditions without disturbing the ecological habitat.
- ii. Improvement or rehabilitation of existing nallas (if any) shall be carried out without disturbing the ecological habitat.

III. Post Construction/Operation Phase

- i. The environmental safeguards and mitigation measures contained in the application shall be implemented in letter and spirit.
- ii. All the conditions, liabilities and legal provisions contained in the Environmental Clearance shall be equally applicable to the successor management of the project in the event of the project proponent transferring the ownership, maintenance of management of the project to any other entity. Ground water shall not be abstracted without prior permission from the competent authority.
- iii. The storm water management plan shall be implemented in such a manner that the storm water is discharged through an existing dedicated Storm Water Outfall only.
- iv. The height of the stack of the DG sets should be as per norms of CPCB.
- v. Medical (First-Aid) facility must be provided for visitors & employees. Para-medical staff should be attached as Medical facility provider.
- vi. Plantation along the side of the buildings & roads and in the open spaces shall be developed to act as sinks of air pollutants. The plantation of trees shall be completed in the construction stage. The plantations shall consist of mixture of available indigenous, fast growing and sturdy species of trees, shrubs and herbs. Preferential plantation of flowering trees with less timber and fruits value shall be carried out. 33% of the total area shall be used for plantation.
- vii. Two chambered container or two separate containers (one for recyclable wastes and other for all organic and compostable wastes) shall be placed at appropriate distance on the roadsides and inside the building. Covered dustbins/garbage collector in convenient places to collect the Municipal solid wastes shall be provided.
- viii. Proper composting / vermi-composting of municipal solid wastes shall be carried out. All municipal solid wastes shall be segregated, collected, transported, treated and disposed as per provisions of the Municipal Solid Wastes (Management and Handling) Rules, 2000 (As amended).
- ix. The use of hand gloves, shoes and safety dress for all waste collectors and sorters shall be enforced.

IV. Entire Life of the Project

- i. The project proponent should implement Environmental Monitoring Programme as per details submitted in EMP.
- ii. No expansion/modification activity should be carried out obtaining prior Environmental Clearance as per EIA Notification 2006/

PART B- SPECIFIC CONDITIONS

I. Pre-Construction Phase

- i. Project Proponent should obtain prior consent to establish (NOC) under Section 25 & 26 of the Water (Prevention & Control of Pollution) Act' 1974 and under Section 21 of the Air (Prevention & Control of Pollution) Act' 1981 from State Pollution Control Board before start of construction activities.
- ii. Project Proponent should obtain prior permission for ground water withdrawal from CCWA/CGWB if applicable.
- iii. Construction shall conform to the requirements of local seismic regulations. The project proponent shall obtain permission for the plans and designs including structural design, standards and specifications of all construction work from concerned authority.
- iv. Use of energy efficient construction materials to achieve the desired thermal comfort shall be incorporated. The desired level of roof assembling "U" factor and insulation "R" value must be achieved. Roof assembling "U" factor for the top roof shall not exceed 0.4 watt/sq.m./degree centigrade with appropriate modifications of specifications and building technologies. The provisions of National Building Code 2005 shall be strictly followed.
- v. Street/Corridor lighting shall be energy efficient. LED lamps along Building premises shall be provided. High intensity, high mast lights to be installed at few strategic points. Solar energy may be used for outdoor lighting.
- vi. Reduction of hard paving-onsite (Open area surrounding all buildings) and/or provision of shades on hard paved surfaces to minimize heat island effect and imperviousness of the site should be undertaken.
- vii. All proposed air/conditioned buildings should follow the norms proposed in the ECBC regulations framed by the Bureau of Energy Efficiency.

II. Construction Phase

- i. The water treatment plant shall be provided for treatment of water. The treatment shall include screening, sedimentation, filtration and disinfections. Appropriate

arrangement shall be made for treatment and reuse of backwash water of filtration plant.

- ii. Project proponent shall provide adequate measuring arrangement at the inlet point of water uptake and at the discharge point for the measurement of water utilized in different categories and monitoring daily water consumption.
- iii. Regular water sprinkling shall be done all around the site to minimize fugitive dust emission during construction activities.

III. Post Construction/Operation Phase

- i. Water saving practices such as usage of water saving devices/fixtures, low flushing systems, sensor based fixtures, auto control walls, pressure reducing devices etc. should be adopted.
- ii. Water budget should be adopted as per the plan submitted in the supplementary Form I A & EMP.
- iii. Treated water recovered from STP would be used for flushing the toilets, gardening purpose, make up water in air conditioning systems, etc. As proposed, Fluidized Bed Reactor (FBR) type sewage treatment plant should be installed. The Sewage Treatment Plant shall be ensured before the completion of Building Complex.
- iv. Rainwater from open spaces shall be collected and reused for landscaping and other purposes. Rooftop rainwater harvesting shall be adopted for the proposed Buildings. Every building of proposed extension project shall have rainwater-harvesting facilities. Before recharging the surface runoff, pre-treatment must be done to remove suspended matter and oil and grease.
- v. All hazardous wastes like grease, Mobil oil, cutting oil etc shall be segregated, collected, transported, treated and disposed as per provisions of the Hazardous Wastes (Management and Handling) Rules, 1989 (As amended).
- vi. Recycling of all recyclable wastes such as newspaper, aluminium cans, glass bottles, iron scrap and plastics etc. shall be encouraged through private participation. Project proponent shall take appropriate action to ensure minimum utilization of plastic carry bags and plastic small containers etc. within the proposed buildings shall be ensured.
- vii. Project proponent shall operate and maintain the sewage collection/conveyance system, sewage pumping system and sewage treatment system regularly to ensure the treated water quality within the standards prescribed by CPCB,GoI.
- viii. Properly treated and disinfected (Ultra Violet Treatment) sewage shall be utilized in flushing the toilets, gardening purpose, make up water in air conditioning systems etc.
- ix. Non-mixing of sewage/sludge with rainwater shall be strictly ensured.

- x. Noise barriers shall be provided at appropriate locations so as to ensure that the noise levels do not exceed the prescribed standards. D.G. sets shall be provided with necessary acoustic enclosures as per Central Pollution Control Board norms.
- xi. Back up supply shall be based on natural Gas/cleaner fuel subject to their availability.
- xii. The project proponent shall resort to solar energy at least for street lighting and water heating for Proposed Building Complex, gardens/park areas.
- xiii. During maintenance, energy efficient electric light fittings & lamps- low power ballasts, low consumption high power luminaries, lux level limiters & timers for street lighting shall be provided.

IV. Entire Life of the Project

- i. All the conditions laid down in NOC & consent to operate issued by SPCB should be strictly complied with during entire life cycle of the project.
- ii. Conservation of energy shall be implemented as per Form 1A see 9.1 submitted by the proponent.
- iii. As per proposal 30 KLD will be discharged. Except in monsoon this discharge will be used for gardening etc. purposes. But during monsoon this will be discharged through a perual Nala & finally to Dabra Nala to Gandak river. The unit will see that the discharge confirm the effluent norms of MoEF&CC.
- iv. During monsoon if any blockage occurs in natural flow the company will help the local administration.
- v. In CSR activities the unit will include medical support to villagers by making permanent camp in village from 2018-19.
- vi. Monitoring of AAQ, Ambient Noise Level & Analysis of Ground Water Samples, Monitoring of Stack Emissions from DG Sets & Testing of Untreated & treated effluent samples of STPs should be conducted and reports should be submitted on Six monthly basis to SEIAA, Bihar / SPCB.
- vii. Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided. Parking should be fully internalized and no public space should be utilized.
- viii. The project authorities shall ensure that the treated effluent and stack emissions from the unit are within the norms stipulated under the EPC rules or SPCB whichever is more stringent. In case of process disturbances/failure of pollution control equipment adopted by the unit, the respective unit shall be shut down and shall not be restarted until the control measures are rectified to achieve the desired efficiency.
- ix. The overall noise levels in and around the project area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should

conform to the standards prescribed under EPA Rules 1989 viz. 75 DBA (day time) and 70 DBA (night time).

- x. The project authorities shall provide requisite funds for both recurring and non-recurring expenditure to implement the conditions stipulated by SEIAA, Bihar with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.
 - xi. A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, ZilaParishad/Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.
 - xii. The funds earmarked for the environmental protection measures shall not be diverted for other purposes.
 - xiii. In case of any changes in the scope of the project, the project shall require a fresh appraisal by the SEAC/SEIAA.
 - xiv. The SEAC/SEIAA Bihar will have the right to amend the above conditions and add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
1. Any appeal against this Environmental Clearance shall lie with the National Green Tribunal (NGT), if preferred within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.

Sd/-
(Prof. R.C. SINHA)
Chairman,
SEIAA, BIHAR

CHAIRMAN
STATE ENVIRONMENT IMPACT
ASSESSMENT AUTHORITY
(SEIAA) BIHAR

Memo No: 132

Patna-23, dated:- 26/4/16

Copy forwarded to:

1. The Principal Secretary, Environment & Forests, Deptt. Govt. of Bihar, Sinchai Bhawan, Patna.
2. The Chairman, Bihar State Pollution Control Board, Patna-23
3. The Chairman, SEAC, Bihar
4. The Chairman, Central Pollution Control Board, Delhi
5. The Advisor, (EIA), Indira Paryavaran Bhawan, JorBagh Road, Aliganj, New Delhi-110003
6. Guard file.

R. C. Sinha

(Prof. R.C. SINHA)

Chairman,

SEIAA, BIHAR

CHAIRMAN
STATE ENVIRONMENT IMPACT
ASSESSMENT AUTHORITY
(SEIAA) BIHAR