



State Environment Impact Assessment Authority, M.P.
(Government of India, Ministry of Environment Forest & Climate Change)

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No: 1304 SEIAA/2018

Date: 23.8.18

To,
Mr. Chandramauli Shukla, CEO of the SPV
Zone 14, Near Tatpar Petrol Pump,
BHEL Govindpura, Bhopal
Madhya Pradesh- 462023

Sub:- Case No.5680/2018: Prior Environment Clearance for "Area Based Development Project" for Bhopal Smart City Kotra Sultanabad, Bhopal City (North & South T.T. Nagar) Tehsil Huzur District - Bhopal Total Plot Area- 138.5 ha. Total Built up Area (In consideration with FAR)- 19.32 lakhs sq.m by Bhopal Smart City Development Corporation Limited through CEO of the SPV, Mr. Chandramauli Shukla Zone 14, Near Tatpar Petrol Pump, BHEL Govindpura, Bhopal Madhya Pradesh- 462023 E-mail: chandramaulishukla @ gmail.com Telephone No.: +91-940680100 Env. Consultant: Tata Consulting Engineers Ltd. Navi Mumbai, Maharashtra

Ref: Your application dtd. 10.04.2018 received in SEIAA office on 08.05.2018.

With reference to above, the proposal has been appraised as per prescribed procedure & provisions under the EIA notification issued by the Ministry of Environment & Forests vide S.O. 1533 (E), dated 14th September 2006 and its amendment, on the basis of the mandatory documents enclosed with the application viz., Form I, Form IA, Conceptual Plan, drawings, EIA report, ppt & the additional clarifications furnished in response to the observations by the State Expert Appraisal Committee (SEAC) and State Environment Impact Assessment Authority (SEIAA) constituted by the competent Authority.

- i. The proposed project is Area Based Development Project for "Bhopal Smart City" Plot Area: 138.5 ha, Total Built-up Area (in consideration with FAR): 19.32 lakhs sq.m. located at Khasra No. - 34, 35, 36, 37, 109, 110, 112, 113, 114, 108, 115, 102, 101, 119, 120, 126, 127, 128, 129, 130, 133, 121, 122, 123, 124, 118, 116, 117, 125, 134 Village - Kotra Sultanabad and 1416, 1421, 1417, 1420, 1444, 1418, 1419, 1455, 1456, 1457, 1406, 1407, 1458, 1488, 1491, 1492, 1494 Bhopal City, Tehsil - Huzur, Distt. - Bhopal, (M.P.).
- ii. The Project area includes North and South TT Nagar starting after new market in the north and extending till Mata Mandir chowk in the south. The Site is next to existing BRT corridor passing through New Market from Roshanpura Square in to MP Nagar on the east.
- iii. The project is proposed for Residential, Commercial, Industrial Public and Semi Public and Utility Buildings and Educational Institutes along with Medical Hub, Engineering Hub, Industrial Training Institute Hub.
- iv. Under the ABD project PP has proposed following activities for the development of project:-

Case No. 5680/2018

Issued vide letter no. dated

Case No.: To be quoted in registered cases for correspondence

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Existing Building to be Demolished – 3200 F, G, H & I Type Government Residential Houses, Government Offices within the project area.

Buildings to be Retained – CI Homes, Platinum Plaza, Existing Multi Level Parking at New market, MataMandir, Kali Badi Temple and Jain Temple near TT Nagar Stadium, Temple Guest Houses and Church in front of 12 Daftar.

Building to be Renovated or Retrofitted – Model Higher Secondary School, Kasthurba Vidyalaya, Chandra Shekar Azad School, Model Higher Secondary School, Deep Shikha School, Gandhi Bal Mandir, Govt. Concept School (Govt. Samrat Ashok), D.A.V Higher Secondary School, Seven Hills Public School, Kamala Nehru Senior High School, Nutan Subhash Higher Secondary School, Gold Flower School. Priyadarshini Super Bazar, Rainbow Children Hospital, Katju Hospital, Rangmahal Talkies, State Bank Of India, Post Office Building, LIC Building- Bhadbhada Road, BSNL Office, TT Nagar Stadium, MLA Quarters along Bhadbhada Road.

Proposed New Buildings – 3200 F, G, H & I type government houses, Commercial Building. Apart from these as per the approved layout phase wise construction of various other commercial and residential units will be done as per the proposal submitted. Infrastructure including Road, Storm Water Drainage, Fire Fighting, Water Supply, Sewerage, Power, ICT, WTP, STP and Automated Solid Waste Management will be developed in the entire ABD project area.

- v. The total land area is for the proposed project is 138.40 ha (342 acre). The total built up area proposed by PP is 19.32 lakhs sq.m. The project falls under item 8 (b) Area & Township development project category (B1) of schedule of EIA Notification, 2006 & its amendments because total construction is more than 1,50,000 sq m and land area is more than 50 ha.
- vi. The project is proposed for re-redevelopment of 342 acres of land area including North and South TT Nagar of Bhopal city. Vide Order No. F-101-08/2017/18-2 dtd. 05.05.2017 of Govt. of Madhya Pradesh, the 342 acres of land has already been transferred to Bhopal Smart City Development Corporation Limited. Further Vide Order No. F-3-79/2018/18-5 dtd. 13.06.2018 of Govt. of Madhya Pradesh approved the Master plan for the development of Bhopal Smart City with land use categories Residential, Commercial PSP+Utility, Green/Open Spaces and Roads etc. which are as follows:-
- vii. The total water requirement is 20.74 MLD. The source of water supply is Municipal water through Kolar water dam followed by water treatment at Kolar plant. **PP has submitted letter (18.04.17) from Municipal Corporation Bhopal for water supply.**
- viii. Total waste water generation will be 12.28 MLD, Treated water shall be reused for flushing, gardening, road washing, landscape & irrigation of plants, shrubs etc. so tertiary treatment is recommended along with the SBR technology for primary and secondary treatment. The treated water from 2 STP's with total capacity of 5.6 MLD and 6.0 MLD to be pumped to 2 recycles water distribution lines and used for flushing and landscape purposes. **PP has submitted letter (dtd. 18.06.2017) from Municipal Corporation Bhopal for remaining extra treated waste water shall be connected to main sewer network.**
- ix. Air emission sources in the proposed ABD Area are domestic Cooking, hotels/ restaurants, building construction and vehicular emission etc. For control of emission PP has proposed as follows:-

Sectors	Actions Subcomponent
Vehicle Technology	Engine technology, combustion efficiencies (cleaner engines), type of vehicles-2-4 stroke, CNG engines, electric vehicle etc.
Fuel Quality	Diesels levels, other fuels and their levels of sulphur, benzene et
Fuel Mix	Petrol, Diesel, CNG, LPG, Biodiesel Demand and supply issues
Inspection and Maintenance programme	PUC pattern, improvement in roadside inspection, lifetime monitoring, retro fitment
Standards	In-us e vehicle standards, manufacturers standards (COP)
Traffic and congestion	Space available, road quality, traffic management, taxes, parking
Public Transport	Effectiveness and the benefits of certain measures to support public transportation system
Re-suspension of road dust	Measures to reduce by various means, sweeping, paving, wetting etc., pavement
Construction dust	Measures to reduce, guidelines for transportation of debris, excavation
Hotel and Restaurants	Use of fuel

- x. Approximately 58.97 TPD waste shall be generated. Segregation of waste will be proposed at source in order to provide suitable treatment process and attain sustainable SWM approach. The automated waste collection (AWC) system shall support in having waste streaming which will further be collected at dedicated Waste Collection Station. Segregated waste will be diverted to systematic treatment as per the category of waste. The wet waste is proposed to be treated using bio-methanization technology. **PP has submitted letter (dtd. 18.04.2017) from Municipal Corporation Bhopal for disposal of solid waste.**

For efficient waste collection management system the entire city is divided into 14 Zone and following methods will be adopted:

- Automated waste collection system is adopted
 - Dry Waste: Recycled
 - Wet Waste: Bio-Methanation Plant (2X10 T and 5T)
 - Inerts will be transferred to Bhopal landfill site.
 - 2.7 TPD sewage sludge Manure will be used within project boundary for landscaping
- xi. House hold Hazardous waste will be segregated from municipal solid waste and treated separately in accordance with the Hazardous Waste (Management and Handling) Rules, 2016.
- xii. The total excavated earth material is **2, 11,583 cum**. The filling material requirement for the project is **8, 30,303 cum**. Considering 20% top soil out of the total excavated earth material. The top quantity of Top soil in cutting for entire ABD area is **36,797 cum**. The top quantity of Top soil in filling for entire ABD area is **1, 44,400.5 cum**. The additional top soil **107603 cum** required for the project area can be obtained from dredging of surrounding lakes during summer season.

For top soil and excavated earth management following measures will be taken:

- Top soil (upper 30 cm) will be removed prior to commencement of bulk earthwork and preserved for reuse in landscape development onsite for each individual project within the project area.
- Minimum clearance of vegetation shall be carried out and the vegetative cover shall be redeveloped wherever possible.

- The cut and fill plan ensures that all the excavated earth material will be utilized within the project boundary for filling purpose during construction.
- xiii. The total flow from the ABD area before development is 15.67 cum/sec and the Total discharge after development is 15.57 cum/sec. The difference between the two i.e. 0.10 cum/sec has been taken care of by rainwater harvesting.

Individual plot owners will be responsible for constructing recharge pits within their plot to ensure rain water harvesting.

- xiv. Based on power demand norms the total power requirement of project area is 47 MVA Phase - I 24 MVA and Phase-II 23 MVA. 24x7 power supply provided by MP electricity Regulatory commission. No DG sets are proposed in the project. The Power demand can only be fed on extra high voltage level as per MP supply code 2013. For energy conservation PP has proposed following:-

- Characteristics of glass which will be used by the individual developer, should be in line with E.C.B.C. guidelines & IGBC guidelines
- The passive solar architectural features will be developed by individual plot developer in-line with E.C.B.C guidelines
- Solar panels over the light posts, bus stands and toilets within the street section allow capturing of solar energy
- The shading will be provided by individual developers in line with E.C.B.C guidelines.
- Individual developers would be using CFC and HCFC free chillers, if required
- For the ABD area, smart solar proposals are proposed in order to reduce the grid demand.
- Smart Street lighting system with LED fixture for outdoor which reduce the energy consumption by 40%.
- Use of Energy efficient equipments (for e.g. Transformer, Motor, Lighting fixtures etc).
- Smart meter is proposed for real time energy tracking, load forecasting, time varying Rates, demand response, real time outage detection and restoration notification, dynamic voltage control, and to enhanced customer service
- All building lighting will be designed as per ECBC
- Use of Automatic power factor correction (APFC) panels to improve power factor to 0.98/ 0.99 from 0.8
- In order to meet the standby power from the solar energy and sizing of solar water heating systems, it is estimated that **12%** of total power will be generated through roof top solar.

- xv. To facilitate smooth traffic movement PP has proposed following:-

- Total length of roads and footpath-14.89 Km. Total length of Cycle track-10.60 Km.
- Start point to End point vehicle, pedestrian and cycle traffic circulation safe and smooth movement.
- Maximum capacity of road (6 lane divided carriageway) -5000 PCU/hr.
- Maximum capacity of pedestrian path- 4000 (both direction)
- Every Footpath design for table top crossing, Drop off curve and ticktack tile facility (for physically challenged persons and blind peoples).
- Less than 400m walk public vehicle facility (Bus Stop/E-Rickshaw /Auto)
- Every junction designed as per fire tender movement requirement.

- In any emergency condition at any location alternative route/ diverted route is available, traffic evacuation within 3 min. from one route to other route to by pass the affected area.
- Every road has storm water system, Street light, dustbin, seating arrangement and landscaping.
- Every junction has Road/zebra marking with proper road signage for safety of pedestrian and smooth vehicular movement.

The Master Plan, published by state, was prepared considering all the inflow and out flow of the traffic to the project area.

The two major roads (Bhadbhada Road & new Market Road) are proposed with metro with their stations at Roshanpura Chowk, Mata Mandir and Jawahar Chowk. The stations at these junctions will work as flyovers.

Proposal to connect Jawahar Chowk with existing Smart Road (Polytechnic Chowk to Bharat Mata Chowk) through a flyover passing above the existing Banganga Slum .

- xvi. Height of buildings is according to the width of the road, the building configuration varies from 30 m height (typical G+9) to 75m (typical G+24). All provisions for the fire-fighting shall be as per the provisions of the local fire authorities and as per relevant I.S. codes viz. National Building Code Part IV.
- The Classification of the building is Apartment Houses having height more than 15 meter in height falls under Moderate hazard category. A fire station is proposed at Plot 58 of the ABD project area having a plot area of 14,153 sq. m.
 - Existing Fire Station is near Link Rd Number 3 Panchsheel Nagar.
 - Risk involved with Bio-Methanization Plant: All these risk can be controlled and mitigated by US-EPA Common Safety practices for Bio-Methanization plant guideline.
- xvii. Total parking area calculated for ABD area is 5, 28,026 sq.m distributed as: Commercial- 261725 sq.m, Residential- 212571 sq.m, PSP/Utilities- 53731 sq.m. Multi level car parking, Basement Parking, Podium Parking are the provisions made for parking. Parking calculation is done as per local bye laws for each plot .
- For Common Parking Facilities PP has proposed as follows:-
- Existing newly constructed Multi Level Car Parking near New Market has space for 1024 cars and 1000 two wheelers.
 - The proposed parking facility at Dussera maidan will have 350 ECS, space for 500 two wheelers, and 13 buses.
 - The proposed Haat Bazar will have 330 ECS and space for 300 two wheelers.
- xviii. Presently there are 6080 Trees and shrubs as per the Tree survey conducted within the project site. About 23.53 ha land is earmarked for dedicated green belt development. Some of the existing trees would be either protected or transplanted within the ABD area. Other trees shall be cut and compensatory trees shall be planted as per the BMC guidelines. Over and above the dedicated green belt, each plot will also have green and open spaces as per the project DCR. It is proposed to have native species for plantation only. Apart from the

designated open spaces all the road within the project area will have tree lining. PP further submitted that they have obtained the tree cutting permissions for 850+42 trees from Municipal Corporation and submitted the copies of these approvals.

- xix. **Benefits of the project:** Area- based development will transform existing areas (retrofit and redevelop), including slums, into better planned ones, thereby improving livability of the Bhopal City. New areas (Greenfield) will be developed around cities in order to accommodate the expanding population in urban areas. Application of Smart Solutions will enable cities to use technology, information and data to improve infrastructure and services.

Based on the information submitted at Para i to xix above and others, the State Level Environment Impact Assessment Authority (SEIAA) considered the case in its 495th meeting held on 01.08.2018 and decided to accept the recommendations of 320th SEAC meeting held on dtd. 14.07. 2018.

Hence, Environmental Clearance is accorded under the provisions of EIA notification dtd. 14th September 2006 and its amendments to the proposed "Area Based Development Project" for Bhopal Smart City Kotra Sultanabad, Bhopal City (North & South T.T. Nagar Tehsil - Huzur District - Bhopal Total Plot Area- 138.5 ha. Total Built up Area (In consideration with FAR) -19.32 lakhs sq.m by Bhopal Smart City Development Corporation Limited through CEO of the SPV, Mr. Chandramauli Shukla Zone 14, Near Tatpar Petrol Pump, BHEL Govindpura, Bhopal MP - 462023 subject to the compliance of the Standard Conditions enclosed at **Annex-I** and the following additional Specific Conditions as recommended by SEIAA & SEAC in its meetings.

A. Specific Conditions as recommended by SEIAA:-

- (1) The entire demand of water should be met through Municipal Corporation, Bhopal there should be no extraction of ground water.
- (2) The inlet and outlet point of natural drain system should be maintained with adequate size of channel for ensuring unrestricted flow of water.
- (3) Existing storm water drains flowing through the project land shall not be stopped. They shall be integrated in the project drainage network design in such a way that flooding in the surrounding does not occur due to upcoming of the project.
- (4) **Disposal of waste water.**
 - (a) PP should ensure linkage with municipal sewer line for disposal of extra treated waste water.
 - (b) Project Proponent shall ensure power requirement for running the STP will be fulfilled by solar energy system.
 - (c) Ensure regular operation and maintenance of the STP.
 - (d) PP should maintain zero discharge in case of the municipal sewer line not laydown in the project area.
 - (e) The project proponent shall install and operate own sewage treatment plant (STP) having primary, secondary and tertiary treatment with advance technology. The treated sewage after achieving the norms prescribed by the Madhya Pradesh Pollution Control Board, shall be reused /recycled in the project for flushing, gardening, air conditioning etc within premises.
 - (f) Best available technology such as ultra violet radiation shall be used for disinfection of treated sewage before reuse / recycle / discharge.

(5) Solid Waste Management:

- (a) Separate wet and dry bins must be provided at the ground level for facilitating segregation of waste.
 - (b) All non-biodegradable waste shall be handed over to authorized recyclers for which a written tie up must be done with the authorized recyclers.
 - (c) The solid waste generated should be properly collected and segregated. Wet garbage should be composted and dry1 inert solid waste should be disposed off to the approved sites for land filling after recovering recyclable material.
 - (d) The project shall be self sustainable in the management and disposal of the Municipal Solid Waste to be generated from the project. The MSW shall be properly collected and segregated at source. The technology to generate energy from the waste generating from the project as submitted shall be implemented.
- (6) PP should ensure road width, front MOS and side / rear as per MPBVR 2012.
 - (7) The project proponent with co-ordinate with state Government/ Central Government continuously to ensure that the transport infrastructure of transport like BRTS and others common infrastructures come up simultaneously and maintain pace with the project.
 - (8) **For fire fighting:-**
 - (a) PP should ensure connectivity to the fire station from the project site.
 - (b) As per MPBVR, 2012 rule 42 (3) PP should submit necessary drawings and details to the Authority (Municipal Corporation, Bhopal) incorporating all the fire fighting measures recommended in National Building Code Part – IV point no. 3.4.6.1. The occupancy permit shall be issued by Municipal Council only after ensuring that all fire fighting measures are physically in place.
 - (c) Structural design aspects in accordance to the seismic zone shall be strictly adhered to. National and state standards /codes shall be practiced for the structural safety of the high rise buildings.
 - (d) A detailed Disaster Management Plan for preparedness to meet with all types of disasters and unforeseen conditions shall be prepared before commencing the construction activities.
 - (9) PP should ensure to provide rain water harvesting structure/recharging pits wherever is possible in the project area.
 - (10) Traffic congestion on the roads approaching to the proposed project site and nearby highways (main roads) must be avoided by taking appropriate measures including the road signage, online / automatic displays, etc.
 - (11) PP should ensure to provide car parking as proposed for Commercial, Residential, PSP/Utilities along with individual plots and common parking.
 - (12) Necessary parking space to meet with the NBC norms or state bye-laws for project of this magnitude whichever is higher shall be provided. The space provided for the parking shall not be utilized for other purposes.
 - (13) The project proponent will provide dedicated parking space within plot area of project for the parking of the staff bus fleet. These buses shall be always parked within project campus when off-road and shall not block the approach road to the site or any other roads in the region.
 - (14) **For Energy Conservation PP should Ensure to implement as committed :-**
 - Characteristics of glass which will be used by the individual developer, should be in line with E.C.B.C. guidelines & IGBC guidelines.

- Solar panels over the light posts, bus stands and toilets within the street section allow capturing of solar energy
- The shading will be provided by individual developers in line with E.C.B.C guidelines.
- Individual developers would be using CFC and HCFC free chillers, if required
- Smart solar proposals are proposed in order to reduce the grid demand and Smart Street lighting system with LED fixture for outdoor which reduce the energy consumption.
- Installation of smart meter for real time energy tracking, load forecasting, time varying Rates, demand response, real time outage detection and restoration notification, dynamic voltage control, and to enhanced customer service.
- All building lighting should be designed as per ECBC. Use of Automatic power factor correction (APFC) panels to improve power factor.
- Provide the standby power from the solar energy and sizing of solar water heating systems,
- The project proponent shall install the electric utilities / devises, which are energy efficient and meeting with the Bureau of Energy Efficiency norms, wherever applicable.

(15) Air Quality and Noise:-

- (a) Dust, smoke & debris prevention measures such as wheel washing, screens, barricading & debris chute shall be installed at the site during construction including plastic/tarpaulin sheet covers for trucks bringing in sand & material at the site.
- (b) The exhaust pipe of the DG set if installed must be minimum of 10mtr away from the building or in case it is less than 10m away, the exhaust pipe shall be taken up to 6m above the building.
- (c) Monitoring of Ambient Air Quality, Noise level monitoring, ground and surface water monitoring through-out the construction phase of the project shall be carried out and results shall be prominently displayed at the site. The location of Ambient Air Quality Monitoring Stations and its frequency shall be decided in consultation with MPPCB.

(16) Green belt :-

- (a) PP should ensure to develop 23.53 ha land for dedicated green belt.
- (b) Explore the possibilities to transplant the existing trees within the ABD areas. Wherever the trees shall be cut the compensatory trees should be planted as per the BMC guidelines.
- (c) Explore the possibility to increase number of trees planted in the project area along the road, around open space area, parking area and other amenities. Trees of indigenous local varieties like Neem, Peepal, Kadam, Karanj, Kachnaar, Saptparni etc..
- (d) Every effort should be made to protect the existing trees on the plot.
- (e) The green belt of the adequate width and density preferably with local species along the periphery of the plot shall be raised so as to provide protection against particulates and noise.
- (f) Prior permission from the Municipal Corporation shall be obtained for the cutting of the existing trees before site.

- (g) The green belt along the periphery of the plot shall be provided with local species. The open spaces inside the plot shall be suitably landscaped and covered with vegetation of indigenous variety.
- (h) The area earmarked as green area shall be used only for greenbelt and shall not be altered for any other purpose.
- (17) The Environment Clearance is recommended based on the submitted master plan approved by the UADD (Urban Development & Housing Deptt. GoI MP). However, the project proponent will get approval of the individual building plans from the concern deptt prior commencement of the construction of individual block while incorporating the suggestions made by the SEAC during the appraisal process and the project proponent shall also comply with the provisions of the EIA Notification, 2006, as amended from time to time, for this purpose.
- (18) All the commitments / undertakings given to the SEIAA/SEAC during the appraisal process for the purpose of environmental protection and management shall be strictly adhered to.
- (19) A prior clearance from Water Supply, Water Resources and lake division, Bhopal Municipal Corporation Department MP, etc. shall be obtained before constructing any barrage / lake front/drain which are the part of the project. All the recommendations / conditions of such permissions specifically with respect to environmental protection, conservation and management shall be strictly adhered to.
- (20) Necessary permissions from Air Port Authority of India should be obtained if necessary.
- (21) For establishing the hospitals, nursing homes etc at the earmarked site, PP has to apply separately for Prior EC before the start of construction.
- (22) Common utilities like drinking water facility, toilets etc. shall be provided on each floor with adequate signage thereof. Adequate distance shall be maintained between the drinking water and toilet blocks.
- (23) Necessary emergency lighting system along with emergency power back up system shall be provided. In addition, emergency public address system arrangement and signage for emergency exit route shall be provided on each floor.
- (24) Risk estimation will be carried out for the project and disaster management plan shall be prepared.
- (25) Environment Management Cell as submitted shall be formed during operation phase which will supervise and monitor the environment related aspects of the project including incremental pollution loads on the ambient air quality, noise and water quality periodically to ensure that the same meet with the best as committed.
- (26) No further expansion or modifications in the project shall be carried out without prior approval of the MoEF/SEIAA, as the case may be. In case of deviations or alterations in the project proposal from those submitted to MoEF/ SEIAA/ SEAC for clearance, a fresh reference shall be made to the SEIAA/ SEAC to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.

B. Specific Conditions as recommended by SEAC

(A) PRE-CONSTRUCTION PHASE

- (27) During construction and demolition of old structures, the entire area should be covered with minimum 12 feet MS sheets and due care should be taken for noise

and vibration control during construction & demolition work. Curtaining of site should also be carried out to protect nearby habitat.

- (28) For dust suppression measures such as regular sprinkling of water should be undertaken.
- (29) PP will obtain other necessary clearances/NOC from respective authorities.
- (30) Provisions shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structure to be removed after completion of the period.
- (31) Topsoil (upper 30 cm) will be removed prior to commencement of bulk earthwork and preserved onsite for reuse in landscape development within the project area.
- (32) As proposed, the cut and fill plan should ensure that all the excavated earth material will be utilized within the project boundary for filling purpose during construction and no soil/muck shall be disposed of outside the project area.
- (33) Minimum clearance of vegetation shall be carried out and the vegetative cover shall be redeveloped wherever possible.
- (34) For dust mitigation measures following measures shall be adopted:
- Roads leading to or at construction sites must be paved and blacktopped (i.e. metallic roads).
 - No excavation of soil shall be carried out without adequate dust mitigation measures in place (such as water sprinklers) and dust mitigation measures shall be displayed prominently at the construction site for easy public viewing.
 - No loose soil or sand or Construction & Demolition Waste or any other construction material that causes dust shall be left uncovered.
 - Wind-breaker of appropriate height considering the quantum of construction work (minimum 03 meters) shall be provided.
 - Construction material and waste should be stored only within earmarked area and road side storage of construction material and waste is prohibited.
 - No uncovered vehicles carrying construction material and waste shall be permitted.
 - Construction and Demolition Waste processing and disposal site shall be identified and required dust mitigation measures be notified at the site.
- (35) The natural drainage system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape and other sustainable urban drainage systems are allowed for maintaining the drainage pattern and to harvest rain water. Buildings shall be designed to follow the natural topography as much as possible for which minimum cutting and filling should be done.
- (36) Disposal of muck during construction phase shall not create any adverse effect on the neighboring communities and be disposed within the project boundary taking the necessary precautions for general safety and health aspects of people.
- (37) Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals from the MP Pollution Control Board.

(B) CONSTRUCTION PHASE

- (38) Use of environment friendly materials in bricks, blocks and other construction materials, shall be used in the construction as per the provision laid down in Fly Ash

Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 2016.

- (39) During construction phase, a settling tank should be provided before final discharge of the effluent.
- (40) The diesel generator sets to be used during construction phase shall be low sulphur diesel type and shall conform to the standards prescribed for air and noise emissions under E(P) Act, 1986.
- (41) PPE's such as helmet, ear muffs etc should be provide to all the workers.
- (42) Fire extinguishers should be provided on site during construction period.
- (43) Properly tuned construction machinery and good condition vehicles (low noise generating and having PUC certificate) should be used.
- (44) Waste construction material should be recycles as far as possible and remaining should be disposed off at a designated place in consultation with the local authority.
- (45) Peripheral plantation all around the project boundary shall be carried out using tall saplings of minimum 2 meters height of species which are fast growing with thick canopy cover preferably of perennial green nature. As proposed in the landscape plan & EMP a minimum of 30,000 no's of trees will be planted. PP will also make necessary arrangements for the causality replacement and maintenance of the plants. 23.53 ha land is earmarked for dedicated green belt development.
- (46) The proposed land use of the project is as follows:

S No	Land Use Categories	Existing (Amended Land Use)		Proposed Land Use	
		Area (ha)	(%)	Area (ha)	(%)
1	Residential	91.23	65	45.67	33
2	Commercial	8.09	6	22.14	16
3	PSP+Utility	8.31	6	11.07	8
4	Green/Open Spaces	10.54	8	23.53	17
5	Roads	20.22	15	35.98	26
Total		138.40	100.0	138.40	100.0

- (47) MSW storage area should have 48 hours storage capacity and MSW should be disposed off at a designated place in consultation with the local authority.
- (48) For handling of Wet Waste, Bio-Methanation Plant of (2X10 T and 5T) capacity is proposed and the generated inerts shall be transferred to landfill site with the approval of competent authority.
- (49) For Automated Waste Collection System following plots shall be kept aside:

S. No	Plot No	Area
1	21	5756 sqm
2	93	8041 sqm

- (50) Storm water drainage system shall be pervaded.

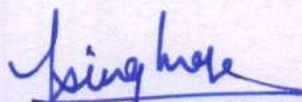
- (51) Provision for physically challenged persons be made so that they easily excess pathway/derive way for their vehicles.
- (52) For better traffic management optimum numbers of roads in the outskirts and within the city area should be provided. Since this project will attract huge inflow & outflow of traffic and to avoid traffic congestion flyovers at Jawahar chowk, Roshanpura and Mata Mandir traffic junctions shall be provided.
- (53) Provisions shall be made for Multi level car parking, Basement parking and Podium parking in an area of 5,28,026 sq.meter.
- (54) Smart street lighting with solar street lights shall be provided.
- (55) Waste oil generated from the DG sets should be disposed off in accordance with the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 after obtaining authorization.
- (56) Dual pipe plumbing system shall be provided for supplying fresh water (for drinking cooking and bathing etc) and recycled water for flushing, landscape irrigation etc..
- (57) Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc) for water conservation shall be incorporated in the all building plan.
- (58) The local bye-law provisions on rain water harvesting should be followed and incase of ground water abstraction approval shall be taken from the CGWA.
- (59) Presently there are 6080 Trees and shrubs as per the tree survey conducted within the project site out of which some of the existing trees would be either protected or transplanted within the ABD area and other trees shall be cut and compensatory trees shall be planted. Thus prior tree cutting, permission of competent authority must be obtained and compensatory plantation shall carry out as per the approval of competent authority.

(C) POST CONSTRUCTION/OPERATIONAL PHASE

- (60) Fresh water requirement for the project shall not exceed 20.74MLD.
- (61) For sewage and waste water treatment two STPs with total capacity of 5.6 MLD and 6.0 MLD shall be provided.
- (62) Suitable number of road sweeping machines (minimum 10) shall be provided.
- (63) Proper fire fighting arrangements in consultation with the fire department should be provided.
- (64) Fund should be exclusively earmarked for the implementation of EMP through a separate bank account.
- (65) Complete automation using SCADA system (Supervisory Control & Data Acquisition) and active leakage control and detection system should be installed.
- (66) All building lighting will be designed as per Energy Conservation Building Code (ECBC) norms.
- (67) Sludge from the onsite sewage treatment, including septic tanks, shall be collected and disposed off as per the prevailing laws/rules,
- (68) As proposed in order to meet the standby power from the solar energy and sizing of solar water heating systems, 12% of total power shall be generated through roof top solar.

(D) ENTIRE LIFE OF THE PROJECT

- (69) PP has proposed Rs. 74.00 Crore for EMP base Cost and O&M cost as 3.7 Crore per annum .
- (70) As proposed, 8.5 % area has earmarked of the total area of the ABD for the green belt development / plantation and the proposed species should also be planted in consultation with the forest department.
- (71) The project authorities should comply with the provisions made in the Hazardous Waste (management, handling & Trans-boundary Movement) Rules 2016, Plastic Waste Management Rules 2016, e-waste (Management) Rules, 2016, Construction and Demolition Waste Management Rules, 2016 and Solid Waste Management Rules, 2016 etc.
- (72) The validity of the EC shall be as per the provisions of EIA Notification subject to the following: Expansion or modernization in the project, entailing capacity/ built-up area/ project area, addition with change in process and or technology and any change in product - mix in proposed mining unit shall require a fresh Environment Clearance.

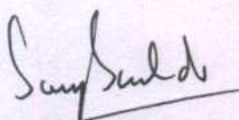

(Jitendra Singh Raje)
Member Secretary

Endt No. ¹³⁰⁵ / SEIAA/ 2018
Copy to:-

Dated 23.8.18 ^{9c}

- (1). Principal Secretary, Urban Development & Environment Deptt. 3rd Floor, Mantralaya Vallabh Bhawan, Bhopal.
- (2). Secretary, SEAC, Research and Development Wing Madhya Pradesh Pollution Control Board, Paryavaran Parisar, E-5, Arera Colony Bhopal-462016.
- (3). Member Secretary, MPPCB, Paryavaran Parisar, E-5, Arera Colony, Bhopal-462016.
- (4). The Collector, District- Bhopal -M.P.
- (5). The Commissioner, Municipal Corporation, Bhopal, MP
- (6). The Jt. Director, Town & Country Planning, Paryavaran Parisar, E-5, Arera Colony, Bhopal, MP
- (7). Director, I.A. Division, Monitoring Cell, MoEF, GoI, Ministry of Environment & Forest Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi – 110 003
- (8). Director (S), Regional office of the MOEF, (Western Region), Kendriya Paryavaran Bhawan, Link Road No. 3, Ravi Shankar Nagar, Bhopal-462016.
- (9). Guard file

Encl: Standard Conditions (Annex-I)


(Dr. Sanjeev Sachdev)
Officer-in-Charge

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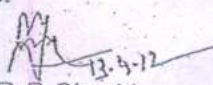
State Environment Impact Assessment Authority, M.P.
(Government of India, Ministry of Environment & Forests)
Research and Development Wing, Madhya Pradesh Pollution Control Board,
Paryavaran, Parisar, E-5, Arera Colony, Bhopal-462016

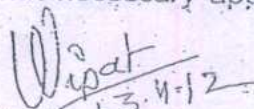
Annex-I.

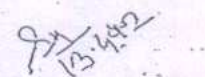
Standard Conditions related to under item 8 (a) & 8 (b) of the schedule of EIA
notification, 2006
(Building/ construction projects / area development projects & township)

A. Construction Phase.

1. The construction site shall be provided with adequately barricades of at least 3 m height on its periphery with adequate signage.
2. All required sanitary and hygienic measures should be in place before starting any construction work and are to be maintained throughout the project phase.
3. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
4. Occupational health and safety measures for the workers including identification of work related health hazards, training on malaria eradication, HIV, and health effects on exposure to dust etc. shall be carried out. Periodic monitoring for exposure to respirable dust on the workers shall be conducted and records maintained including health records of the workers. Awareness programme for workers on impact of dust on their health and precautionary measures like use of personal equipments etc. shall be carried out periodically.
5. A First Aid Room will be provided in the project both during construction and operation of the project.
6. All the topsoil excavated during construction activities should be stored for use in horticulture/landscape development within the project site.
7. Disposal of muck during construction phase should not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
8. Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.
9. Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate water courses and the dump sites for such material must be secured so that they should not leach into the ground water.
10. Any hazardous waste generated during construction phase, should be disposed off as per applicable rules and norms with necessary approvals of the M.P. Pollution Control Board.


(Dr R P Singh)
Officer-in-Charge


(Dr Vinita Vipat)
Officer-in-Charge



(Dr Sadhna Tiwari)
Officer-in-Charge

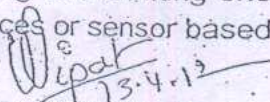
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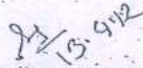
State Environment Impact Assessment Authority, M.P.

(Government of India, Ministry of Environment & Forests)
Research and Development Wing, Madhya Pradesh Pollution Control Board,
Paryayaran Parisar, E-5, Arera Colony, Bhopal-4620 16

11. The diesel generator sets (if any) to be used during construction phase should be low sulphur diesel type and should conform to Environment (Protection) Rules prescribed for air and noise emission standards.
12. The diesel required (if any) for operating DG sets shall be stored in underground tanks and if required, clearance from Chief Controller of Explosives shall be taken.
13. Wastewater generated from temporary labour tents will be diverted to the sewer network in the area.
14. No water logging should take place at any point during construction phase.
15. If the project site is located within the 100 km of Thermal Power Stations, then fly ash should be used as building material in the construction as per the provisions of Fly ash Notification of September, 1999 and amended as on 27th August, 2003.
16. As far as possible ready mixed concrete should be used in construction work.
17. Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.
18. Ambient noise levels should conform to residential standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB/MPPCB.
19. Storm water control and its use should be as per CGWB and BIS standards for various applications.
20. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
21. Care shall be taken during the wet drilling activities.
22. Spread of contaminated water should be prevented by installing temporary barriers of G.I. Sheets.
23. To prevent surface and ground water contamination by oil/grease, leak proof containers shall be used for storage and transportation of oil/grease. The floors of oil/grease handling area will be kept effectively impervious.
24. On-site burning of waste material will not be permitted.
25. Ground water should not be used during construction phase. Private tanker water suppliers may be asked to supply water during construction phase.
26. Commitment towards CSR have to be followed strictly.
27. Fixtures for showers, toilet flushing and drinking should be of low flow either by use of aerators or pressure reducing devices or sensor based control.


(Dr R P Singh)
Officer-in-Charge


(Dr Vinita Vipat)
Officer-in-Charge


(Dr Sadhna Tiwari)
Officer-in-Charge

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Issue: Vide No. 1304-5
Date: 13.8.18
Dated: 13.8.18
SEIAA/VEDCO

State Environment Impact Assessment Authority, P.C.C.


(Government of India, Ministry of Environment & Forests)

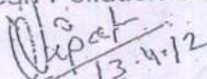
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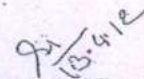
28. Wherever possible, the area around the STP / ETP should be surrounded with dense green belt.
29. To reduce the electricity consumption and load on air conditioning, high quality double glass with special reflective coating in windows should be promoted.
30. Roof should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfill requirement.
31. Opaque wall should meet prescriptive requirement as per Energy Conservation Building Code which is proposed to be mandatory for all air-conditioned spaces while it is aspirational for non-air conditioned spaces by use of appropriate thermal insulation material to fulfill requirement.
32. Approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of fire fighting equipments, etc. as per National Building Code including protection measures from lightening etc.

B. Operation Phase

1. The installation of the Sewage Treatment Plant (STP) as submitted by PP in the office of SEIAA should be certified by an independent expert and a report in this regard should be submitted to the Regional office of the Ministry of Environment & Forest, Govt before the project is commissioned for operation. Treated effluent discharge from STP shall be recycled/reused to the maximum extent possible. Treated effluent shall conform to the norms and standards of the M.P. Pollution Control Board. Necessary measures should be made to mitigate the odour problem from STP.
2. Treated waste water should not be used for air conditioning.
3. Treatment of 100% grey water by decentralized treatment should be done.
4. The bio-medical waste (if applicable) generated should be disposed off as per the provisions of Bio-medical waste (Management and Handling) Rules 1988 as amended till date.
5. Provision of separate entrance / exit gate should be made for collection of segregated bio-medical waste (if applicable) from the storage area.
6. The solid waste generated should be properly collected and segregated. Wet garbage should be composted and dry/inert solid waste should be disposed off to the approved sites for land filling after recovering recyclable material as per CPCB norms.
7. Diesel power generating sets if proposed as source of back up power for elevators and common area illumination during operation phase should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Low sulphur diesel must be used. The location of the DG sets may be decided with in consultation with Madhya Pradesh Pollution Control Board.


(Dr R P Singh)
Officer-in-Charge


(Dr Vinita Vipat)
Officer-in-Charge


(Dr Sadhna Tiwari)
Officer-in-Charge

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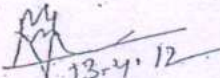
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Dated 23.8.12

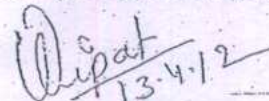
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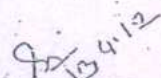
(Government of India, Ministry of Environment & Forests)

Research and Development Wing, Madhya Pradesh Pollution Control Board,
Paryavaran Parisar, E-5, Arera Colony, Bhopal-462016

8. No water logging should take place at any point during operation phase.
9. The Project Proponent shall explore the possibility of using solar energy wherever possible.
10. Provision for plantation has to be made as per Madhya Pradesh Bhumi Vikas Niyam, 1984.
11. Any hazardous waste generated during operation phase, should be disposed off as per applicable rules and norms with necessary approvals of the M.P. Pollution Control Board.
12. Noise should be controlled to ensure that it does not exceed the prescribed standards of CPCB.
13. Weep holes in the compound walls shall be provided to ensure natural drainage of rain water in the catchment area during the monsoon period.
14. Rain water harvesting for roof run-off and surface run-off, should be implemented. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease. The bore well for rainwater recharging should be kept at least 5 mts. above the highest ground water table.
15. The ground water level and its quality should be monitored regularly in consultation with Central Ground Water Authority.
16. 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.
17. A Report on the energy conservation measures confirming to energy conservation norms finalized by Bureau of Energy Efficiency should be prepared incorporating details about building materials & technology, R & U Factors etc and submit to the Regional office of Ministry of Environment & Forest, Govt. in three months time.
18. Energy conservation measures like installation of CFLs/TFLs for the lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning. Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination. Use of solar panels may be done to the extent possible.
19. The building should have adequate distance between them to allow movement of fresh air and passage of natural light, air and ventilation.
20. The area earmarked for the parking shall be used for parking only. No other activity shall be permitted in this area.
21. Ozone Depleting Substances (Regulation & Control) Rules shall be followed while designing the air conditioning system (if any) of the project.


(Dr R P Singh)
Officer-in-Charge


(Dr Vinita Vipat)
Officer-in-Charge


(Dr Sadhna Tiwari)
Officer-in-Charge

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Date 13-4-12
EIAA EPCO

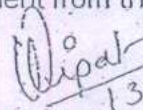
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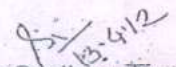
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Research and Development Wing, Madhya Pradesh Pollution Control Board,
Paryavaran Parisar, E-5, Arera Colony, Bhopal-462016

C. Others

1. All activities / mitigative measures proposed by PP in Environmental Impact Assessment (if applicable) and approved by SEAC must be ensured.
2. All activities / mitigative measures proposed by PP in Environmental Management Plan and approved by SEAC must be ensured.
3. All parameters listed in Environmental Monitoring Plan approved by SEAC must be monitored at approved locations and frequencies.
4. Project Proponent has to strictly follow the direction/guidelines issued by MoEF, CPCE and other Govt. agencies from time to time.
5. The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year wise expenditure shall be reported to the MoEF, GoI, and its Regional Office located at Bhopal.
6. The Ministry or any other competent authority may alter/modify the conditions or stipulate any further condition in the interest of environment protection.
7. The Environmental Clearance shall be valid for a period of five years from the date of issue of this letter.
8. The project proponent shall also submit six monthly reports on 1st June and 1st December of each calendar year on the status of compliance of the stipulated EC conditions including results of monitored data to the regulatory Authority in hard and soft copies.
9. The Regional Office, MoEF, GoI, Bhopal and MPPCB shall monitor compliance of the stipulated conditions. A complete set of documents including Environment Impact Assessment Report, Environmental Management Plan and other documents information should be given to Regional Office of the MoEF, GoI at Bhopal and MPPCB.
10. The Project Proponent shall inform to the Regional Office, MoEF, GoI, Bhopal and MP PCB regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.
11. In the case of expansion or any change(s) in the scope of the project, the project shall again require prior Environmental Clearance as per EIA notification, 2006.
12. The SEIAA of M.P. reserves the right to 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.
13. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained (as and when applicable), by the project proponent from the respective competent authorities.


(Dr R P Singh)
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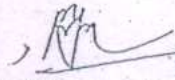
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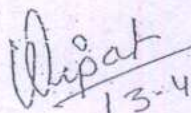
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23.8.18
SEIAA/EPCO

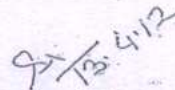
State Environment Impact Assessment Authority, M.P.

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14. These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.
15. The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely, SPM, RSPM, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company and in the public domain.
16. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the Regional Office of MoEF.
17. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
18. A copy of the environmental clearance shall be submitted by the Project Proponent to the Heads of the Local Bodies, Panchayat and municipal bodies as applicable in addition to the relevant officers of the Government who in turn has to display the same for 30 days from the date of receipt.
19. The Project Proponent shall advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at website of the State Level Environment Impact Assessment Authority (SEIAA) at www.mpseiaa.nic.in and a copy of the same shall be forwarded to the Regional Office, MoEF, GoI, Bhopal.
20. Any appeal against this prior environmental clearance shall lie with the Green Tribunal, if necessary, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.


(Dr R P Singh)
Officer-in-Charge


(Dr Vinita Vipat)
Officer-in-Charge


(Dr Sadhna Tiwari)
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