

**STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY,  
BELTRON BHAWAN, SHASTRINAGAR, PATNA- 800 023**

Ref. No.:- **86**

Patna, dated :- 25/7/13

From,

S. K. Karn,  
Member-Secretary  
(SEIAA) Bihar.

To,

Dr Gopal Sharan,  
(General Manager ),  
PARAS HMRI HOSPITAL,  
Bailey Road,Raja Bazar,  
Patna-800014.

Sub:- **Environmental Clearance for the proposed PARAS HMRI Hospital Building Project.**


Sir,

This has reference to your application No. Nil dated 03.05.2013 and subsequent letter dated 16.05.2013 for Environmental Clearance your propose has been examined by SEIAA on the recommendations of SEAC and processed in accordance with the EIA Notification of 2006 and its amendment thereof.

It is noted that the salient features of project for which Environmental Clearance has been accorded are as follows :-

The silent feature of project is given in table given below :

Name of the Project	PARAS HMRI HOSPITAL
Project Proponent	General Manager, PARAS HMRI HOSPITAL

  
**MEMBER SECRETARY  
STATE ENVIRONMENT IMPACT  
ASSESSMENT AUTHORITY  
(SEIAA) BIHAR**

Project Developer	Paras Health Care Pvt. Ltd., Gurgaon
Type of the Project	Building & Construction Project
Category of the Project	8 (a) – B <sub>2</sub>
Project Location	Land owned by the project proponent & presently being used for medical & allied purposes. The project site is located in Raza Bazar, Bailey Road, Patna - 14 under Block - Patna Sadar, Patna Municipal Corporation Ward No. 5 & District - Patna. Geo-coordinates : 25° 36' 19.33" N 85° 4' 56.21"E
Existing structure	Existing Hospital Building (earlier known as Hai Medical Research Institute)
Nearest Railway Station	Patna Junction - 7 km
Nearest Airport	J. P. Narain Airport Patna - 3.5 km
Nearest River	River Ganga - 5 km
Total Plot Area	11,161 sq. m.
Total Built-up Area	30,750 sq. m.
Green-Belt Area	4,500 sq. m.
Height of the Building	25 m (maximum)
No. of Blocks	01 (Existing Zone A) + 01 (Proposed New Additional Zone B)
No. of Floors	Floors in each Block : 6 Nos.
Water requirement	418 KLD (Domestic water requirement - 216 KLD + Flushing water requirement - 44 KLD + Green Belt water requirement - 13 KLD + HVAC water requirement - 145 KLD)
Source of Water	Primary source: Govt. Water supply (PMC)

	supply) Secondary source : Water recovered from STP Standby source : Bore well
Waste water generated	Approx. 228m <sup>3</sup> /day waste water to be generated.
Waste water treatment	All waste water generated will be treated in STP and reused for makeup water for toilet flushing, in cooling towers & for landscape irrigation.
Capacity of STP	300 KLD (for both phases) based on Moving Bed Bio Reactor (MBBR) process (STP Schematic diagram given).
Rain water storage	Rain water from the roof & terraces of the building to be collected & stored in impervious soak pit.
Solid waste generation (Construction phase)	(i) Excavation wastes: a) 8,000 m <sup>3</sup> approx. of earth material to be excavated during initial construction phase for foundations & basement. Top soil to be excavated separately. (ii) Construction wastes : Construction spoils, waste concrete, used paint cans & drums of solvents etc.
Solid waste generation (Operational phase)	1. Total solid waste : 330 kg/day 2. Biomedical waste: 114 kg/day
Disposal of waste	3. Excess excavated earth to be used for filling & landscape development, Construction debris disposal through

	<p>Patna Municipal Corporation for collection and disposal of municipal solid wastes.</p> <p>4. Waste paints, empty paint cans, empty drums of solvents, thinners &amp; other materials used for interior decoration &amp; furniture etc. to be disposed off as per guidelines of Environment (Protection) Act, 1986.</p> <p>5. Storage facilities for solid waste (450 kg/day) during operation phase to be provided. Different Coloured bins for different categories of wastes to be provided.</p> <p>6. Dark grey coloured bin - for non-recyclable waste  Green coloured bin- for kitchen/ food/compostable garden wastes  Blue bin - for papers  Black bins - for cans, glass &amp; plastics  Red ins - <u>Biomedical wastes</u> :</p> <p>Agreement  with IGIMS, Patna for safe disposal of biomedical wastes as per "The Bio-Medical Waste (Management and Handling ) Rules, 1999- Authorization letter from common Bio-Medical Waste Treatment Facility at IGIMS, Patna provided.</p>
--	---

Emissions	<ul style="list-style-type: none"> <li>(i) Exhaust emission from DG sets</li> <li>(ii) Dust emissions from construction activities &amp; vehicular movement during construction phase.</li> </ul>
Noise	<p>Noise level should conform to standard prescribed by CPCB, Delhi.</p> <p>25 dB(A) insertion loss.</p>
Energy requirement	<p>Estimated connected load : 3854 KW</p> <p>Maximum demand : 2006 KW</p>
Energy source	<p>Primary source : BSEB</p> <p>Alternative source: DG sets - 2 nos. of 1000 KVA DG sets</p>
Energy conservation	<ul style="list-style-type: none"> <li>(i) Outer walls to be insulated to reduce heat load</li> <li>(ii) Thermal insulation of Roof top</li> <li>(iii) Capacitors to be introduced in the system to improve the load power factor</li> <li>(iv) U value of glass- 3.3 W/sq. m. °C, Solar Heat gain coefficient - 0.25</li> <li>(v) Solar heating system &amp; solar power lighting for landscape &amp; green belt areas</li> <li>(vi) Facade lighting &amp; external lighting to be controlled by timer clock</li> <li>(vii) Compact Fluorescent Lamps for office areas &amp; corridors</li> <li>(viii) LED lamp fittings</li> <li>(ix) Timers for corridors &amp; photoelectric</li> </ul>

	<p>sensors to be used to switch ON/OFF external landscape lighting</p> <p>(x) Recessed windows to be provided as shading device</p>
Parking facilities	<p>(i) Four-wheeler : 100 nos.</p> <p>(ii) Two-wheeler : 150 nos.</p> <p>(iii) Ambulance ; 04 nos.</p>
Traffic management	<p>Current traffic movement survey for 2-wheelers, 3-wheelers, light &amp; heavy 4-wheelers done near project site, details of internal roads shown in Site Plan map</p>
Green-belt development	<p>4,500 sq. m. of the total area proposed for green belt &amp; landscape development; Good green landscape to be developed &amp; maintained within the Hospital premises, Decorative trees &amp; hedges to be provided along pedestrian pathways, thick green belt around the Hospital premises proposed to mitigate the air and noise pollution.</p>
Fire Safety Management	<ul style="list-style-type: none"> <li>● Fire Alarm System</li> <li>● Static overhead (200 KL) &amp; underground (150KL) Water tank &amp; Pump Room</li> <li>● Hydrant System &amp; Wet Rising Piping</li> <li>● Sprinkler System to be installed at all the floors</li> <li>● Fire Control Room</li> <li>● Provision of portable fire extinguishers at all internal hydrant location and other</li> </ul>

	strategic points
Evacuation plan in case of disaster	Exit signage & evacuation plan to be displayed at prominent places in the Hospital Buildings
Environmental Management Plan	Revised EMP submitted, mitigation measures for Air, Solid Waste Management, Fire Protection measures, Energy Conservation & Green-belt development as detailed in EMP submitted. Monitoring of Ambient Air Quality, Ground Water Quality, Effluent Sample before and after STP, Noise Level & DG Set Stack Emission as given by Bihar State Pollution Control Board under Consent-to-Establish or Consent-to-Operate shall be complied. Environmental Monitoring & Management Program: Rs. 2,21,200/-annum committed.
Total cost of the project	Rs. 30 Crores.

The State Expert Appraisal Committee after due considerations of the relevant documents submitted by the project proponent and additional clarifications furnished in response to its observations recommend for accord of environmental clearance to the PARAS HMRI Hospital Project as per the provisions of Environmental Impact Assessment Notification - 2006 and its subsequent amendments, subject to strict compliance of the terms and conditions as follows :

**PART A - SPECIFIC CONDITIONS**

## **I. Construction Phase**

- (i) "Consent for Establishment" shall be obtained from Bihar State Pollution Control Board under Air and Water Act and a copy shall be submitted to SEIAA, Bihar before start of any construction work at the site.
- (ii) All around the boundary of project site 30 feet facade should be erected before starting any demolition or construction work.
- (iii) Provisions shall be made for the housing of labours within the site with all necessary infrastructure and facility to maintain sanitary and hygienic measures before starting construction activities and to be maintained throughout the construction phase. The housing may be in form of temporary structure to be removed after completion of project.
- (iv) Health and safety norms of CPWD should be followed during the construction. It shall be ensured that construction workers must be using safety and personal protective equipments while they were on project site.
- (v) A First Aid Room will be provided in the project both during construction and operation of the project. All First Aid treatment shall be free of cost.
- (vi) Adequate drinking water and sanitary facilities should be provided for construction workers at the site. Provision should be made for mobile toilets. The safe disposal of waste water and solid wastes generated during the construction phase should be ensured.
- (vii) All the topsoil excavated during construction activities should be stored for use in horticulture/landscape development within the project site.
- (viii) 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.
- (ix) Soil and ground water samples will be tested by the project proponent from any laboratory recognized by MoEF/BSPCB to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.



- (x) Construction soils, 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.
- (xi) Any hazardous waste generated during construction phase, should be disposed off as per applicable rules and norms with necessary approvals of the Bihar State Pollution Control Board.
- (xii) The diesel generator sets 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.
- (xiii) 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. The material loaded or unloaded should be covered (especially sand, excavated soil etc) before transportation to avoid fugitive dust emission.
- (xiv) Proper measures should be adopted to control dust emission during construction phase by providing adequate number of sprinklers.
- (xv) Ambient noise levels should conform to the CPCB norms.
- (xvi) Possibilities of use of fly ash as building material shall be explored to the maximum extent possible as per the provisions of Fly Ash Notification of September, 1999 and amended as on 27<sup>th</sup> August, 2003 as the site is located within the 100 Km of Thermal Power Stations.
- (xvii) Ready mixed concrete must be used in building construction to minimize use of water and also by use of pre-mixed concrete, curing agents and other best practices preferred.
- (xviii) Rain water from roof top should be collected in impervious soak pit and use the same for gardening. In no case, rain water should be recharged in the ground water because of the chances of infection.

- (xix) Storm water control and its re-use as per CGWB and BIS standards for various applications.
- (xx) Permission to draw ground water shall be obtained from the competent Authority prior to construction/ operation of the project. The ground water level shall be regularly monitored by installing perizometer.
- (xxi) Separation of grey and black water should be done by the use of dual plumbing line for separation of grey and black water.
- (xxii) Fixtures for showers, toilet flushing and drinking should be low flow either by use of aerators or pressure reducing devices or sensor based control.
- (xxiii) Use of glass may be reduced by upto 40% to reduce the electricity consumption and load on air-conditioning. If necessary, use high quality double glass with special reflective coating in windows.
- (xxiv) Roof should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfil requirement.
- (xxv) 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 fulfil requirement.
- (xxvi) The existing mobile tower installed on the roof of existing building should be removed before starting the construction activity.
- (xxvii) The approval of the competent authority shall be obtained for height of building, 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.
- (xxviii) 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.

- (xxix) Dedicated pedestrian paths shall be provided along the Hospital Building roads. Appropriate access shall be provided for physically challenged people in the pedestrian paths.
- (xxx) Regular supervision of the above and other measures for monitoring should be in place all through the construction phase, so as to avoid disturbance to the surroundings.
- (xxxi) Under the provisions of Environment (Protection) Act, 1986, legal action shall be initiated against the project proponent if it was found that construction of the project has been started without obtaining environmental clearance.

## **II. Operational Phase**

- (i) Consent to Operate under Air and Water Acts shall be obtained from BSPCB before operation failing which the Environmental Clearance herein shall deemed to be withdrawn.
- (ii) The installation of the Sewage Treatment Plant (STP) should be certified by an independent expert and a report in this regard should be submitted to the SEIAA. BSPCB before the project is commissioned for operation. Treated effluent from STP shall be recycled/reused to the maximum extent possible. Treatment of 100% grey water by decentralized treatment should be done. Discharge of unused treated effluent shall conform to the norms and standards of the BSPCB. Necessary measures should be made to mitigate the odour problem from STP.
- (iii) 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.
- (iv) Bio-Medical Waste shall be disposed of as the Bio-Medical Waste (Management & handling) Rules, 1998 and authorization shall be obtained from BSPCB as per applicability.

- (v) Diesel power generating sets proposed as source of back up power for elevators and common area illumination during operation phase should be 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. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with Bihar State Pollution Control Board.
- (vi) Noise should be controlled to ensure that it does not exceed the prescribed standards. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.
- (vii) The green belt of the adequate width and density preferably with local species shall be raised as per submitted plan (4500 m<sup>2</sup>) so as to provide protection against particulars and noise.
- (viii) Weep holes in the compound walls shall be provided to ensure natural drainage of rain water in the catchment area during the monsoon period.
- (ix) Rain water from roof run-off and surface run-off, shall be stored in impervious soak pit and use the same for gardening.
- (x) 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.
- (xi) A Report on the energy conservation measures conforming to energy conservation norms finalised by Bureau of Energy Efficiency should be prepared incorporating details about building materials & technology, R & U Factors etc and submit to the Ministry in three months time.
- (xii) 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. Use of 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.
- (xiii) Adequate measures should be taken to prevent odour problem from solid waste processing plant and STP.
  - (xiv) The building blocks should have adequate distance between them to allow movement of fresh air and passage of natural light, air and ventilation.
  - (xv) No mobile towers shall be erected within the proposed hospital premises.

**PART - B. GENERAL CONDITIONS**

- (1) The environmental safeguards contained in the EMP Report should be implemented in letter and spirit.
- (2) Provision should be made for supply of kerosene or cooking gas and pressure cooker to the labourers during construction phase.
- (3) Six monthly monitoring reports should be submitted to the SEIAA, BSPCB, Ministry and its Regional Office, Bhubaneswar.
- (4) Officials from the Regional Office of MoEF, Bhubaneswar and BSPCB who should be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents / data by the project proponents during their inspection.
- (5) In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by the SEIAA/SEAC, Bihar.
- (6) 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 approved from competent authority.
- (7) The SEIAA, Bihar/ MoEF 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.

- (8) These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act, 1974, and the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986.
- (9) The project proponent should advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the Bihar State Pollution Control Board and may also be seen on the website of the SEIAA, Bihar and Ministry of Environment and Forests at <http://www.envfor.nic.in>. 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 MoEF, Bhubaneswar.
- (10) Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
- (11) Copy of environmental clearance, status of compliance to the various stipulated environmental conditions and environmental safeguards will be permanently uploaded by the project proponent in its website.

Yours faithfully,



**MEMBER SECRETARY  
STATE ENVIRONMENT IMPACT  
ASSESSMENT AUTHORITY  
(SEIAA) BIHAR**

(S.K. Karn)  
Member Secretary  
SEIAA, Bihar.

Memo No. :- **86**

Patna, dated: 25/7/13

Copy forwarded to : The Secretary, Environment & Forests Department, Sichaibhawan, Patna/ The Chairman, Bihar State Pollution Control Board, Beltron Bhawan, IInd Floor, LBS Nagar, Jawahar Lal Nehru Marg, Shastrinagar, Patna-800023/Chairman, SEAC, Bihar/Chairman, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi-23/ Chief Conservator of Forest (C), Ministry of Environment & Forests, Regional Office (EZ), A/3, Chandrasekharapur, P.O. Rail Vihar, Bhubaneswar - 751023/, Advisor (EIA), Paryavaran Bhawan, Ministry of Environment & Forests, CGO Complex, Lodhi Road, New Delhi- 110003/ Guard File.

Yours faithfully,



MEMBER SECRETARY  
STATE ENVIRONMENT IMPACT  
ASSESSMENT AUTHORITY  
(SEIAA) BIHAR

(S.K. Karn)  
Member Secretary  
SEIAA, Bihar.