



F. No. - SIA/8(a)/522/18

**STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY,
BIHAR**

2nd Floor, Beltron Bhawn
Shastri Nagar
Patna - 800 023

E-mail:- seiaabihar@gmail.com
seiaa.ms.br@gmail.com

Telephone No.:- 0612 - 2281255

Dated:- 12/06/18.

To,

**M/s Indira Gandhi Institute of Medical Sciences,
Shri Akhileshwar Prasad,
(Executive Engineer - Civil),
Sheikhpura, Raja Bazar,
Patna,
Pin:- 800 014.
Email:- igimsec@gmail.com
Mobile No:- +91-9473191842**

Sub:

**INDIRA GANDHI INSTITUTE OF MEDICAL SCIENCES
(IGIMS) Proposed hospital building at Indira Gandhi
Institute of Medical Sciences at District - Patna with
proposed Built-up Area of 6867,19 M² in the proposed plot
area of 4,95,262.38 M² Environment Clearance regarding.**

Reference:-

Online Application - SIA/BR/NCP/74684/2018.

Sir,

This has reference to your online application for the above proposal of Indira Gandhi Institute of Medical Sciences for building and construction project at District- Patna. The details of the project provided by project proponent

Sl. No.	Item	Details
1.	Name of the project	INDIRA GANDHI INSTITUTE OF MEDICAL SCIENCES (IGIMS) Proposed hospital building at Indira Gandhi Institute of Medical Sciences at District - Patna
2.	S. No. in the Schedule of EIA	8(a) {Building & Construction Project}
3.	Category of the project	"B"
4.	Total Plot Area of the project	4,95,262.38 M ² or 122.38 Acres.
5.	Proposed total Built-up Area of the project	6,8671.19 M ²
6.	Geo-Coordinates of the project	Corner A - 25° 36' 41.19" N 85° 05' 30.74" E Corner B - 25° 36' 41.13" N 85° 05' 33.82" E Corner C - 25° 36' 35.55" N 85° 05' 33.94" E Corner D - 25° 36' 38.53" N 85° 05' 28.82" E
7.	New / Expansion / Modernization	Expansion Expansion of Hospital Building (500 Bedded Hospital) within existing premises of IGIMS.
8.	Existing Capacity / Area etc.	<ul style="list-style-type: none">• Medical College (100 seats), Boys Hostel (220 Nos.) & Residential quarters (Type D - 52 units, Type E - 32 units MDH - 70 units, MNH - 76 units, Girls Hostel A- type 80 units, B - type 80 units & 500 bedded Hospital Building etc.) within existing premises of IGIMS• Total Existing Area - 4,95,262.38 M² or 122.38 Acres.
9.	Maximum No. of floors	B+G+6.
10.	Greenbelt Area & Landscape Area	6500 M ²
11.	Parking Area	4,570.5 M ² (Covered) 4,300 M ² (Open)
12.	No. of Structure / Building	03
13.	Maximum height of Building (Hospital)	28 meter.
14.	New / Expansion / Modernization	Expansion Expansion project for establishment of Hospital Building (500 Bedded Hospital) within existing premises of IGIMS.
15.	Location of the Project	Hospital Building Plot Nos.:- 691, 392, 693,

		694, 695, 697, 698, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 714, 725, 726, 727, 729, 730 Village:- Seikhpura, Tehsil:- Patna Sadar, District:- Patna, State:- Bihar,
16.	Water Consumption	Fresh water consumption 200 KL/day Flushing water requirement 77 KL/day Total water consumption is 470 KL/day through PHE Departments / Municipal water supply.
17.	Power Requirement	2,787 KW through State Electricity Board
18.	Power Backup	D. G. Sets 1,000 KVA x 2 + 600 KVA x 1
19.	Fuel Consumption	Approximately 500 liters / hour
20.	Solid waste Generated	590 Kg/day (operational phase)
21.		
22.	Estimated project Cost of Project site	Total Project Cost - ₹ 2,70,32,60,025.75/-

PART A – GENERAL CONDITIONS

I. Pre- Construction Phase

- i. Project proponent shall erect a signboard on his project site and display information regarding name of the project, No. date and validity period of EC, total built-up area and other relevant information for the general public.
- ii. Environmental clearance shall remain valid for a maximum period of 5 years or completion of project whichever is earlier.
- iii. All around the boundary of activity site 30 feet façade should be erected before starting any demolition or construction work.
- iv. Provision shall be made for the housing of construction labour within or close to the site 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.
- v. Provision of drinking water, waste water disposal, solid wastes management and primary health facilities shall be ensured for labour force. Proper sanitation facilities shall be provided at the construction site to prevent health related problems.


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Domestic as well as sanitary wastes from construction camps shall be cleared regularly.


- vi. Adequate safety measures shall be adopted for the construction workers.
- vii. 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.
- viii. Fencing of the project boundary before start of construction activities.
- ix. Use of energy efficient construction materials shall be ensured to achieve the desired thermal comfort.
- x. Use of fly ash based bricks/blocks/tiles/products shall be explored to the maximum extent possible.
- xi. 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 be developed to compensate the habitat loss of tree cutting (if any) from competent authority as per local Act/Rules. The exotic species existing within the existing premises, if any, shall be protected.
- xii. Dedicated pedestrian paths shall be provided along the proposed Buildings. Appropriate access shall be provided for physically challenged people in the Pedestrian Paths.
- xiii. 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.
- xiv. 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.
- xv. Prior permission should be obtained from the competent authority for demolition of the existing structure, if any. Waste recycling plans including top soil should be developed prior to beginning of demolition and construction activity. The plans should identify wastes to be generated and designate handling, recycling and disposal method to be followed.
- xvi. The project proponent should advertise in at least two local newspapers widely circulated in the region, one of which should be in the vernacular language, informing


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- that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Environment Impact Assessment Authority, Bihar,
- xvii. Risk assessment study along with Disaster Management Plan (DMP) shall be prepared. The mitigational measures for disaster prevention and control shall be prepared and get approved from competent authority. All other statutory clearances/licenses/permissions from concerned State Governments Departments, Boards and Corporations shall be obtained as per directions issued by Central Government/State Government, Central Pollution Control Board/Bihar State Pollution Control Board.
 - xviii. Baseline Environmental Condition of Project area i.e. 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 to State Environment Impact Assessment Authority (SEIAA), Bihar and Bihar State Pollution Control Board (B.S.P.C.B.), 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.
- iii. Earth material generated from excavation shall be reused to the maximum possible extent as filling material during site development. The construction debris and surplus excavated material shall be disposed off by mechanical transport at place designated by local municipal Corporation.
- iv. 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.
- v. Low Sulphur diesel generator sets should be used during construction phase. Diesel generator sets during construction phase shall have acoustic enclosures and shall


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conform to Environment (Protection) Rules, 1986 prescribed for noise emission standards.


- vi. All vehicles/equipment deployed during construction phase shall be ensured in good working condition and shall conform to applicable air and noise emission standards. These shall be operated only during non-peaking hours.
- vii. Ambient noise levels shall conform to the standards prescribed by MoEF&CC, Govt. of India.
- viii. The protective equipment such as nose mask, earplugs etc. shall be provided to construction personnel exposed to high noise levels.
- ix. 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.
- x. 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.
- xi. Use of Ready-Mix concrete is recommended for the project.
- xii. Accumulation/stagnation of water shall be avoided ensuring vector control.
- xiii. Regular supervision of the above and other measures shall be in place all through the construction phase so as to avoid disturbance to the surrounding habitation.
- xiv. Water during construction phase should be preferred from Municipal supply.
- xv. All directions of the Airport Authority, Director of Explosives and Fire Department etc. shall be complied with.
- xvi. Unskilled construction labourers shall be recruited from the local areas.
- xvii. Provisions shall be made for the integration of solar water heating system.
- xviii. Provision of vermi-composting for the biodegradable solid wastes generated from the proposed extension of buildings as well as the large amount of biomass that shall be available from the tree plantation shall be made.


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- xix. Monitoring of ground water table and quality once in three months shall be carried out. Boring of tube wells, shall be strictly regulated as per CGWB norms.
- xx. 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 recharge ground water.
- xxi. All intersections shall be designed and developed as roundabouts.
- xxii. 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.
- xxiii. The road drainage shall be designed to enable quick runoff of surface water and prevent water logging.
- xxiv. 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.
- xxv. Fountains shall be installed and maintained at all intersections of roads and roundabouts to minimize air/dust pollution in the campus.
- xxvi. Rest room facilities shall be provided for service population.

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.


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- iv. The height of the stack of the DG sets should be as per norms of CPCB.
- v. 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.
- vi. 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.
- vii. Proper composting / vermi-composting of municipal and biodegradable 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).
- viii. 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 without obtaining prior Environmental Clearance as per EIA Notification, 2006.
- iii. Monitoring of AAQ as per NAAQS 2009, Monitoring of Ambient Noise Level & Analysis of Ground Water Samples, Monitoring of Stock Emissions & Testing of Effluent from DG sets should be conducted and report should be submitted on half yearly basis to SEIAA, Bihar & B.S.P.C.B., Patna.

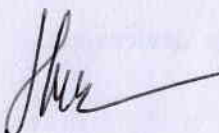


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PART B- SPECIFIC CONDITIONS

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 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 competent 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. Energy conservation measures like installation of CFLs/ LED for the lighting the area outside the building should be an integral part of the project design and should be in place before project commissioning. Used CFLs, TFL and LED shall be properly collected and disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination.
- 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.


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- viii. Monitoring of AAQ as per NAAQs 2009, Monitoring of Ambient Noise Level & Analysis of Ground Water Samples, Monitoring of Stack Emissions from DG sets should be conducted, and reports should be submitted on half yearly basis to SPCB.

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.
- iv. Rain water harvesting structures should be provided as per submitted Plan.
- v. The project proponent shall establish a fresh Bio-medical waste Treatment plant as far as possible within the campus if the capacity of existing one common Bio-Medical Waste treatment plant (within campus) is under full utilization or the same is shifted elsewhere.
- vi. Project proponent shall submit a plan regarding Bio-Composting (specifically food-waste) which shall form a part of Environment Management Plan (EMP) of present proposal.
- vii. Provision of double plumbing for re-use of treated water for garden, fountain and similar uses.

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.


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- 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, moving bed biofilm reactor (MBBR) 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.
- v. Municipal solid wastes generated in the proposed extension buildings shall be managed and handled in accordance with the compliance criteria and procedure laid down in Schedule- II of the Municipal Wastes (Management and handling) Rules, 2000 (As amended).
- vi. The standard for composting & treated leachates as mentioned in Schedule-IV of the Municipal Wastes (Management and handling) Rules, 2000 (As amended) shall be followed.
- vii. All hazardous wastes shall be segregated, collected, transported, treated and disposed as per provisions of the Hazardous Wastes (Management and Handling) Rules, 1989 (As amended).
- viii. 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.
- ix. 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 MoEF&CC Government of India.


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- x. 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.
- xi. Non-mixing of faecal matter with the municipal solid wastes shall be strictly ensured.
- xii. Non-mixing of sewage/sludge with rainwater shall be strictly ensured.
- xiii. 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.
- xiv. Back up supply shall be based on natural Gas/cleaner fuel subject to their availability.
- xv. The project proponent shall resort to solar energy at least for street lighting and water heating for Proposed Building Complex, gardens/park areas.
- xvi. 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.
- xvii. A report on the energy conservation measures conforming to energy conservation norms finalized by Bureau of Energy Efficiency should be prepared incorporating details about building materials & technology, "R" and "U" factors etc.

IV. Entire Life of the Project

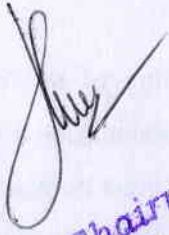
- i. All the conditions laid down in NOC& consent to operate issued by SPCB should be strictly complied with during entire life cycle of the project.
- ii. Monitoring of Ambient Noise Level & Analysis of Ground Water Samples, Monitoring of Stack Emissions from DG Sets & Testing of Untreated & treated effluent samples of STPs should be conducted and reports should be submitted on half yearly basis to SPCB.
- iii. 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


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- 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.
- iv. The overall noise levels in and around the project area shall be kept well within the standards as per CPCB norms.
 - v. 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.
 - vi. The green cover i.e. minimum 33% of the project area consisting of mixture of available indigenous and fast growing species of trees and perennial shrubs must be created and maintained. Plantation of (minimum 5 feet tall plants) must be planted in the coming rainy season i.e. (year 2018). 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 preferably evergreen species trees shall be completed in the initial phase of the construction stage itself.
 - vii. 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.
 - viii. The funds earmarked for the environmental protection measures shall not be diverted for other purposes.
 - ix. The Project proponent shall provide all necessary logistic support to the authorised officer of this authority as when required. They will facilitate and assist the authority in site inspection and monitoring.
 - x. Project Proponent shall submit (to the SEIAA, Bihar, Regional Office of MoEF&CC at Ranchi, Bihar State Pollution Control Board) six monthly compliance report of the conditions within a fortnight after the end of every six month.
 - xi. In case of any changes in the scope of the project, the project shall require a fresh appraisal by the SEIAA.


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- xii. The 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.
- xiii. 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.



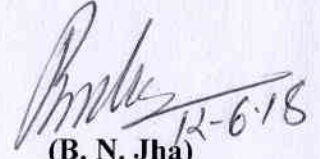
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Sd/-
(B. N. Jha)
Chairman
SEIAA, Bihar

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Copy forwarded to:

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



(B. N. Jha)
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