

## STATE EXPERT APPRAISAL COMMITTEE (SEAC), BIHAR

Ref. No- 02.

Patna- 23, Date- 07/01/2021.

To,

1. Shri Murarijee Mishra,  
Vijay Nagar, Near Temple,  
Rukunpura, Patna - 800014
2. Shri Vijay Kumar Sinha, IFS (Retd.),  
Prasad Bhawan, R. K. Path,  
Pirmohani, Kadamkuan, Patna - 800 003
3. Dr. Samir Kumar Sinha,  
Wildlife Trust of India,  
F-13, Sector - 8, Noida, Uttar Pradesh - 201301
4. Dr. Amar Nath Verma,  
10192 ATS Advantage, Ahinsha Khand - 1,  
Near Habitat Centre, Indirapuram,  
Ghaziabad - 201014.
5. Prof. Shardendu,  
Department of Botany,  
Patna Science College, Patna.
6. Prof. Birendra Prasad,  
Department of Botany,  
Patna University,  
Patna - 800 005.
7. Dr. Rakesh Kumar Singh,  
G - 600, 12th Street, GAMA - II, Greater Noida (UP) - 201 310.
8. Dr. Dilip Kumar Paul,  
Assistant Professor & Course Coordinator, M.Sc.  
Environment Science & Management,  
Post Graduation Department of Zoology,  
Patna University, Patna, Bihar - 800 005

Sub :- Proceedings of meeting of State Expert Appraisal Committee held on 26.12.2020.

Sir,

Please find enclosed herewith proceedings of the State Expert Appraisal Committee (SEAC) meeting held on 26<sup>th</sup> December, 2020.

Yours sincerely,

 07/1/21  
(S. Chandrasekar)  
Member Secretary  
SEAC, Bihar

Proceedings of the State Expert Appraisal Committee (SEAC) meeting dated 26<sup>th</sup> December, 2020-

The meeting of SEAC was held through video conferencing on 26<sup>th</sup> December, 2020 as per schedule (letter No.287 dated- 18.12.2020 & letter No. 290 dated- 22.12.2020), and attended to in person by Chairman, Member Secretary and the following members.

1. Prof. Shardendu,
2. Dr. Amar Nath Verma,
3. Dr. Rakesh Kumar Singh,
4. Prof. Birendra Prasad,
5. Dr. Dilip Kumar Paul,

The remaining members participated through video link as under: -

6. Shri Vijay Kumar Sinha,
7. Dr. Samir Kumar Sinha.

Proposals were considered as per agenda. Project Proponents along with their respective Consultants made presentation before the Committee. Agenda wise details are as under: -

**Consideration for Environmental Clearance**

1. Stone Mining Project, Block No. - 24 at Village:-Chakandara / Barari, Block:- Chewra, Tehsil:- Sheikhpura, District:- Sheikhpura, State:- Bihar, Area:- 5.06 Ha, Production Capacity:- 7,00,000 TPA (**File No. - SIA/1(a)/526/2018, Online Proposal No.:- SIA/BR/MIN/31157/2019**).

Proponent:- M/s Natraj Iron & Casting Private Limited.

Consultant: -M/s Centre for Envotech & Management Consultancy Private Limited.

Application along with filled up Form - I, Prefeasibility report and Environment Management Plan in the prescribed format was submitted to SEIAA, Bihar on 22<sup>nd</sup> February, 2019 for obtaining Terms of Reference (ToR). SEIAA, Bihar issued ToR Vide No. - SIA/1(a)/526/2018, dated 17.05.2019 and Public Consultation for the proposed project was conducted by Bihar State Pollution Control Board on 07.07.2020. Final EIA report was submitted by Project Proponent in the prescribed format to SEIAA, Bihar on 17.12.2020 for obtaining Environmental Clearance (EC).

2. Stone Mining Project, Block No. - 25 at Village:-Barari, Tehsil:- Sheikhpura, District:- Sheikhpura, State:- Bihar, Area:- 5.06 Ha, Production Capacity:- 6,30,000 TPA (File No. - SIA/1(a)/527/2018, Online Proposal No.:- SIA/BR/MIN/31188/2019).  
Proponent:- M/s Natraj Engineers Private Limited.  
Consultant: - Center for Envotech and Management Consultancy Private Limited.

Application along with filled up Form - I, Prefeasibility report and Environment Management Plan in the prescribed format was submitted to SEIAA, Bihar on 22<sup>nd</sup> February, 2019 for obtaining Terms of Reference (ToR). SEIAA, Bihar issued ToR Vide No. - SIA/1(a)/527/2018, dated 17.05.2019 and Public Consultation for the proposed project was conducted by Bihar State Pollution Control Board on 07.07.2020. Final EIA report was submitted by Project Proponent in the prescribed format to SEIAA, Bihar on 15.12.2020 for obtaining Environmental Clearance (EC).

**Decision of the Committee:**

The Committee considered final EIAs submitted for the projects listed on agenda no. 1, 2 and decided to recommend the proposals for grant of Environmental Clearance (Annexure -I) with additional specific conditions as mentioned below:-

- a) Stone crushers shall be installed and operated as per CPCB guidelines to control dust emission from crushing units and transfer points.
- b) The mining lease area facing habitation should be properly fenced to prevent injury to human or Cattle in the mining pits.
- c) Proponent will maintain haul road to prevent fugitive dust emission due to movement of vehicles.
- d) Project Proponent will also maintain all approach roads leading to mine lease to prevent development of pot holes and fugitive emission due to plying of vehicles for mineral transportation.
- e) All along the boundary of mine lease 7.5 meter width shall be maintained as safety zone and developed as a green belt area.

3. CRESCENT (Residential Building Project) at Mauza – Chitkohra, Tehsil:- Patna Sadar, District- Patna, State:- Bihar, Total Plot Area :- 12,908.34 m<sup>2</sup>, Total Built-up Area:- 53,069.95 m<sup>2</sup>, (File No.: - SIA/8(a)/700/19), Online Proposal No.: - SIA/BR/MIS/123681/2019).

Proponent:- M/s Nutan Construction.

Consultant: - PARAMARSH (Servicing Environment and Development).

Application along with filled up 'Form - I', Form - I (A) and Conceptual Plan in the prescribed format was submitted to SEIAA, Bihar on 16<sup>th</sup> December, 2019 for obtaining Environmental Clearance (EC).

SEIAA referred back this matter (Ref. No. 266, dated 18.11.2020) and requested SEAC may technically reconsider the proposal as per EIA Notification, 2006 as the proposal was rejected earlier only for default of absence of Project Proponent / Consultant in its meeting.

The Committee accepted the SEIAA's request and allowed the Project Proponent to present their proposal.

The Proponent and the Consultant presented the proposal before the Committee. The Project Proponent has submitted revised detailed layout plan of commercial complex included in the project separately.

The Committee considered the proposal and submission and decided to recommend it for grant of Environmental Clearance as Annexure – II.

4. 500 Bedded Government Hospital, Village:- Chhitwara Kapur, Tehsil:- Mahua, District- Vaishali, State:- Bihar, Total Plot Area - 80,937.13 m<sup>2</sup>, Total Built-up Area - 1,15,337 m<sup>2</sup> (File No.: - SIA/8(a)/1232/2020, Online Proposal No.: - SIA/BR/MIS/129827/2019).

Proponent:- Health Department, Govt. of Bihar.

Consultant: - Geo Green Enviro House Private Limited, Lucknow.

Application along with filled up 'Form - I', Form - I (A) and Conceptual Plan in the prescribed format was submitted to SEIAA, Bihar on 06<sup>th</sup> July, 2020 for obtaining Environmental Clearance (EC).

Earlier in the meeting dated 18<sup>th</sup> August, 2020, the Committee had directed the Project Proponent to submit documents as mentioned in the proceedings of that meeting. The Project Proponent has complied. The Committee considered the compliance as submitted by the Project Proponent and decided to recommend the proposal for grant of Environmental Clearance as per conditions given in Annexure – III and additional specific conditions mentioned below:-

i. Project Proponent shall install a real time continuous ambient air and noise monitoring system in consultation with the SPCB and link the data on SPCB server before the operation phase. The real time continuous data display unit shall be erected at the main entrance of the project.

5. Proposed Shrinivas Medical College & Hospital, by a unit of Shrinivas (G) Educational & Research Institute of Medical Sciences at Village:- Kamalpur, Tehsil:- Garkha, District- Saran, State:- Bihar, Total Plot Area - 95,408 m<sup>2</sup>, Total Built-up Area - 52,351.82 m<sup>2</sup> (File No.: - SIA/8(a)/1262/2020, Online Proposal No.:- SIA/BR/M/IS/160113/2020).

Proponent:- M/s Shrinivas (G) Educational & Research Institute of Medical Sciences.

Consultant: - PARAMARSH (Servicing Environment and Development).

Application along with filled up 'Form - I', Form - I (A) and Conceptual Plan in the prescribed format was submitted to SEIAA, Bihar on 29<sup>th</sup> October, 2020 for obtaining Environmental Clearance (EC).

Earlier in the meeting dated 12<sup>th</sup> November 2020, the Committee had directed the Project Proponent to submit documents as mentioned in the proceedings of that meeting. The Project Proponent has complied. The Committee considered the compliance as submitted by the Project Proponent and decided to recommend the proposal for grant of Environmental Clearance as per conditions given in Annexure – IV and additional specific conditions mentioned below:-

i. Project Proponent shall install a real time continuous ambient air and noise monitoring system in consultation with the SPCB and link the data on SPCB server before the operation phase. The real time continuous data display unit shall be erected at the main entrance of the project.

6. Proposed Government Medical College & Hospital project Mauza:-Bela, Teshil:- Khaira, District:- Jamui, State:- Bihar, Total Plot Area:- 1,09,265.12 m<sup>2</sup>, Total Built-up Area - 1,05,208.51 m<sup>2</sup> (File No.: - SIA/8(a)/1263/2020), Online Proposal No.: - SIA/BR/MIS/178125/2020).

Proponent: - Department of Health, Govt. of Bihar.

Consultant: - Chandigarh Pollution Testing Laboratory.

Application along with filled up 'Form - I', Form - I (A) and Conceptual Plan in the prescribed format was submitted to SEIAA, Bihar on 01<sup>st</sup> December, 2020 for obtaining Environmental Clearance (EC).

The Proponent and the Consultant presented the proposal before the Committee, after discussion and due consideration, the Committee directed the project proponent to submit the following: -

- (i) Justification regarding site selection or report about alternative site. (The proposed site is not connected properly with adequate road / rail links and situated at a far off distance from district / sub-divisional headquarter, etc.)
- (ii) Information regarding nearest Protected Forest from proposed project site.
- (iii) Report of experts on the existing flora and fauna in the study area (5 km).
- (iv) Show the connecting roads in the layout plan.
- (v) Create the multilevel parking with appropriate lift facilities.
- (vi) Create Bio-composting facilities inside the campus and show them on layout plan preferably in one corner of the plot.
- (vii) Provision for adequate infrastructure for quality education and appropriate transportations from proposed hospital premises for children / ward of officials and staffs.

7. Proposed Residential Building Project "H<sub>2</sub>O City" at Village:- Neora, Tehsil:- Bihta, District:- Patna, State:- Bihar, Proposed Plot Area :- 10,215.04 m<sup>2</sup>, Proposed Built-up Area:- 41,086 m<sup>2</sup>, (File No.: - SIA/8(a)/1269/2020, Online proposal No.: - SAI/BR/MIS/181412/2020).

Proponent:- M/s Anshul Homes Private Limited.

Consultant: - Chandigarh Pollution Testing Laboratory.

Application along with filled up 'Form - I', Form - I (A) and Conceptual Plan in the prescribed format was submitted to SEIAA, Bihar on 16<sup>th</sup> December, 2020 for obtaining Environmental Clearance (EC).

The Proponent and the Consultant presented the proposal before the Committee. After discussion and due consideration the Committee decided to recommend the proposal for grant of Environmental Clearance as Annexure – V.

8. Proposed expansion project of Distillery from 5,000 TCD to 6,500 TCD, along with co-generation power plant of 12.50 MW at Village:- Hasanpur, Tehsil:- Rosera, District:- Samastipur, Bihar by Magadh Sugar and Energy Limited, Unit:- Hasanpur Sugar Mills, Total Plant Area:- 44.93 Acres (File No.: - SIA/5(j)/994/2020, Online proposal No.: - SAI/BR/IND2/59222/2007).

Proponent:- M/s Magadh Sugar and Energy Limited, Unit:- Hasanpur Sugar Mills.

Consultant: - Chandigarh Pollution Testing Laboratory, EIA - Division.

Application along with filled up 'Form - I', and Pre-feasibility Report in the prescribed format was submitted to SEIAA, Bihar on 08<sup>th</sup> May, 2020 for obtaining Terms of Reference (ToR). Auto ToR Vide No. - SIA/5(j)/994/2020, dated 08.05.2020 and Public Consultation for the proposed project was conducted by Bihar State Pollution Control Board on 21.10.2020. Final EIA report was submitted by Project Proponent in the prescribed format to SEIAA, Bihar on 21.12.2020 for obtaining Environmental Clearance (EC).

The Committee considered final EIA Submitted by Project Proponent and decided to recommend the proposal for grant of Environmental Clearance (Annexure –VI) and additional specific conditions as mentioned below:-

- a) Project Proponent shall install a real time continuous ambient air and noise monitoring system in consultation with the SPCB and link the data on SPCB server before the operation phase. The real time continuous data display unit shall be erected at the main entrance of the project.

**Consideration for Amendment Environmental Clearance:-**

1. Proposed 100 KLPD molasses based distillery along with 4.0 MW co-generation power plant at Village:- Bucheya, P.O.:-Sidhwali, Tehsil:- Sidhwalia, District:- Gopalganj, Bihar by Magadh Sugar and Energy Limited Unit : Bharat Sugar Mills (Distillery Division) (File No.: - SIA/5(g)/691/19, Online Proposal No.: - SIA/BR/IND2/170956/2020).

Proponent:- M/s Magadh Sugar and Energy Limited Unit : Bharat Sugar Mills (Distillery Division).

In this proposal, the proponent has sought an amendment in the Environmental Clearance issued by the SEIAA Vide No. - SIA/5(g)/691/19, dated 05.05.2020. The basis of the amendment is to add a new area of 3.378 Ha, while retaining the area regarding which the Environmental Clearance dated 05/05/2020 is granted. The new area proposed to be added is surrounded from three sides by habitation and the impact of the use of this area requires to be studied. Moreover, the addition of the area doesn't qualified to be identified as an amendment, rather it is an expansion vis-a-vis the scope of Environmental Clearance already granted.

SEIAA referred back this matter (Ref. No. 276, dated 04.12.2020) and requested SEAC may reconsider the proposal as per EIA Notification, 2006.

The Committee accepted the request of SEIAA and allowed the Project Proponent to present their proposal, although in para 7 (II) of EIA Notification, 2006 there is no provision for amendment in Environmental Clearance granted for a proposal. Para 7 (II) relates to "Expansion or Modernization or Change of product mix in existing projects". Moreover, the Project Proponent was directed to submit a revised application for needful under EIA Notification, 2006 which they have not done till date.

However, to assess the real situation on ground the Committee decided that Member Secretary, SEAC, Bihar will conduct a site inspection and submit a report to Committee for needful.

2. Proposed 06 MLD Common Effluent Treatment Plant at Village:-Hajipur Industrial Area, Tehsil:- Hajipur, District:- Vaishali, Bihar by Bihar Industrial Area Development

Authority (File No.: - SIA/7(h)/340/16, Online Proposal No.: - SIA/BR/MIS/172973/2020).

Proponent:- M/s Bihar Industrial Area Development Authority.

Consultant: - SMS Envocare Limited.

Application along with filled up Form - I, Prefeasibility report and Environment Management Plan in the prescribed format was submitted to SEIAA, Bihar on 07<sup>th</sup> October, 2016 for obtaining Terms of Reference (ToR). SEIAA, Bihar issued ToR Vide No. - 470, dated 27.12.2016. Final EIA report was submitted by Project Proponent in the prescribed format to SEIAA, Bihar on 03<sup>rd</sup> May, 2018 for obtaining Environmental Clearance (EC). SEIAA, Bihar issued Environmental Clearance Vide No. - SIA/7(h)/340/16, dated 15.11.2018. Now Project Proponent has applied for amendment in Environmental Clearance for obtaining Environmental Clearance in the prescribed format to SEIAA, Bihar on 30.09.2020.

3. Proposed 02 MLD Common Effluent Treatment Plant at Village:-Fatuha Industrial Area, Tehsil:- Fatuha, District:- Patna, Bihar by Bihar Industrial Area Development Authority (File No.: - SIA/7(h)/339/16, Online Proposal No.: - SIA/BR/MIS/172970/2020).

Proponent:- M/s Bihar Industrial Area Development Authority.

Consultant: - SMS Envocare Limited.

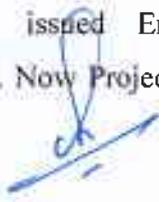
Application along with filled up Form - I, Prefeasibility report and Environment Management Plan in the prescribed format was submitted to SEIAA, Bihar on 07<sup>th</sup> October, 2016 for obtaining Terms of Reference (ToR). SEIAA, Bihar issued ToR Vide No. - 472, dated 27.12.2016. Final EIA report was submitted by Project Proponent in the prescribed format to SEIAA, Bihar on 03<sup>rd</sup> May, 2018 for obtaining Environmental Clearance (EC). SEIAA, Bihar issued Environmental Clearance Vide No. - SIA/7(h)/339/16, dated 15.11.2018. Now Project Proponent has applied for amendment in Environmental Clearance for obtaining Environmental Clearance in the prescribed format to SEIAA, Bihar on 30.09.2020.

4. Proposed 05 MLD Common Effluent Treatment Plant at Village:-Bela Industrial Area, Tehsil:- Mushari, District:- Muzarffarpur, Bihar by Bihar Industrial Area Development Authority (File No.: - SIA/7(h)/337/16, Online Proposal No.: - SIA/BR/MIS/172963/2020).  
Proponent:- M/s Bihar Industrial Area Development Authority.  
Consultant: - SMS Envocare Limited.

Application along with filled up Form - I, Prefeasibility report and Environment Management Plan in the prescribed format was submitted to SEIAA, Bihar on 07<sup>th</sup> October, 2016 for obtaining Terms of Reference (ToR). SEIAA, Bihar issued ToR Vide No. - 536, dated 16.02.2017. Final EIA report was submitted by Project Proponent in the prescribed format to SEIAA, Bihar on 03<sup>rd</sup> May, 2018 for obtaining Environmental Clearance (EC). SEIAA, Bihar issued Environmental Clearance Vide No. - SIA/7(h)/337/16, dated 15.11.2018. Now Project Proponent has applied for amendment in Environmental Clearance for obtaining Environmental Clearance in the prescribed format to SEIAA, Bihar on 30.09.2020.

5. Proposed 01 MLD Common Effluent Treatment Plant at Village:-Barari Industrial Area, Tehsil:- Goradih, District:- Bhagalpur, Bihar by Bihar Industrial Area Development Authority (File No.: - SIA/7(h)/341/16, Online Proposal No.: - SIA/BR/MIS/172959/2020).  
Proponent:- M/s Bihar Industrial Area Development Authority.  
Consultant: - SMS Envocare Limited.

Application along with filled up Form - I, Prefeasibility report and Environment Management Plan in the prescribed format was submitted to SEIAA, Bihar on 07<sup>th</sup> October, 2016 for obtaining Terms of Reference (ToR). SEIAA, Bihar issued ToR Vide No. - 469, dated 27.12.2016. Final EIA report was submitted by Project Proponent in the prescribed format to SEIAA, Bihar on 03<sup>rd</sup> May, 2018 for obtaining Environmental Clearance (EC). SEIAA, Bihar issued Environmental Clearance Vide No. - SIA/7(h)/341/16, dated 15.11.2018. Now Project Proponent has applied for amendment



in Environmental Clearance for obtaining Environmental Clearance in the prescribed format to SEIAA, Bihar on 30.09.2020.

**Decision of the Committee:**

The above agenda item no (02 to 05) were considered by the Committee. The Committee noticed that there is change in the overall process which qualifies to be treated in accordance with para 7 (II) "Expansion or Modernization or Change of product mix in existing projects" of the EIA Notification, 2006. Hence, the proposals for amendment of existing Environmental Clearance is unacceptable and recommended to be rejected.

However, the Project Proponent may revise the EIA reports EMP, etc., and submit a fresh proposal for grant of Environmental Clearance in accordance with the EIA Notification, 2006 and relevant extant rules.

**Consideration of Scoping**

**Sand Mining Project –Kishanganj District**

1. Sand Mining Project on Burhi Gandak (Kankai) River at Burhi Gandak (Kankai) River of Kishanganj (Unit - V) Balu Ghat, of District- Kishanganj, Area - 99.50 Ha (**File No.:** - SIA/1(a)/1267/2020, **Online Proposal No.:** - SIA/BR/MIN/54826/2020).

Proponent:- Shri Dalip Singh.

Application along with filled up 'Form - I' and Prefeasibility report in the prescribed format was submitted to SEIAA, Bihar on 15<sup>th</sup> December, 2020 for obtaining Terms of Reference (ToR).

2. Sand Mining Project on Chengra River at Chengra River of Kishanganj (Unit - III) Balu Ghat, of District- Kishanganj, Area - 64.30 Ha (**File No.:** - SIA/1(a)/1266/2020, **Online Proposal No.:** - SIA/BR/MIN/54968/2020).

Proponent:- M/s Sanik Industries Private Limited.

Application along with filled up 'Form - I' and Prefeasibility report in the prescribed format was submitted to SEIAA, Bihar on 15<sup>th</sup> December, 2020 for obtaining Terms of Reference (ToR).

3. Sand Mining Project on Mahananda River at Mahananda River of Kishanganj (Unit - I) Balu Ghat, of District- Kishanganj, Area - 99.80 Ha (File No.: - SIA/1(a)/1265/2020, Online Proposal No.: - SIA/BR/MIN/54934/2020).  
Proponent:- Shri Raghav Chandak.

Application along with filled up 'Form - I' and Prefeasibility report in the prescribed format was submitted to SEIAA, Bihar on 15<sup>th</sup> December, 2020 for obtaining Terms of Reference (ToR).

**Sand Mining Project –Munger District**

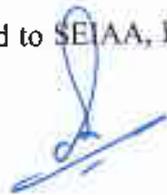
4. Sand Mining Project on Ganga River at Munger Ganga River (Block - B) Balu Ghat, of District- Munger, Area - 97.0 Ha (File No. - SIA/1(a)/1268/2020, Online Proposal No.:- SIA/BR/MIN/54805/2020).  
Proponent:- Shri Ajay Rathi.

Application along with filled up 'Form - I' and Prefeasibility report in the prescribed format was submitted to SEIAA, Bihar on 15<sup>th</sup> December, 2020 for obtaining Terms of Reference (ToR).

**Sand Mining Project – Gopalganj District**

5. Sand Mining Project on Gandak River at Gandak River of Gopalganj Balu Ghat, of District- Gopalganj, Area - 98.0 Ha (File No.: - SIA/1(a)/1264/2020, Online Proposal No.: - SIA/BR/MIN/54613/2020).  
Proponent:- Shri Kamakhya Mishra.

Application along with filled up 'Form - I' and Prefeasibility report in the prescribed format was submitted to SEIAA, Bihar on 26<sup>th</sup> November, 2020 for obtaining Terms of Reference (ToR).



### **Sand Mining Project – Nalanda District**

6. Sand Mining Project on Mohane River at Mohane River (1 to 13) Balu Ghat, of District- Nalanda, Area - 99.50 Ha (File No. - SIA/1(a)/1271/2020, Online Proposal No.:- SIA/BR/MIN/52099/2020).  
Proponent:- Shri Dalip Singh.

Application along with filled up 'Form - I' and Prefeasibility report in the prescribed format was submitted to SEIAA, Bihar on 22<sup>nd</sup> December, 2020 for obtaining Terms of Reference (ToR).

The above mentioned Sand Mining proposals (SL. No. 01 to 06) were considered by the Committee. The Committee found that the DSR prepared are not in accordance with the MoEF&CC guidelines and also does not contained exact coordinates of individual mining leases. Therefore, the Committee decided to defer consideration on these proposals till the Project Proponent submits revised DSR as per MoEF&CC guidelines.

### **Steel Project**

7. "Tejas Iron and Steels Private Limited" at Village:-Raipura, Tehsil:- Fatuha Industrial Area, District:- Patna, State:- Bihar, Total Production Capacity 3,00,000 TPA (File No. - SIA/3(a)/1272/2020), Online Proposal No.:-SIA/BR/IND/5920/2020).  
Proponent:- M/sTejas Iron and Steels Private Limited.  
Consultant:- PARAMARSH (Servicing Environment and Development).

Application along with filled up 'Form - I' and Prefeasibility report in the prescribed format was submitted to SEIAA, Bihar on 22<sup>nd</sup> December, 2020 for obtaining Terms of Reference (ToR).

The Proponent and the Consultant presented the proposal before the Committee. After discussion and due consideration the Committee decided to recommend the proposal for grant of Terms of Reference as Annexure – VII with additional specific condition.

- (i) Study cumulative air quality impact assessment using suitable model due to all existing and proposed similar type of projects and other air polluting industries located within 2 Km radius of instant project site and draw suitable mitigation measures.

- (ii) Soft copy of geo tagged photographs for each monitoring days of all the monitoring sites used for collection of various baseline data i.e. traffic survey, air, water, noise, flora, and fauna to prepare an EIA report shall be submitted separately in CD.

**Township and Area Development Project**

8. Indira Gandhi Institute of Medical Sciences (IGIMS) proposed expansion hospital, residential, hostel and up-gradation of RIO building at Village:- Sheikhpura, Raja Bazar, Tehsil:- Patna, District- Patna, State:- Bihar, Total Plot Area - 4,95,262.38 m<sup>2</sup>, Total Built-up Area - 3,07,764.93 m<sup>2</sup> (File No.: - SIA/8(b)/1270/2020, Online Proposal No.: - SIA/BR/MIS/59244/2020).

Proponent:- M/s Indira Gandhi Institute of Medical Sciences (IGIMS).

Application along with filled up 'Form - I', Form - I (A) and Conceptual Plan in the prescribed format was submitted to SEIAA, Bihar on 21<sup>st</sup> December, 2020 for obtaining Terms of Reference (ToR).

The Proponent and the Consultant presented the proposal before the Committee. The consultant informed the committee they have stated collection of baseline data since 15<sup>th</sup> October 2020. After discussion and due consideration, the Committee allowed to use the baseline data collected since 15<sup>th</sup> October 2020 for preparation of EIA report. The Committee recommend the proposal for grant of Terms of Reference as per Annexure – VIII along with additional specific condition mentioned below:-

- (i) Soft copy of geo tagged photographs for each monitoring days of all the monitoring sites used for collection of various baseline data i.e. traffic survey, air, water, noise, flora, and fauna to prepare an EIA report shall be submitted separately in CD.
- (ii) Submit the plantation scheme all around the project boundary.
- (iii) Cumulative traffic load study due to existing and proposed project activities including construction phases.
- (iv) Identify central storage facilities during operation of the proposed hospital.
- (v) Create Bio-Composting facilities inside the campus and show them on layout plan preferably in one corner of the plot.

- (vi) A certified copy of the latest Monitoring Report of the Regional Office of the Ministry of Environment and Forests as per circular dated 30<sup>th</sup> May, 2012 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, status of compliance of Consent to Operate for the ongoing existing operation of the project from SPCB shall be attached with the EIA-EMP report.

Sd/-  
(Prof. Shardendu)  
(Member, SEAC)

Sd/-  
(Dr. Rakesh Kumar Singh)  
(Member, SEAC)

Sd/-  
(Dr. AmarNath Verma)  
(Member, SEAC)

Sd/-  
(Vijay Kumar Sinha)  
(Member, SEAC)

Sd/-  
(Dr. Dilip Kumar Paul)  
(Member, SEAC)

Sd/-  
(Prof. Birendra Prasad)  
(Member, SEAC)

Sd/-  
(Dr. Sameer Kumar Sinha)  
(Member, SEAC)

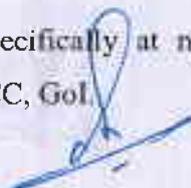
  
(S. Chandrasekar)  
Member Secretary, SEAC  
07/1/21

  
(Murarijee Mishra)  
Chairman, SEAC  
7/1/21

## Annexure -I (For Stone Mining Projects – EC)

### A. Specific Conditions

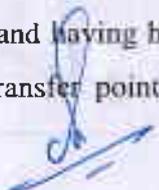
1. Prior to stone mining, the proponent shall get the studies on vibration due to blasting (Zone of influence) and best suitable blasting method specific to location project shall be done by a recognized Institute e.g. Indian Institute of Mines (ISM), Dhanbad or Central Mine and Fuel Research Institute, Dhanbad and submit report to SEIAA office before mining operation. If mining activities is carried out without the vibration studies, the Environmental Clearance shall be considered revoked automatically.
2. The project proponent before starting any activity /preparation of ground, on the leased area shall demarcate his lease hold by RCC pillar erected at the cost of lease holder after certification of the mining officer. On each pillar Geo-Coordinate shall be written with permanent paint mark as described in the mining plan.
3. Human habitation if any within the zone of influence (500 meter radius from the periphery) of the project site shall have to be rehabilitation and resettlement before commissioning mining activity on the proposed site. The cost of rehabilitation will be borne by the Project Proponent.
4. The project proponent shall adopt best mining practice. In the mining area, adequate numbers of check dams, retaining walls, garland drains and settling ponds should be provided to arrest the wash-off with rain water in catchment area.
5. The natural water bodies and streams which are flowing in and around the village should not be disturbed. The water table should be natured so as not to go down below the pre-mining period. Regular monitoring of water table in the open dug well located in the villages should be done to ascertain the impact mining over the ground water table.
6. The Proponent must ensure that specifically at night noise levels are kept within prescribed limits as fixed by MoEF&CC, Gol.



7. The Project proponent should not disturb the grazing ground for cattle.
8. Main Haulage road in the mine should be provided with permanent water sprinklers as well as other roads shall also be wetted with water tankers fitted with sprinklers.
9. The Project proponent shall ensure that the productivity of the agricultural crops is not adversely affected due to mining operations.
10. Transportation of the minerals by road passing through the village should be allowed only by the consent of the villages or else shall construct Bypass road at the expense of the proponent. Proponent shall bear the cost towards widening and strengthening the existing public road network in case the same is used for the project.
11. The Project Proponent shall comply with the provisions contained in this Ministry's OM vide F. No.-22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
12. The Environmental Clearance is coterminous with mining lease by the Department of Mines & Geology, Government of Bihar to Project Proponent and all other Statutory Conditions as imposed by various agencies / District Authorities.
13. No mining shall be undertaken in the forest area without obtaining requisite prior Forest Clearance. Minimum distance shall be maintained from Reserved / Protected Forest as stipulated in MoEF&CC, GoI, Guidelines.
14. Environmental Clearance is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the competent authority, as may be applicable to this project (in case any endangered fauna occurs / is found in the Project area). No damage is to be done to fauna if found in Mining Lease (ML) area (as mentioned in various schedules). In case fauna is found they should be given protection, collected alive with the help of the expert and

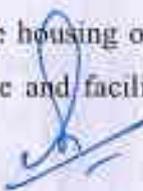
transferred them or handing over them to the concerned authorities. Conservation Plan, if applicable has to be adhered to.

15. The top soil, if any shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long. The topsoil shall be used for land reclamation and plantation.
16. There shall be no external dump(s). Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the SEIAA, Bihar / BSPCB, Patna on six monthly basis.
17. Catch drains and siltation ponds of appropriate size shall be constructed around the mine working, sub-grade and mineral dump(s) to prevent run off of water and flow of sediments directly into the agricultural fields and other water bodies. The water so collected should be utilized for watering the mine area, haul roads, green belt development etc. The drains shall be regularly desilted particularly after the monsoon and maintained properly.
18. Dimension of the retaining wall at the toe of the Over Burden(OB) benches within the mine to check run-off and the siltation shall be based on the rainfall data.
19. Wherever it is possible three tier plantation shall be undertaken to develop a greenbelt shall be developed all along the mine lease area. The Project proponent shall take up tree plantation area equivalent to 33 % of the leased area preferably along the periphery and in vacant space within the lease area. Fast growing and local species will be planted. Plantation should be completed within 3 Years tree density 2,500 tree/ha.
20. Toilet for BPL family must be provided and facilities of drinking water for villagers for its established of a tank for drinking water.
21. Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and transfer points. Extensive water sprinkling shall be



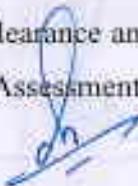
carried out on haul roads which should be made pucca with suitable water drainage arrangements. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.

22. The project proponent should implement suitable conservation measures to augment ground water resources in the area in consultation with the Water Resource Department, Government of Bihar / Central Ground Water Board.
23. Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded. No transportation of minerals outside the mine lease area shall be carried out after the sunset.
24. No blasting shall be carried out after the sunset. Blasting operation shall be permitted only in accordance with applicable rules and / or orders of various courts and / or Tribunals. Controlled blasting shall be practiced.
25. Drills shall either be operated with the dust extractors or equipped with water injection system.
26. Effective safeguard measures should be taken to control fugitive emissions so as to ensure that concentration of PM<sub>10</sub> and PM<sub>2.5</sub> levels are within the national Ambient Air Quality Standards.
27. Pre-placement medical examination and periodical medical examination of the workers engaged in the project shall be carried out by registered medical practitioner / specialized occupational health and records maintained.
28. Provision shall be made for the housing of construction labour within the camping site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets,



septic tanks, safe drinking water, medical health care, etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

29. Proper safety measures as per statutory requirement are to be implemented around the mined out Pit prior to closure of site.
30. The progressive mine reclamation shall be implemented.
31. The Project Proponent shall obtain Consent to Establish and Consent to Operate from the Bihar State Pollution Control Board, Patna and effectively implement all the conditions stipulated therein.
32. All along the boundary of mine lease 7.5 meter width shall be maintained as safety zone and developed as a green belt area.
33. Groundwater shall not be abstracted without prior permission of competent authority i.e., CGWB / SGWB, if applicable.
34. The Proponent in consultation with CGWB / SGWB will install Piezometer to monitor the fluctuation in ground water level due to mining and data shall be submitted CGWB / SGWB; BSPCB, Patna; SEIAA, Bihar and MoEF&CC, GoI.
35. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna, etc.
36. The Project Proponent should advertise in at least two local newspapers widely circulated in the region, one of which should in the vernacular language, informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Environment Impact Assessment Authority, Bihar, and the same may also



be sent to Bihar State Pollution Control Board (B.S.P.C.B.), Patna. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional Office of MoEF&CC at Ranchi.

**B. General conditions**

1. No change in mining technology and scope of working should be made without prior approval of the Statutory authorities / Department of Mines, Government of Bihar, SEIAA, Bihar; Bihar State Pollution Control Board, Patna during the EC period.
2. No change in the calendar plan including excavation, quantum of mineral and waste should be made.
3. The Project Proponent shall maintain register for production and dispatch and submit return to the Bihar State Pollution Control Board and SEIAA, Bihar.
4. The Project Proponent shall not carry out tree felling in leased out area without the permission of competent authority.
5. Measures should be taken for control of noise levels below prescribed norms in the work environment. Workers engaged in operations of Heavy Earth Moving Machinery (HEMM), etc. should be provided with ear plugs/muffs.
6. Industrial waste water (workshop and waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed. Oil and grease trap should be installed before discharge of workshop effluents.
7. Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken

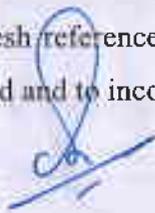
periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.

8. Dispensary facilities for First Aid shall be provided at site.
9. A separate "Environmental Management/Monitoring Cell" with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.
10. The SEIAA, Bihar directly shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer(s) by furnishing the requisite data / information / monitoring reports.
11. The Project Proponent shall submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as soft copy by e-mail) to the SEIAA, Bihar.
12. A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, ZilaParisad / 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 project proponent.
13. Environmental Clearance shall be valid for a maximum period of 5 years or till expiry of lease period whichever is earlier.
14. All specific and general conditions which are of public concern at large shall be permanently displayed at a prominent place for public along with address and contact details of authority where the violation of EC conditions can be reported.
15. All statutory clearances shall be obtained before start of mining operations.



**C. Other Conditions:-**

1. The responsibility for implementation of environmental safeguards rest fully with the project proponent.
2. The 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 till validity period of E.C.
3. Environmental Clearance shall be liable to be revoked if furnished information/provided description /Certificates/Affidavits/Undertaking etc. are found false/ concocted at any stage of its validity.
4. This Environmental Clearance is issued without affecting any court order / statutory instructions as well as relevant other laws enacted by MoEF&CC, GoI, New Delhi.
5. Mining and transportation of mined material from mine site to stock yard shall be done in the day time only to avoid noise pollution in the nearby human habitation area.
6. The Authority(SEIAA, Bihar) reserves the right to add any new condition(s) or modify the above conditions or to revoke the clearance if conditions stipulated above are not implemented to the satisfaction of Authority (SEIAA, Bihar) if that be so, legal action as per the provision of Environment (Protection) Act, 1986.
7. The Project Proponent shall not increase production rate and alter lease area during the validity of Environmental Clearance.
8. In case of any deviation or alteration in the project proposed from those submitted to SEIAA, Bihar for clearance, a fresh reference should be made to SEIAA to assess the adequacy of the conditions imposed and to incorporate any new condition(s), if required.



9. The above stipulations would be enforced among others under the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management, Handling and Tran boundary Movement) Rules, 2008 and the Public Liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/ High Court, Patna and any other Court of Law relating to the subject matter.
  
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.



## Annexure – II (Crescent Residential Building Project - EC)

### I. Statutory compliance:

1. The Project Proponent shall obtain all necessary clearance/ permission from all relevant agencies including town planning authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.
2. The Project Proponent will obtain CTE from the BSPCB before preparing site for construction; if applicable and CTO before giving occupancy.
3. The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of firefighting equipment, etc. as per National Building Code including protection measures from lightening, etc.
4. All directions of the Airport Authority, Director of Explosives and Fire Department, etc. shall be complied with.
5. The Project Proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the Bihar State Pollution Control Board.
6. The Project Proponent shall obtain the necessary permission for drawl of ground water / surface water required for the project from the competent authority.
7. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
8. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable, by Project Proponents from the respective competent authorities.
9. The provisions of the Solid Waste (Management) Rules, 2016, e-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed.
10. The Project Proponent shall follow the ECBC / ECBC-R prescribed by Bureau of Energy Efficiency, Ministry of Power, GoI. strictly.

11. The facilities provided for collection, segregation, handling, on site storage & processing of solid waste such as chute system for multi-storey buildings, wet & dry bins, collection center & mechanical composter, etc. shall be properly maintained. The collected solid waste shall be segregated at site. The recyclable solid waste shall be sold out to the authorized vendors / recyclers for which a written tie-up must be done with the authorized vendors / recyclers.
12. Hazardous waste / E-waste should be disposed off as per Rules applicable and with the necessary approval of the Bihar State Pollution Control Board.
13. Solar power plant or other solar energy related equipments shall be operated and maintained properly.
14. Provisions shall be made for the integration of solar water heating system.
15. Environmental Clearance conditions applicable for construction and operation phase which are in the interest of public at large must be displayed at prominent place which can be easily accessible to public along with address and contact number of authority to whom violation of EC conditions can be reported.

Project site shall be adequately barricaded before the start of construction activity by erecting suitable windscreen upto.  $1/3^{\text{rd}}$  of the building height or 10 meters height whichever is more to prevent dispersion of particulate matter from the construction site.

16. Free Parking facility for visitors shall be provided within the project premises to avoid congestions on public road.
17. Construction of appropriate civil structure and creation of other facilities shall be undertaken to provide benefit of the person suffering from disability in accordance with Hon'ble Supreme Court of India order dated 15<sup>th</sup> December 2017 in Writ Petition (Civil) 292 of 2006 with WP (Civil) 997 of 2013 (Disabled Rights Group & Anr. Vs Union of India & Ors).



## II. Air quality monitoring and preservation

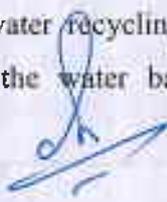
1. Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.
2. Project site shall be adequately barricaded before the start of construction activity by erecting suitable windscreen upto.  $1/3^{\text{rd}}$  of the building height or upto 10 meters height whichever is more to prevent dispersion of particulate matter from the construction site. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. Plastic / tarpaulin sheet covers shall be provided for vehicles bringing all loose construction material e.g sand, cement, murrum and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site.
3. A Management Plan shall be drawn up and implemented to contain the current exceedance in ambient air quality at the site.
4. Diesel power generating sets proposed as source of backup power 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. Diesel to be used should have low in sulphur content. The location of the DG sets may be decided with in consultation with State Pollution Control Board.
5. Dust, smoke& other air pollution prevention measures shall be provided for the building as well as the site. Plastic/tarpaulin sheet covers shall be provided for vehicles bringing all lose construction material e.g sand, cement, murrum and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site.
6. All loose construction material e.g sand, soil, cement, stored on site shall be covered adequately so as to prevent dust pollution.
7. Wet jet shall be provided for grinding and stone cutting.
8. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.



9. All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules, 2016.
10. The diesel generator sets to be used during construction phase shall be low sulphur diesel type and shall conform to Environmental (Protection), Act 1986 prescribed for air and noise emission standards.
11. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.
12. For indoor air quality the ventilation provisions as per National Building Code of India shall be implemented.

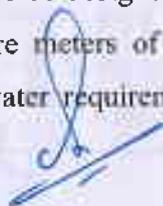
### **III. Water quality monitoring and preservation:**

1. The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wet land and water bodies. Check dams, bio-swales, landscape, and other sustainable urban drainage systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water.
2. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.
3. Total fresh water use shall not exceed the proposed requirement as provided in the project details.
4. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the Project



Proponent. The record shall be submitted to the, SEIAA/ Regional Office, MoEF&CC along with six monthly Monitoring reports.

5. A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.
6. At least 20% of the open spaces as required by the local building bye-laws shall be pervious. Use of Grass pavers, paver blocks with at least 50% opening, landscape, etc. would be considered as pervious surface.
7. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing, etc. and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning, etc. shall be done.
8. 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 building plan.
9. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.
10. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
11. The local bye-law provisions on rain water harvesting should be followed. If local byelaw provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. Rainwater harvesting recharge pits/storage tanks shall be provided for ground water recharging as per the CGWB norms.
12. A rain water harvesting plan needs to be designed where the recharge bores of minimum one recharge bore per 5,000 square meters of built up area and storage capacity of minimum one day of total fresh water requirement shall be provided. In areas where



ground water recharge is not feasible, the rain water should be harvested and stored for reuse. The ground water shall not be withdrawn without approval from the Competent Authority.

13. All recharge should be limited to shallow aquifer.
14. No ground water shall be used during construction phase of the project.
15. Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering.
16. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the Project Proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.
17. Sewage shall be treated in the STP with tertiary treatment. The treated effluent from STP shall be recycled/re-used for flushing, AC make up water and gardening. As proposed, no treated water shall be disposed in to municipal drain.
18. No sewage or untreated effluent water would be discharged through storm water drains.
19. Onsite sewage treatment of capacity of treating 100% waste water to be installed. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the Ministry before the project is commissioned for operation. Treated waste water shall be reused on site for landscape, flushing, cooling tower, and other end-uses. Excess treated water shall be discharged as per statutory norms notified by Ministry of Environment, Forest and Climate Change. Natural treatment systems shall be promoted.
20. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.
21. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health

and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.

22. Separate drainage system shall be developed for storm water so that end point discharge to nearest nallah / river is ensured to avoid water logging without any increase in the pollution load in receiving system.
23. Possibilities need to be explored to use STP waste water during construction phase. Fresh water shall be used only after exhausting the possibility of obtaining STP waste water located in municipal jurisdiction

#### **IV. Noise monitoring and prevention:**

1. Ambient noise levels shall conform to residential area silence zone both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.
2. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
3. Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.

#### **V. Energy Conservation measures:**

1. Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC.
2. Outdoor and common area lighting shall be LED.



3. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per Energy Conservation Building Code(ECBC) specifications.
4. Energy conservation measures like installation of CFLs/ LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning.
5. Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 1% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher.
6. Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.

#### **VI. Waste Management:**

1. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the Municipal Solid Waste (M.S.W.) generated from project shall be obtained.
2. 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).
3. All the top soil excavated during construction activities shall be stored for use in horticulture/landscape development within the project site.

4. Disposal of muck during construction phase shall not create any adverse effect on the neighboring 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.
5. Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials.
6. Organic waste compost/ Vermiculture pit/ Organic Waste Converter within the premises with a minimum capacity of 0.3 kg /person/day must be installed.
7. All non-biodegradable waste shall be handed over to authorized recyclers for which a written tie up must be done with the authorized recyclers.
8. Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the Bihar State Pollution Control Board.
9. Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, Compressed earth blocks, and other environment friendly materials.
10. Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27<sup>th</sup> August, 2003 and 25<sup>th</sup> January, 2016, Ready mixed concrete must be used in building construction.
11. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Rules, 2016.
12. 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.

## VII. Green Cover:

1. No tree should be felled unless exigencies demand. Wherever absolutely necessary, tree felling shall be done with prior permission from the concerned regulatory authority. Old trees should be retained based on girth and age regulations as may be prescribed by the Forest Department. Plantations to be ensured in the ratio of species cut to species planted.
2. 11,011 m<sup>2</sup> (51.20 % of the total plot area) shall be kept under green belt cover within the project site.
3. All the affords shall be made not to fell any tree however if any tree need to be removed necessarily a prior permission from concerned local Authority shall be obtained. In case of felling plantations to be insured in the ratio of species cut / removed to species planted. Area for green belt development shall be provided as per the details provided in the Project document.
4. Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.

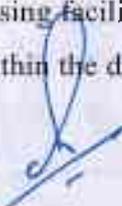
## VIII. Transport:

1. A comprehensive mobility plan, as per MoUD best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.
  - a. Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.
  - b. Traffic calming measures.
  - c. Proper design of entry and exit points.
  - d. Parking norms as per local regulation.
2. 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 be operated only during non-peak hours.

3. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

**IX. Human health issues:**

1. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.
2. For indoor air quality the ventilation provisions as per National Building Code of India.
3. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
4. 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, mobile STP, 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.
5. Occupational health surveillance of the workers shall be done on a regular basis.
6. A First Aid Room shall be provided in the project both during construction and operations of the project.
7. Ensure to create permanent housing facility to station at least two 3-4 fire tender vehicle with experienced man power within the developed premises to control fire in case of any eventualities.



**X. Corporate Environment Responsibility:**

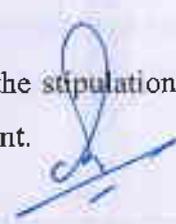
1. The Project Proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1<sup>st</sup> May 2018, as applicable, regarding Corporate Environment Responsibility.
2. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements / deviation / violation of the environmental / forest / wildlife norms /conditions. The company shall have defined system of reporting infringements/deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
3. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the SEIAA/ Ministry, Regional Office along with the Six Monthly Compliance Report.

**XI. Miscellaneous:**

1. The Project Proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded Environmental Clearance and the details of MoEF&CC/SEIAA, Bihar website where it is displayed.
2. The copies of the Environmental Clearance shall be submitted by the Project Proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant

offices of the Government who in turn has to display the same for 30 days from the date of receipt.

3. 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.
4. Rest room facilities shall be provided for service population.
5. Permission shall be made for food waste management facility / Bio-composting unit preferably in the campus.
6. The Project Proponent shall upload the status of compliance of the stipulated Environmental Clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
7. The Project Proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during their presentation to the State Expert Appraisal Committee.
8. The Project Proponent shall submit six-monthly reports on the status of the compliance of the stipulated Environmental Conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
9. The Project Proponent shall submit the environmental statement for each financial year in Form-V to the Bihar State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
10. The Project Proponent shall inform the SEIAA, Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
11. The project authorities must strictly adhere to the stipulations made by the Bihar State Pollution Control Board and the State Government.



12. No further expansion or modifications in the plant shall be carried out without prior approval of the SEIAA, Bihar.
13. Concealing factual data or submission of false/fabricated data may result in revocation of this Environmental Clearance and attract action under the provisions of Environment (Protection) Act, 1986.
14. The Environmental Clearance granted on submitted basis of the layout plan of the proposed construction of buildings/establishments of industries shall be provisional for a period of one year or till its approved by the competent authority whichever is earlier. Should there be any deviation / change in the layout plan (as contained in the project proposal on which Environmental Clearance is granted), the Project Proponent shall furnish a copy along with a request to SEIAA, Bihar to make necessary correction / revision in the Environmental Clearance accordingly. Any failure on part of the Project Proponent in doing so will be treated as a violation of Environmental Clearance condition.
15. The SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
16. The SEIAA reserves the right to stipulate additional conditions if found necessary which shall be implemented in a time bound manner.
17. The Regional Office of the MoEF&CC, GoI / SEIAA shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer(s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
18. Project Proponent shall erect a signboard on his project site and display information regarding name of the project, No. date and validity period of Environmental Clearance, and Environmental Clearance conditions which affect general public at large along with name of authority to which violation of Environmental Clearance conditions can be reported.

19. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
20. Environmental Clearance shall remain valid for a maximum period of 7 years or completion of project whichever is earlier.
21. 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.



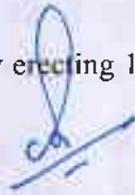
### **Annexure – III (500 Bedded Medical College and Hospital - EC)**

#### **I. Statutory compliance:**

1. The project proponent shall obtain all necessary clearance / permission from all relevant agencies including competent town planning authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.
2. The Project proponent will obtain CTE from the BSPCB before preparing site for construction if applicable and CTO before the operation phase.
3. The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of firefighting equipment etc. as per National Building Code including protection measures from lightening and other Natural calamities.
4. All directions of the Airport Authority, Director of Explosives and Fire Department etc. shall be complied with.
5. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
6. The project proponent shall obtain the necessary permission for drawl of ground water / surface water required for the project from the competent authority.
7. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project shall be obtained.
8. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable, by project proponents from the respective competent authorities.
9. The provisions of the Solid Waste (Management) Rules, 2016, e-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed. De-

centralized segregation facilities shall be created and composting facilities shall be developed.

10. The project proponent shall follow the ECBC / ECBC-R prescribed by Bureau of Energy Efficiency, Ministry of Power strictly.
11. The facilities provided for collection, segregation, handling, on site storage & processing of solid waste such as chute system for multi-storey buildings, wet & dry bins, collection centre & mechanical composter etc. shall be properly maintained. The collected solid waste shall be segregated at site. The recyclable solid waste shall be sold out to the authorized vendors for which a written tie-up must be done with the authorized recyclers.
12. Bio-Medical waste generated in the hospital shall be handled and managed as per the provisions of Bio-Medical waste (Management & Handling) Rules, 2016. There shall be a facility for central storage of such wastes within the premises which shall be safe and well ventilated. Radioactive waste management program shall be adopted and implemented at the site in order to mitigate the effects coming out due to use of atomic radiation in different equipment's.
13. Hazardous waste/E-waste should be disposed off as per Rules applicable and with the necessary approval of the Bihar State Pollution Control Board.
14. Solar power plant or other solar energy related equipment's shall be operated and maintained properly.
15. Provisions shall be made for the integration of solar water heating system.
16. Environmental Clearance conditions must be displayed at prominent place which can be easily visible to public mentioning the address and contact number of authority to whom violation of Environmental Clearance conditions can be reported.
17. Fencing of the project boundary by erecting 10 meter facade before start of construction activities.



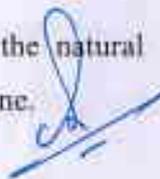
## II. Air quality monitoring and preservation

1. Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.
2. A management plan shall be drawn up and implemented to contain the current exceedance in ambient air quality at the site.
3. The project proponent shall install system to carryout Ambient Air Quality monitoring for common / criterion parameters relevant to the main pollutants released (e.g. PM<sub>10</sub> and PM<sub>2.5</sub>) covering upwind and downwind directions during the construction period.
4. Diesel power generating sets proposed as source of backup power 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. Diesel to be used should have lower in sulphur content. The location of the DG sets may be decided with in consultation with State Pollution Control Board.
5. Project site shall be adequately barricaded before the start of construction activity by erecting suitable windscreen upto 1/3<sup>rd</sup> of the building height or upto 10 meters height whichever is more to prevent dispersion of particulate matter from the construction site. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. Plastic / tarpaulin sheet covers shall be provided for vehicles bringing all loose construction material e.g sand, cement, murrum and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site.
6. All loose construction material e.g sand, soil, cement, stored on site shall be covered adequately so as to prevent dust pollution.
7. Wet jet shall be provided for grinding and stone cutting.
8. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.

9. All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules 2016.
10. The diesel generator sets to be used during construction phase shall be low sulphur diesel type and shall conform to Environmental (Protection) prescribed for air and noise emission standards.
11. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.
12. For indoor air quality the ventilation provisions as per National Building Code of India shall be followed.
13. Real time continuous ambient air quality monitoring system (CAAQMS) with display unit at main entrance shall be installed in consultation with the SPCB to ensure linking of data to SPCB server. CAAQMS shall be functional before the operational phase as per National Ambient Air Quality parameters.

### **III. Water quality monitoring and preservation:**

1. The natural drain 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 (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water.
2. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.



3. Total fresh water use shall not exceed the proposed requirement as provided in the project details.
4. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the, SEIAA/ Regional Office, MoEF&CC along with six monthly Monitoring reports.
5. A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.
6. At least 20% of the open spaces as required by the local building bye-laws shall be pervious. Use of Grass pavers, paver blocks with at least 50% opening, landscape etc. would be considered as pervious surface.
7. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc. and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.
8. 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 building plan.
9. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.
10. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
11. The local bye-laws provisions on rain water harvesting should be followed. If local bye-laws provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. Rain

water harvesting recharge pits/storage tanks shall be provided for ground water recharging as per the CGWB norms.

12. A rain water harvesting plan needs to be designed where the recharge bores of minimum one recharge bore per 5,000 square meters of built up area and storage capacity of minimum one day of total fresh water requirement shall be provided. In areas where ground water recharge is not feasible, the rain water should be harvested and stored for reuse. The ground water shall not be withdrawn without approval from the Competent Authority.
13. All recharge should be limited to shallow aquifer.
14. No ground water shall be used during construction phase of the project.
15. Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering.
16. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.
17. Sewage shall be treated in the STP with tertiary treatment. The treated effluent from STP shall be recycled/re-used for flushing, AC make up water and gardening. As proposed, no treated water shall be disposed in to municipal drain.
18. No sewage or untreated effluent water would be discharged through storm water drains.
19. Onsite sewage treatment of capacity of treating 100% waste water to be installed. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the SEIAA before the project is commissioned for operation. Treated waste water shall be reused on site for landscape, flushing, cooling tower, and other end-uses. Excess treated water shall be discharged as per statutory norms notified by Ministry of Environment, Forest and Climate Change. Natural treatment systems shall be promoted.

20. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.
21. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.
22. Separate drainage system shall be developed for storm water so that end point discharge to nearest nallah / river is ensured to avoid water logging without any increase in the pollution load in receiving system.
23. Possibilities needs to be explored to use STP waste water during construction phase. Fresh water shall be used only after exhausting the possibility of obtaining STP waste water located in municipal jurisdiction.

#### **IV. Noise monitoring and prevention:**

1. Ambient noise levels shall conform to residential area silence zone both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.
2. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
3. Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.



4. Real time Ambient Noise level monitoring system shall be installed having consultation with SPCB before the operation phase of the project. The measured noise level vale shall be displayed on the Main Entry Gate of the campus.

**V. Energy Conservation measures:**

1. Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC.
2. Outdoor and common area lighting shall be LED.
3. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.
4. Energy conservation measures like installation of CFLs / LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning.
5. Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 1% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher.
6. Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.



**VI. Waste Management:**

1. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project shall be obtained.
2. 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).
3. All the top soil excavated during construction activities shall be stored for use in horticulture/landscape development within the project site.
4. Disposal of muck during construction phase shall not create any adverse effect on the neighboring 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.
5. Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials.
6. Organic waste compost / Vermiculture pit / Organic Waste Converter within the premises with a minimum capacity of 0.3 kg /person/day must be installed.
7. All non-biodegradable waste shall be handed over to authorized recyclers for which a written tie up must be done with the authorized recyclers.
8. Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.
9. Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly



Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, Compressed earth blocks, and other environment friendly materials.

10. Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27<sup>th</sup> August, 2003 and 25<sup>th</sup> January, 2016, Ready mixed concrete must be used in building construction.
11. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Rules, 2016.
12. 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.

#### **VII. Green Cover:**

1. No tree can be felled unless exigencies demand. Wherever absolutely necessary, tree felling shall be done with prior permission from the concerned regulatory authority. Plantations to be ensured in the ratio of species cut to species planted.
2. 25,242.58 m<sup>2</sup> (42.68 % of the total plot area) shall be kept under green belt cover within the project site.
3. All the efforts shall be made not to fell any tree however if any tree need to be removed necessarily a prior permission from concerned local Authority shall be obtained. In case of felling plantations to be insured in the ratio of species cut / removed to species planted. Area for green belt development shall be provided as per the details provided in the Project document.
4. Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.



### **VIII. Transport:**

1. A comprehensive mobility plan, as per MoUD best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.
  - a. Hierarchy of roads with proper segregation of vehicular and pedestrian traffic
  - b. Traffic calming measures.
  - c. Proper design of entry and exit points.
  - d. Parking norms as per local regulation.
2. 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 be operated only during non-peak hours.
3. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D. / competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

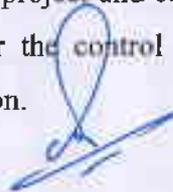
### **IX. Human health issues:**

1. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.

2. For indoor air quality the ventilation provisions as per National Building Code of India shall be followed.
3. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
4. 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, mobile STP, 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.
5. Occupational health surveillance of the workers shall be done on a regular basis.
6. A First Aid Room shall be provided in the project both during construction and operations of the project.

**X. Corporate Environment Responsibility:**

1. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1<sup>st</sup> May 2018, as applicable, regarding Corporate Environment Responsibility.
2. The Management shall have a well laid down environmental policy duly approved by the competent Authority. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements / deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
3. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.



4. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the management shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the SEIAA/ Ministry, Regional Office along with the Six Monthly Compliance Report.

**XI. Miscellaneous:**

1. The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEF&CC / SEIAA website where it is displayed.
2. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
3. 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.
4. Rest room facilities shall be provided for service population.
5. Permission shall be made for food waste management facility / Bio-composting unit preferably in the campus.
6. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
7. The project proponent shall abide by all the commitments and recommendations made in the EIA / EMP report, commitment made during their presentation to the State Expert Appraisal Committee.

8. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
9. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
10. The project proponent shall inform the SEIAA, Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production / operation of the project.
11. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
12. No further expansion or modifications in the plant shall be carried out without prior approval of the SEIAA.
13. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
14. The SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
15. The EC granted on submitted basis of the layout plan of the proposed construction of buildings / establishments of industries shall be provisional for a period of one year or till its approved by the competent authority whichever is earlier. Should there be any deviation / change in the layout plan (as contained in the project proposal on which EC is granted), the Project Proponent shall furnish a copy along with a request to SEIAA, Bihar to make necessary correction / revision in the EC accordingly. Any failure on part of the Project Proponent in doing so will be treated as a violation of EC condition.



16. The SEIAA reserves the right to stipulate additional conditions if found necessary. The Management in a time bound manner shall implement these conditions.
17. The Regional Office of the MoEF&CC, GoI / SEIAA shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.
18. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
19. Environmental clearance shall remain valid for a maximum period of 7 years or completion of project whichever is earlier.
20. Any appeal against this EC 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.

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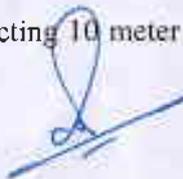
## Annexure – IV (Shrinivas Medical College and Hospital - EC)

### I. Statutory compliance:

1. The project proponent shall obtain all necessary clearance / permission from all relevant agencies including competent town planning authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.
2. The Project proponent will obtain CTE from the BSPCB before preparing site for construction if applicable and CTO before the operation phase.
3. The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of firefighting equipment etc. as per National Building Code including protection measures from lightening and other Natural calamities.
4. All directions of the Airport Authority, Director of Explosives and Fire Department etc. shall be complied with.
5. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
6. The project proponent shall obtain the necessary permission for drawl of ground water / surface water required for the project from the competent authority.
7. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project shall be obtained.
8. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable, by project proponents from the respective competent authorities.
9. The provisions of the Solid Waste (Management) Rules, 2016, e-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed. De-

centralized segregation facilities shall be created and composting facilities shall be developed.

10. The project proponent shall follow the ECBC / ECBC-R prescribed by Bureau of Energy Efficiency, Ministry of Power strictly.
11. The facilities provided for collection, segregation, handling, on site storage & processing of solid waste such as chute system for multi-storey buildings, wet & dry bins, collection centre & mechanical composter etc. shall be properly maintained. The collected solid waste shall be segregated at site. The recyclable solid waste shall be sold out to the authorized vendors for which a written tie-up must be done with the authorized recyclers.
12. Bio-Medical waste generated in the hospital shall be handled and managed as per the provisions of Bio-Medical waste (Management & Handling) Rules, 2016. There shall be a facility for central storage of such wastes within the premises which shall be safe and well ventilated. Radioactive waste management program shall be adopted and implemented at the site in order to mitigate the effects coming out due to use of atomic radiation in different equipment's.
13. Hazardous waste/E-waste should be disposed off as per Rules applicable and with the necessary approval of the Bihar State Pollution Control Board.
14. Solar power plant or other solar energy related equipment's shall be operated and maintained properly.
15. Provisions shall be made for the integration of solar water heating system.
16. Environmental Clearance conditions must be displayed at prominent place which can be easily visible to public mentioning the address and contact number of authority to whom violation of Environmental Clearance conditions can be reported.
17. Fencing of the project boundary by erecting 10 meter facade before start of construction activities.



## II. Air quality monitoring and preservation

1. Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.
2. A management plan shall be drawn up and implemented to contain the current exceedance in ambient air quality at the site.
3. The project proponent shall install system to carryout Ambient Air Quality monitoring for common / criterion parameters relevant to the main pollutants released (e.g. PM<sub>10</sub> and PM<sub>2.5</sub>) covering upwind and downwind directions during the construction period.
4. Diesel power generating sets proposed as source of backup power 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. Diesel to be used should have lower in sulphur content. The location of the DG sets may be decided with in consultation with State Pollution Control Board.
5. Project site shall be adequately barricaded before the start of construction activity by erecting suitable windscreen upto 1/3<sup>rd</sup> of the building height or upto 10 meters height whichever is more to prevent dispersion of particulate matter from the construction site. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. Plastic / tarpaulin sheet covers shall be provided for vehicles bringing all loose construction material e.g sand, cement, murrum and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site.
6. All loose construction material e.g sand, soil, cement, stored on site shall be covered adequately so as to prevent dust pollution.
7. Wet jet shall be provided for grinding and stone cutting.
8. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.

9. All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules 2016.
10. The diesel generator sets to be used during construction phase shall be low sulphur diesel type and shall conform to Environmental (Protection) prescribed for air and noise emission standards.
11. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.
12. For indoor air quality the ventilation provisions as per National Building Code of India shall be followed.
13. Real time continuous ambient air quality monitoring system (CAAQMS) with display unit at main entrance shall be installed in consultation with the SPCB to ensure linking of data to SPCB server. CAAQMS shall be functional before the operational phase as per National Ambient Air Quality parameters.

### **III. Water quality monitoring and preservation:**

1. The natural drain 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 (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water.
2. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.



3. Total fresh water use shall not exceed the proposed requirement as provided in the project details.
4. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the, SEIAA/ Regional Office, MoEF&CC along with six monthly Monitoring reports.
5. A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.
6. At least 20% of the open spaces as required by the local building bye-laws shall be pervious. Use of Grass pavers, paver blocks with at least 50% opening, landscape etc. would be considered as pervious surface.
7. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc. and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.
8. 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 building plan.
9. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.
10. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
11. The local bye-laws provisions on rain water harvesting should be followed. If local bye-laws provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. Rain

water harvesting recharge pits/storage tanks shall be provided for ground water recharging as per the CGWB norms.

12. A rain water harvesting plan needs to be designed where the recharge bores of minimum one recharge bore per 5,000 square meters of built up area and storage capacity of minimum one day of total fresh water requirement shall be provided. In areas where ground water recharge is not feasible, the rain water should be harvested and stored for reuse. The ground water shall not be withdrawn without approval from the Competent Authority.
13. All recharge should be limited to shallow aquifer.
14. No ground water shall be used during construction phase of the project.
15. Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering.
16. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.
17. Sewage shall be treated in the STP with tertiary treatment. The treated effluent from STP shall be recycled/re-used for flushing, AC make up water and gardening. As proposed, no treated water shall be disposed in to municipal drain.
18. No sewage or untreated effluent water would be discharged through storm water drains.
19. Onsite sewage treatment of capacity of treating 100% waste water to be installed. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the SEIAA before the project is commissioned for operation. Treated waste water shall be reused on site for landscape, flushing, cooling tower, and other end-uses. Excess treated water shall be discharged as per statutory norms notified by Ministry of Environment, Forest and Climate Change. Natural treatment systems shall be promoted.

20. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.
21. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.
22. Separate drainage system shall be developed for storm water so that end point discharge to nearest nallah / river is ensured to avoid water logging without any increase in the pollution load in receiving system.
23. Possibilities need to be explored to use STP waste water during construction phase. Fresh water shall be used only after exhausting the possibility of obtaining STP waste water located in municipal jurisdiction.

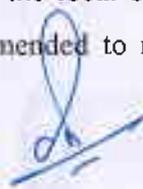
#### **IV. Noise monitoring and prevention:**

1. Ambient noise levels shall conform to residential area silence zone both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.
2. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
3. Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.

4. Real time Ambient Noise level monitoring system shall be installed having consultation with SPCB before the operation phase of the project. The measured noise level vale shall be displayed on the Main Entry Gate of the campus.

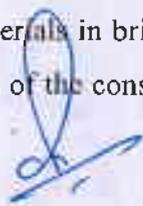
**V. Energy Conservation measures:**

1. Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC.
2. Outdoor and common area lighting shall be LED.
3. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.
4. Energy conservation measures like installation of CFLs / LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning.
5. Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 1% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher.
6. Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.



**VI. Waste Management:**

1. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project shall be obtained.
2. 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).
3. All the top soil excavated during construction activities shall be stored for use in horticulture/landscape development within the project site.
4. Disposal of muck during construction phase shall not create any adverse effect on the neighboring 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.
5. Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials.
6. Organic waste compost / Vermiculture pit / Organic Waste Converter within the premises with a minimum capacity of 0.3 kg /person/day must be installed.
7. All non-biodegradable waste shall be handed over to authorized recyclers for which a written tie up must be done with the authorized recyclers.
8. Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.
9. Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly



Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, Compressed earth blocks, and other environment friendly materials.

10. Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27<sup>th</sup> August, 2003 and 25<sup>th</sup> January, 2016, Ready mixed concrete must be used in building construction.
11. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Rules, 2016.
12. 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.

#### **VII. Green Cover:**

1. No tree can be felled unless exigencies demand. Wherever absolutely necessary, tree felling shall be done with prior permission from the concerned regulatory authority. Plantations to be ensured in the ratio of species cut to species planted.
2. 15,426 m<sup>2</sup> shall be kept under green belt cover within the project site.
3. All the efforts shall be made not to fell any tree however if any tree need to be removed necessarily a prior permission from concerned local Authority shall be obtained. In case of felling plantations to be insured in the ratio of species cut / removed to species planted. Area for green belt development shall be provided as per the details provided in the Project document.
4. Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.

#### **VIII. Transport:**

1. A comprehensive mobility plan, as per MoUD best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road



should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.

- a. Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.
  - b. Traffic calming measures.
  - c. Proper design of entry and exit points.
  - d. Parking norms as per local regulation.
2. 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 be operated only during non-peak hours.
  3. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D. / competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

#### **IX. Human health issues:**

1. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.
2. For indoor air quality the ventilation provisions as per National Building Code of India shall be followed.
3. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

4. 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, mobile STP, 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.
5. Occupational health surveillance of the workers shall be done on a regular basis.
6. A First Aid Room shall be provided in the project both during construction and operations of the project.

**X. Corporate Environment Responsibility:**

1. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1<sup>st</sup> May 2018, as applicable, regarding Corporate Environment Responsibility.
2. The Management shall have a well laid down environmental policy duly approved by the competent Authority. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements / deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
3. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.
4. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the management shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose.

Year wise progress of implementation of action plan shall be reported to the SEIAA/ Ministry, Regional Office along with the Six Monthly Compliance Report.

**XI. Miscellaneous:**

1. The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEF&CC / SEIAA website where it is displayed.
2. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
3. 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.
4. Rest room facilities shall be provided for service population.
5. Permission shall be made for food waste management facility / Bio-composting unit preferably in the campus.
6. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
7. The project proponent shall abide by all the commitments and recommendations made in the EIA / EMP report, commitment made during their presentation to the State Expert Appraisal Committee.
8. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.



9. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
10. The project proponent shall inform the SEIAA, Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production / operation of the project.
11. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
12. No further expansion or modifications in the plant shall be carried out without prior approval of the SEIAA.
13. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
14. The SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
15. The EC granted on submitted basis of the layout plan of the proposed construction of buildings / establishments of industries shall be provisional for a period of one year or till its approved by the competent authority whichever is earlier. Should there be any deviation / change in the layout plan (as contained in the project proposal on which EC is granted), the Project Proponent shall furnish a copy along with a request to SEIAA, Bihar to make necessary correction / revision in the EC accordingly. Any failure on part of the Project Proponent in doing so will be treated as a violation of EC condition.
16. The SEIAA reserves the right to stipulate additional conditions if found necessary. The Management in a time bound manner shall implement these conditions.
17. The Regional Office of the MoEF&CC,  / SEIAA shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer

(s) of the Regional Office by furnishing the requisite data / information / monitoring reports.

18. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
19. Environmental clearance shall remain valid for a maximum period of 7 years or completion of project whichever is earlier.
20. Any appeal against this EC 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.



## Annexure – V (“H<sub>2</sub>O City” - EC)

### I. Statutory compliance:

1. The Project Proponent shall obtain all necessary clearance/ permission from all relevant agencies including town planning authority before commencement of work. All the construction shall be done in accordance with the local building bylaws.
2. The Project Proponent will obtain CTE from the BSPCB before preparing site for construction; if applicable and CTO before giving occupancy.
3. The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of firefighting equipment, etc. as per National Building Code including protection measures from lightening, etc.
4. All directions of the Airport Authority, Director of Explosives and Fire Department, etc. shall be complied with.
5. The Project Proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the Bihar State Pollution Control Board.
6. The Project Proponent shall obtain the necessary permission for drawl of ground water / surface water required for the project from the competent authority.
7. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
8. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable, by Project Proponents from the respective competent authorities.
9. The provisions of the Solid Waste (Management) Rules, 2016, e-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed.
10. The Project Proponent shall follow the ECBC / ECBC-R prescribed by Bureau of Energy Efficiency, Ministry of Power, GoI. strictly.

11. The facilities provided for collection, segregation, handling, on site storage & processing of solid waste such as chute system for multi-storey buildings, wet & dry bins, collection center & mechanical composter, etc. shall be properly maintained. The collected solid waste shall be segregated at site. The recyclable solid waste shall be sold out to the authorized vendors / recyclers for which a written tie-up must be done with the authorized vendors / recyclers.
12. Hazardous waste / E-waste should be disposed off as per Rules applicable and with the necessary approval of the Bihar State Pollution Control Board.
13. Solar power plant or other solar energy related equipments shall be operated and maintained properly.
14. Provisions shall be made for the integration of solar water heating system.
15. Environmental Clearance conditions applicable for construction and operation phase which are in the interest of public at large must be displayed at prominent place which can be easily accessible to public along with address and contact number of authority to whom violation of EC conditions can be reported.

Project site shall be adequately barricaded before the start of construction activity by erecting suitable windscreen upto.  $1/3^{\text{rd}}$  of the building height or 10 meters height whichever is more to prevent dispersion of particulate matter from the construction site.

16. Free Parking facility for visitors shall be provided within the project premises to avoid congestions on public road.
17. Construction of appropriate civil structure and creation of other facilities shall be undertaken to provide benefit of the person suffering from disability in accordance with Hon'ble Supreme Court of India order dated 15<sup>th</sup> December 2017 in Writ Petition (Civil) 292 of 2006 with WP (Civil) 997 of 2013 (Disabled Rights Group & Anr. Vs Union of India & Ors).

## II. Air quality monitoring and preservation

1. Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.
2. Project site shall be adequately barricaded before the start of construction activity by erecting suitable windscreen upto  $1/3^{\text{rd}}$  of the building height or upto 10 meters height whichever is more to prevent dispersion of particulate matter from the construction site. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. Plastic / tarpaulin sheet covers shall be provided for vehicles bringing all loose construction material e.g sand, cement, murrum and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site.
3. A Management Plan shall be drawn up and implemented to contain the current exceedance in ambient air quality at the site.
4. Diesel power generating sets proposed as source of backup power 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. Diesel to be used should have low sulphur content. The location of the DG sets may be decided with in consultation with State Pollution Control Board.
5. Dust, smoke& other air pollution prevention measures shall be provided for the building as well as the site. Plastic/tarpaulin sheet covers shall be provided for vehicles bringing all loose construction material e.g sand, cement, murrum and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site.
6. All loose construction material e.g sand, soil, cement, stored on site shall be covered adequately so as to prevent dust pollution.
7. Wet jet shall be provided for grinding and stone cutting.
8. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.

9. All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules, 2016.
10. The diesel generator sets to be used during construction phase shall be low sulphur diesel type and shall conform to Environmental (Protection), Act 1986 prescribed for air and noise emission standards.
11. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.
12. For indoor air quality the ventilation provisions as per National Building Code of India shall be implemented.

### **III. Water quality monitoring and preservation:**

1. The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wet land and water bodies. Check dams, bio-swales, landscape, and other sustainable urban drainage systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water.
2. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.
3. Total fresh water use shall not exceed the proposed requirement as provided in the project details.
4. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the Project

Proponent. The record shall be submitted to the, SEIAA/ Regional Office, MoEF&CC along with six monthly Monitoring reports.

5. A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.
6. At least 20% of the open spaces as required by the local building bye-laws shall be pervious. Use of Grass pavers, paver blocks with at least 50% opening, landscape, etc. would be considered as pervious surface.
7. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing, etc. and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning, etc. shall be done.
8. 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 building plan.
9. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.
10. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
11. The local bye-law provisions on rain water harvesting should be followed. If local byelaw provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. Rainwater harvesting recharge pits/storage tanks shall be provided for ground water recharging as per the CGWB norms.
12. A rain water harvesting plan needs to be designed where the recharge bores of minimum one recharge bore per 5,000 square meters of built up area and storage capacity of minimum one day of total fresh water requirement shall be provided. In areas where



ground water recharge is not feasible, the rain water should be harvested and stored for reuse. The ground water shall not be withdrawn without approval from the Competent Authority.

13. All recharge should be limited to shallow aquifer.
14. No ground water shall be used during construction phase of the project.
15. Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering.
16. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the Project Proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.
17. Sewage shall be treated in the STP with tertiary treatment. The treated effluent from STP shall be recycled/re-used for flushing, AC make up water and gardening. As proposed, no treated water shall be disposed in to municipal drain.
18. No sewage or untreated effluent water would be discharged through storm water drains.
19. Onsite sewage treatment of capacity of treating 100% waste water to be installed. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the Ministry before the project is commissioned for operation. Treated waste water shall be reused on site for landscape, flushing, cooling tower, and other end-uses. Excess treated water shall be discharged as per statutory norms notified by Ministry of Environment, Forest and Climate Change. Natural treatment systems shall be promoted.
20. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.
21. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health

and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.

22. Separate drainage system shall be developed for storm water so that end point discharge to nearest nallah / river is ensured to avoid water logging without any increase in the pollution load in receiving system.
23. Possibilities need to be explored to use STP waste water during construction phase. Fresh water shall be used only after exhausting the possibility of obtaining STP waste water located in municipal jurisdiction

#### **IV. Noise monitoring and prevention:**

1. Ambient noise levels shall conform to residential area silence zone both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.
2. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
3. Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.

#### **V. Energy Conservation measures:**

1. Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC.
2. Outdoor and common area lighting shall be LED.

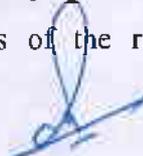


3. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per Energy Conservation Building Code(ECBC) specifications.
4. Energy conservation measures like installation of CFLs/ LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning.
5. Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 1% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher.
6. Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.

#### **VI. Waste Management:**

1. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the Municipal Solid Waste (M.S.W.) generated from project shall be obtained.
2. 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).
3. All the top soil excavated during construction activities shall be stored for use in horticulture/landscape development within the project site.

4. Disposal of muck during construction phase shall not create any adverse effect on the neighboring 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.
5. Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials.
6. Organic waste compost/ Vermiculture pit/ Organic Waste Converter within the premises with a minimum capacity of 0.3 kg /person/day must be installed.
7. All non-biodegradable waste shall be handed over to authorized recyclers for which a written tie up must be done with the authorized recyclers.
8. Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the Bihar State Pollution Control Board.
9. Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, Compressed earth blocks, and other environment friendly materials.
10. Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27<sup>th</sup> August, 2003 and 25<sup>th</sup> January, 2016, Ready mixed concrete must be used in building construction.
11. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Rules, 2016.
12. 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.

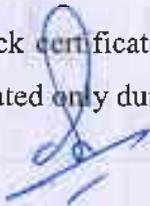


## VII. Green Cover:

1. No tree should be felled unless exigencies demand. Wherever absolutely necessary, tree felling shall be done with prior permission from the concerned regulatory authority. Old trees should be retained based on girth and age regulations as may be prescribed by the Forest Department. Plantations to be ensured in the ratio of species cut to species planted.
2. 2,064.93 m<sup>2</sup> (20.21 % of the total plot area) shall be kept under green belt cover within the project site.
3. All the affords shall be made not to fell any tree however if any tree need to be removed necessarily a prior permission from concerned local Authority shall be obtained. In case of felling plantations to be insured in the ratio of species cut / removed to species planted. Area for green belt development shall be provided as per the details provided in the Project document.
4. Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.

## VIII. Transport:

1. A comprehensive mobility plan, as per MoUD best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.
  - a. Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.
  - b. Traffic calming measures.
  - c. Proper design of entry and exit points.
  - d. Parking norms as per local regulation.
2. 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 be operated only during non-peak hours.



3. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

**IX. Human health issues:**

1. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.
2. For indoor air quality the ventilation provisions as per National Building Code of India.
3. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
4. 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, mobile STP, 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.
5. Occupational health surveillance of the workers shall be done on a regular basis.
6. A First Aid Room shall be provided in the project both during construction and operations of the project.
7. Ensure to create permanent housing facility to station at least two 3-4 fire tender vehicle with experienced man power within the developed premises to control fire in case of any eventualities.

**X. Corporate Environment Responsibility:**

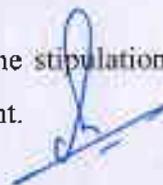
1. The Project Proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1<sup>st</sup> May 2018, as applicable, regarding Corporate Environment Responsibility.
2. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements / deviation / violation of the environmental / forest / wildlife norms /conditions. The company shall have defined system of reporting infringements/deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
3. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the SEIAA/ Ministry, Regional Office along with the Six Monthly Compliance Report.

**XI. Miscellaneous:**

1. The Project Proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded Environmental Clearance and the details of MoEF&CC/SEIAA, Bihar website where it is displayed.
2. The copies of the Environmental Clearance shall be submitted by the Project Proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant

offices of the Government who in turn has to display the same for 30 days from the date of receipt.

3. 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.
4. Rest room facilities shall be provided for service population.
5. Permission shall be made for food waste management facility / Bio-composting unit preferably in the campus.
6. The Project Proponent shall upload the status of compliance of the stipulated Environmental Clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
7. The Project Proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during their presentation to the State Expert Appraisal Committee.
8. The Project Proponent shall submit six-monthly reports on the status of the compliance of the stipulated Environmental Conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
9. The Project Proponent shall submit the environmental statement for each financial year in Form-V to the Bihar State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
10. The Project Proponent shall inform the SEIAA, Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
11. The project authorities must strictly adhere to the stipulations made by the Bihar State Pollution Control Board and the State Government.



12. No further expansion or modifications in the plant shall be carried out without prior approval of the SEIAA, Bihar.
13. Concealing factual data or submission of false/fabricated data may result in revocation of this Environmental Clearance and attract action under the provisions of Environment (Protection) Act, 1986.
14. The Environmental Clearance granted on submitted basis of the layout plan of the proposed construction of buildings/establishments of industries shall be provisional for a period of one year or till its approved by the competent authority whichever is earlier. Should there be any deviation / change in the layout plan (as contained in the project proposal on which Environmental Clearance is granted), the Project Proponent shall furnish a copy along with a request to SEIAA, Bihar to make necessary correction / revision in the Environmental Clearance accordingly. Any failure on part of the Project Proponent in doing so will be treated as a violation of Environmental Clearance condition.
15. The SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
16. The SEIAA reserves the right to stipulate additional conditions if found necessary which shall be implemented in a time bound manner.
17. The Regional Office of the MoEF&CC, GoI / SEIAA shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer(s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
18. Project Proponent shall erect a signboard on his project site and display information regarding name of the project, No. date and validity period of Environmental Clearance, and Environmental Clearance conditions which affect general public at large along with name of authority to which violation of Environmental Clearance conditions can be reported.

19. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
20. Environmental Clearance shall remain valid for a maximum period of 7 years or completion of project whichever is earlier.
21. 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.

### Annexure – VI (Sugar Mill & Distillery – EC)

1. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the water (prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board / Committee.
2. The Project Proponent shall obtain authorized under the Hazardous and other waste Management Rules, 2016 as amended from time to time.
3. Adhere to 'Zero Liquid Discharge', Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.
4. Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.
5. To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and / or the NAAQS. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB / SPCB guidelines.
6. Total fresh water requirement shall not exceed 120 KLD, proposed to be met from Ground water. Possibilities needs to be explored to meet the requirement of fresh water from surface water available in the vicinity of plant premises with due permission from competent authority. Ground water shall be withdrawn only after exhausting possibilities of using surface water and that also after obtaining prior permission from the concerned regulatory authority (Central Ground Water Authority) in this regard.
7. Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm and the solvent transfer through pumps.
8. Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.
9. The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to

time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.

10. The company shall undertake waste minimization measures as below:-
  - (i) Metering and control of quantities of active ingredients to minimize waste.
  - (ii) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
  - (iii) Use of automated filling to minimize spillage.
  - (iv) Use of Close Feed system into batch reactors.
  - (v) Venting equipment through vapour recovery system.
  - (vi) Use of high-pressure hoses for equipment clearing to reduce wastewater generation.
11. Green Belt shall be developed in an area equal to 14.95 Acres of the plant area with a native tree species in accordance with CPCB / SEIAA, Bihar guidelines. The greenbelt shall inter alia cover the entire periphery of the plant.
12. All the commitments made regarding issues raised during the public consultation shall be satisfactorily implemented.
13. The Project Proponent shall comply with the provisions contained in Ministry of Environment, Forest & Climate Change OM Vide F. No. 22-65/2017-IA.III dated 1<sup>st</sup> May 2018, as applicable, regarding Corporate Environment Responsibilities.
14. For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.
15. The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.
16. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

17. There shall be adequate space inside the plant premises earmarked for parking of vehicles for raw materials and finished products, and no parking to be allowed outside on public places.
18. Storage of raw materials shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions.
19. Online Continuous Effluent/Emission Monitoring System (OCEMS) for 24x7 monitoring of stack emissions and effluent discharge shall be installed for measurement of prescribed parameters under EP Rules, 1986. The data of OCEMS shall be linked to the CPCB and SPCB server. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel / drain carrying effluent within the premises. The data shall also be displayed on electronic display monitor on continuous basis at a suitable location which can be accessible to common public.
20. CO<sub>2</sub> generated from the process shall be bottled / made solid ice and sold to authorized vendors.
21. The Project authorities must strictly adhere to the stipulations made by the State Pollution Control Board (SPCB), State Government.
22. No further expansion or modification in their plant shall be carried out without prior approval of the SEIAA, Bihar Ministry of Environment, Forest and Climate Change (MoEF&CC). In case of deviations or alterations in the project proposal from those submitted to Ministry of Environment, Forest & Climate Change for Clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional Environmental Protection Measures required, if any.
23. The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1989 viz 75 dBA (daytime) and 70 dBA (night time).

24. The company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial operations within the plant.
25. Training shall be imparted to all employees on safety and health aspects of chemicals handling.
26. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis.
27. The company shall comply with all the Environmental Protection Measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA / EMP in respect of Environment Management, Risk Mitigation Measures and Public Consultation shall be implemented.
28. The Project Proponent shall comply with the provisions contained in Ministry of Environment, Forest & Climate Change OM Vide F. No. 22-65/2017-IA.III dated 1<sup>st</sup> May 2018, as applicable, regarding Corporate Environment Responsibilities. The company shall undertake all measures for improving socio-economic conditions of the surrounding area CSR activities shall be undertaken by involving local villagers, administrations and other stake holders. Also eco-developmental measures shall be undertaken for overall improvement of the environment.
29. The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the SEIAA, Bihar as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for Environment Management / Pollution Control measures shall not be diverted for any other purpose.
30. The copy of the Environmental Clearance shall be submitted by the Project Proponents to the Heads of local bodies, panchayats and Zila Parishad / Municipal Bodies and the local NGO, if any, from whom suggestion / representations, if any, were received while processing the proposal and in addition to the relevant offices of the Government who in turns has to display the same for 30 days from the date of receipt.

31. The Project Proponent shall submit six-monthly reports on the status of the compliance of the stipulation Environmental Clearance conditions including monitoring data (both in hard copies as well as by e-mail) to SEIAA, Bihar and the respective Regional Office of MoEF&CC, the respective Zonal office of CPCB and SPCB. A copy of Environmental Clearance and six-monthly compliance status report shall be posted on the company and on the website of the Ministry of Environment, Forest and Climate Change at Environment Clearance portal.
32. The Project Proponent shall submit the environmental statement for each financial year in Form – V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company along with the status of compliance of Environmental Clearance conditions and shall also be sent to SEIAA, Bihar and the respective Regional Office of MoEF&CC by e-mail.
33. The Project Proponent shall make public the Environmental Clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
34. EC conditions which are in the interest of public at large must be permanently displayed throughout the project life at prominent place which can be easily visible to public mentioning the address and contact number of authority to whom violation of EC conditions can be reported.
35. The SEIAA, Bihar reserves the right to stipulate additional conditions if found necessary. The company in a time bound manner shall implement these conditions.
36. The SEIAA, Bihar may revoke or suspend the Clearance, if implementation of any of the above conditions is not satisfactory.
37. The Regional Office of this Ministry / SEIAA, Bihar shall monitor compliance of the stipulated conditions. The Project authorities should extend full cooperation to the officer

(s) of the Regional Office by furnishing the requisite data / information / monitoring reports.

38. 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, annual production capacity and other relevant information such as name and contact details of authority to report any violation for the general public.
39. The EC granted on submitted basis of the layout plan of the proposed construction of buildings / establishments of industries shall be provisional for a period of one year or till its approved by the competent authority whichever is earlier. Should there be any deviation / change in the layout plan (as contained in the project proposal on which EC is granted), the Project Proponent shall furnish a copy along with a request to SEIAA, Bihar to make necessary correction / revision in the EC accordingly. Any failure on part of the Project Proponent in doing so will be treated as a violation of EC condition
40. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
41. 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.
42. 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

## Annexure –VII (Tejas Iron & Steels Pvt. Ltd. – ToR)

### 1. Executive Summary.

### 2. Introduction.

- i. Details of the EIA Consultant including NABET accreditation.
- ii. Information about the project proponent.
- iii. Importance and benefits of the project.

### 3. Project Description.

- i. Cost of project and time of completion.
- ii. Products with capacities for the proposed project.
- iii. Details of existing products with capacities and whether adequate land is available for expansion, reference of earlier EC if any.
- iv. List of raw materials required and their source along with mode of transportation.
- v. Other chemicals and materials required with quantities and storage capacities.
- vi. Details of Emission, effluents, solid waste, hazardous waste generation and their management.
- vii. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contractual).
- viii. Process description along with major equipments and machineries, process flow sheet (quantative) from raw material to products to be provided.
- ix. Production of a report / certificate from concerned authority enforcing Factory Act regarding suitability of existing unit / plant for proposed expansion mentioning whether existing plant is a satisfactory compliant of Factory Act.
- x. The proposal of the expansion of capacity to include thorough renovation / up-gradation of all existing infrastructure of the unit consisting development / construction of First aid center / dispensary room for workers, development of facilities (toilets / urinals / washing rooms, canteen etc.)
- xi. Hazard identification and details of proposed safety systems.
- xii. Submit a copy of application submitted to competent authority / agency with regard to supply of PNG gas pipe line.

xiii. Expansion/modernization proposals:

- a) Copy of all the Environmental Clearance(s) including Amendments there to obtained for the project from MoEF&CC/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Regional Office of the Ministry of Environment and Forests as per circular dated 30th May, 2012 on the status of compliance of conditions stipulated in all the existing Environmental Clearances including Amendments shall be provided. In addition, status of compliance of Consent to Operate for the ongoing existing operation of the project from SPCB shall be attached with the EIA-EMP report.
- b) In case the existing project has not obtained Environmental Clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification, 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.

**4. Site Details.**

- i. Location of the project site with description of surround covering village, Taluka/Tehsil, District and State, Justification for selecting the site, whether alternative sites were considered.
- ii. A toposheet of the study area of radius of 10 km and site location on 1:50,000/1:25,000 scale on an A<sub>3</sub>/A<sub>2</sub> sheet. (including all eco-sensitive areas and environmentally sensitive places).
- iii. Details w.r.t. option analysis for selection of site.
- iv. Co-ordinates (lat-long) of all four corners of the site.
- v. Google map-Earth downloaded of the project site.
- vi. Layout maps indicating existing unit as well as proposed unit indicating storage area, plant area, greenbelt area, utilities etc. If located within an Industrial

- area/Estate/Complex, layout of Industrial Area indicating location of unit within the Industrial area/Estate.
- vii. Photographs of the proposed and existing (if applicable) plant site. If existing, show photographs of plantation/greenbelt, in particular.
  - viii. Land use break-up of total land of the project site (identified and acquired), government/private - agricultural, forest, wasteland, water bodies, settlements, etc shall be included. (not required for industrial area).
  - ix. A list of major industries with name and type within study area (10km radius) shall be incorporated. Land use details of the study area.
  - x. Geological features and Geo-hydrological status of the study area shall be included.
  - xi. Details of Drainage of the project upto 5km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided. (mega green field projects).
  - xii. Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land.
  - xiii. R&R details in respect of land in line with state Government policy.

## 5. Environmental Status

- i. Determination of atmospheric inversion level at the project site and site-specific micro meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.
- ii. Post monsoon AAQ data for 4 Week at 8 locations for  $PM_{10}$ ,  $PM_{2.5}$ ,  $SO_2$ ,  $NO_x$ , CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based as per CPCB guidelines and take into account the predominant wind direction, population zone and sensitive receptors.
- iii. The post monsoon collected AAQ data shall be compared with AAQ data collected by the same consultant for any nearby industry in last one year.

- iv. Surface water quality of nearby River (100 meter upstream and downstream of discharge point) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.
- v. Soft copy of geo-tagged site photographs of each locations used of collection of data for various environmental parameters for each monitoring dates shall be submitted separately in CD.
- vi. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC, if yes give details.
- vii. Ground water monitoring at minimum at 8 locations shall be included.
- viii. Noise levels monitoring at 8 locations within the study area.
- ix. Soil Characteristic as per CPCB guidelines.
- x. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
- xi. A detailed report shall be submitted using suitable model used to predict increase in air pollutants due to increased traffic load due to proposed project.
- xii. Detailed description of flora and fauna (terrestrial, avifauna and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule-I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.
- xiii. Socio-economic status of the study area.

#### **6. Impact and Environment Management Plan.**

- i. Assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be assessed. Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.

- ii. Water Quality modelling - in case of discharge in water body.
- iii. Ground water classification as per the Central Ground Water Authority and NOC from CGWB.
- iv. Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport of raw materials and finished products and wastes (large quantities) by rail or rail-cum road transport or conveyor-cum-rail transport shall be examined.
- v. A note on treatment of wastewater from different plant operations, extent recycled and reused for different purposes shall be included. Complete scheme of effluent treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules.
- vi. Details of stack emission and action plan for control of emissions to meet standards.
- vii. Measures for fugitive emission control.
- viii. Details of hazardous waste generation and their storage, utilization and management. Copies of MoU regarding utilization of solid and hazardous waste in cement plant shall also be included. EMP shall include the concept of waste-minimization, recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.
- ix. Proper utilization of fly ash, shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.
- x. Arrangement of land/alternative sites for green-belt development inside unit or in the proximity of unit.
- xi. Submit an action plan for the three tier plantation to develop a green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.
- xii. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the



ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.

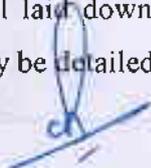
- xiii. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.
- xiv. Action plan for post-project environmental monitoring shall be submitted.
- xv. Onsite and Offsite Disaster (natural and Man-made) Preparedness and Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management Plan.

## **7. Occupational health**

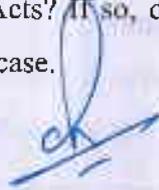
- i. Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers.
- ii. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre placement and periodical examinations give the details of the same. Details regarding last month analyzed data of above mentioned parameters as per age, sex, duration of exposure and department wise.
- iii. Details of existing Occupational & Safety Hazards. What are the exposure levels of hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved,
- iv. Annual report of health status of workers with special reference to Occupational Health and Safety.
- v. Making provisions for all personal safety/security related gears (shoes /hats/ helmets/ jacket/ gloves, specks, ear plugs etc.) for all workers and enforcing use of the same.

## **8. Corporate Environment Policy**

- i. Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.



- ii. The Project Proponent shall prepare report with the provisions contained in Ministry of Environment, Forest & Climate Change OM Vide F. No. 22-65/2 017-IA.III dated 1<sup>st</sup> May 2018, as applicable, regarding Corporate Environment Responsibilities.
  - iii. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
  - iv. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.
  - v. Does the company have system of reporting of non compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report.
9. Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.
- 10. Enterprise Social Commitment (ESC)**
- i. Adequate funds (at least 2.5 % of the project cost) shall be earmarked towards the Enterprise Social Commitment based on Public Consultation issues and item-wise details along with time bound action plan shall be included. Socio-economic development activities need to be elaborated upon.
11. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.



## **SPECIFIC TERMS OF REFERENCE FOR EIA STUDIES FOR METALLURGICAL INDUSTRIES (FERROUS & NON FERROUS)**

1. Complete process flow diagram describing each unit, its processes and operations, along with material and energy inputs & outputs (material and energy balance).
2. Details on blast furnace/ open hearth furnace/ basic oxygen furnace/ladle refining, casting and rolling plants etc.
3. Details on installation/activation of capacity meters with recording with proper calibration system.
4. Details on toxic metals including mercury, arsenic and fluoride emissions.
5. Details on stack height requirement for integrated steel.
6. Details on ash disposal and management - Non-ferrous metal.
7. Complete process flow diagram describing production of lead/zinc/copper/ aluminium, etc.
8. Raw materials substitution or elimination.
9. Details on smelting, thermal refining, melting, slag fuming, and Waelz kiln operation.
10. Details on Holding and de-gassing of molten metal from primary and secondary aluminum, materials pre-treatment, and from melting and smelting of secondary aluminium.
11. Details on solvent recycling.
12. Details on precious metals recovery.
13. Details on composition, generation and utilization of waste/fuel gases from coke oven plant and their utilization.
14. Details on toxic metal content in the waste material and its composition and end use (particularly of slag).
15. Trace metals Mercury, arsenic and fluoride emissions in the raw material.
16. Trace metals in waste material especially slag.
17. Plan for trace metal recovery.
18. Trace metals in water.
19. A tabular chart with index for point wise compliance of above ToR.

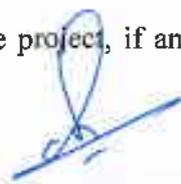


### **Annexure – VIII (Township and Area Development Project - ToR)**

1. Examine details of land use as per Master Plan and land use around 10 km radius of the project site. Analysis should be made based on latest satellite imagery for land use with raw images. Check on flood plain of any river.
2. Submit details of environmentally sensitive places, land acquisition status, rehabilitation of communities/villages and present status of such activities.
3. Examine baseline environmental quality along with projected incremental load due to the project.
4. Environmental data to be collected in non-monsoon season in relation to the project development will be (a) land, (b) groundwater, (c) surface water, (d) air, (e) bio-diversity, (f) noise and vibrations, (g) socio economic and health. AERMOD or any other latest model shall be used to predict the GLC of various air pollutant such as PM<sub>2.5</sub>, PM<sub>10</sub>, Sox, NO<sub>x</sub> etc. accordingly appropriate mitigation measures shall be suggested. All the monitoring stations shall be established in accordance with Standard Manual for undertaking EIA studies for Building & Construction and Area Development project and submit soft copy of at least one geo-tagged photographs for each sampling site and each sampling days having clearly imprinted date and time of monitoring along with Google map showing location of all the monitoring sites. Project Proponent has to submit all raw data pertaining to air environment, meteorology and dispersal model which will be used in the EIA report.
5. Submit a copy of the contour plan with slopes, drainage pattern of the site and surrounding area together with obstruction of the same by the project, if any.
6. Submit the present land use and permission required for any conversion such as forest, agriculture, etc.
7. Submit Roles and responsibility of the developer etc for compliance of environmental regulations under the provisions of EP Act.
8. Ground water classification as per the Central Ground Water Authority.



9. Examine the details of Source of water, water requirement, use of treated waste water and prepare a water balance chart.
10. Rain water harvesting proposals should be made with due safeguards for ground water quality. Maximize recycling of water and utilization of rain water. Examine details.
11. Examine soil characteristics and depth of ground water table for rainwater harvesting.
12. Examine details of solid waste generation treatment and its disposal.
13. Examine and submit details of use of solar energy and alternative source of energy to reduce the fossil energy consumption. Energy conservation and energy efficiency.
14. DG sets are likely to be used during construction and operational phase of the project. Emissions from DG sets must be taken into consideration while estimating the impacts on air environment. Examine and submit details.
15. Examine road/rail connectivity to the project site and impact on the traffic due to the proposed project. Present and future traffic and transport facilities for the region should be analysed with measures for preventing traffic congestion and providing faster trouble free system to reach different destinations in the city.
16. A detailed traffic and transportation study should be made for existing and projected passenger and cargo traffic.
17. Examine the details of transport of materials for construction which should include source and availability.
18. Examine separately the details for construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan with cost and parameters.
19. Submit details of a comprehensive Disaster Management Plan including emergency evacuation during natural and man-made disaster.
20. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project.



21. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
22. Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, Project Proponent can refer to the model TOR available on Ministry website "<http://moef.nic.in/Manual/Townships>".

