F.No. 21-99/2018-IA-III Government of India Ministry of Environment, Forest and Climate Change (IA.III Section)

Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi - 3

Date: 12th July, 2019

To,

The Executive Engineer
M/s Central Public Works Department,

E - Wing, Nirman Bhawan, New Delhi -110011

E Mail: srinivaspuri03@gmail.com

Subject: Redevelopment of GPRA Colony at Srinivaspuri, Delhi by M/s Central Public Works Department - Environmental Clearance - reg.

Sir.

This has reference to your online proposal No. IA/DL/MIS/102092/2018 dated 12th April, 2019, submitted to this Ministry for grant of Environmental Clearance (EC) in terms of the provisions of the Environment Impact Assessment (EIA) Notification, 2006 under the Environment (Protection) Act, 1986.

- 2. The proposal for grant of environmental clearance to the project 'Redevelopment of GPRA Colony at Srinivaspuri', Delhi by M/s Central Public Works Department, was considered by the Expert Appraisal Committee (Infra-2) in its 41st meeting held durung 27-29 May, 2019. The details of the project, as per the documents submitted by the project proponent, and also as informed during the above meeting are as under:-
- (i) The project is a Redevelopment of the Redevelopment of the General Pool Residential Accommodation (GPRA) Colony. The project is located at from 28°34'6.319"N latitude and 77°15'25.206" E longitude. It is a redevelopment project and no construction has been done at the project site as a part of redevelopment.
- (ii) The total plot area is 2,95,987.34 sqm, FSI area is 6,42,738.74 sqm and total construction (built-up) area of 9,57,991.35 sqm. The project will comprise of Type II, Type III, Type IV, Type V and Type VI along with other social Infrastructure. Maximum height of the building is 93 m. The tower wise details are given in Table at page-2.
- (iii) ToR for the project was granted by MoEFCC vide letter F.No. 21-99/2018-IA-III dated 22.01.2019.
- (iv) During construction phase, total water requirement is expected to be 20 KLD which will be met by private water tanker. During the construction phase, septic tanks will be provided for disposal of waste water. Temporary sanitary toilets will be provided during peak labor force.
- (v) During operational phase, total water demand of the project is expected to be 2861 KLD and the same will be met by 1930 KLD fresh water from Delhi Jal Board and 931 KLD recycled water. Wastewater generated (2318 KLD) will be treated in STP of capacity 2800 KLD. 931 KLD of treated wastewater will be recycled in Flushing (774 KLD) & horticulture (157 KLD) while the surplus treated water 1058 KLD will be discharged to the municipal sewer/used in nearby parks and for dust suppression on the roads.

J. Bose:

Table: Tower wise details

TYPE Control of the control of t	ç, S	BUILDING NAME	TOWER		FAR	FAR (sqm)			Built-up	Built-up area (sqm)	
National Problem				Existing (A)	Demolition (B)	Proposed (C) (in	Total((A-B)+C)	Existing (A) (in	Demolition (B)	Proposed (C)	Total (A-B+C)
A RESIDENTIAL BUILDINGS A RESIDENTIAL BUILDINGS TYPE I 177PE I 22032 2005 300996 30096 30099				(in sqm)	(in sqm)	sdm)	(in sqm)	sdm)	(in sqm)	(in sqm)	(in sqm)
TYPE I TYPE I TYPE I TYPE II TYPE II TYPE II TYPE II TYPE II TYPE II TYPE III TYPE IIII TYPE IIII TYPE IIII TYPE IIIIII TYPE IIIIII TYPE IIIIIIIIII TYPE IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII				A. RE		BUILDINGS					
TYPE II T1-T11 34020 34020 120614.20 120614.20 43432.2 43432.2 43432.2 43432.2 43432.2 43432.2 43432.2 43432.2 43432.2 43432.2 43432.2 43432.2 43432.2 43432.2 43432.2 43432.2 4343.2 4343.4 0 0 1702-715 210022.75 210022.75 0 0 0 26,022.75 210022.75 0 0 0 26,022.75 210022.75 0 0 0 26,022.75 0 0 0 26,022.75 0 0 0 0 26,057.6 0 <th< td=""><td>-</td><td>TYPEI</td><td></td><td>22032</td><td>22032</td><td>0</td><td>0</td><td>30099.6</td><td>30099.6</td><td>0</td><td>0</td></th<>	-	TYPEI		22032	22032	0	0	30099.6	30099.6	0	0
TYPE III T12 – T22 1393.75 13603.36 1705 1706 TYPE IV T23 – T36 0 210,022.75 210,022.75 0 0 TYPE IV T37 – T40 0 0 5675.50 0 0 TYPE V T37 – T40 0 0 5675.00 0 0 TYPE V T41 – T42 0 0 7466.34 7466.34 0 0 SCHOOL II N 0 0 7466.34 7466.34 0 0 SCHOOL II N 0 0 4810.87 4810.87 0 0 SCHOOL II N 0 0 4810.87 4810.87 0 0 SCHOOL III N 0 0 4810.87 4810.87 0 0 SCHOOL III N 0 0 0 4810.87 0 0 SHOPPING III COMPLEX 0 0 0 0 4976.89 0 0 <tr< td=""><td>7</td><td>TYPE II</td><td>T1 - T11</td><td>34020</td><td>34020</td><td>120614.20</td><td>120614.20</td><td>43432.2</td><td>43432.2</td><td>135230.84</td><td>135230.84</td></tr<>	7	TYPE II	T1 - T11	34020	34020	120614.20	120614.20	43432.2	43432.2	135230.84	135230.84
TYPE IV TYPE IV <t< td=""><td>က</td><td>TYPE III</td><td>T12 - T22</td><td>1393.75</td><td>1393.75</td><td>135032.36</td><td>135032.36</td><td>1705</td><td>1705</td><td>147175.13</td><td>147175.13</td></t<>	က	TYPE III	T12 - T22	1393.75	1393.75	135032.36	135032.36	1705	1705	147175.13	147175.13
TYPE V TYPE V TYPE V TYPE V TYPE V 0 83344 83344,00 0 0 SCHOOL I TYPE VI 0 0 7466.34 7466.34 7466.34 0 0 SCHOOL II 0 0 0 4746.34 7466.34 0 0 SCHOOL II 0 0 0 4810.87 0 0 SCHOOL III 0 0 0 4810.87 0 0 SCHOOL III & IV 0 0 0 3320.24 0 0 SHOPPING II 0 0 0 3320.24 0 0 LIBRARY, DISPENSARY AND 0 0 4976.69 0 0 0 4976.69 0 0 SHOPPING II COMPLEX 0 0 0 4976.69 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4	TYPE IV	T23 - T36	0	0	210,022.75	210022.75	0	0	232241.45	232241.45
TYPE VI	2	TYPEV	T37 - T40	0	0	83344	83344.00	0	0	89747.8	89747.8
SCHOOL I SCHOOL I 0 0 7466.34 7466.34 0 0 SCHOOL II SCHOOL II 0 0 4810.87 4810.87 0 0 SCHOOL III 8 IV 0 0 4810.87 4810.87 0 0 SCHOOL III 8 IV 0 0 3320.24 3320.24 0 0 SHOPPING II OSTOFICE, II 0 0 4816.27 0 0 0 LIBRARY DISPENSARY AND 0 0 4976.69 4976.69 0 0 SHOPPING III COMPLEX 0 0 4976.69 0 0 0 0 SHOPSI MARKETS 2880 2880 0	9	TYPE VI	T41 - T42	0	0	52675	55675.00	0	0	56023.5	56023.5
SCHOOL II CORPOOL II CORPOOL II CORPOOL II CORPOOL II CORPOOL III CORPORT CORPO	7	SCHOOLI		0	0	7466.34	7466.34	0	0	9109.74	9109.74
SCHOOL III & IV 0 0 5059.84 5059.84 0 0 SHOPPING I SHOPPING I 0 0 3320.24 3320.24 0 0 LIBRARY, DISPENSARY AND 0 0 4976.69 4976.69 0 0 MATERNITY) 0 0 4976.69 4976.69 0 0 SHOPPING III COMPLEX 0 0 4976.69 4976.69 0 0 SHOPPING III COMPLEX 0 0 1120.18 0	∞	SCHOOL II		0	0	4810.87	4810.87	0	0	4810.87	4810.87
SHOPPING I 0 0 3320.24 3320.24 0 0 (SHOPPING I, POST OFFICE , LIBRARY, DISPENSARY AND MATERNITY) 0 0 8616.27 8616.27 0 0 MATERNITY) 0 0 0 4976.69 4976.69 0 0 SHOPPING III COMPLEX 0 0 0 4976.69 4976.69 0 0 SCHOPLICE STATION 0 0 0 1120.18 1120.18 0 0 SCHOCLE STATION 0	တ	SCHOOL III & IV		0	0	5059.84	5059.84	0	0	6788.1	6788.1
(SHOPPING, POST OFFICE, LIBRARY, DISPENSARY AND MATERNITY) 0 0 8616.27 8616.27 0 0 LIBRARY, DISPENSARY AND SHOPPING III COMPLEX 0 0 4976.69 4976.69 0 0 SHOPPING III COMPLEX 0 0 0 4976.69 0 0 0 SHOPPING III COMPLEX 0 0 0 1120.18 0 0 0 SCHOOL 17632.8 17632.8 0 0.00 19692 1959 1950 1959 1950 1959 1950	19	SHOPPING I		0	0	3320.24	3320.24	0	0	3904.7	3904.7
LIBRARY, DISPENSARY AND 0 0 0 8616.27 8616.27 0 0 0 8416.27 8616.27 0 0 0 8416.27 8616.27 0 0 0 0 8416.27 8616.27 0 0 0 0 0 9416.69 9 0 0 0 0 0 9412.65 844.5 844.5 8410.8 BUILDINGS (OFFICE, LIBRARY, NGO, COMMUNITY SELIGIOUS BUILDINGS (Non FAR) 110 Appears 110		(SHOPPING, POST OFFICE,									
MATERNITY WATERNITY WATE	7	LIBRARY, DISPENSARY AND		0	0	8616.27	8616.27	0	0	11240.25	11240.25
SHOPPING III COMPLEX 0 0 4976.69 4976.69 0 0 0 0 4976.69 4976.69 0 <td>1</td> <td>+</td> <td></td> <td></td> <td></td> <td>00 0107</td> <td>00 000</td> <td></td> <td>•</td> <td>10000</td> <td>70 070</td>	1	+				00 0107	00 000		•	10000	70 070
POLICE STATION 0 0 0 1120.18 0 0 SHOPS/MARKETS 2880 2880 0 0.00 3200 3200 3200 SCHOOL 17632.8 17632.8 0 0.00 19592 1959 SCHOOL 2479.5 2479.5 2479.5 0 0.00 2755 275 CTHER BUILDINGS (OFFICE, OTHER BUILDINGS (OTHER BUILDINGS (OFFICE, OTHER BUILDINGS (OFFICE, OTHER BUILDINGS (OTHER BUILDING BUILDIN	12			0	0	4976.69	4976.69	0	0	5812.64	5812.64
SCHODL 2880 2880 0 0.00 3200 3750 3750 3750 3750 3750 3750 3750 3750 3750 3750 3700 3800	15			0	0	1120.18	1120.18	0	0	1212.66	1212.66
SCHOOL 17632.8 17632.8 17632.8 0 0.00 19592 1959 HEALTH CENTER 2479.5 2479.5 2479.5 0 0.00 2755 275 OTHER BUILDINGS (OFFICE, LIBRARY, NGO, COMMUNITY 8644.5 8644.5 8644.5 9605 9605 I I IBRARY, NGO, COMMUNITY 2860 180 0 2680.00 2860 180 I RELIGIOUS BUILDINGS 2860 180 0 2680.00 2860 180 tal BASEMENT AREA (Non FAR) A113248.8 11056 PODIUM AREA (Non FAR) A113248.8 A11548.8 A1156	16			2880	2880	0	0.00	3200	3200	0	0
HEALTH CENTER 2479.5 2479.5 0 0.00 2755	17	SCHOOL		17632.8	17632.8	0	00.00	19592	19592	0	0
OTHER BUILDINGS (OFFICE, 8644.5 8644.5 8644.5 9605 9605 9605 960 I LIBRARY, NGO, COMMUNITY CENTER ETC.) 2860 180 0 2680.00 2860 180 I RELIGIOUS BUILDINGS 91942.55 89262.55 640058.74 642738.74 113248.8 11056 tal PODIUM AREA (Non FAR) TOTAL BUILT HD AREA APEA	18			2479.5	2479.5	0	0.00	2755	2755	0	0
LIBRARY, NGO, COMMUNITY		OTHER BUILDINGS (OFFICE,									
CENTER ETC.) RELIGIOUS BUILDINGS 2860 180 0 2680.00 2860 180	19			8644.5	8644.5	0	0.00	9605	9605	0	0
tal RELIGIOUS BUILDINGS 2860 180 0 2680.00 2860 180		CENTER ETC.)									
tal BASEMENT AREA (Non FAR) PODIUM AREA (Non FAR) FODIUM AREA (NON FAR)	20			2860	180	0	2680.00	2860	180	0	2680
BASEMENT AREA (Non FAR) PODIUM AREA (Non FAR) TOTAL BILL TILD ABEA	Tot	a		91942.55	89262.55	640058.74	642738.74	113248.8	110568.8	703297.68	705977.68
PODIUM AREA (Non FAR) TOTAL BILLT IID ABEA	21	BASEMENT AREA (Non FAR)							727	72778.67	
TOTAL BILL TILD ABEA	22	PODIUM AREA (Non FAR)							17	179235	
ס אורט			TOTAL BUILT	UP AREA					9,57,	9,57,991.35	

S. Bank.

Page 2 of 13

- (vi) About 16.54 TPD solid wastes will be generated in the project. The biodegradable waste 9.92 TPD will be processed in organic waste convertor and the non-biodegradable waste generated 6.62 TPD will be handed over to authorized local vendor.
- (vii) The total power requirement during operation phase is 27,849 KW and will be met by BSES Rajdhani Power Limited.
- (viii) Rooftop rainwater of buildings will be collected in 70 rain water harvesting pits of average throughput 43.96 cum/hr for harvesting after filtration.
- (ix) Parking facility for 10,771 ECS is proposed to be provided against the requirement 6,427 ECS (as per the local norms).
- (x) Presently 2763 trees are present at the project site, out of which 1230 trees will be translocated and 1524 will be retained. Compensatory afforestation will be done in the ratio 1: 10. Accordingly, 12,390 trees will be planted, of which 5701 trees will be within project site and remaining 6689 trees will be planted outside the project site.
- (xi) Proposed energy saving measures would save at least 2.87% of power.
- (xii) It is not located within prohibited zone of any Eco Sensitive areas. Hence, NBWL Clearance is not required.
- (xiii) Forest Clearance is not required.
- (xiv) There is no court case pending against the project.
- (xv) Investment cost of the project is Rs. 3000 Crores.
- (xvi) Employment potential: 2000 people.
- (xvii) Benefits of the project: Cater the need for housing demand.
- 3. The project/activity is covered under category 'B' of item 8(b) 'Townships and Area Development projects' of the Schedule to the EIA Notification, 2006 and its subsequent amendments, and requires appraisal at State level. However, due to absence of SEIAA/SEAC in Delhi, the proposal has been appraised at Central Level by sectoral EAC.
- The project proponent informed that Central Public Works Department (Redevelopment Project Division I) has planned for the Redevelopment of GPRA Colony measuring 73.14 acres of land at Srinivaspuri, New Delhi. The redevelopment of the project is aimed to improve the deteriorating housing which is more than 40 years old and quite unsafe to live in. The redevelopment of the project is aimed to tap the inefficient use of land and FAR as per MPD-2021. Currently, the Residential Colony consists of Type I, Type II and Type III residential buildings 1429 dwelling units (Max. G+2 floors) including the other social infrastructures such as Shops, Markets, Schools, Health Centers, Temples etc. Existing buildings/structures are to be demolished and in place of it; Residential buildings of Type II, Type IV, Type V and Type VI are proposed to be constructed along with other social Infrastructure as temple, shopping complex, office buildings, dispensary etc. Only one temple of built up area 2,680 sqm from the existing structures will be retained. After the redevelopment, built up area will be 9,57,991.35 sqm. The salient feature of the project includes energy saving fixtures, rain water harvesting system, sufficient aesthetic green cover and water conservation measures.

I. hose

The project proponent further informed that a total 2763 numbers of trees are present at the project site which mainly consists of Chitwan, Ashok, Shisham, Neem, Bakin, Pipal, Pakur, Amaltas etc. The shrubs and herbs found in the project area includes gajarghas, aakra, lantana, gurhal, peelikantili, dub grass, madar, acacia, kans etc. Out of 2763 trees, it is proposed to translocate 1239 trees and 1524 trees will be retained and no tree will be cut/felled. The proposed tree translocation will be done with prior approval and in consultation with the Forest Department or through various plantation schemes underway in Delhi. The trees proposed to translocated are indigenous hence the success rate of their survival is higher. Tree to be planted as compensatory afforestation @ 1:10 will be 12,390 of which 5701 trees will be within project site and remaining 6689 trees will be planted outside the project site.

5. The EAC in its 41st meeting held during 27-29 May, 2019, based on the information submitted and clarifications provided by the Project Proponent and detailed discussions held on all the issues, recommended the project for grant of environmental clearance with stipulated specific conditions along with other Standard EC Conditions as specified by the Ministry vide OM dated 4th January, 2019 for the said project/activity, while considering for accord of environmental clearance. As per recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords Environmental Clearance to the project "Redevelopment of GPRA Colony" at Srinivaspuri, Delhi by M/s Central Public Works Department, under the provisions of the EIA Notification, 2006 and amendments/circulars issued thereon, and subject to the specific and general conditions as under:-

A. Specific Conditions:

- (i) Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
- (ii) The project proponent shall provide for adequate fire safety measures and equipment as per National Building Code/required by Fire Service Act of the State and instructions issued by the local Authority/Directorate of fire, from time to time. Further, the project proponent shall take necessary permission/NOC regarding fire safety from Competent Authority as required.
- (iii) 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.
- (iv) As proposed, fresh water requirement from Delhi Jal Board shall not exceed 1930 KLD. Consent to Operate (CTO)/Occupancy Certificate shall be issued only after getting necessary permission for required water supply from DJB/concerned authority.
- (v) Sewage shall be treated in the STP based on MBBR Technology with tertiary treatment i.e. Ultra Filtration. The treated effluent from STP shall be recycled/re-used for flushing, and horticulture. Excess treated water from STP shall be discharged to the municipal sewer/used in nearby parks and for dust suppression on the roads.
- (vi) The project proponents would devise a monitoring plan to the satisfaction of the State Pollution Control Board so as to continuously monitor the treated

J. Sose

- waste water being used for flushing in terms of faecal coliforms and other pathogenic bacteria.
- (vii) The project proponents would commission a third party study on the implementation of conditions related to quality and quantity of recycle and reuse of treated water, efficiency of treatment systems, quality of treated water being supplied for flushing (specially the bacterial counts), comparative bacteriological studies from toilet seats using recycled treated waters and fresh waters for flushing, and quality of water being supplied through spray faucets attached to toilet seats.
- (viii) The local bye-law provisions on rain water harvesting should be followed. If local bye-law provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. As proposed 70 nos. of rain water harvesting recharge pits shall be provided for rain water harvesting after filtration as per CGWB guidelines.
- (ix) 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. Wet garbage shall be composted in Organic Waste Converter. Adequate area shall be provided for solid waste management within the premises which will include area for segregation, composting. The inert waste from project will be sent to dumping site.
- (x) Traffic Management Plan as submitted shall be implemented in letter and spirit. Further, 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.
- (xi) No tree cutting/felling has been proposed. However, it is proposed to transplant 1239 trees. No tree transplantation should be carried out unless exigencies demand. Where absolutely necessary, tree transplantation shall be with prior permission from the Tree Authority constituted as per the Delhi Preservation of Trees Act, 1994 (Delhi Act No. 11 of 1994). Old trees should be retained based on girth and age regulations as may be prescribed by the Forest Department. In case of non-survival of any transplanted tree, compensatory plantation in the ratio of 1:10 (i.e. planting of 10 trees for every 1 tree) shall be done and maintained.
- (xii) A minimum of 1 tree for every 80 sqm of land should be planted and maintained. The existing trees will be counted for this purpose. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping. As proposed, 1,56,918.71 sqm area shall be provided for green area development.

J. Bose

- (xiii) The company shall draw up and implement corporate social Responsibility plan as per the Company's Act of 2013.
- (xiv) As per the Ministry's Office Memorandum F.No. 22-65/2017-IA.III dated 1st May 2018, and proposed by the project proponent, an amount of Rs. 7.5 Crore (0.25% of the project cost) shall be earmarked under Corporate Environment Responsibility (CER) for the activities such as Infrastructure Creation for waste water supply and Development of Road & Rotary etc. The activities proposed under CER shall be restricted to the affected area around the project. The entire activities proposed under the CER shall be treated as project and shall be monitored. The monitoring report shall be submitted to the regional office as a part of half yearly compliance report, and to the District Collector. It should be posted on the website of the project proponent.

B. Standard Conditions:

I. Statutory compliance:

- i. 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.
- ii. 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.
- iii. The project proponent shall obtain the necessary permission for drawl of ground water / surface water required for the project from the competent authority.
- iv. 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.
- v. 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.
- vi. The provisions of the Solid Waste Management Rules, 2016, e-Waste (Management) Rules, 2016, and the Plastics Waste Management Rules, 2016, shall be followed.
- vii. The project proponent shall follow the ECBC/ECBC-R prescribed by Bureau of Energy Efficiency, Ministry of Power strictly.

II. Air quality monitoring and preservation:

- i. 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.
- ii. A management plan shall be drawn up and implemented to contain the current exceedance in ambient air quality at the site.
- iii. The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants

J. Bose

- released (e.g. PM_{10} and $PM_{2.5}$) covering upwind and downwind directions during the construction period.
- iv. 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. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.
- v. Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3 meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murram and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site.
- vi. Sand, murram, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution.
- vii. Wet jet shall be provided for grinding and stone cutting.
- viii. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.
- ix. 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 Management Rules 2016.
- x. 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.
- xi. 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.
- xii. For indoor air quality the ventilation provisions as per National Building Code of India.

III. Water quality monitoring and preservation:

- i. 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.
- ii. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.
- iii. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by

J. Bone

- the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.
- iv. 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.
- v. 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.
- vi. 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.
- vii. 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.
- viii. 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.
- ix. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
- x. 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.
- xi. All recharge should be limited to shallow aquifer.
- xii. No ground water shall be used during construction phase of the project.
- xiii. 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.
- xiv. 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.
- xv. No sewage or untreated effluent water would be discharged through storm water drains.
- xvi. 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

J. Sosi

- 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.
- xvii. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.
- xviii. 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.

IV. Noise monitoring and prevention:

- i. Ambient noise levels shall conform to residential area/commercial area/industrial 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.
- ii. 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.
- iii. 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:

- i. 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.
- ii. Outdoor and common area lighting shall be LED.
- iii. 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.
- iv. 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.
- v. 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.
- vi. 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

S. Bose.

recommended to meet its hot water demand from solar water heaters, as far as possible.

VI. Waste Management:

- i. 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.
- ii. Disposal of muck during construction phase shall not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
- iii. Organic waste compost/ Vermiculture pit/ Organic Waste Converter within the premises with a minimum capacity of 0.3 kg/person/day must be installed.
- iv. All non-biodegradable waste shall be handed over to authorized recyclers for which a written tie up must be done with the authorized recyclers.
- v. 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.
- vi. 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.
- vii. 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 27th August, 2003 and 25th January, 2016. Ready mixed concrete must be used in building construction.
- viii. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.
- ix. 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:

i. 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

- i. 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.

S. hose

- c. Proper design of entry and exit points.
- d. Parking norms as per local regulation.
- ii. 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.

IX. Human health issues:

- i. 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.
- ii. For indoor air quality the ventilation provisions as per National Building Code of India.
- iii. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
- iv. 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.
- v. Occupational health surveillance of the workers shall be done on a regular basis.
- vi. A First Aid Room shall be provided in the project both during construction and operations of the project.

X. Corporate Environment Responsibility:

- i. 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.
- ii. 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.
- iii. 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 Ministry/Regional Office along with the Six Monthly Compliance Report.

XI. Miscellaneous:

i. 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

J. Base

- language within seven days indicating that the project has been accorded environment clearance and the details of MoEFCC/SEIAA website where it is displayed.
- ii. 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.
- iii. 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.
- iv. 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.
- v. 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.
- vi. The project proponent shall inform the 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.
- vii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report and commitment made during their presentation to the Expert Appraisal Committee.
- ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change (MoEF&CC).
- x. 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.
- xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xiii. The Regional Office of this Ministry 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.
- xiv. 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)

s. Bose

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.

- xv. 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.
- 6. This issues with the approval of the Competent Authority.

(Dr. Subrata Bose)
Scientist F

Copy to:

- 1) The Secretary, Department of Environment, Government of Delhi, New Delhi.
- The Addl. Principal Chief Conservator of Forests (C), Ministry of Environment, Forests and Climate Change, Kendriya Bhavan, 5th Floor, Sector-H, Aliganj, Lucknow - 226024.
- 3) The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi 110 032.
- 4) The Member Secretary, Delhi Pollution Control Committee, Department of Environment, Government of N.C.T. Delhi, 4th Floor, ISBT Building, Kashmere Gate, Delhi.
- 5) Monitoring Cell, MoEF&CC, Indira Paryavaran Bhavan, New Delhi.
- 6) Guard File/ Record File/ Notice Board.
- 7) MoEFCC website.

(Dr. Subrata Bose)

Scientist F