No. J-13012/09/2008-IA.I(T)
Government of India
Ministry of Environment, Forest and Climate Change

3rd Floor, Vayu Block,
Indira Paryavaran Bhawan, Jor Bagh Road,
Aliganj, New Delhi-110003

Dated: 15.01.2020

To

The Director
M/s Timarpur Okhla Waste Management Company Pvt. Ltd.
Old NDMC Compost Plant, Behind CRRI,
Mathura Road, New Delhi- 110025.

Phone No. 011-26843044; E-mail: sandip.dutt@jindalecopolis.com

Sub: 23 MW Municipal Solidwaste based Power Plant (Waste to Energy) at NDMC Compost Plant Site, Near Okhla STP, Okhla, New Delhi by M/s Timarpur Okhla Waste Management Company Pvt. Ltd. - reg. amendment in Environmental Clearance.

Sir,

The undersigned is directed to refer the Online Proposal No.IA/DL/THE/75480/2006 dated 22.2.2019 w.r.t to amendment in EC for increasing the power generation from 16 MW to 23 MW without increasing any MSW load and without installing any additional equipment.

2. It has been noted that the Environmental Clearance has been accorded to M/s Infrastructure Development Corporation Ltd. vide Ministry's letter No.23-1/2006-IA-III dated 21.3.2007 and 9.5.2007 for establishing 16 MW Waste to Energy Power Plant with Refuse Derived Fuel (RDF) quantity of 600-720 Tons/Day. The details of the project configuration as per the Environmental Clearance are as below. The details of the configuration is as follows:

Facility	Waste processing Capacity (Tonnes/day)	Output
Refuse Derived Fuel (RDF) Plant at Okhla	Unit-1: 650 TPD MSW Unit-2: 650 TPD MSW	450 TPD RDF fluff with GCV of 2500-3000 kCal/kg
RDF Plant at Timarpur	650 TPD MSW	225 TPD of RDF fluff with GCV of 2500-3000 kCal/kg
Bio-methanation Plant at Okhla	100 TPD Green waste	Methane gas: 6,000m^3/day Manure: 7 TPD

3. It has been informed that the Waste to Energy Power Plant including RDF processing unit has been set up at Okhla. The RDF plant at Timarpur could not be set up. Accordingly, the Municipal waste proposed to be processed at Timarpur has been shifted to Okhla Facility. Further, Bio-methanation plant at Okhla also could not be set up as envisaged in the original proposal due to non-availability of segregated Green waste.

4. Further, it has been informed that the Waste to Energy Power plant has been taken over by the M/s Timarpur Okhla Waste Management Company Pvt. Ltd. which is a subsidiary of M/s JITF Urban Infrastructure Limited.

5. It has been informed that the total plot area is 6.07 ha, out of which plant area is 2.44 ha, green area is 1.2 ha, office and utilities is 0.85 ha and Road/parking area is 0.97 ha. The plant is located at a distance of 2.36 km from Okhla Bird Sanctuary and 4.77 km from Asola Bhati Wildlife Sanctuary (from ESZ Boundary). The unit has been made fully operational. It has been informed that, the power generation was achieved from 16 MW to 23 MW during the course of operations of the plant. The augmentation of 7 MW has been achieved due to increase in Calorific value of incoming solidwaste. Accordingly, less RDF is being consumed.

6. It has been informed that the augmentation of 7 MW is also due to addition of brush seals in the turbine, and resultant steam path from the turbine bleeds modification has reduced the steam consumption. Operating under wide valve condition has also aided in achieving enhanced generation.

7. It has been informed that existing fuel requirement for the power plant is 1,950 Tons per day. There are three boilers with RDF incineration capacity of 450 TPD. Cost of the project is Rs. 273 Crores and there is no additional cost for the augmentation.

8. Total water requirement is 875 KLD and is sourced from treated Sewage from Okhla STP. Further, leachate treatment plant with capacity of 110 KLD has been installed to treat the leachate generated form Municipal Solid Waste during storage for 5-7 days. There is a backup of 1x320 kVA incase of power failure.

9. Presently, there are two stacks with height of 60 m connected to three boilers. The details of flow rates and emissions are as follows:

Parameter	Stack-1	Stack-2
No. of flues connected	2	1
Stack height	60 m	60 m
Stack diameter	2 m	2 m
Volumetric flow rate	40 Nm^3/sec	22 Nm^3/sec
Fluegas Velocity	25 m/sec	19 m/sec
Temperature of flue gas	140 ^0C	140 ^0C
Emissions of NO_X	127 mg/Nm^3	143 mg/Nm^3
Dioxins & Furnace (ng TEQ/Nm^3)	0.0032	0.0030
Emission rate of SO2	96 mg/Nm^3	83 mg/Nm^3
Emission rate of PM	24 g/Nm^3	19 g/Nm^3

10. It has been informed that 60 m tall stacks for two units and another 60 m tall stack for single unit were connected for flue gas dispersion at high elevation to minimise the GLC within limits. High efficiency bag house filters with filtration efficiency of 99.9% installed to reduce PM emissions to below 30 mg/Nm3, dust

suppression at ash handling plant, greenbelt development and afforestation in the plant and ash disposal areas, quenching the bottom ash with water, use of hydrated lime to control SO_2 & HCl emissions, use of Activated Carbon for reducing dioxins and furans as well as Heavy Metals, maintaining the low excess air for reducing NOx emissions are the pollution control measures adopted in the power plant.

11. The Ministry vide Orders dated 4.9.2019 has given following direction to the power plant:

i. Ecological damage assessment and remediation plan for increasing the quantity of waste incineration to 1500 TPD as against the approved quantity of 750 TPD under Environmental Clearance, will be undertaken by Central Pollution Control Board (CPCB). The compensation as decided in the remediation plan shall be deposited with the CPCB and would be used for restoration of natural resources and pollution control measures in the project affected area.

ii. As regard the amendment to the earlier Environmental Clearance for increasing the power generation from existing 16 MW to 23 MW, it may be considered only after the above direction has been complied with.

iii. Dioxins and Furans from the flue gas are to be monitored once in a month and submit the emission data to the Ministry, CPCB, DPCC and Ministry's Regional Office including uploading the emission data on the company's website.

12. It has been noted that the Ecological damage assessment and remediation plan by the Central Pollution Control Board is yet to be finalized.

13. It has been informed that Rs.6 Crores have been invested towards the following environmental protection measures.

i. Replaced all filter bags in Flue Gas Cleaning System with advance filter bags.

ii. Replaced corroded stack with a new stack.

iii. Implmented radio active sensors at MSW receiving point.

iv. Enriched water sprinkler syste m for controlling fugitive dust.

v. Enriched metal recovery stems at various lcoations.

vi. Installed flyash brick manufacturing plant to utilize fly ash.

vii. Implemented mist spray system to control odour.

viii. Upgraded the Continuous Emission Monitoring System.

13. The matter was placed before the Expert Appraisal Committee (Thermal Power) in its 25th Meeting held on 22.2.2019. In acceptance of the recommendation of the EAC and in view of the information/documents/clarifications furnished by you, with respect to the above mentioned power project, **the Ministry hereby amends the Environmental Clearance dated 21.3.2007 and 9.5.2007 for increase in power generation from 16 MW to 23 MW without increasing MSW intake and without installing any additional equipment** subject to following additional conditions:

i. Any further expansion beyond 23 MW Power Generation Capacity shall not be permitted at the same site considering the proximity of Sukhdev Vihar Residential colony located at less than 100 m from the site.

ii. The Compliance to the Ministry's directions dated 4.9.2019 shall be complied with.

iii. Online emission monitoring equipment for all parameters provided in the 'Guidelines for Continuous Emission Monitoring Systems, CPCB' shall be installed and connected to CPCB and DPCC servers. The monitoring report of other parameters mentioned in the MSW Rules, 2016.

iv. Details of quantities of daily waste intake to the plant, waste/RDF feed to the boiler, calorific value, steam generation, dosage of Lime & Activated Carbon, Flyash & Bottom ash, water consumption, leachate & wastewater generation shall be uploaded on Company's website. The data shall be submitted as part of Six Monthly Compliance Report to Ministry and its Regional Office.

v. Online emission monitoring and periodic manual monitoring reports shall be submitted to Ministry as well as its Regional Office along with six monthly compliance reports.

vi. The entry gates of waste storage pit need to made functional so that gates should be closed when there is no truck unloading the waste which will avoid escape of odour.

vii. Negative Pressure in the Waste Storage Pit shall be maintained by taking the air from waste pit to the incinerator through ID fans so that odour does not escape from the waste pit. Pressure monitoring system showing the atmospheric pressure and pressure inside the waste pit shall be installed and the data is to be connected to CPCB and DPCC.

viii. Storage of compost material after segregation (below 20 mm) through Trommels is to be in the enclosed area to control odour generating from compost. Any waste or its material should not be kept in open area.

ix. Plant startup and shut down should be run in defined conditions with oil/gas firing. The provision for start up burners/auxiliary burners had already been made. Accordingly, startup burners for oil/gas firing shall be installed to maintain the efficiency of incinerators and reduce the emissions, in case of temperature diversions below the required 950^{0}C.

x. The plant shall be run in automatic mode to achieve stable operating conditions within the design specifications. The manual mode of operations shall be switched to automatic mode. Control systems should be set up in such a way that the operational data should be stored online for at least for one year. In case, the control system does not provide enough storage, external storage facilities shall be set up for long term storage of operational data.

xi. Interlocking arranging of flue gas treatment system with operation of incinerator shall be made so that whenever Flue Gas Treatment System fails, the plant operations will be shut down. An action plan in this regard shall be submitted.

xii. Tri-flue stack with separate draughts should be connected to flue lines of three incinerators having capacity of 450 Tons/day so that different flue lines should not compete in a single draught to avoid uncontrolled pressure situations at the stack entrance and leakage of flue gas.

xiii. State-of the-Art Technology shall be Continuous Emission Monitoring System (CEMS) shall be installed for separate flue lines of different stacks. In addition to the PM, SO_2, NO_X, HCl, Online CEMS shall be set up for HF, CO, TOC, CO_2 shall also be installed. Al the above parameters including the temperature in the incinerator shall be connected to the servers of CPCB & DPCC. Incinerator temperature shall be maintained between 950-1100 ^{0}C during operations so that Dioxins and Furans are destroyed at that temperature. To ensure the compliance the online systems (CEMS) regarding temperature shall be connected to CPCB & DPCC.

xiv. Analysis of total Dioxin & Furans, Cd+ Th, Hg & its compounds, Sb+AS+PB, Cr+Co+Cu+Mn+Ni+V+Z shall be carried out once in a month.

xv. The platform of flue-stack is to be made accessible with ladder for collection of flue gas samples manually and taking heavy instruments to the stack- platform for calibration of online instruments. Calibration of instruments is to be done once in a year or as per the manufacturer's specifications.

xvi. Incinerator Fly ash/Flue Gas Treatment Residue is hazardous and shall be sent to landfill with covered trucks. Only bottom ash shall be used as building material and for brick manufacturing.

xvii. Greenbelt around the power plant shall be set up to attenuate noise and dust emissions. In case of space constraint, vertical gardens shall be developed as recommended by the Sub-committee. The area of greenbelt developed till date shall be submitted.

14. All other conditions mentioned in the said EC letter dated 21.3.2007 and 9.5.2007 shall remain the same, as applicable.

This issues with the approval of the Competent Authority.

Yours faithfully,

(Dr. S. Kerketta)
Director, IA.I

Copy to:

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Secretary, Ministry of New and Renewable Energy, New Delhi.

3. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
4. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
5. The Additional Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Regional Office (CZ), Kendriya Bhawan, 5th Floor, Sector "H", Aliganj, Lucknow – 226020.
6. The Principal Secretary (Env. & Forest), Department of Environment, Govt. of NCT of Delhi, C-Wing, New Delhi-02.
7. The Chairman, the Delhi Pollution Control Committee, 4th & 5th Floor, ISBT Building, Kashmere Gate, New Delhi-110006.
8. The District Magistrate, Office of the District Magistrate South East Delhi, 70, Block A, Amar Colony, Lajpat Nagar, New Delhi-110024
9. Guard file/Monitoring file.
10. Website of MoEF&CC.

Director, IA.I