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File No: IA-J-11011/250/2025-IA-II
Government of India
Ministry of Environment, Forest and Climate Change
IA Division
****

Date **26/12/2025**

To,

Shri. RANADEEP CHAKRABORTY
M/s. GRAPHITE INDIA LIMITED
PO. SAGARBHANGA DURGAPUR, PASCHIM BARDHAMAN, WEST BENGAL, 713211
mrdgp@graphiteindia.com

Subject: **Proposed Expansion of Capacity from 67 KTPA to 80 KTPA Graphite Electrodes at JL No. 85 & 92, Village: Sagarbhanga, Durgapur, District: Paschim Bardhaman, West Bengal by M/s Graphite India Limited - Grant of prior Environmental Clearance (EC) to the proposed project under the provision of the EIA Notification 2006.**

Sir/Madam,

This is in reference to your application submitted to MoEF&CC vide proposal number IA/WB/IND2/544034/2025 dated 02/09/2025 for grant of prior Environmental Clearance (EC) to the proposed project under the provision of the EIA Notification 2006 and as amended thereof.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC25B2301WB5490851N
(ii) File No.	IA-J-11011/250/2025-IA-II
(iii) Clearance Type	Fresh EC
(iv) Category	B1
(v) Project/Activity Included Schedule No.	5(e) Petroleum products and petrochemical based processing such as production of carbon black and electrode grade graphite (processes other than cracking
(vi) Sector	Industrial Projects - 2
(vii) Name of Project	Proposed Expansion of capacity from 67 KTPA to 80 KTPA at JL No. 85 &92, Village: Sagarbhanga, Durgapur, District: Paschim Bardhaman, West Bengal by Graphite India Limited
(viii) Name of Company/Organization	GRAPHITE INDIA LIMITED
(ix) Location of Project (District, State)	PASCHIM BARDHAMAN, WEST BENGAL

(x) Issuing Authority	MoEF&CC
(xi) Applicability of General Conditions as per EIA Notification, 2006	Yes

3. The Ministry of Environment, Forest and Climate Change has examined the proposal for proposed expansion of Capacity from 67 KTPA to 80 KTPA Graphite Electrodes at JL No. 85 &92, Village: Sagarbhanga, Durgapur, District: Paschim Bardhaman, West Bengal by M/s Graphite India Limited.

4. The proposal was considered in EAC (Ind-2) meeting held on 18th September, 2025 wherein the project proponent and their accredited Consultant M/s. J.M Enviro Net Private Limited (NABET certificate no. NABET/EIA/2326/RA 0308 and validity- August 7, 2026) made a detailed presentation on the salient features of the project. The minutes of the meeting and all the Application and documents submitted [(viz. Form-1 Part A, Part B, Part C EIA, EMP)] are available on PARIVESH portal which can be accessed by scanning the QR Code available above.

5. All Products are listed at S. No. 5(e) of Schedule of Environment Impact Assessment (EIA) Notification 2006 as amended to date and the project is outside the notified industrial area, hence is categorized as category 'A' project and will be appraised at Central Level by Expert Appraisal Committee (EAC). Additionally, the project falls under the Severely Polluted Area (CPA) in Durgapur hence general conditions are also applicable.

6. The details of products and capacity are enclosed at Annexure-2.

7. SEIAA, West Bengal has issued Environmental Clearance to the existing capacity of Expansion of 52 KTPA to 67 KTPA vide File No. EN/T-II-1/128/2021 dated 10.03.2023. Certified Compliance report of existing EC has been obtained from West Bengal Pollution Control Board; Kolkata vide Memo No. No.11068-4A/18/2008 (Pt.VI) dated 28/08/2025. Date of Site Visit is 07/08/2025 due to non-issuance of Certified Compliance Report from the concerned IRO, sub-office, Kolkata. (Compliance as per OM dated 08.06.2022).

Implementation Status of the existing EC:

S. No.	Units	UoM	Existing 67KTPA	Reference	Status of Implementation
1.	Extrusion-1	MTPH	4.44*	-	
2.	Extrusion -2	MTPH	12	E.C vide File No. EN/T-II-1/128/2021 dated 10.03.2023 CTO vide CTO No. WBPCB/4403447/2023 dated 05.01.2024 valid till 30.11.2028	Implemented
3.	Baking RH 14 Sec Furnace	MT/charge	42		
4.	Baking RH 16 Sec Furnace	MT/charge	80		
5.	Baking RH 24 Sec Furnace (I)	MT/charge	80		
6.	Baking RH 24 Sec Furnace (II)	MT/month	2775		
7.	Baking RH 24 Sec Furnace (III)	MT/month	2775		
8.	Re-Baking Tunnel Kiln 1	MT/month	3360		
9.	Re-Baking Tunnel Kiln 2	MT/month	3360		
10.	Pitch	MT/charge	6.9		

	Impregnation unit 2 & unit 3				
11.	Pitch Impregnation unit 4	MTPA	56924		
12.	Acheson	MT/charge	40		
13.	Lengthwise Graphitization unit 3	MT/charge	25		
14.	Lengthwise Graphitization unit 4	MT/month	3180		
15.	Lengthwise Graphitization unit 5	MT/month	2740		
16.	Finishing Unit 1& 2	MT/month	420		
17.	Finishing Unit 3	MT/month	2582		
18.	Finishing Unit 4	MT/month	2582		
*4.44 MTPH in the existing capacity will be removed due to introduction of new technology in Extrusion 1, therefore only 12 MTPH will be final capacity after expansion					

8. Standard ToR and PH are not applicable since the proposal is applied under para 7(ii) of EIA Notification, 2006 and in line with Ministry's OM dated 11th April, 2022. PP has informed that there is no litigation pending against the project.

Compliance of the criteria given in MOEFCC, OM dated 11th April, 2022, para 4(i-ix) under 7(ii):

S. No.	Criteria	Reply
1.	Project should have gone through the public hearing process, at least once, for its existing EC capacity on which expansion is being sought, except those category projects which have been exempted as per para 7 III(i) of EIA Notification 2006 and its amendments.	Public Hearing was held on 27.05.2022 for the Last EC obtained for "Proposed Expansion of Capacity From 52KTPA To 67KTPA".
2.	There should not be change in category of the project from 'B2' to 'B1' or 'A' due to proposed modernization or expansion.	The category of the project will remain "B1" for the proposed expansion project. There will not be any change in category from "B2" to B1 or A. The project will be appraised as Category "A" because the plant site falls in Severely Polluted Area.
3.	There is no additional land acquisition or forest land diversion involved for the proposed expansion or there is no increase in lease area with regard to mining vis-a-vis the area mentioned in the EC, based on which public hearing has been held earlier.	The proposed expansion will be done within the existing plant premises. No additional land acquisition will be required for the proposed expansion.
4.	The proposed expansion shall not be more than 50% of production capacity as mentioned in the prior EC, issued on the basis of public hearing held and the same shall be allowed in minimum three phases.	Last Expansion Capacity was 67000 Mt/Annum. Further proposed Expansion is additional 13000 MT/annum which is 19.4% of last EC.

6.	The proposed expansion should not result in reduction in greenbelt area as stipulated in earlier EC, or if the existing ratio of greenbelt is more than 33%, after expansion it should not reduce below 33%.	Noted and agreed to. The proposed expansion shall not result in reduction in the greenbelt area as stipulated in EC. More than 33% of total area is already developed as greenbelt. The company will increase this greenbelt from 34.87% to 40%. As part of CEPI Action Plan, the greenbelt will be increased to 40% as avenue plantation due to space constraint inside the plant premises. The company has obtained relevant permissions from authorities for development of greenbelt outside plant.
7.	The project proponent should have satisfactorily complied the conditions stipulated in the existing EC(s) and satisfactorily fulfilled all the commitments made during the earlier public hearing/ consultation proceedings and also the commitments given while granting previous expansion, as may be applicable. This shall be duly recorded in the certified compliance report issued by the IRO/CPCB/SPCB, which should not be more than one year old at the time of submission of application.	The company regularly submits six monthly compliances. Latest EC six monthly compliance report has been submitted online. Status of Implementation of the commitments made during earlier Public Hearing has been incorporated in Chapter 7 of the EIA/EMP Report. Certified CTO Compliance report has been obtained Memo No.10880 (1)4A/18/2008 (Pt.V) dated 23/06/2025. Date of Site Visit is 22/05/2025. Latest Certified EC Compliance Report has been obtained via Memo No.11068-4A/18/2008(Pt.VI) dated 28.08.2025. Date of Site Visit-07.08.2025.
8.	Public consultation shall be undertaken (if applicable as per table below) by obtaining response in writing, as per para 7 III (ii)(b) of EIA Notification 2006, except those categories of projects which have been exempted as per para 7 III(i) of EIA Notification 2006 and its amendments.	Public Hearing was held on 27.05.2022 for the Last EC obtained for "Proposed Expansion of Capacity From 52KTPA To 67KTPA". As per para 5 (II) of OM dated 11.04.2022, the proposed expansion is exempted from public consultation.
9.	Effluent monitoring including air quality monitoring systems as specified in the existing EC, if stipulated, should have been installed.	Effluent Monitoring as well as Air quality monitoring systems have already been installed in line with the conditions stipulated in existing EC and Consents.

9. Total plant area after expansion will be 22.44 Ha. No additional land will be acquired for the expansion project as the same will be done within existing plant premises. Out of the total plant area i.e., 6.52 hectares area has already been developed under greenbelt/plantation in plant premises. Further, as permitted existing EC additional greenbelt of 1.3 ha was developed in the colony nearby making cumulative greenbelt of 7.82 i.e., 34.87% of the total project area. As part of CEPI Action Plan, the greenbelt will be increased to 40% as avenue plantation in 1.156 ha land nearby due to space constraint inside the plant premises. The company has obtained permission along with layout from Asansol Durgapur Development Authority vide memo no. ADDA/DGP/PC-56/25-26(60) dated 24/06/2025 for development avenue plantation along roadside of two patch of land. Hence, after expansion 8.976 Ha, 40% will be covered under plantation. The estimated project cost for expansion is Rs. 315 Crores. Capital cost of EMP would be Rs. 3.25 crores and recurring cost (entire plant) for EMP would be Rs. 2.824 crores per annum. Industry proposes to allocate Rs. 3.1 Crores towards extended EMP. Total Employment for Construction Phase is 150 for Contractual. No additional manpower during operation phase required for the expansion project.

10. There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance. Durgapur PF is at distance ~4.8 km in North East Direction from plant site and Beliatore RF is at a distance of ~9.0 km in South West direction from plant site. Conservation Plan for Schedule 1 species has been submitted to DFO, Durgapur, Social Forestry Division dated 03/07/2025 and currently under process and a budget of 0.25 crores has been earmarked for the same. Water bodies: DVC Canal (~0.5 km in South), Damodar River (~2.5 km in SSW direction from Plant site), Tamla Nala (~5.0 km in NW direction from Plant site), Barjora Nala (~5.30 km in WSW direction from Plant site), Damodar Branch Canal (~6.0 km in East), Tartari Nala (~8.20 km in WSW direction from Plant site) and Kunur Nala is at distance of ~8.5 km in NNE direction from Plant site. The company has obtained No Flood NOC from Office of the Executive Engineer, Damodar Headworks Division via Memo No.918 dated 25/04/2025 stating that the site does not fall in flood prone zone as per last 25 years data.

Project site proximity to sensitive area	Details
Habitation	Veerakkalpuddur (Population: 2500) at 0.15 km in SE
School	Ramesh Vidhyashram Matriculation School at 0.01 km in E
River/Waterbody	Kaveri River 0.6km W Mettur Dam at 3.81 km in SW
Archaeological Survey of India (ASI) protected site	None
Compliance of MoEF&CC OM dated 14/02/2022 regarding sitting of Industries in close proximity of river	NA

11. Ambient air quality monitoring was carried out at 8 locations during March to May 2025 and the baseline data indicates the ranges of concentrations as: PM10 (36.6 to 143.2 µg/m3), PM 2.5 (21.2 to 72.6 µg/m3), SO2 (5.9 to 20.9 µg/m3), and NOx (12.0 to 37.0 µg/m3). AAQ modeling study for all point source emissions indicates that the maximum incremental GLCs after the proposed expansion would be PM10- 0.70 µg/m3 , PM2.5- 0.52 µg/m3 ,NOx- 1.27 µg/m3, SO2- 1.63 µg/m3, CO- 0.00137 mg/m3 and Cl2- 0.00003 µg/m3. The resultant concentrations at all AAQ locations are within the National Ambient Air Quality Standards (NAAQS).

12. Total fresh water requirement after expansion will be 843 CMD which will be met from Durgapur Projects Limited vide Agreement No. WW/14-N-I/Graphite/91/30 vide Date- 22nd of June, 1990. Existing effluent generation is 284 CMD which is treated through ETP 1 & 2 of capacity 168 CMD and WWTP (cooling water filter) of capacity 1440 CMD. Proposed effluent generation will be 200 CMD which will be treated through existing ETP and WWTP (cooling water filter) as well as proposed ETP of capacity 300 CMD. Domestic waste water is being/will be treated in STP (Capacity of STP in 10 KLD and 20 KLD). The plant is being/will be based on Zero Effluent discharge system and treated effluent/water shall not be discharged outside the factory premises.

13. Total power requirement after expansion will be 65 MW which will be sourced from Damodar Valley Corporation. Enhancement of Contract demand has been finalized between Damodar Valley Corporation and Graphite India Limited vide Contract No. Coml./CD enhancement/GIL/Durgapur 2729 dated 28th Nov,2017. Existing unit has 1.5 Tonn and a standby boiler of 2 Tonn, CBM fired Boiler. No APCE is installed as it is CBM fired. No boiler is proposed for the expansion project and current facility in Extrusion 1 unit will be dismantled. Industry has 11x 500, 2x 250, 1x750, 2x1010, 2 x 630KVA DG set and proposed 2x1010 KVA DG Set which is/will be used as standby during power failure with adequate stack height is/will be provided as per CPCB norms to the proposed DG sets.

14. Details of Process emissions generation and its management: The stack emission details of existing and stacks after

expansion are mentioned at Annexure - 5. There will not be any addition of new stacks; old stacks in extrusion 1 will be utilized for proposed expansion after modifications.

15. Details of solid waste/Hazardous waste generation and its management:

Solid waste:
• Graphite Fines: 12,340 TPA (existing) to 14,734 TPA (post-expansion)
• Graphite End Cut Scrap: 960 TPA (existing) to 1,146 TPA (post-expansion).
• Graphite Burnt Spacer Scrap: 970 TPA (existing) to 1,158 TPA (post-expansion).
• Graphite Electrode/Nipple Scrap: 180 TPA (existing) to 215 TPA (post-expansion).
• CPC Residue Fines (from LWG & Coke fines from Macawber Pack Media System): 610 TPA (existing) to 728 TPA (post-expansion).
• CPC Residue Fines (RH + Baked Turning Chips): 2,880 TPA (existing) to 3,439 TPA (post-expansion).
• Pitch Coke: 1,700 TPA (existing) to 2,030 TPA (post-expansion).
• Metcoke Residue Fines -35 (Demco fines): 10,580 TPA (existing) to 18,090 TPA (post-expansion).
• Metcoke Residue Fines (Rejected): 3,600 TPA (existing) to 4,299 TPA (post-expansion) - Will be sold to Steel and Carbon Industries.

Hazardous waste:
• The hazardous wastes generated from the plant include Used Oil/Waste Oil (Existing 18 KL/annum, after expansion-21.50 KL/annum) and Oily Waste Sludge (Existing-18.5 KL/annum, after expansion-22.13 KL/annum), both of which are sent to WBPCB/CPCB authorized recyclers.
• ESP Coal Tar Residue (Existing -480.9 MTPA, after expansion- 574.19 MTPA), Empty/Discarded Drums, Containers, Barrels (Existing-2 MTPA, after expansion-2.39 MTPA), Discarded Asbestos (Existing-6.886 MTPA, after expansion-8.22 MTPA), Oily Cotton Waste (Existing-20.833 MTPA, after expansion-24.88 MTPA) and ETP Sludge (Existing-5 MTPA, after expansion-10.97 MTPA) are disposed to CHWTSDF through the manifest system and authorized recyclers.
• Additionally, Thermocole (Existing-0.177 MTPA, after expansion-0.21 MTPA) and Metwrap (Existing-4.756 MTPA, after expansion-5.68 MTPA)- The company has obtained registration as Importer for disposal of Plastic waste generated due to plastic packaging.

The EAC noted that the proposed expansion in Durgapur Severely Polluted Area. Accordingly, the project proponent has submitted compliance to Ministry's OM dated 31st October, 2019 for the projects located in CP which is given below:

S. No.	Stipulation of conditions	Compliance
1.	Air	
i	Stack emission levels should be stringent than the existing standards in terms of the identified critical pollutants.	Noted and will be complied. Stack emission levels is being/will be maintained as per EC conditions, CPCB & WBPCB standards.
ii	CEMS may be installed in all large/medium red category industries (air polluting) and connected to SPCB and CPCB server.	CEMS is already installed with existing stacks and connected to CPCB/WBPCB servers as per last EC and will be installed with the proposed stacks also.
iii	Effective fugitive emission control measures should be imposed in the process, transportation, packing etc.	Effective fugitive emission control measures are already being followed: · Transportation of raw materials and products are by covered vehicles only. · Extensive dust extraction networks are provided. Water spraying on roads and construction site will prevent fugitive dust. · Mobile vacuum dust sweeping system on industrial roads and vacuum dust cleaning system for plant area exist to control airborne dust due to the vehicles movement. Regular road washing is being done on internal roads. · Covered storage facilities are/will be provided. · Proper greenbelt development and plantation inside and outside

		the plant premises.
iv	Transportation of materials by rail/ conveyor belt, wherever feasible.	Transportation of materials by rail/ conveyor belt is already being followed as per applicability.
v	Encourage use of cleaner fuels (pet coke/ furnace oil/ LSHS may be avoided).	Use of Cleaner fuel like CBM is being/will be followed. There is no usage of pet coke/ furnace oil/ LSHS in plant.
vi	Best Available Technology may be used. For example; usage of EAF/SAF/ IF in place of Cupola furnace. Usage of Supercritical technology in place of sub-critical technology.	Best Available Technology is being used, and for expansion, old technology (Paddle Technology) will be replaced with new technology (Eirich Technology) in Extrusion-1 unit which will reduce the consumption of energy and water.
vii	Increase of green belt cover by 40% of the total land area beyond the permissible requirement of 33%, wherever feasible.	Present green belt is 34.87% (plant + colony). The greenbelt will be increased to 40% as avenue plantation due to space constraint inside the plant premises. The company has obtained relevant permissions from authorities for development of plantation outside plant. After expansion, total greenbelt will be 8.976 ha.
viii	Stipulation of greenbelt outside the project premises such as avenue plantation, plantation in vacant areas, social forestry, etc.	To increase the greenbelt to 40%, avenue plantation is being done. The company has obtained relevant permissions from authorities for development of plantation outside plant. After expansion, total greenbelt will be 8.976 ha.
ix	Assessment of carrying capacity of transportation load on roads inside the industrial premises. If the roads required to be widened, shall be prescribed as a condition.	Roads inside the plant premises are already paved and widened for accommodating transportation load. The existing traffic is under LOS category B i.e., Volume is 919 PCU/hr at SH-09 and after the proposed project, the volume will increase to 45 PCU/hr, the total Volume will be 964 PCU/hr. Therefore, the category remains LOS B.
2.	Water	
i	Reuse/recycle of treated wastewater, wherever feasible.	Plant is completely Zero Effluent Discharge based and reuse and recycle of water is being/will be done inside plant premises.
ii	Continuous monitoring of effluent quality/quantity in large and medium Red Category Industries (water polluting).	Monitoring of effluent is being done and test reports for the same has been enclosed with every half-yearly compliance report.
iii	A detailed water harvesting plan may be submitted by the project proponent	Rainwater is being collected inside premises from rooftop near the admin building. Water harvesting Plan is being followed and will be continued after expansion.
iv	Zero liquid discharge wherever techno economically feasible.	Zero Effluent Discharge is being/will be followed.
v	In case, domestic waste water generation is more than 10 KLD, the industry may install STP.	Waste water generated from the domestic activities is being/will be sent in capacity of STP 1 (10 KLD) and STP 2 (20 KLD). Water from STP is being/ will be used in greenbelt & dust suppression.
3.	Land	
i	Increase of green belt cover by 40% of the total land area beyond the permissible requirement of 33%, wherever, feasible for new projects.	Present green belt is 34.87% (plant + colony). The greenbelt will be increased to 40% as avenue plantation due to space constraint inside the plant premises. The company has obtained relevant permissions from authorities for development of plantation outside plant. After expansion, total greenbelt will be 8.976 ha.
ii	Stipulation of greenbelt outside the project premises such as avenue plantation, plantation in vacant areas, social forestry, etc.	To increase the greenbelt to 40%, avenue plantation is being done. The company has obtained relevant permissions from authorities for development of plantation outside plant. After expansion, total greenbelt will be 8.976 ha.
iii	Dumping of waste (fly ash, slag, red	There is no generation of fly ash, slag, red mud in the plant. Used

	mud, etc.) may be permitted only at designated locations approved by SPCBs/ PCCs.	oil/waste oil is being sent to WBPCB/CPCB Authorized Recyclers. Hazardous waste is disposed to the CHWTSDF through Manifest system and authorized recyclers. Registration as Importer for disposal of Plastic waste generated due to plastic packaging has been obtained for the disposal of thermocole and metwrap.
iv	More stringent norms for management of hazardous waste. The waste generated should be preferably utilized in co-processing	Hazardous waste is disposed to the CHWTSDF through Manifest system and authorized recyclers.
4.	Other Condition (Additional):	
i	Monitoring of compliance of EC conditions may be submitted with third party audit every year.	Monitoring of compliance of EC conditions will be submitted with third party audit every year.
ii	The % of the CER may be at least 1.5 times the slabs given in the OM dated 01.05.2018 for SPA and 2 times for CPA in case of Environmental Clearance.	As per granted EC, the budget for CER activities is 103.5 lakhs to be spent in next 6 years, out of which the company has spent Rs.33.86 lakhs up to March, 2025 on CER activities under various heads. The remaining amount of 69.64 lakhs is being utilized as per the plan. Additional as part of this expansion, company has allocated CER budget of 310 lakhs.

16. During deliberations, EAC discussed following issues:

• EAC desired the pollution load comparison for the existing project and after the proposed expansion. As per the pollution load analysis submitted by PP, it was noted that fresh water requirement and effluent generation will be decreased by 57 KLD and 84 KLD due to replacement of Extrusion 1 old setup with new technology. Stack emissions of PM, SOx and NOx will be reduced by 4.2 g/sec, 1.6 g/sec and 1.9 g/sec respectively as Paddle Furnace will be replaced with a new Eirich mixer setup along with the relevant equipment in Extrusion 1 facility. However, it was noted that there shall be increase in solid and hazardous waste generation as the overall production capacity is increasing.

• It was also noted that as per EC, greenbelt of 6.52 ha (within the plant) and 1.3 ha (in the colony nearby) was developed making total area of 7.82 ha i.e., 34.87% of the total area of the project. As part of CEPI Action Plan, the additional greenbelt of 1.156 ha as avenue plantation due to space constraint inside the plant premises making total greenbelt of 8.976 has i.e., 40% total project area. For the same, company has obtained permission from Asansol Durgapur Development Authority vide memo no. ADDA/DGP/PC-56/25-26(60) dated 24/06/2025 for development avenue plantation along roadside of two patch of land. In this regard, EAC suggested that greenbelt developed outside the plant i.e., colony and avenue plantation along road side shall maintained by the project proponent till the life of the Industry.

The committee was satisfied with the response provided by PP on above information. Further, Committee desired to submit the above information in writing. Accordingly, PP has submitted the desired information and EAC found the information/commitments satisfactory.

17. The EAC, constituted under the provision of the EIA Notification, 2006 and comprising of Experts Members/domain experts in various fields, have examined the proposal submitted by the Project Proponent in desired form along with the EMP report prepared and submitted by the Consultant accredited by the QCI/ NABET on behalf of the Project Proponent. The EAC noted that the Project Proponent has given undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the report. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.

18. The Committee noted that the EIA/EMP report is in compliance of Standard ToR applicable to the project activity reflecting the present environmental concerns and the projected scenario for all the environmental components. The

Committee has found the baseline data is within NAAQ standards. The Committee has deliberated the action plan proposed by the project proponent to arrest the incremental GLC due to the project. The Committee has also deliberated on the Extended EMP plan and found to be addressing the issues in the study area. The EAC has deliberated the proposal and has made due diligence in the process as notified under the provisions of the EIA Notification, 2006, as amended from time to time and accordingly made the recommendations to the proposal. The Experts Members of the EAC have found the proposal in order and have recommended for grant of environmental clearance.

19. The environmental clearance granted to the project/activity is strictly under the provisions of the EIA Notification 2006 and its amendments. It does not tantamount/construe to approvals/consent/ permissions etc. required to be obtained or standards/conditions to be followed under any other Acts/ Rules/ Subordinate legislations, etc., as may be applicable to the project. The project proponent shall obtain necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, from the State Pollution Control Board, prior to construction & operation of the project.

20. Based on the proposal submitted by the project proponent and recommendations of the EAC (Industry-2), Ministry of Environment, Forest and Climate Change hereby accords environmental clearance to the project proposed expansion of Capacity from 67 KTPA to 80 KTPA Graphite Electrodes at JL No. 85 &92, Village: Sagarbhanga, Durgapur, District: Paschim Bardhaman, West Bengal by M/s Graphite India Limited, under the provisions of the EIA Notification, 2006, and the amendments therein, subject to compliance of the terms and conditions enclosed at Annexure-1.

21. The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.

22. 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.

23. 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.

24. The above conditions will 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, the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 read with subsequent amendments therein.

25. This issues with the approval of the Competent Authority.

Copy To

1. The Principal Secretary, Department of Environment & Forest, 5th Floor, Pranisampad Bhawan, Block LB-II, Salt Lake, Sector III, Bidhannagar, Kolkata – 700 106.
2. The Regional Officer, Ministry of Environment, Forest and Climate Change,Integrated Regional Office, Kolkata IB – 198, Sector-III, Salt Lake City, Kolkata - 700106.
3. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi - 32.
4. The Member Secretary, West Bengal Pollution Control Board, Paribesh Bhawan 10A, Block-LA, Sector-III Bidhannagar, Kolkata-700 106.
5. Compliance & Monitoring Division, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi.
6. District Collector, Paschim Bardhaman, West Bengal.
7. Guard File/Monitoring File/ Parivesh Portal /Record File.

Annexure 1

Specific EC Conditions for (Petroleum Products And Petrochemical Based Processing Such As Production Of Carbon Black And Electrode Grade Graphite (Processes Other Than Cracking)

1. Petroleum Products And Petrochemical Based Processing

S. No	EC Conditions
1.1	The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry (Annexure - 3). All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.
1.2	The project proponent shall prepare a site specific conservation plan and wildlife management plan in case of the presence of Schedule-1 species in the study area, as applicable to the project, and submit to Chief Wildlife Warden for approval. The recommendations shall be implemented in consultation with the State Forest/Wildlife Department in a time bound manner.
1.3	The total fresh water requirement after expansion shall not exceed 843 KLD, which shall be met from Durgapur Projects Limited. Existing effluent generation is 284 CMD which is treated through ETP 1 & 2 of capacity 168 CMD and WWTP (cooling water filter) of capacity 1440 CMD. Proposed effluent generation shall be 200 CMD which shall be treated through existing ETP and WWTP (cooling water filter) as well as proposed ETP of capacity 300 CMD. Domestic wastewater shall be treated in the STPs installed (10 & 20 KLD). The plant will operate on a Zero Liquid Discharge (ZLD) system, and treated effluent shall not be discharged outside the factory premises.
1.4	Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.
1.5	Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer to be done through pumps.
1.6	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.
1.7	Regular VOC monitoring shall be done at vulnerable points. A Leak Detection and Repair (LDAR) Standard Operating Procedure (SOP) shall be strictly enforced.
1.8	The oily sludge shall be subjected to melting pit for oil recovery and the residue shall be bio-remediated. The sludge shall be stored in HDPE lined pit with proper leachate collection system.
1.9	Oil catchers/oil traps shall be provided at all possible locations in rain/ storm water drainage system inside the factory premises.
1.10	The company shall undertake waste minimization measures as below: (a) Metering and control of quantities of active ingredients to minimize waste. (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. (c) Use of automated filling to minimize spillage. (d) Use of Close Feed system into batch reactors. (e) Venting equipment through vapour recovery system. (f) Use of high pressure hoses for equipment cleaning etc. to reduce wastewater generation.

S. No	EC Conditions
1.11	Greenbelt of 5-10 m greenbelt has been developed in an area 6.52 ha within the plant. Further, greenbelt of 1.3 ha was developed in the colony nearby making total area of 7.82 ha i.e., 34.87% of the total area of the project. An additional greenbelt of 1.156 ha shall be developed as avenue plantation due to space constraint inside the plant premises making total total greenbelt of 8.976 has i.e 40% total project area. The company has obtained permission from Asansol Durgapur Development Authority vide memo no. ADDA/DGP/PC-56/25-26(60) dated 24/06/2025 for development avenue plantation along roadside of two patch of land which shall maintained by the project proponent till the life of the Industry. Indigenous species shall only be planted as part of greenbelt and non-indigenous / alien species shall be replaced with native species. No invasive or alien or non-native tree species shall be selected for plantation. PP shall plant at least 20 variety of species as a part of greenbelt. Saplings 4-6 feet high shall be planted. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department and native species shall be developed. Records of tree canopy shall be monitored through remote sensing map. Trees shall be planted in the Green Belt under the campaign #Plant4Mother #एक पेड़ माँ के नाम and uploaded on the MeriLiFE portal (https://merilife.nic.in/).
1.12	PP proposed to allocate Rs. 3.10 Crores towards extended EMP which shall be spent as submitted as per action plan (Annexure - 4) within 3 years in consultation with District Administration. All the commitments made in Public Hearing shall be completed within the timeline as per action plan submitted.
1.13	A separate Environmental Management Cell (having qualified person with Environmental Science/ Environmental Engineering/ specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.
1.14	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Firefighting system shall be as per the norms.
1.15	All the existing and proposed stacks shall not exceed the emission limits prescribed in the tables mentioned at Annexure - 5. Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server.
1.16	Industry shall allocate at least Rs. 0.50 Crore for Occupational Health Safety for establishing occupational health Centre for surveillance of the worker's health within the plant on a regular basis. The health data shall be used in deploying the duties of the workers. All workers & employees shall be provided with required safety kits/mask for personal protection.
1.17	The National Emission Standards for Petrochemical (Basic & Intermediates) issued by the Ministry vide G.S.R. 820 (E) dated 9th November, 2012 as amended time to time shall be followed.
1.18	Recommendations of mitigation measures from possible accident shall be implemented based on advanced risk Assessment studies conducted for worst case scenarios using latest techniques.
1.19	PP shall sensitize and create awareness among the people working within the project area as well as its surrounding area on the ban of Single Use Plastic in order to ensure the compliance of Notification published by MOEFCC on 12th August, 2021. A report along with photographs on the measures taken shall also be included in the six-monthly compliance report being submitted to concerned authority.

S. No	EC Conditions
1.20	The project proponent shall ensure the compliance of the Ministry's OM dated 14th January 2025 w.r.t. streamlining the implementation of Notifications G.S.R. 702 and G.S.R. 703 dated 12th November 2024.
1.21	The plantation under Green Credit Program by the Project Proponent shall not be eligible for site-specific plantation clearance forming part of Environment Clearance.

2. General Conditions

S. No	EC Conditions
2.1	No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change/SEIAA, as applicable. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
2.2	The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.
2.3	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 the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
2.4	The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. Extended EMP activities shall be undertaken by involving local villages and administration and shall be implemented. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.
2.5	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change 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.
2.6	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.
2.7	The project proponent shall also 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 by e-mail) to 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 website of the company.
2.8	The environmental statement for each financial year ending 31st March in Form-V as is mandated

S. No	EC Conditions
	shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of MoEF&CC by e-mail.
2.9	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry and at https://parivesh.nic.in/. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.
2.10	The project authorities 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 and the date of start of the project.
2.11	This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.

Annexure 2

Details of the Project

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th></tr>
<tr><td>a.</td><td>Details of the Project</td><td>Proposed Expansion of capacity from 67 KTPA to 80 KTPA at JL No. 85 &92, Village: Sagarbhanga, Durgapur, District: Paschim Bardhaman, West Bengal by Graphite India Limited</td></tr>
<tr><td>b.</td><td>Latitude and Longitude of the project site</td><td>23.488103986957,87.3318275022027823.4928307421869,87.3418986857208</td></tr>
<tr><td>c.</td><td>Land Requirement (in Ha) of the project or activity</td><td><table><tr><th>Nature of Land involved</th><th>Area in Ha</th></tr><tr><td>Non-Forest Land (A)</td><td>22.44</td></tr><tr><td>Forest Land (B)</td><td>0</td></tr><tr><td>Total Land (A+B)</td><td>22.44</td></tr></table></td></tr>
<tr><td>d.</td><td>Date of Public Consultation</td><td>Public consultation for the project was held on</td></tr>
</table>

S. No.	Particulars	Details
e.	Rehabilitation and Resettlement (R&R) involvement	NO
f.	Project Cost (in lacs)	42510
g.	EMP Cost (in lacs)	325
h.	Employment Details	

Details of Products & By-products

S. No	Unit	Product	Existing Quantity	Additional Quantity	Total Capacity after Expansion
1.	Extrusion-1	Graphite Electrodes	4.44*(3200 Mt/month)	12 MTPH	12 MTPH
2.	Extrusion -2		12 MTPH	-	12 MTPH
3.	Baking RH 14 Sec Furnace		42 MT/charge	-	42 MT/charge
4.	Baking RH 16 Sec Furnace		80 MT/charge	-	80 MT/charge
5.	Baking RH 24 Sec Furnace (I)		80 MT/charge	-	80 MT/charge
6.	Baking RH 24 Sec Furnace (II)		2775 MT/month	-	2775 MT/month
7.	Baking RH 24 Sec Furnace (III)		2775 MT/month	-	2775 MT/month
8.	Re-Baking Tunnel Kiln 1		3360 MT/month	469 MT/month	3829 MT/month
9.	Re-Baking Tunnel Kiln 2		3360 MT/month	469 MT/month	3829 MT/month
10.	Pitch Impregnation unit 2 & unit 3		6.9 MT/charge	-	6.9 MT/charge
11.	Pitch Impregnation unit 4		56924 MTPA	21868 MTPA	78792 MTPA
12.	Acheson		40 MT/charge	-	40 MT/charge
13.	Lengthwise Graphitization unit 3		25 MT/charge	-	25 MT/charge
14.	Lengthwise Graphitization unit 4		3180 MT/month	-	3180 MT/month
15.	Lengthwise Graphitization unit 5		2740 MT/month	796 MT/month	3536 MT/month

16.	Finishing Unit 1& 2		420 MT/month	1084 MT/month	1504 MT/month
17.	Finishing Unit 3		2582 MT/month	-	2582 MT/month
18.	Finishing Unit 4		2582 MT/month	-	2582 MT/month
*4.44 MTPH in the existing capacity will be removed due to introduction of new technology in Extrusion 1, therefore only 12 MTPH will be final capacity after expansion.					
Proposed Capacity is 80 KTPA Finishing Unit 1 & 2 (MT/month) = 1504*12= 18048 MTPA Finishing Unit 3(MT/month) = 2582*12 = 30984 MTPA Finishing Unit 4 (MT/month) = 2582* 12 = 30984 MTPA Total = ~**80 KTPA of Graphite Electrodes**					

By-product details:

S No.	Unit	By-Product	Existing Quantity (in TPA)	Additional Quantity (in TPA)	Total capacity expansion (in TPA)
1.	Finishing Unit 1, & 2,3 and 4	Graphite Fines	12340	2414	14734
2.	Lengthwise Graphitization unit 3, 4 and 5, Finishing Unit 1, & 2,3 and 4 and Acheson	Graphite End cut Scrap	960	186	1146
		Graphite Electrode /Nipple scrap	180	35	215
3.	Acheson and Lengthwise Graphitization unit 3, 4 and 5	Graphite Burnt Spacer Scrap	970	188	1158
		Metcoke Residue Fines -35 (Demco fines)	10580	7510	18090
		Metcoke Residue Fines (Rejected)	3600	699	4299
4.	Baking RH 14 Sec 16 Sec, 24 Sec (I), 24 Sec (II) and 24 Sec (III) Furnace.	CPC Residue fines (From LWG & Coke fines from Macawber Pack media system)	610	118	728
		CPC Residue fines (RH +Baked Turning chips)	2880	559	3439

S No.	Unit	By-Product	Existing Quantity (in TPA)	Additional Quantity (in TPA)	Total capacity expansion (in TPA)
		ESP pitch (Coal Tar-Pitch from Waste Rec. System)	425	149.19	574.19
5.	Re-Baking Tunnel Kiln 1 and Re-Baking Tunnel Kiln 2	Pitch coke	1700	330	2030

Annexure-3

Details of capital and recurring cost of EMP:

S. No.	Description	Capital cost (in lakhs)	Entire plant Recurring cost /Annum (in lakhs)
1.	Air Pollution Control Devices (Proposed in Project)	75	201.83 (Operation and Maintenance cost of other Pollution control equipment)
2.	Water Pollution Management-Water Scrubber with ETP Extrusion-1 (Proposed in project)	250	47.89 (Operating cost of ETP-New Ext +PI4, ZLD and STP)
3.	Stack Monitoring, Ambient monitoring, Effluent Sampling, Noise Monitoring and work zone monitoring	-	13.9
4.	Green belt development	-	3.31
5.	Fugitive emissions control like road sweeping	-	15.47
6.	Rainwater harvesting	-	Negligible
	Total	**325**	**282.4**

Annexure-4

Details of Extended EMP with proposed activities and budgetary allocation:

S No.	PROPOSED ACTIVITIES*	TOTAL BUDGET ALLOCATED (RS. IN LAKHS)
1.	**Up gradation of Local School Infrastructure & Educational facilities-** Provide Interactive smart class equipments /gadgets like desktop computers, projectors, installation of potable water facilities, renovation of classrooms, construction of toilets, development of playground, provision of scholarships, plantations etc.	44
2.	**Construction and Maintenance of Nearby Roads & Drains**	70
3.	**Social Infrastructure Development-** Installation of Solar Street Lights, Solar Lanterns, Construction of community toilets, Worship area & other infrastructure, Facility of potable drinking etc	78
4.	**Skill development for youth and women-** Organising Training programmes for youth/residents/women for sewing machines, handicrafts, painting etc., ITI training for civil, mechanical & electrical etc courses in Skill Development centre.	40
5.	**Health Care facilities–** Infrastructure development in local hospitals. PHCs like toilets, beds, potable water facilities, Strengthen the medical Centres by distributing medical equipments, Mobile ambulance van etc.	40
6.	**Plantation-** Plantation/ Avenue plantation along roadside, tree plantation & area development in nearby schools /colleges/ vacant land/ Panchayat bhavan, etc.	38
	Total	**310 lakhs**

***The above proposed activities shall be completed within 3 years.**

Existing Stack Emission Details

S. No.	Stack Attached to	Limits (mg/Nm3)	No. of Stack	Height from Ground Level (m)	Internal Diameter (Top) (m)	Emission Rate (g/sec)				Exit Velocity (m/sec)	Exhaust Gas	
						PM	SO_2	NO_x	CO		Temp (^{0}C)	Volumetric Flow (Nm^3/Hr)
1.	Mixture Fume Extractor (North) (Extrusion #1 Dept)	PM-150	1	30	0.72	0.8	-	-	-	13.86	41	18780
2.	Mixture Fume Extractor (South) (Extrusion# 1 Dept)	PM-150	1	30	0.80	1.1	-	-	-	15.98	41	26732
3.	Cooler (North) (Extrusion# 1 Dept)	PM-150	1	30	0.55	0.7	-	-	-	19.52	34	15786
4.	Cooler South (Extrusion# 1 Dept)	PM-150	1	30	0.55	0.7	-	-	-	22	34	17791
5.	Fume Extractor (West side) weigh floor (Extrusion# 1 Dept)	PM-150	1	30	0.3352	0.2	-	-	-	16.26	40	4791
6.	Raymond Mill Dust Collector (Extrusion# 1 Dept)	PM-150	1	16	0.6	0.5	-	-	-	13.21	38	12550
7	Scrap System Dust Collector (Extrusion# 1 Dept)	PM-150	1	15	0.6	0.4	-	-	-	10.16	38	9652
8	Main Dust Collector (Extrusion# 1 Dept)	PM-150	1	22	0.7	0.4	-	-	-	7.62	39	9822
9	Ried Hammer Furnace (Baking Furnace)	PM-150 SOx- NOx-	1	30	0.8	0.8	1.4	1.7	<0.1	12.82	65.5	19893

	(14 SECTION)											
10	Ried Hammer Furnace (Baking Furnace)(RH16 & RH24-I SECTION) [RH-24(I) running]	PM-150 SOx-NOx-	1	45	1.8	4.7	7.8	9.4	<0.1	14.47	68.5	112674
11	P.I. UNIT-2 (THERMO PACK STACK)	PM-150 SOx-NOx-	1	30	0.4	0.2	0.3	0.3	<0.1	9.71	64.5	3778
12	P.I. UNIT-2 (HGG STACK)	PM-150 SOx-NOx-	1	30	0.4	0.2	0.4	0.4	<0.1	13.14	68.5	5053
13	Finishing Dust Collector (Unit 2)	PM-150	1	15	0.9	1.5	-	-	-	16.71	35	36067
14	FINE SCREENING DUST COLLECTOR	PM-150	1	15	0.812	1.1	-	-	-	15.6	34	27498
15	Boiler (1.5 Ton/ 2Ton) 1.5 Ton Running	PM-150 SOx-NOx-	1	29.29	0.28	0.8	1.9	2.3	<0.1	120.00	10.98	27190
16	Tunnel Kiln – 1 (Re-baking Furnace) (4.6 TPH)	PM-150 SOx-NOx-	1	30	0.73	0.5	0.8	1.0	<0.1	12.45	189	11786
17	Finishing Dust Collector (Unit 3)	PM-150	1	15	0.78	1.1				15.62	36	25241
18	P.I. Unit – 3 (HGG STACK)	PM-150 SOx-NOx-	1	30	0.4	0.2	0.3	0.4	<0.1	11.27	52.2	4551
19	Tunnel Kiln – 2 (Re-baking Furnace) (4.6 TPH)	PM-150 SOx-NOx-	1	30	0.73	0.5	0.8	0.9	<0.1	10.53	150	10888
20	P.I. Unit – 3 (THERMO PACK STACK)	PM-150 SOx-NOx-	1	30	0.4	0.2	0.3	0.4	<0.1	11.6	71	4428
21	Thermic Fluid	PM-150	1	30	0.58	0.3	0.5	0.6	<0.1	8.49	50	7257

	Heater (Extrusion - 2 Department)	SOx- NOx-										
22	Extrusion #2 IRICH Dust Collector	PM-150	1	34	0.3	0.1	-	-	-	8.32	33	2008
23	Extrusion #2 Main Dust Collector	PM-150	1	34	1	1.7	-	-	-	15.01	33	40259
24	Extrusion #2 Raymond Mill Dust Collector	PM-150	1	15	0.23	0.1	-	-	-	15.21	41	2103
25	Extrusion #2 Silo Dust Collector	PM-150	1	15	0.6	0.8	-	-	-	20.82	33	20103
26	Extrusion #2 IRICH (Trema) Scrubber System	PM-150	1	15	0.28	0.5	-	-	-	56.06	34	11750
27	Acheson Dust Collector	PM-150	1	18	1.1	1.8	-	-	-	13.25	38	42310
28	Extrusion #2 Scrap system Dust collector	PM-150	1	17	0.65	0.6	-	-	-	13.16	33	14913
29	R.H.-24 (II) Furnace	PM-150 SOx- NOx-	1	45	1.6	2.2	3.7	4.4	<0.1	8.84	77	53067
30	Finishing Unit – 3 (South Side) Nipple Dust Collector	PM-150	1	15	0.7	0.8	-	-	-	13.89	37	18019
31	Finishing Unit – 2 Nipple line Dust Collector	PM-150	1	15	0.61	0.9	-	-	-	20.83	34	20721
32	R.H.-16 Stock Cleaning Machine Dust Collector	PM-150	1	15	1	0.9	-	-	-	8.33	34	22269
33	R.H.-24 (II) Stock Cleaning	PM-150	1	30	0.65	0.3	-	-	-	7.23	35	8140

	Machine Dust Collector											
34	Turning-1 Dust Collector	PM-150	1	15	0.25	0.1	-	-	-	9.35	36	1552
35	P.I.-2 Turning Machine Dust Collector	PM-150	1	15	0.25	0.1	-	-	-	10.26	37	1698
36	P.I-3 Turning Machine Dust Collector	PM-150	1	15	0.25	0.1	-	-	-	10.22	35	1702
37	P.I Unit- 4 (THERMO PACK STACK)	PM-150 SOx- NOx-	1	30.5	0.95	0.7	1.2	1.5	<0.1	9.22	107	17972
38	P. I. - 4 Pre-Heater	PM-150 SOx- NOx-	1	35.8	1.15	1.0	1.7	2.1	<0.1	7.23	39	25152
39	RH-24 (II) Jaw Crusher Machine Dust Collector	PM-150	1	22	0.48	0.3	-	-	-	10.23	35	6281
40	Ried Hammer-16 Jaw Crusher Dust Collector	PM-150	1	15	0.8	0.7	-	-	-	9.32	34	15946
41	R.H.-24 (I) Stock Cleaning Dust Collector	PM-150	1	15	0.3	0.1	-	-	-	14.49	36	3464
42	Core Sampling Dust Collector	PM-150	1	15	0.25	0.1	-	-	-	11.03	34	1843
43	Carbon Baked Scrap (CBS) Dust Collector	PM-150	1	15	0.6	0.4	-	-	-	10.21	34	9826
44	Finishing - 4, Electrode Line Dust Collector Stack	PM-30	1	17.5	0.95	0.3	-	-	-	12.52	35	30109
45	Finishing - 4, Nipple Line Dust Collector Stack	PM-30	1	17.5	0.85	0.2	-	-	-	12.54	36	24065

46	RH-24 III, E.S.P Stack	PM-30	1	45	1.6	0.4	3.2	3.9	<0.1	7.6	72	46285
47	RH-24 III, Jaw Crusher Dust Collector	PM-30	1	22	0.6	0.1	-	-	-	8.32	33	8034
48	RH-24 III, Stock Cleaning Machine Dust Collector	PM-30	1	22	0.5	0.1	-	-	-	11.1	38	7323
Total						**32.0**	**24.3**	**29.2**				

Stacks after expansion

S. No.	**Stack Attached to**	**Limits (mg/Nm3)**	**No. of Stack**	**Height from Ground Level (m)**	**Internal Diameter (Top) (m)**	**Emission Rate (g/sec)**				**Exit Velocity (m/sec)**	**Exhaust Gas**	
						PM	**SO_2**	**NO_x**	**CO**		**Temp (^{0}C)**	**Volumetric Flow (Nm^3/Hr)**
1.	Extrusion #1 IRICH Dust Collector	PM-30	1	30	0.72	0.1	-	-	-	8.32	33	11568
2.	Extrusion #1 Main Dust Collector	PM-30	1	22	0.7	0.2	-	-	-	15.01	33	19727
3.	Extrusion #1 Raymond Mill Dust Collector	PM-30	1	16	0.6	0.1	-	-	-	15.21	41	14312
4.	Extrusion #1 Silo Dust Collector	PM-30	1	30	0.8	0.3	-	-	-	20.82	33	35739
5.	Extrusion #1 IRICH (Trema) Scrubber System	PM-30	1	30	0.55	0.4	-	-	-	56.06	34	45336
6.	Extrusion #1 Scrap system Dust collector	PM-30	1	15	0.6	0.1	-	-	-	13.16	33	12707
7	Thermic Fluid Heater (Extrusion - 1 Department)	PM-30	1	30	0.55	0.05	0.3	0.4	<0.1	8.49	50	6526
8	LWG#5 Metcoke	PM-150	1	15	0.3352	0.2	-	-	-	16.26	35	4868

	storage Bin Dust collection system Originally Fume Extractor (West side) weigh floor (Extrusion# 1 Dept)											
9	Ried Hammer Furnace (Baking Furnace) (14 SECTION)	PM-150 SOx- NOx-	1	30	0.8	0.8	1.4	1.7	<0.1	12.82	65.5	19893
10	Ried Hammer Furnace (Baking Furnace)(RH16 & RH24-I SECTION) [RH-24(I) running]	PM-150 SOx- NOx-	1	45	1.8	4.7	7.8	9.4	<0.1	14.47	68.5	112674
11	P.I. UNIT- 2 (THERMO PACK STACK)	PM-150 SOx- NOx-	1	30	0.4	0.2	0.3	0.3	<0.1	9.71	64.5	3778
12	P.I. UNIT- 2 (HGG STACK)	PM-150 SOx- NOx-	1	30	0.4	0.2	0.4	0.4	<0.1	13.14	68.5	5053
13	Finishing Dust Collector (Unit 2)	PM-150	1	15	0.9	1.5	-	-	-	16.71	35	36067
14	FINE SCREENING DUST COLLECTOR	PM-150	1	15	0.812	1.1				15.6	34	27498
15	Tunnel Kiln – 1 (Re-baking Furnace) (4.6 TPH)	PM-150 SOx- NOx-	1	30	0.73	0.5	0.8	1.0	<0.1	12.45	189	11786
16	Finishing Dust Collector (Unit 3)	PM-150	1	15	0.78	1.1	-	-	-	15.62	36	25241
17	P.I. Unit – 3 (HGG STACK)	PM-150 SOx- NOx-	1	30	0.4	0.2	0.3	0.4	<0.1	11.27	52.2	4551

18	Tunnel Kiln – 2 (Re-baking Furnace) (4.6 TPH)	PM-150 SOx-NOx-	1	30	0.73	0.5	0.8	0.9	<0.1	10.53	150	10888
19	P.I. Unit – 3 (THERMO PACK STACK)	PM-150 SOx-NOx-	1	30	0.4	0.2	0.3	0.4	<0.1	11.6	71	4428
20	Thermic Fluid Heater (Extrusion - 2 Department)	PM-150 SOx-NOx-	1	30	0.58	0.3	0.5	0.6	<0.1	8.49	50	7257
21	Extrusion #2 IRICH Dust Collector	PM-150	1	34	0.3	0.1	0.5	0.6	<0.1	8.32	33	2008
22	Extrusion #2 Main Dust Collector	PM-150	1	34	1	1.7	-	-	-	15.01	33	40259
23	Extrusion #2 Raymond Mill Dust Collector	PM-150	1	15	0.23	0.1	-	-	-	15.21	41	2103
24	Extrusion #2 Silo Dust Collector	PM-150	1	15	0.6	0.8	-	-	-	20.82	33	20103
25	Extrusion #2 IRICH (Trema) Scrubber System	PM-150	1	15	0.28	0.5	-	-	-	56.06	34	11750
26	Acheson Dust Collector	PM-150	1	18	1.1	1.8	-	-	-	13.25	38	42310
27	Extrusion #2 Scrap system Dust collector	PM-150	1	17	0.65	0.6	-	-	-	13.16	33	14913
28	R.H.-24 (II) Furnace	PM-150 SOx-NOx-	1	45	1.6	2.2	3.7	4.4	<0.1	8.84	77	53067
29	Finishing Unit – 3 (South Side) Nipple Dust Collector	PM-150	1	15	0.7	0.8	-	-	-	13.89	37	18019
30	Finishing Unit – 2 Nipple line Dust Collector	PM-150	1	15	0.61	0.9	-	-	-	20.83	34	20721

31	R.H.-16 Stock Cleaning Machine Dust Collector	PM-150	1	15	1	0.9	-	-	-	8.33	34	22269
32	R.H.-24 (II) Stock Cleaning Machine Dust Collector	PM-150	1	30	0.65	0.3	-	-	-	7.23	35	8140
33	Turning-1 Dust Collector	PM-150	1	15	0.25	0.1	-	-	-	9.35	36	1552
34	P.I.-2 Turning Machine Dust Collector	PM-150	1	15	0.25	0.1	-	-	-	10.26	37	1698
35	P.I-3 Turning Machine Dust Collector	PM-150	1	15	0.25	0.1	-	-	-	10.22	35	1702
36	P.I Unit- 4 (THERMO PACK STACK)	PM-150 SOx- NOx-	1	30.5	0.95	0.7	1.2	1.5	<0.1	9.22	107	17972
37	P. I. - 4 Pre-Heater	PM-150 SOx- NOx-	1	35.8	1.15	1.0	1.7	2.1	<0.1	7.23	39	25152
38	RH-24 (II) Jaw Crusher Machine Dust Collector	PM-150	1	22	0.48	0.3	-	-	-	10.23	35	6281
39	Ried Hammer-16 Jaw Crusher Dust Collector	PM-150	1	15	0.8	0.7	-	-	-	9.32	34	15946
40	R.H.-24 (I) Stock Cleaning Dust Collector	PM-150	1	15	0.3	0.1	-	-	-	14.49	36	3464
41	Core Sampling Dust Collector	PM-150	1	15	0.25	0.1	-	-	-	11.03	34	1843
42	Carbon Baked Scrap (CBS) Dust Collector	PM-150	1	15	0.6	0.4	-	-	-	10.21	34	9826

43	Finishing - 4, Electrode Line Dust Collector Stack	PM-30	1	17.5	0.95	0.3	-	-	-	12.52	35	30109
44	Finishing - 4, Nipple Line Dust Collector Stack	PM-30	1	17.5	0.85	0.2	-	-	-	12.54	36	24065
45	RH-24 III, E.S.P Stack	PM-30	1	45	1.6	0.4	3.2	3.9	<0.1	7.6	72	46285
46	RH-24 III, Jaw Crusher Dust Collector	PM-30	1	22	0.6	0.1	-	-	-	8.32	33	8034
47	RH-24 III, Stock Cleaning Machine Dust Collector	PM-30	1	22	0.5	0.1	-	-	-	11.1	38	7323
						27.8	**22.7**	**27.3**				
**Boiler facility will be dismantled post expansion*												

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Signature Not Verified

Digitally Signed by : Dr Vimal Kumar Hatwal
Member Secretary, MoEFCC (EC)

Date: 26/12/2025