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F. No. IA-J-11011/85/2018-IA-II(I)
Government of India
Ministry of Environment, Forest and Climate Change
(IA-II Section)

Indira Paryavaran Bhawan
Jorbagh Road, New Delhi - 3

Dated: 25th November, 2019

To

M/s Cheminova India Limited
Plot Nos. 241, 242/2, 241/P
GIDC Industrial Estate, Panoli
District Bharuch (Gujarat)
Email: anil.shah@fmc.com

Sub: Expansion of agrochemicals and their intermediates from 3533 TPA to 15583 TPA at Plot Nos. 241, 242/2, 241/P, GIDC Industrial Estate, Panoli, Ankleshwar, District Bharuch (Gujarat) by M/s Cheminova India Limited (Technical Division) - Environmental Clearance - reg.

Sir,

This has reference to your proposal No. IA/GJ/IND2/89462/1997 dated 20th May, 2019, submitting the EIA/EMP report on the above subject matter.

2. The Ministry of Environment, Forest and Climate Change has examined the proposal for environmental clearance to the project for expansion of agrochemicals and their intermediates from 3533 TPA to 15583 TPA by M/s Cheminova India Limited (Technical Division) in an area of 40476.94 sqm located at Plot Nos. 241, 242/2, 241/P, GIDC Industrial Estate, Panoli, Ankleshwar, District Bharuch (Gujarat).

3. The details of products are as under:-

S. No	Name of product*	Existing (TPA)	Proposed (TPA)	Total (TPA)
1.	Organo Phosphate: -Acephate Tech. (I),Dichlorvos (I), Chlorpyrifos (I), Quinalphos (I), Triazophos(I), Phosalone (I), Omethoate (I), Prothiofos (I), Temefos (I), Profenofos (I), Ethion (I), Ethwephon (Pgr), Glyphosate (H), etc	800 TPA	---	800 TPA
2.	Strobilurin: - Azoxystrobin Tech. (F), Des-Methoxyazoxy (DMA) (Int.) Kresoxim Methyl (F), Flouxastrobin (F), Pyraclostrobin (F).	1200 TPA	---	1200 TPA
3.	Neonicotinoid/Amide: - Imidacloprid Tech (I), Thiacloprid (I), Acetamiprid (I), Beflubutamide Tech (H), Flubendamide (I), Chlorantraniliprole (I), Rynexapyr (I), Cymoxanil (F), Thifluzamide (F), Carboxin (F), Captan (F), Pretilachlor	225 TPA	---	225 TPA

	(H), Propyzamide (H), Pethoxamide (H), SNA(Int.), (2-Aminosulfonyl-N,N-Dimethylnicotinamide), MST (Int.), (2-Methoxycarbonyl) Thiophene-3-Sulfonamide), Flufenacet (H), Boscalid (F) etc.			
4.	Ketone: -Dimethomorph Tech. (F), Clethodim (H), Butroxydim (H), Spiromesifen (I), Mesotrione (H), Sulcotrione (H), IBP (Int.), (Isobutyrophenone), Pymetrozine (I) etc.	60 TPA	---	60 TPA
5.	Ether: - Propargite Tech. (I), Oxyfluorfen (H), Etoxazole (I), EEA (Int.)-(2-Ethoxy Ethyl Amine), S-Cyno-MPB (Int.) etc.	60 TPA	---	60 TPA
6.	Aniline: - Pendimethalin Tech. (H), Metalaxyl (F), Famoxadone (F), Trifluralin (H), FIPA-OH (Int.) etc.	60 TPA	---	60 TPA
7.	Ester/Pyrethroid: - Fenoxaprop-P-Ethyl Tech. (H), Bifenazate (I), Quizalofop-P-ET (H), Clodinafop-PPG (H), Acrinathrin (I), Bifenthrin (I), Cyhalothrin (I), Gamma-Cyhalothrin (I), Lamda- Cyhalothrin (I), Cypermethrin (I), and its analogs, Delta-Methrin (I), -Cyfluthrin (I) and its analogs, Permethrin (I), Bioallethrin (I), Fenvalerate (I), Imiprothrin (I) etc.	150 TPA	---	150 TPA
8.	Carbamate & thio based products: - Cartap.HCL Tech. (I), Thiodicarb (I), Thiophanate-ME (F), Propineb (F), Metiram (F), Thiram (F), Isoprothiolane Tech (I), Thiocyclam (I), Prothiocarb (F), Flutianil (F) etc.	100 TPA	---	100 TPA
9.	Quaternary salt and other salts, Acid based products: - Mepiquat Chloride Tech. (I), Chlormequat Chloride (I), other salts: Copper Hydroxide (Bactericide,F), Copper Sulphate (Algicide,F), etc., Flupropanate-NA Tech (H) + HPAA (INT.)-(2-Hydroxyphenylacetic Acid), BBA (INT.)-(Bromobutyricacid), HPPA-Int.(2-(4-Hydroxyphenoxy)Propanate), Picloram (H), Dicamba (H), 2-Cyanophenol (Int.) etc.	68 TPA	---	68 TPA
10.	Triazols: - 2,6 Dichlorobenzoxazole (INT.), Isoxaflutole (H), Flurasulam (H), TDA (INT.) (Trifluoromethylthiadiazole), Flutriafol TECH (F), Prothiconazole (F), Sulfentrazone (H), Carfentrazone-ET (H) etc.	400 TPA	---	400 TPA

11.	Triazols: - Fipronil Tech (I), Propiconazole (F), Epoxyconazole (F), Tebuconazole (F), Difenoconazole (F), Hexaconazole (F), Tricyclazole (F), Myclobutanil (F), Flusilazole (F), Paclobutrazole (PGR), Thiamethoxam (I), Chlorothalonil (F), Triadimefon (F), Isoxadifen-ET (SF)		---	
12.	Hetrocyclic (Pyrimidine/Pyridine/Triazine): - Bispyribac-NA Tech. (H), Pirimicarb (I), Pyrithiobac-NA (H), Flumetsulam (H), Cyprodinil (F), Florasulam (H), Penoxsulam (H), DCP (INT.)-(4,6-Dichloropyrimidine), ACMP (INT.)-(2-Amino-4-Chloro-6-Methoxypyrimidine), Imazethapyr Tech. (H), Pyridalyl Tech (I), Diflufenican (H), Cloquintocet-Mexyl(SF)	185 TPA	---	185 TPA
13.	Hetrocyclic (Pyrimidine/Pyridine/Triazine): - Fluazinam (F), Fenpyroximate Tech. (I), Metribuzin (H), Amitraz (I), Clofentezine (I), MMMT (Int.)-(2-Methoxy-4-Methyl-6-Methylamino-1,3,5-Triazine, Metoxyfenozide (I), Fenchlorim (SF), 2-Hydroxy-3,5,6-trychloropyridine & its Sodium salt (Int. of Chlorpyriphos) etc.		---	
14.	Urea/Sulphonyl Urea: - Chlorimuron-ET Tech. (H), Buprofezin Tech. (I), Indoxacarb (I), Novaluron (I), Lufenuron (I), Diafenthiuron (I), Amicarbazone (H), Flucarbazone (H), Thiadiazuron (PGR), Hexythiazox (I), Linuron (H), Diuron (H), Tefluthrin (I), Metsulfuron-Methyl (H)	225 TPA	---	225 TPA
15.	Urea/Sulphonyl Urea: - Thifensulfuron-Methyl (H), Triburon-Methyl (H), Rimsulfuron (H), Iodosulfuron (H), Diamuron (H), Chlorsulfuron (H), Pyrazolesulfuron (H), Pyrazolesulfuron-Ethyl (H) etc.		---	
16.	4s Zeta Cypermethrin	---	200	200
17.	F-2700 Zeta Cypermethrin	---	1000	1000
18.	Ryanxypyr	---	3000	3000
19.	Cyazypyr	---	1000	1000
20.	DBC80 / (3-Bromo-1-(3-Chloro-2-Pyridinyl)-1H-Pyrazole-5-Carboxylic Acid)	---	1950	1950
21.	Indanamine	---	800	800
22.	FMC-57091 / Isoxazolidinone	---	2600	2600

23.	Sulfentrazone 2,4-Dichloro / 2,4-Dichlorophenyl-4-(Difloromethyl)Triazolone	---	1500	1500
	Total	**3533**	**12050**	**15583**
**Banned pesticides shall not be produced.* Production of either individual or more products in the group shall not exceed the stipulated total production capacity of the group.				
1	Captive Power Plant (Natural Gas)	**2.04 MW/Hr**	---	**2.04 MW/Hr**

4. Existing land area is 40476.94 sqm. No additional land will be required for the proposed expansion. Industry will enhance existing greenbelt in an area of 13450 sqm covering 33 % of total project area. The estimated project cost for expansion is Rs. 365.92 crores. Total capital cost earmarked towards environmental pollution control measures is Rs 17.15 crores and the recurring cost (O&M) will be about Rs 68.15 crores per annum. Total employment will be for 200 persons directly and 500 persons indirectly after expansion.

5. There are no National parks, Wildlife sanctuaries, Biosphere, Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km from the project site. Ukai canal is flowing at a distance of 0.28 km in west direction.

6. Total water requirement is estimated to be 898 cum/day, which includes fresh water requirement of 261cum/day, proposed to be met from GIDC supply.

Industrial Effluent of 670 cum/day will be treated through Effluent Treatment Plant having Primary, Secondary & Tertiary Treatments, MEE and RO & shall be recycled back to process. Domestic effluent will be treated through STP after expansion. There will be no discharge of treated/untreated waste water from the unit, and thus ensuring Zero Liquid Discharge.

Power requirement after expansion will be 3500 KVA including existing 2200 KVA and will be met from M/s Dakshin Gujarat Vij Company Limited (DGVCL). Existing unit has one DG set of 1250 KVA capacity, additionally 1 no. DG set of 1500 KVA will be used as standby during power failure for proposed expansion.

Existing unit has natural gas based WHRB- Captive power plant, 2 nos. of natural gas based boilers of 10 TPH and 5 TPH capacity and one natural gas based thermic fluid heater of 10 lakh Kcal/h will be installed additionally in the proposed expansion. Water scrubbers and alkali scrubbers shall be installed for controlling emissions.

7. The project/activities are covered under category A of item 5(b) 'Pesticides industry and Pesticide specific intermediates' of the Schedule to the Environment Impact Assessment Notification, 2006, and requires appraisal at central level by the sectoral Expert Appraisal Committee (EAC) in the Ministry.

8. Standard terms of reference (ToR) for the project was granted on 8th April, 2018. Public hearing is exempted in accordance with the Ministry's OM dated 27th April 2018, as the project site is located in the notified industrial area.

9. The proposal for environmental clearance was considered by the EAC (Industry-2) in its meetings held on 26-28 June, 2019 and 28-29 August, 2019 in the Ministry, wherein the project proponent and their accredited consultant M/s Siddhi Green Excellence Pvt Ltd presented the EIA/EMP report. The Committee found the EIA/EMP report complying with the terms and conditions of the ToR, and recommended the proposal for environmental clearance to the project with certain conditions.

10. The proposal was further examined in the Ministry in accordance with the Ministry's Office Memorandum No. 22-23/2018-IA.III (pt) dated 31st October 2019 and Ministry's communication No. Q-16017/38/2018-CPA dated 24th October 2019 regarding compliance of Hon'ble NGT order dated 19.8.2019 (published on 23.8.2019) in OA No. 1038/2018.

11. Based on the proposal submitted by the project proponent and recommendations of the EAC (Industry-2), the Ministry of Environment, Forest and Climate Change hereby accords environmental clearance to the project for **Expansion of agrochemicals and their intermediates from 3533 TPA to 15583 TPA by M/s Cheminova India Limited (Technical Division) at Plot Nos. 241, 242/2, 241/P, GIDC Industrial Estate, Panoli, Ankleshwar, District Bharuch (Gujarat)**, under the provisions of the EIA Notification, 2006, read with subsequent amendments therein, subject to compliance of the terms and conditions as environmental safeguards, as under:-

(i) Consent to Establish/Operate (CTE/CTO) for the project shall be obtained from the State Pollution Control Board (SPCB) as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974, and the SPCB shall follow the mechanism/protocol issued by the Ministry vide letter no. Q-16017/38/2018-CPA dated 24th October, 2019 and forwarded by Central Pollution Control Board vide letter dated 25th October, 2019 to the SPCB's, while issuing the CTE/CTO for the project, for improvement of environmental quality in the area.

(ii) 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, shall be obtained from the State Pollution Control Board.

(iii) Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.

(iv) As proposed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged to any surface water body, sea and/or on land.

(v) National Emission Standards for Pesticides Manufacturing Industry issued by the Ministry vide G.S.R.446(E) dated 13th June, 2011, as amended from time to time, shall be followed.

(vi) No pesticides/chemicals banned by the Ministry of Agriculture and Farmers Welfare, or having LD_{50}<100 mg/kg shall be produced. Also, no raw material/solvent prohibited by the concerned regulatory authorities from time to time, shall be used for production of pesticides.

(vii) To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.

(viii) Solvent management shall be carried out as follows:

(a) Reactor shall be connected to chilled brine condenser system.
(b) Reactor and solvent handling pump shall have mechanical seals to prevent leakages.

(c) The condensers shall be provided with sufficient HTA and residence time so as to achieve more than 95% recovery.
(d) Solvents shall be stored in a separate space specified with all safety measures.
(e) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done.
(f) Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses.
(g) All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation.

(ix) Total fresh water requirement shall not exceed 261 cum/day to be met from GIDC water supply. Prior permission in this regard shall be obtained from the concerned regulatory authority.

(x) Process effluent/any wastewater shall not be allowed to mix with storm water. The storm water from the premises shall be collected and discharged through a separate conveyance system

(xi) Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer through pumps.

(xii) 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.

(xiii) The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act, 1989.

(xiv) 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 clearing to reduce wastewater generation.

(xv) The green belt of at least 5-10 m width shall be developed in nearly 40% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department. In addition, the project proponent shall develop greenbelt outside the plant premises also such as avenue plantation, plantation in vacant areas, social forestry etc.

(xvi) As committed, Fund allocation for the Corporate Environment Responsibility (CER) shall be 5 % of the total project cost. Item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.

(xvii) Safety and visual reality training shall be provided to employees.

(xviii) For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.

(xix) The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire-fighting system shall be as per the norms.

(xx) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

(xxi) 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. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises.

(xxii) Mitigation measures suggested during process safety and risk assessment studies shall be undertaken accordingly.

11.1. The grant of environmental clearance is subject to compliance of other general conditions, as under:-

(i) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board, Central Pollution Control Board, State Government and any other statutory authority.

(ii) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change. 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 to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.

(iii) The locations of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB) and it shall be ensured that at least one station each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.

(iv) The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be followed.

(v) The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).

(vi) The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and use the same water for the process activities of the project to conserve fresh water.

(vii) Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.

(viii) The company shall also comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the

recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.

(ix) The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. ESC activities shall be undertaken by involving local villages and administration.

(x) The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.

(xi) 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.

(xii) A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.

(xiii) 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.

(xiv) The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, 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.

(xv) 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 at http://moef.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.

(xvi) 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.

12. 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.

13. 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.

14. 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.

15. The above conditions will be enforced, *inter alia* under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention &. Control of Water Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and rules.

16. This issues with approval of the competent authority.

(Dr. R. B. Lal)
Scientist E

Copy to: -

(डा. आर. बी. लाल)
(Dr. R. B. LAL)
वैज्ञानिक 'ई' / Scientist 'E'
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Ministry of Environment, Forest and Climate Change
भारत सरकार, नई दिल्ली
Government of India, New Delhi

1. The Deputy DGF (C), MoEF&CC Regional Office (WZ), E-5, Kendriya Paryavaran Bhawan, E-5 Arera Colony, Link Road-3, Ravishankar Nagar, Bhopal 16
2. The Secretary, Forests and Environment Department, Government of Gujarat, Block 14, 8th Floor, Sachivalaya, Gandhinagar (Gujarat) -10
3. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 32
4. The Member Secretary, Gujarat Pollution Control Board, Paryavaran Bhavan, Sector-10A, Gandhinagar (Gujarat) - 10
5. The District Collector, District Bharuch (Gujarat)
6. Guard File/Monitoring File/Website/Record File

(Dr. R. B. Lal)
Scientist E