F. No.J-11011/19/2017-IA II (I)
Government of India
Ministry of Environment, Forest and Climate Change
(IA Division)

Indira Paryavaran Bhawan
Jor Bagh Road, N Delhi - 3
Dated: 31st August, 2018

To,

M/s Paushak Ltd,
Village Panelav, PO Tajpura,
Taluka Halol,
District **Panchmahal** (Gujarat)

Sub: Expansion of Specialty Chemicals manufacturing unit by M/s Paushak Ltd at Plot No. 135, 136, 145, 146, 147, 229 & 230, Village Panelav, PO Tajpura, Taluka Halol, District Panchmahal (Gujarat) - Environmental Clearance - reg.

Ref: Online Proposal No. IA/GJ/IND2/60354/2016 dated 3rd April, 2018.

Sir,

This has reference to your online proposal no. IA/GJ/IND2/60354/2016 dated 3rd April, 2018 along with project documents namely, EIA/EMP report containing the public hearing details for the above mentioned project.

2. The Ministry of Environment, Forest and Climate Change has examined the proposal for grant of environmental clearance to the project for expansion of specialty chemicals manufacturing unit from the present capacity of 898 TPM to 2490 TPM by M/s Paushak Ltd in a total area of 119108 sqm at Plot No. 135, 136, 145, 146, 147, 229 & 230, Village Panelav, PO Tajpura, Taluka Halol, District Panchmahal (Gujarat).

3. The details of the products and by-products are as under:-

S. No.	Product		Quantity (MT/Month)		
			Existing	Additional	Total
1	**Phosgene**		400	800	1200
2	**3,4,4 – Trichlorocarbanillde**		50	-50	0
3	**Carbamoyl Chloride**		40	-12	28
	1	Dimethyl Carbamoyl Chloride			
	2	Diphenyl Carbamoyl Chloride			
	3	Diethyl Carbamoyl Chloride			
	4	N Ethyl N Methyl Carbamoyl Chloride			
	5	N Methyl Piperazine Carbamoyl Chloride			
	6	N, N Bis 2 Chloroethyl Carbamoyl Chloride			
	7	Morpholine Carbamoyl Chloride			
4	**Chloroformates**		250	150	400
	1	Benzyl Chloroformate			
	2	Isobutyl Chloroformate			
	3	N Pentyl Chloroformate			
	4	N Hexyl Chloroformate			
	5	Phenyl Chloroformate			
	6	Methyl Chloroformate			

	7	2 Ethyl Hexyl Chloroformate			
	8	Cetyl Chloroformate			
	9	Myristyl Chloroformate			
	10	Tert-Butyl Cyclohexyl Chloroformate			
	11	Sec Butyl Chloroformate			
	12	1 Chloro2 Methyl Propyl Chloroformate			
	13	Propyl Chloroformate			
	14	Isopropyl Chloroformate			
	15	Ethyl Chloroformate			
5	**Vinyl Chloroformates**		1	0	1
	1	Isopropenyl chloroformate			
6	**4 Nitrophenyl Chloroformate**		10	-5	5
7	**Urea**		10	190	200
	1	Diuron			
	2	3,4,4 Trichloro Carbanilide			
	3	1,3 Diethyl Urea			
	4	Tetramethyl Urea			
	5	Tetrabutyl Urea			
8	**Isocyanates**		50	250	300
	1	Trans 4 Methyl Cyclohexyl Isocyanate			
	2	2 Phenyl Ethyl Isocyanate			
	3	Cyclohexyl Isocyanate			
	4	2 Chloroethyl Isocyanate			
	5	Isopropyl Isocyanate (75% in Toluene)			
	6	4 Chloro -3 -(Trifluoromethyl) Phenyl Isocyanate			
	7	Phenyl Isocyanate			
	8	Tert Butyl Isocyanate			
	9	3,4 Dichlorophenyl Isocyanate			
	10	3,5 Dichlorophenyl Isocyanate			
	11	4 Chloro Phenyl Isocyanate			
	12	P - Toluene Sulfonyl Isocyanate			
	13	Stearyl Isocyanate			
	14	3 Chlorophenyl Isocyanate			
	15	4 Isobutoxybenzyl Isocyanate			
9	**Carbonates**		20	20	40
	1	Chloromethyl Isopropyl Carbonate			
	2	Bis 4 Nitro Phenyl Carbonate			
	3	4,5-Dimethyl-1,3-Dioxolen-2-One			
	4	4-Chloromethyl-5-Methyl-1,3-Dioxol-2-One			
	5	4-(Hydroxy Methyl)-5-Methyl-1,3-Dioxol-2-One			
	6	2-Methyl Cryloxy Ethyl Vinyl Carbonate			
	7	Dimethyl Carbonate			
	8	Diphenyl Carbonate			
10	**Benzimidazol**		2	-2	0
	1	2 Benzimidazol			
11	**Forskoline Carbonate**		0.5	-0.5	0
12	**Chlorides/Acid Chlorides**		22.5	17.5	40

	1	3 Chloropropionyl Chloride - 3 CPC			
	2	Isobutyryl Chloride			
	3	5 - Chlorovaleroyl Chloride			
	4	Pivaloyl Chloride			
	5	Chloroacetyl Chloride			
13	**Carbamates**		22.5	17.5	40
	1	N Butyl Propargyl Carbamate			
	2	2-Methyl-2-Propyl-1,3-Propanediol Dichlocarbamate			
	3	Benzyl Carbamate			
	4	3 Iodo 2 Propynyl N Butyl Carbamate			
14	**Carbodiimides**		10	-5	5
	1	Dicyclohexyl Carbodiimide - DCC			
15	**Protected Amino Acids**		3	-3	0
	1	CBZ Valine			
16	**Nitriles**		5	-4	1
	1	Ethyl 2-(Hydroxylmino) Cyanoacetate			
	2	Acetonitrile			
	3	2 Cyano Phenol			
17	**FTMA**		1	-1	0
18	**Polymers**		0.5	0.5	1
	1	Polyquat			
19	**Thiadiazole**		0	20	20
	1	5-Methoxy-1, 3, 4-Thiadiazol-2(3H)-One			
20	**Esters**		0	209	209
	1	Methyl 3-Aminocrotonate			
	2	Phenyl Benzoate			
	3	Ethylene Glycol Dibenzoate			
	4	Benzyl Carbazate			
	5	Tert Butyl Carbazate			
Total			**898**	**1592**	**2490**

By-products

S. No	By-product	Quantity (MT/Month)		
		Existing	Additional	Total
1	Hydrochloric Acid (30 %)	500	1000	1500
2	$FeCl_2$	6	12	18
3	Recovered Mercury	3.6	3.6	7.2
4	Recovered Mercury Chloride	3.6	3.6	7.2
Total		**513.2**	**1019.2**	**1532.4**

4. Existing land area is 59,554 sqm and additional 59,554 sqm of land shall be required for the proposed expansion. Green belt has already been developed in an area of 65308.9 sqm i.e. in 54.8% of total area of the project. The estimated project cost is Rs.75.5 crores including existing investment of Rs.5.5 crores. Total estimated project cost is Rs.70 crores for expansion Project. Total capital cost earmarked towards environmental pollution control measures is Rs.10 crores and the recurring cost (operation and maintenance) will be about Rs.1.10 crores per annum.

5. There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc lies within 10 km distance.

6. Total fresh water requirement will be increased from 144 cum/day to 344 cum/day proposed to be met from the ground water.

Total effluent generation will be increased from 95 cum/day to 178.5 cum/day, which includes 138.5 cum/day due to industrial operations and 40 cum/day from domestic side. The industrial wastewater of 138.5 cum/day shall be treated in RO/ MEE/ ATFD and treated effluent of 103 cum/day would be recycled. Existing treated waste water of 65 KLD would be sent to CETP of M/s Enviro Infrastructure Co. Ltd, Umaraya, Vadodara (Gujarat) for final disposal.

Power requirement will be increased from 1200 KW to 3000 KW, which would be met from State Power Distribution Corporation Limited. Existing unit has 3 Nos. DG sets of 620 kVA, 325 kVA & 125 kVA capacities. One more DG Set of 1000 kVA would be installed and kept as standby. Stack height of 15 m will be provided to the proposed DG set as per CPCB norms.

Existing unit has one boiler of 3 TPH capacity. One more coal fired boiler of 10 TPH capacity will be installed to cater to the proposed expansion. Electrostatic Precipitator with adequate stack height will be provided to the proposed boiler to control the particulate emissions within statutory limit of 115 mg/Nm^3. Adequate scrubbers will be provided to control process emissions.

Used Oil (2 MT/Yr) will be sold to registered refiner. ETP Sludge (150 MT/Yr), MEE Salt (250 MT/Y) will be sent to TSDF of NECL, Nandesari for disposal. Discarded containers will be sold to registered vendors. Spent Carbon (5 MT/Yr), Residue & Waste (20 MT/Yr), Distillation Residue (60 MT/Yr) & Distillation Residue (135 MT/Yr) is Collected, Stored, Transported, given for co-processing in cement industries/RSPL, Panoli or disposal at CHWIF of NECL, Nandesari. Toxic Metal residue (from water purification plant) @ 10 MT/Yr is Collected, Stored, Transported, Disposed at TSDF of NECL, Nandesari/RSPL, Panoli. Hydrochloric Acid (30 %) @ 1500 MT/M, FeCl2 (18 MT/M), Recovered Mercury (7.2 MT/M) & Recovered Mercury Chloride (7.2 MT/M) WILL BE Sold to authorized end users.

7. The project/activity is covered under category A of item 5(f) 'Synthetic organic chemicals industry' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level by the sectoral EAC in the Ministry.

8. The ToR for the project was granted on 26th May, 2017. Public hearing was conducted by the Gujarat Pollution Control Board on 16th February, 2018.

9. The proposal was considered by the Expert Appraisal Committee (Industry-2) in its 37th & 39th meeting held on 29-31 May, 2018 and 25-27 July, 2018 respectively. The project proponent and their consultant M/s Aqua-Air Environmental Engineers Pvt Ltd have presented EIA/EMP report as per the ToR. The Committee found the EIA/ EMP Report to be satisfactory and in consonance with the presented ToR. The Committee has recommended the proposal for grant of environmental clearance.

10. Based on the proposal submitted by the project proponent and recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords environmental clearance to project for expansion of specialty chemicals manufacturing unit from the present capacity of 898 TPM to 2490 TPM by M/s Paushak Ltd in a total area of 119108 sqm at Plot No. 135, 136, 145, 146, 147, 229 & 230, Village Panelav, PO Tajpura, Taluka Halol, District Panchmahal (Gujarat), under the provisions of the EIA Notification, 2006, and the amendments therein, subject to compliance of the terms and conditions as under:-

(a) Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.

(b) As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.

(c) 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.

(d) National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R. 608(E) dated 21st July, 2010 and amended from time to time shall be followed.

(e) 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.

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

(i) Reactor shall be connected to chilled brine condenser system.
(ii) Reactor and solvent handling pump shall have mechanical seals to prevent leakages.
(iii) The condensers shall be provided with sufficient HTA and residence time so as to achieve more than 95% recovery.
(iv) Solvents shall be stored in a separate space specified with all safety measures.
(v) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done.
(vi) Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses.
(vii) All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation.

(g) Total fresh water requirement shall not exceed 201 cum/day to be met from ground water. Prior permission in this regard shall be obtained from the concerned regulatory authority.

(h) Industrial/trade effluent shall be segregated into High COD/TDS and Low COD/TDS effluent streams. High TDS/COD shall be passed through stripper followed by MEE and ATFD (agitated thin film drier). Low TDS effluent stream shall be treated in ETP/RO to meet the prescribed standards.

(i) 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.

(j) 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.

(k) 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.

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

(m) Fly ash should be stored separately as per CPCB guidelines so that it should not adversely affect the air quality, becoming air borne by wind or water regime during rainy season by flowing along with the storm water. Direct exposure of workers to fly ash & dust should be avoided.

(n) The company shall undertake waste minimization measures as below:-

(i) Metering and control of quantities of active ingredients to minimize waste.
(ii) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
(iii) Use of automated filling to minimize spillage.
(iv) Use of Close Feed system into batch reactors.
(v) Venting equipment through vapour recovery system.
(vi) Use of high pressure hoses for equipment clearing to reduce wastewater generation.

(o) The green belt of at least 5-10 m width shall be developed in nearly 33% 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.

(p) All the commitments made to the public during public hearing/consultation shall be satisfactorily implemented.

(q) At least 1% of the total project cost shall be allocated for Corporate Environment Responsibility (CER) and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.

(r) 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.

(s) 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.

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

(u) 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.

10.1 The grant of Environmental Clearance is further subject to compliance of other generic conditions as under:-

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

(ii) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry. In case of deviations or alterations in the project proposal from those submitted to this Ministry, a fresh reference shall be made 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 stations 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 complied with.

(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 utilize the same for different industrial operations within the plant.

(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 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, risk mitigation measures and public hearing shall be implemented.

(ix) The company shall undertake all measures for improving socio-economic conditions of the surrounding area. CSR activities shall be undertaken by involving local villagers, administration and other stake holders. Also eco-developmental measures shall be undertaken for overall improvement of the environment.

(x) A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.

(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, Zila Parisad/ 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.

11. 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.

12. 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 Water Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991, read with subsequent amendments therein.

SKS 31/8/2018

(S. K. Srivastava)
Scientist E

Copy to:-

1. The Principal Secretary, Forests & Environment Department, Government of Gujarat, Sachivalaya, 8th Floor, **Gandhi Nagar** - 382 010 (Gujarat)
2. The Additional Principal Chief Conservator of Forests (Western Zone), MoEF&CC, Regional Office, E-5, Arera Colony, Link Road -3, Ravishankar Nagar, **Bhopal** - 462 016 (M P)
3. The Member Secretary, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, **Delhi** -32
4. The Member Secretary, Gujarat Pollution Control Board, Paryavaran Bhawan, Sector 10 A, **Gandhi Nagar**-382 043 (Gujarat)
5. Monitoring Cell, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Zor bagh road, **New Delhi**
6. Guard File/Monitoring File/Record File

SKS 31/8/2018

S. K. Srivastava)
Scientist E