

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI
APPEAL NO. 08/2020 (WZ)

M/s Platinum AAC Blocks Pvt. Ltd

... Appellant

Versus

Pollution Control Committee &Ors

... Respondents

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Filed by:

Place: New Delhi
Date: 24.07.2020


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**BEFORE THE NATIONAL GREEN TRIBUNAL
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Appellant

Versus

Pollution Control Committee & Ors

Respondents

**COUNTER AFFIDAVIT ON BEHALF OF THE
RESPONDENT POLLUTION CONTROL COMMITTEE**

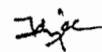
I, K. Ravichandran, S/o K. Karuppiyah, aged about 52 years, presently holding the charge of Member Secretary, Pollution Control Committee, Daman and Diu and Dadra Nagar Haveli do hereby solemnly affirm on oath as under:

1. That I am the representing on behalf of the Respondent No. 1 herein and am acquainted with the facts and circumstances giving rise to the above appeal. As such I am competent to swear the present affidavit.
2. That I have perused the appeal filed by the Appellant and, in reply, humbly submit that present appeal is liable to be dismissed.
3. That at the very outset, the Respondent denies each and every averment and contention raised in the Appeal been expressly admitted by the Respondent in this Affidavit.

I. PRELIMINARY SUBMISSIONS:

4. It is relevant to mention here that the Hon'ble Gujarat High Court vide its judgement dated 30.08.2015 in SCA 140 of 2014 in the matter of Platinum AAC Blocks Private Limited Versus State of Gujarat and 15 others, observed that;


कार्यपालक मजिस्ट्रेट
EXECUTIVE MAGISTRATE,
दमण / DAMAN



"the Pollution Board inspected the unit on 13.10.2014 and observed that the unit is still under erection. All the required machineries have arrived and may take another 2 to 3 months to commission the plant. Constructed 2 nos of interlinked sheds of size 25m X 65 m and 25 m X 100m. They are going to provide 7 nos Autoclave, each of capacity of 36 CBM. Erection of one such autoclave is in progress and rest all have arrived and lying at nearby area as informed. They have erected 2 nos cranes. A boiler capacity of 6.0 MT/hour is under erection. Stack at 30m height is erected. Housing for bag filters is partially erected. They have not proposed any additional measures for So₂ for lignite. They have elevated floor area of sheds and adjoining manufacturing activity by 1 to 1.5 feet by filling earth and stone /kapachi, gradient is towards river. The premises are situated on the bank of river Darotha (Kalu).

The industry has done pitching work to make smooth slope from its boundary towards river. Reportedly they propose to procure cement and lime through bulkers and unload the same in respective silos each of storage capacity of 300 MT. They have already erected these silos, but the APCM proposed (single bag on vent of silo) is not adequate. They have further informed that they now propose to procure moist pond ash from TPS of Reliance Power, Dahanu, Maharashtra through trucks, which they propose to store in pits yet to be provided in open area near silo.

Source of water is own bore well having 6 inch dia and approx. 100 ft depth. They have proposed to install RO plant of capacity 6000 litres per hour to generate boiler feed water. RO reject water and the steam condensate is proposed to be used in process of manufacture.

They have projected 25-30 trips of trucks/day to bring raw materials. This will make 50-60 trips of trucks or even more, which will have to ply on of approx. 400 m of kutcha road connected to the Mohangam Fatak to Daman Road. On the other side of the road are mango farms. The villagers represented that there are about 1.5 to 2.0 lakh mango trees and 150 to 200 mango farms in 2km radius surrounding to this unit. The project will emit dust which will destroy leaves of

mango trees and crop of mango, which is their livelihood. This area receives torrential rain each year and the fly ash and other materials will be washed out with rainy water and pollute river Darotha which supplies drinking water to Daman. Heavy vehicles will be plying on narrow kutcha road which will further create air pollution and nuisance as their farms and houses are located very closely to the kutcha road.

It is learnt from the village people that Mohangam consists of 12 Falias and total population is approx. 8000. Their main earning is from mango farming and agriculture. This unit is located at Khanmora Falia.

Handling of fly ash, emission of dust from boiler, movement of vehicles, etc will create air pollution which will affect their farms and health of people residing in the houses located in the farm. The unit will also cause noise pollution.

The petitioner company had attempted to forcefully pass its truck carrying machinery and it had stuck because of narrowness and curves and because of that the village people were land locked for 48 hrs. The frequent instances of disturbance to the public peace as well as the harassment to the villagers have taken place and is continued at the instances of the petitioner company and its influences.

The collector in his affidavit stated that so far as the objections which are raised against the petitioner company by the villagers and the resolution passed by the village panchayat restraining the petitioner from constructing new road and resolution restraining the petitioner from using the road is concerned, I say and submit that the road belongs to Gram Panchayat and therefore the gram panchayat will have jurisdiction for granting or not granting permission to the petitioner.

Considering all the above aspects, the petitioner cannot be permitted to invoke jurisdiction of this court under article 226 of the constitution of India for the reliefs claimed in the petition. For the reasons stated above, first petition being Special Civil Application No. 14810 of 2014 is dismissed."

Copy of the judgement passed by the Hon'ble High Court Gujarat is marked and annexed as **Annexure R-1. (Page No. 228 to 251)**

From the above judgement of Hon'ble Gujarat High Court, it is clear that before establishing the unit at Kherdi, the Appellant company had established its unit at Mohangam, Taluka Umar gam and District Valsad, Gujarat. The Hon'ble High Court had rightly rejected the SCA 140 of 2014 considering several aspects including the environmental aspects. Platinum AAC blocks Pvt. Ltd had to close the unit at Mohangam as their petition was rejected by the Hon'ble High Court and had to vacate and move out of Mohangam. Thereafter, they had moved all their machineries and equipment to Kherdi village, Dadra & Nagar Haveli and installed their unit at Kherdi without obtaining any prior consents and operated the unit unauthorizedly and caused damage to the environment.

5. The appellant had no respect for the law and without getting the necessary consent to establish, had unauthorizedly established the unit at Kherdi Village, Dadra & Nagar Haveli(DNH) and without obtaining the consent to operate, the Appellant was unauthorizedly manufacturing the Autoclaved Aerated Concrete(AAC) blocks at least from June 2017 to till May, 2019 as was evident from the power consumption bill raised by the electricity department, DNH and polluted the environment and put the people's life at risk, which is a clear and serious violation. The Appellant had thereby harmed the environment by unauthorizedly running the AAC blocks manufacturing unit without even following any standards as was evident from the field inspections and the photographs placed.
6. The Manufacturing of AAC blocks comprises of various activities and each of which has a negative impact on air quality due to dust emissions and gaseous emissions besides water pollution and hazardous waste generation. The source of dust emissions (i.e. Particulate Matter) at the unit is loading / unloading, transportation and storage of raw material. The gaseous pollutants (SO₂, NO_x and CO) from the boiler, autoclave and from vehicular emissions as large number of trucks and trips have be done to bring the raw material and transport the finished products. Exhaust emissions from

vehicles and equipment is also result in marginal increase in the levels of SO₂, NO_x, Particulate Matter and CO.

7. As the raw materials are stored in open ground, there is fugitive emission and which harmed the surrounding environment. Fly ash was transported through trucks is harmful on the surrounding environment and human life due to transportation of fly ash. As one can appreciate the fact that Atmospheric dispersion coefficients vary with downwind distance (x) from emission sources for different atmospheric stability conditions. The maximum impact would be to a greater extent of several kms around from plant boundary.

The soil of the area is bound to get affected due to operational activities as there would be changes in soil texture due to settling of air borne dust or due to wash off of solid particulates by surface or ground water. This will lead to change in porosity, permeability and other physical characteristics of soil of the area. Changes in soil chemistry due to addition of foreign material from polluted air and water due to unit activities in the area and Degradation of soil quality due to settling of air borne dust.

Severe adverse impact on the biological environment as Particulate Matter emissions from stack and fugitive emissions due to transportation activity & material handling will degrade the soil quality of surrounding environment that may affect the biodiversity of surrounding environment. Particulate matter emission may cause migration of wild animals and bird. Fugitive emissions (dust) may impact the terrestrial flora. The settlement of dust on the laminar surface of plants can impede the efficiency of photo-transduction and thereby, affect the productivity of plants. In some of the plant, it may also smother the leaf surface blocking stomata, resulting in reduced transpiration.

There is a potential for triggering health impacts through air pollutants from heavy vehicles, increased dust, and creation of breeding grounds for disease vectors. Exposure to fine particulate dust are at risk of pneumoconiosis, emphysema, bronchitis, and fibrosis.

II. BRIEF FACTS:

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8. M/s. Platinum AAC Block P. Ltd./Appellant herein submitted its consent to Establish manufacture Autoclaved Aerated Concrete (hereinafter referred as AAC blocks), capacity of 2,50,000 Cubic meter per annum, on 19.12.2016, subject to prior permission from the answering Respondent. A copy of the said consent application is marked and annexed as **Annexure R-2. (Page No. 252 to 278)**

Its respectfully submitted that, the Appellant is a private Limited Company registered on 19.09.2012 at the Registrar of Companies at Ahmedabad as the Memorandum of Association and Articles of Association submitted by the Appellant.

The Appellant proposed to establish the Autoclaved Aerated Concrete Blocks manufacturing unit at Survey NO. 19/1, Kherdi village. It is leased land and a lease deed was executed on 21.10.2016, in favour of the Appellant for Survey No. 19/1, kherdi village for a period of 10 years w.e.f 01.03.2017, with a capital investment of Rs. 7.65 crores and the likely employment to be generated is 60.

Its respectfully submitted that the list of raw materials provided by Appellant to be used in manufacturing of AAC blocks includes Flyash/ Silica sand 5500 MT/month, 1512 MT/month, Lime 756 MT/month, Aluminium powder 6.1 MT/month, Gypsum 126 MT/month, SoL oil 10000 litres/month, Furnace oil 7500 Mt/month, and Coal 800 MT/month. Further, the Appellant also mentioned other raw materials like casting soda, expanded clay, agent foaming, black trap dust and sand if required. Further, the Appellant submitted the list of machinery to be installed include silo tank, slurry pool, cement and slurry weighing scale, pouring mixture, block mould, cutting machine line, tilting crane, loading crane, autoclave, ferry pusher, rail track, loader track, coal steam boiler, Air compressor, vacuum pump, RO plant, sledge pump, production crane, coal crusher, winch machine, header, tractor with bull, JCB, plastic rope, for clip, DG set, ETP Plant, Dumper, All electric motors, all types of pumps, all type of fitting pipes, electric fittings, wire ropes, machinery spare parts, bearings, office accessories, and

weigh bridge, etc. Apart from the above plant and machineries, the appellant mentioned the list of packing materials which needs to be used by the Appellant including thermocol sheets, LD bubble sheet, plastic bags, PVC plastic sheets, Box strapping patti, non woven bag, GI clip, Aluminium clip, plastic shutli/khuna, all other packing materials, etc.

Its further respectfully submitted that the boiler details provided by the Appellant include industrial coal/ lignite fired boiler having an evaporation capacity of 5500 kg/hr (F&A 100° C) and suitable for a working pressure of 17.58kg/cm².

It is respectfully submitted that the manufacturing process given by the Appellant is as follows - fly ash or silica sand will be grinded into slurry with water. Similarly cement and lime will be mixed up with water in other slurry tank. Fly ash, cement and lime slurry will be mixed up and gypsum, aluminium powder and other chemicals like sol oil, caustic soda, will be added and finally filled into mould. After maintaining, foaming and solidifying, blocks or planks of different specifications will be cut out and conveyed into autoclave. In auto claves under the high temperature and steaming curing, light weighted aerated concrete blocks will form.

Its relevant to mention herein that the Union Territory of Dadra & Nagar Haveli and Daman and Diu is not having any thermal power plant and no other industries generates such a huge quantity of fly ash.

9. Therefore, in response to the consent application received on 19.12.2016, by the Appellant, the Appellant was asked to submit the details, such as capacity of Effluent Treatment Plant, mode of effluent generation, and its quantity and quality as submitted in the list of plant & machinery, the raw material Fly Ash from where it is procured and how it will be transported, and hazardous waste to be generated and its mode of collection and disposal vide PCC, the ANSWERING RESPONDENT letter No. PCC/DDD/O-2764/ / ICD/16-17/606 dated 13.03.2017. A copy of said letter is marked and annexed as **AnnexureR-3. (Page No. 279)**

By its reply dated 12.05.2017, the Appellant submitted its reply. A copy of the said reply is marked and annexed as **Annexure R-4.** (Page No. 280 to 282)

10. After examining the reply submitted by the Appellant, it has been observed by the answering Respondent that the Manufacturing of AAC blocks is not mentioned in any of the categories in the existing notification issued by the Answering respondent dated 19.10.2015. Further, Fly Ash export, transportation and disposal facilities and 5TPH boiler using coal as fuel were under the Red category and are banned in the territory as per the existing notification dated 19.10.2015 of the Pollution Control Committee, Dadra & Nagar Haveli and Daman and Diu. Accordingly, the consent application of the Appellant was rejected vide its letter No. answering Respondent/DDD/O-2764/ /ICD/16-17/316 dated 19.06.2017. A copy of the said rejection letter is marked and annexed as **Annexure R-5.** (Page No. — to 283)
11. The Appellant once again, vide its letter dated 22.9.2017 requested to consider the application for consent to Establish, stating that they are not going to transport fly ash, but Platinum AAC Block Pvt. Ltd will buy/purchase fly ash from Reliance Infrastructure Ltd., Dahanu Thermal Power Station, Dahanu, Maharashtra and use briquette as fuel and wrongly mentioned coal as fuel for boiler. A copy of the said consent application is marked and annexed as **Annexure R-6.** (Page No. 284 to 290).

The said request was also rejected vide answering Respondent letter dated 07.12.2017, since it involves transportation of Fly Ash as a major raw material and the Autoclaved Aerated Concrete blocks has not been included in any of the category. Further fly ash export, transportation and disposal facilities falls under Red category as per the existing notification, considering its harmful effects on environment and health of human beings, as well as the declaration of Dadra & Nagar Haveli as 'Air Pollution Control Area' vide Notification No. G.S.R. 429 (E), dated 10.02.1989 by Ministry of Environment & Forest, GOI, the request was rejected and the same has been accordingly communicated to the

Appellant. A copy of the said rejection letter is marked and annexed as **AnnexureR-7. (Page No. - to 291)**.

12. Appellant once again submitted a request on vide letter dated 19.02.2019 to change the category from Red as mentioned in answering Respondent notification, 2015 and requested to consider their product under green category and grant consent to establish under water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 alongwith a copy of the earlier consent application submitted dated 06.12.2016 for manufacturing of 2,50,000 cubic meter per annum and the detailed project report of AAC Block Manufacturing Plant. A copy of the said application is marked and annexed as **AnnexureR-8. (Page No. 292 to 301)**. Appellant have also applied to Directorate of Industries, Dadra & Nagar Haveli through Single Window System (SWIFT) on 25.02.2019. A copy of the said application is marked and annexed as **Annexure R-9. (Page No. - to 302)**

It's relevant to mention herein that from the project report submitted by the Appellant, it was cleared that the Appellant was proposed to set up the manufacturing Appellant at R.S. 19/1, situated at village Kherdi, UT of Dadra & Nagar Haveli – which was situated in the industrial area of Dadra & Nagar Haveli.

13. On implementation of the project, PABPL has adopted technology from Zhenzhou Deyi Heavy Industrial Manufacturing Co. Ltd, China. The Appellant had mentioned in the detailed project report that presently shifting and installation of machineries is underway and It is estimated that the production would commence from the month of June, 2019.

In the project report it is also mentioned that, the raw material required are Fly ash (350 kg), lime (50kg), cement (150 kg), gypsum or plaster of paris (7kg), Soluble oil (0.70litre) and Aluminium powder (4kg) to produce one cubic meter of AAC block. Other consumables include lubricating oil which are applied to the mould, electricity and water. The fuel required for the boiler will be coal which is easily available from traders in vapi or Mumbai. Requirement of coal is estimated at 50 kg per m3 of AAC block.

The Appellant requires 87500 MT of Fly ash, 12500 MT of lime, 37500 MT of Cement, 1750 MT of Gypsum or plaster of paris 175 KL of soluble oil and 1000 MT of Aluminium powder per annum to produce 2,50,000 cubic meter of AAC blocks per annum.

The process of manufacture of AAC blocks involves the following steps viz. raw material preparation (Fly ash, Lime stone powder, Portland cement, Gypsum/Plaster of Paris, Aluminium powder/paste), Dosing and mixing, casting, rising and precuring (heating room) demoulding and cutting. Steam might be fed into dosing & mixing unit to maintain the temperature.

14. The project report of Platinum AAC blocks Private Limited also mentioned that unit has already acquired the entire plant. The list of major machinery installed at the unit is given below.

<i>Sr. No</i>	<i>Name of the equipment with specification</i>	<i>Quantity</i>
1	Slurry tank capacity 50 m ³	2
2	Slurry pool capacity 10m ³	4
3	Cement & Slurry weighing scale	2
4	Pouring mixture	1
5	Block mould capacity 3.05m ³	24
6	Cutting machine line	2
7	Tilting cane	1
8	Loading crane	1
9	Auto clave	7
10	Mould Pusher Device	5
11	Rail track 1224 Mtrs	-
12	Loader Track	-
13	Coal fired boiler capacity 6 MTPH	1
14	Air compressor capacity 9kg/cm ²	1
15	Vacuum Pump capacity 20kg/cm ²	1
16	R.O. Plant Capacity 6000 litres/Hr	1
17	Sludge pump capacity (Motor Capacity (18 kw)	5
18	Production crane capacity 10 MT	1
19	Coal crusher capacity 5 MTPH	1

20	Winch machine capacity 60 MT	2
21	Header	4
22	Tractor	1
23	Plastic rope	
24	Fork lift capacity 5MT	1
25	DG set capacity	1
26	Electric motor	Lot
27	Pumps	Lot
28	Piping and fitting	Lot
29	Electrification- transformer 500 kva, switchgear, cables, switches and capacitors	Lot
30	Laboratory equipment	
31	Weigh bridge capacity 100MT	1
32	Bearings, pulleys, hand tools, wire ropes	Lot
33	Office equipments furniture and fixtures	Lot

The relevant extract copy of the detailed project report submitted by the Appellant are marked and annexed herewith as **Annexure R-10. (Page No. 303 to 313)** From the above it is clear that the Appellant is proposed installed with Coal fired boiler and also installed coal crusher which falls under red category and banned. However, the Appellant in his application mentioned that they would use briquettes but the documents and details of boiler lay out mentioned that it is coal fired boiler. There is a contradiction and apprehension that the Appellant may actually use coal as fuel.

It is respectfully submit that the Appellant in the said detailed project report mentioned that fly ash, a coal combustion residue having a complex heterogenous mixture of amorphous and crystalline phases and is generally a fine powdered ferro aluminosilicate material with Al, Ca, Mg, Fe, Na and Si as predominant elements. Fly ash also contains significant amounts of **toxic metals such as As, Ba, Hg, Cr, Ni, Zn and Se** characteristically enriched in coal fly ash particles. The coal fly ash occupies more space in the premises of industrial plants and is mixed with water to discharge into fly ash settling ponds or landfills. Large quantity of fly ash is store in heaps or deposits whose contamination poses a serious threat to the environment as a major source of inorganic pollution. Fly ash negative impact on natural ecosystem is well

documented in the said detailed project report and the same is reproduced below;

"Heavy metals like arsenic, lead, nickel, cobalt, chromium, boron and antimony found in fly ash are hazardous for living organisms. These elements can be potentially released to the soil, surface water, and ground water by leaching process also affecting the vegetation. The leaching potential of ash pond is higher due to diurnal and seasonal variations in temperature, moisture and other parameters. Studies indicate that leach abilities of cationic metals such as cadmium, chromium, zinc, lead, mercury, and silver increases with decreasing PH or acidic conditions. Bioaccumulation of heavy metals in plants lead to increased elemental composition eventually entering the food chain. An investigation of fly ash contaminated areas in Uttar Pradesh showed the bio accumulation of heavy metals like Fe, Zn, Cu, Mo, B, Si, Al, Cr, Pb, Cd, Hg and As in native aquatic, terrestrial and algal species in the vicinity.

Leachate from the flyash dumpsite has genotoxic potential and may lead to adverse effects on vegetation and on the health of exposed human population. A study on the mutagen and genotoxicity effects of fly ash leachate showed predominance of the metals like sodium, silicon, potassium, calcium, magnesium, iron, manganese, zinc and sulphate. The Ames Salmonella mutagen assay conducted on two tested strains and genotoxicity assay on fly ash leachate carried invitro on human blood cells and in vivo on nicotiana plants indicated that the leachate was directly mutagenic and resulted in DNA damage in whole blood cells, lymphocytes and in nicotiana plants.

All elements below atomic number 92 are present in the coal ash. Particulate Matter (PM) considered as a source of air pollution constitutes fly ash. The fine particles of fly ash reach the pulmonary region of the lungs and remain there for long periods of time. They behave like cumulative poison. The sub micron particles enter deeper into the lungs and are deposited on the alveolar walls where the metals could be

***transferred to the blood plasma across the cell membrane.
The residual particles being silica (40-73%) causes silicosis."***

All the heavy metals (Ni, Cd, Sb, As, Cr, Pb, etc) generally found in fly ash are toxic in nature. Studies show that the wet disposal of fly ash does not protect the environment from migration of metal into soil. Heavy metals cannot be degraded biologically into harmless products like other organic wastes. Due to increasing air pollution, 35% of kids in India are afflicted with poor lung conditions. There are 15 to 20 million asthmatics in the country and 10 -15 million of them are children from 5 to 11 years of age. Not only are children more susceptible to respiratory problems, a massive spike of 300% has been noted in recent times.

A child can be harmed both psychologically and physically when exposed to very loud noises. Often school children have been diagnosed with high blood pressure if their schools are located in noisy areas. Noise also affects a children reading skills, concentration power and hampers peaceful sleep.

15. The answering Respondent examined the issue in the light of the application and the detailed project report submitted by the Appellant vide letter dated 19.02.2019 and rejected consent application as the air quality standards of Dadra & Nagar Haveli needs to be improved as there is a decline in recent years. Comprehensive action including graded response/specific steps at different levels have to be taken.

However, an inspection was carried out on 25.4.2019 by the officials from the answering Respondent and it was found that the unit is established at Kherdi with all plant and machineries and was fully operational without obtaining prior Consent to Establish/ Operate under Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981. Whereas, Appellant had mentioned in the detailed project report submitted along with request letter 19.02.2019 that shifting and installation of machineries is underway and the production would commence from the month of June, 2019. Whereas, the Appellant had already installed the plant and machineries and started manufacturing the

AAC blocks, without obtaining prior consents to establish and operate under Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 from PCC, the answering respondent. The Appellant had unauthorizedly established the AAC blocks manufacturing unit in a total area of 23950 Sq. M, with built up shed area of 4110 Sq. M on ground floor and 695 Sq. M in first floor with a manufacturing capacity of 2,50,000 cubic meters of AAC Blocks/year.

The Appellant had installed the following plant and machineries were installed viz. 2 Nos Machine, Slurry tanks of 50 M3 capacity, 4 Slurry pool of 10 M3 capacity each, 2 Nos Cement and slurry weighing scale, 1 No. Pouring mixture, 24 Nos Block mould (3.05 M3), 2 Nos. Cutting machine line, 2 cranes (1 tilting crane and 1 loading crane), 7 Nos Autoclaves (400 CBM each and run for 3 shifts), 5 Nos Mould Pusher Devices, 1224 M Rail track, loader tracks, Loader Track, Boiler- 5 T/hour using Briquette fuel, 1 Air compressor of 9 kg/Cm², 1 Vacuum pump of 20 kg/Cm², R.O. Plant with capacity of 6000 ltrs/hr, 5 sludge pumps with motor capacity 18 KW, 2 winches of 60 MT, and a Diesel Generator set of 550 KVA using diesel fuel.

Raw materials such as 550 Tons of Fly Ash, 72 Tons of Lime powder, 32 Tons of cement, and 0.5 to 1.0 Ton Aluminum powder were found lying in the unit premises.

The manufacturing process was going on which involved use of Fly ash, Limestone powder, Cement, Gypsum, Plaster of paris, Aluminum powder and paste. Water was used to form slurry during mixing of raw material which was tapped from bore well. Three bore wells were dug out and ground water was extracted and used for operations. The Appellant had not obtained the necessary clearances from the Central Ground water Authority for extraction and utilization of ground water use in manufacturing process. The total quantum of water used in the manufacturing process was about 1.25 Lakhs liters/day, i.e. 125 KLD. Effluent was generated before curing the products and also during mixing of material to form slurry. ETP was proposed in the list of machinery, but the unit was in operation without any Effluent Treatment Plant. The waste or

rejected products, used oil, etc., were not stored at proper designated place.

16. Appellant has installed a D.G.Set of 500 KVA using Diesel fuel and hazardous waste generated particularly the used oil from the plant and machinery and D.G.Set and the lubricants used for cleaning of greased moulds and machineries required safe disposal through incinerators. Further, the moulds had to be greased and cleaned for every operation thereby considerable quantity of hazardous wastes are generated which required to be disposed safely as per Hazardous Waste Management Rules, 2016. Contrary to the reality on ground, the Appellant had claimed in their application that there was no hazardous waste generation. Copy of the said Inspection report is marked and annexed as **Annexure R-11. (Page No. 314 to 329)**.

17. The Appellant was transporting the fly ash from M/s Adani Dahanu Thermal Power station, Maharashtra. The Appellant unit at Kherdi, the Platinum AAC blocks Pvt. Ltd had just dumped the fly ash in open space everywhere in the factory premises, knowing fully well that large quantity of fly ash stored in heaps in open areas poses a serious threat to the environment. Fly ash being a fine particle spread to other areas outside the premises and easily mixed in air and cause severe health and environmental problems. The fugitive emissions from the factory and spread of fly ash in the entire area is a serious danger to health of human life and irrecoverable negative impact to the environment. The photographs taken during the inspection are collectively enclosed and marked herewith as **Annexure R-12. (Page No. 330 to 341)** It is evident that large quantity of fly ash dumped and stored in an unmindful way in open areas by the appellant in their premises is a major source of inorganic pollution, caused a severe and serious damage to the environment. Leachate from the fly ash dumpsite has genotoxic potential and may lead to adverse effects on vegetation and on the health of exposed human population. The way highly polluted fly ash material is handled, dumped and stored at the premises is a testimony that the appellant are least bothered about the protection of environment and health of people in the surrounding and has no respect for the environmental norms.

From the records of the DNH Power Distribution Corporation Ltd, Silvassa, DNH, it is found that the Appellant had applied for power supply on 7.12.2016, against the application, the HT power connection was released on 9.06.2017 and the first electric consumption bill was raised to the said Appellant on 12.07.2016. A copy of the said bill is marked and annexed as **AnnexureR-13. (Page No. 342 to 345)**. It is evident that the Appellant is running and manufacturing AAC blocks without any authorization since June 2017, which is a serious violation and AAC blocks manufacturing, transportation of flyash and dumping of fly ash in open areas caused severe damage to environment and grossly violated the provisions under section 2 of Water (prevention and Control of Pollution) Act, 1974 and Section 21 of the Air (prevention and Control of Pollution) Act, 1981. Accordingly, it was ordered for closure of the unit and direction was issued to M/s Platinum AAC Block Pvt. Limited situated at Sr. No. 19/1, Village Kherdi, Silvassa as per section 33-A of Water (prevention and Control of Pollution) Act, 1974 and section 31-A of the Air (Prevention and Control of Pollution) Act, 1981 vide order dated 03.05.2019. A copy of the said order is marked and annexed as **AnnexureR-14. (Page No. 346 to 347)**.

18. Ministry of Environment, Forest and Climate Change, Government of India brought out draft amendment notification vide S.O. No. 1396 (E) dated 25.05.2015 to the notification issued vide S.O. No. 763 (E) dated 14.09.1999, and the objections and suggestions received from the persons likely to be affected thereby in respect of the said draft notification have been duly considered by the central government and the MoEF&CC, Govt. of India notified the amendment notification to the said notification dated 14.09.1999 vide notification No. S.O. 254 (E) dated 25.01.2016. Section 2 para 8 to 14 of the amendment notification dated 25.01.2016 are reproduced below;

"Every coal or lignite based thermal power plants (including captive and or cogenerating stations) shall, within three months from the date of notification, upload on their website the details of stock of each type of ash available with them

and thereafter shall update the stock position at least once a month.

Every coal or lignite based thermal power plants shall install dedicated dry ash silos having separate access roads so as to ease the delivery of fly ash.

The cost of transportation of ash for road construction projects or for manufacturing of ash based products or use as soil conditioner in agricultural activity within a radius of 100 kms from a coal or lignite based thermal power plant shall be borne by such coal or lignite based thermal power plant and the cost of transportation beyond the radius of 100km and upto 300km shall be shared equally between the user and the coal or lignite based thermal power plant.

The coal or lignite based thermal power plants shall promote, adopt, and set up (financial or other associated infrastructure) the ash based products manufacturing facilities within the premises or in the vicinity of their premises so as to reduce the transportation of ash.

The coal or lignite based thermal power plants in the vicinity of the cities shall promote, support and assist in setting up of ash based product manufacturing Appellant s so as to meet the requirements of bricks and other building construction materials and also to reduce transportation."

Having realised its harmful impacts of fly ash to environment and life, the Govt. of India vide the said notification dated 25.01.2016 directed the thermal power plants to install dedicated dry ash silos having separate access roads so as to ease the delivery of fly ash and clearly discouraged the transportation of fly ash and asked the Thermal power plants using coal or lignite to promote ash based manufacturing facilities within their premises or in the vicinity of premises, mainly to prevent the fly ash spread in the atmosphere and contain its ill effects on environment and human life other areas. Copy of the notification dated 14.09.1999 and notification dated 25.01.2016 are marked and annexed as

Annexure R-15 (Page No. 348 to 351) & 16 respectively. (Page No. 352 to 370).

19. Appellant submitted a letter dated 12.06.2019 for granting permission of fly ash brick/block manufacturing under white category as per modified direction U/s 18 (1) (b) of the water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 dated 7.03.2016. Also, it was mentioned that the range of pollution index for categorisation, industrial sectors having pollution index score including and upto 20 score, falls under white category/ non polluting industry. There is no necessity of consent for white category/non polluting industries and intimation to concerned SPCB/PCC shall suffice. The Appellant also sent letters dated 6.6.2019, 12.06.2019, 29.7.2019, and emails dated 07.6.2019 and 12.06.2019 to the answering Respondent for consideration. Copies of such letters and emails are marked and annexed as **Annexure R-17. (Page No. 371 to 377)** CPCB vide letter No. ZOW/Tech-305/PC/Gen/2019-20/280 dated 11.07.2019 forwarded the representation received from the Appellant M/s Platinum AAC Blocks Pvt. Limited, Vapi for examination and necessary action. A copy of such representation is marked and annexed as **Annexure R-18. (Page No. 398 to 399).** The appellant had applied for manufacturing of Autoclaved Aerated Concrete blocks which did not find a mention in any of the categories of the notification issued by CPCB dated 7.3.2016.

The answering Respondent responded vide its letter dated 20.8.2019 to the Appellant and conveyed that the application cannot be considered and rejected. A copy of the same is also marked to the Regional Director, CPCB, Vadodara. A copy of the said letter is marked and annexed as **Annexure R-19. (Page No. 400 to 400).**

20. Thereafter, the appellant filed a case before Hon'ble National Green Tribunal, Principal Bench, New Delhi in Appeal No. 77/2019. Hon'ble NGT asked for a report from a joint committee comprising representative of CPCB and answering Respondent, vide order dated 19.9.2019. A copy of the said order is marked and annexed as **Annexure R-20. (Page No. 401 to 403).** The Joint Committee

submitted its report to Hon'ble National Green Tribunal. A copy of the said report is marked and annexed as **Annexure R-21. (Page No. 404 to 420)**

21. From the joint committee report it is evident that in spite of rejecting the application for CTE, the Appellant had established with all required machinery and facilities for manufacture of Autoclaved Aerated Concrete blocks. Since the Appellant was established and was in operation without obtaining CTE, answering Respondent had issued closure direction with disconnection of power supply vide order dated 3.5.2019. At the time of visit, the Appellant unit was nonoperational and the Appellant had stopped its operation and manufacturing process since May 2019. The unit is having manufacturing capacity of 2,50,000 cubic meters of AAC blocks/year and operates seven days a week and three shifts a day. At the time of visit it was observed that a range of machineries were installed including a boiler of 5.5 MT/hr in the Appellant and it was informed that agriculture briquettes are used as fuel. Boiler is provided with cyclone separator and bag filter as Air Pollution Control Device and stack of 30m. Source of fresh water for the manufacturing process and domestic use is the bore well available in the site and reportedly 1.25 lakhs litres per day of fresh water is being consumed by the unit. The Appellant was transporting the fly ash from M/s Adani Dahanu Thermal Power Station, Maharashtra in closed containers /trucks. At the time of visit, it was observed that the fly ash was found stored in the Appellant in a shed as well as outside the shed on open surface. Used oil is being used for greasing the moulds without obtaining authorization for reusing of Hazardous Waste. Appellant has also not obtained NOC from Central Ground Water Authority and District Administration for extraction of ground water from bore well. It is also mentioned in the report that the Appellant representative informed that Appellant was in operation since November, 2017 without obtaining CTE and CTO till May, 2019.

However, the Joint committee had mentioned that Fly ash export, transport and disposal falls in Green category and fly ash bricks /blocks manufacturing using fuel as green category and given a score of 37.

22. The joint committee in its report mentioned that answering Respondent had initiated the process of revision and upgradation of industrial sector categorization as per the Final Document of revised classification of Industrial Sectors under Red, Orange, Green and White Categories. A technical committee has been formed to review and upgrade the categorization as per CPCB directions. (@pg No. 63-167 from the main appeal).

Regarding the scoring of the joint committee, it is submitted that the product manufactured in the Appellant unit is Autoclaved Aerated Concrete blocks and not fly ash brick. All aspects related to quality of waste water generated, air pollutant generated, Hazardous waste generated and likely to be generated, and consumption of resources have not been taken into account by the joint committee while scoring. From the application and the project report submitted by the Appellant, machineries installed, the manufacturing process involved, the quantum of AAC blocks to be manufactured, quantum of fuel used and the capacity of boiler installed, quantum of water used, the waste water generated, and based on field report, the pollution score is worked out by following the pollution index criteria and the pollution scoring methodology given by CPCB and the details as under.

The Autoclaved Aerated Concrete (AAC) blocks manufacturing process involves chemical processes and the same is given as under. When AAC is mixed and cast in forms, several chemical reactions take place that gives AAC its light weight (20% of the weight of concrete) and thermal properties. Aluminium powder reacts with calcium hydroxide and water to form hydrogen. The hydrogen gas foams and doubles the volume of the raw mix creating gas bubbles up to 3mm ($\frac{1}{8}$ inch) in diameter. At the end of the foaming process, the hydrogen escapes into the atmosphere and is replaced by air.

When the forms are removed from the material, it is solid but still soft. It is then cut into either blocks or panels, and placed in an autoclave chamber for 12 hours. During this steam pressure hardening process, when the temperature reaches 190° Celsius (374° Fahrenheit) and the pressure reaches 8 to 12 bar, quartz sand

reacts with calcium hydroxide to form calcium silicate hydrate, which gives AAC its high strength and other unique properties.

In Autoclaved Aerated Concrete Manufacturing, water is used in manufacturing process, boiler feed and cooling tower and as domestic purposes. The Appellant unit had admitted that 1.25 lakhs litres of water per day was used and as mentioned in the project report, 80000 litres for manufacturing process and 45000 litres for boiler and 3000 litres for domestic purpose. Even 94% of the raw material gets converted into a product, 6% is generated in the form of waste, which amounts to 7500 litres or say 7.5 KLD waste water generated in a day. The waste water generated is largely from washings, slurry wastespillage, boiler blowdown and domestic. The standard parameters for waste water are BOD and Suspended solids.

The unit manufacturing capacity was 2,50,000 cubic meters of AAC blocks/year and was operating seven days a week and three shifts a day. A boiler of 5.5 MT/hr capacity is installed in the Appellant and it was informed that agro waste briquettes were used as fuel and as per report consumption rate is 800MT per month. The fuel consumption of boiler given in the document is 1332kg/hr and consume roughly 32 MT in a day. Boiler is provided with cyclone separator and bag filter as Air Pollution Control Device and stack of 30m. Accordingly, the Pollution index is worked out as detailed below.

1. Water Pollution Score (W)

Part A: Score W1 - Non-toxic polluted waste water having BOD below 1000mg/l and the pollutants are easily bio degradable (presence of criteria water pollutants having prescribed standard limits from 11mg/l to 250mg/l and having BOD strength below 1000mg/l) W13. The water pollutants covered under Group W13: Sodium Absorption Ratio (SAR), Biochemical Oxygen Demand (3 days at 27° C), Total Kjeldahl Nitrogen (TKN), Ammoniacal Nitrogen (asN), Suspended Solids, Total Nitrogen (as N), Chemical Oxygen Demand and BOD strength of Waste water is below 1000mg/l. The waste water normally contains BOD and Suspended solids and the scoreW1: **20**

Part 2 W2: Score based on huge discharges of any kind (penalty clause): **0**

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Water Pollution Score (W1+W2) = **20**

2. Air Pollution Score (A)

Part 1 Score A1: Presence of criteria air pollutants having prescribed standards from 51 to 250mg/Nm³ (Group A1D): **15**

Emissions of Particulate Matters during handling / processing of materials and emission of Particulate Matters, NO_x, SO_x, and CO due to burning of fuel for boiler.

Part 2 Score A2: The Appellant uses bag filter and the fuel used is 1.33 tons per hour and 800 MT per month as per the application and report. The unit operated 3 shifts a day and the daily consumption of fuel is more than 24 MT/day and the Appellant falls in Group A2F1. All such industries in which the daily consumption of coal /fuel is more than 24MT/day and the particular (Particulate/gaseous/process) emissions from which can be controlled only with high level equipments/technology like ESPs/Bag house filters, high efficiency chemical wet scrubbers, etc. (Group A2F1): **10**

Air Pollution Score: (A1+A2) = **25**

3. Hazardous waste Generation Score (HW)

The Appellant uses several machineries and regular cleaning and lubricating requires lot of cotton waste, clothes and cleaning material and such waste generated have to be incinerated. Incinerable HW falls under category "33.2 - Contaminated cotton rags or other cleaning material of Schedule- I" and "5.2 - Used or Spent oil of Schedule- I" as per Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. Incinerable Hazardous waste (HW2): **15**

Grand Total: (W+A+HW)= (20+25+15)=60.

1. Water Pollution Score (W)			
Scores	Waste Water Category	Value	
Score on W1	W 13	20	20
Score on W2	-	-	-
Water Pollution Score = W1+W2			20
2. Air Pollution Score (A)			

Scores	Air Pollutant Category	Value	
Score on A1	A1D	15	15
Score on A2	A2F1	10	10
Air Pollution Score = A1+A2			25
3. Hazardous Waste Score (HW)			
Score	HW Category	Value	
HW	HW2	15	15
Grand Total = W + A + HW			60

From the above, it is clear that the Appellant unit falls in Red Category based on the score of Pollution Index and definitely not fall in in green category or white category.

Apart from the pollution score and category, the issue needs to be seen in the light of the notification of MoEF&CC dated 2016 and the negative impact of hazardous wastes like fly ash on the environment and health of the human beings at the Appellant unit and its surrounding and while on its transportation. To produce 2,50,000 cu.m of AAC blocks, the Appellant requires 87500 MT of Fly ash, 12500 MT of lime, 37500 MT of Cement, 1750 MT of Gypsum or plaster of paris 175 KL of soluble oil and 1000 MT of Aluminium powder per annum. The unit has to produce 680 cubic meter AAC blocks per day for which a minimum of 238 MT of fly ash is needed. Severe adverse impact on the biological environment as Particulate Matter emissions from dumped areas, stack and fugitive emissions due to transportation activity & material handling will have severe adverse impact on the environment and will degrade the soil quality of surrounding environment.

There is a potential for triggering health impacts through air pollutants from heavy vehicles, increased dust, and creation of breeding grounds for disease vectors. Exposure to fine particulate dust are at risk of pneumoconiosis, emphysema, bronchitis, and fibrosis.

The Hon'ble National Green Tribunal vide its order dated 17.01.2020, directed the answering Respondent to pass an order in accordance with law and intimate about the action taken. A copy of the said order is marked and annexed as **Annexure R-22. (Page No. 421 to 424).**

23. In compliance of the order of the Hon'ble National Green Tribunal, the answering Respondent passed an order dated 03.02.2020 stating that Appellant was established and operated without obtaining the prior Consent to Establish (CTE) and prior Consent to Operate (CTO) from answering Respondent and violated the provisions of Environment (Protection) Act, 1986, Environment (Protection) Rules, 1986, Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 and as per existing notification, manufacturing of Autoclaved Aerated Concrete using fly ash is not allowed to be established. A copy of the said order is marked and annexed as **Annexure R-23. (Page No. 425 to 433)**.
24. Aggrieved with the order of the answering Respondent, the Appellant has filed the present appeal in Hon'ble National Green Tribunal, Principal Bench vide Appeal No. 08 of 2020 (WZ).

III. PARAWISE REPLY:

25. That, the contents of Para 1 are wrong and hence denied. The appellant though founded his company in the year 2012 to manufacture AAC blocks, still it is not a leading manufacturer and not working in accordance with law and evolving international standards. The Platinum AAC Blocks was establishing an AAC blocks Manufacturing unit at Mohangam village, Umergam Tehsil, District Valsad and abandoned the same in 2015 due to protest from the village and judgement of Hon'ble High Court of Gujarat. Platinum AAC Blocks Pvt. Ltd shifted its unit to Kherdi village, Dadra & Nagar Haveli and was producing Autoclaved Aerated Concrete Blocks (AAC) without obtaining prior consents to establish and operate from Pollution Control Committee under Water (Prevention and Control of pollution) Act, 1974 and Air Prevention and Control of Pollution) Act, 1981. Rest of the contest in the para are matters of records, hence needs no reply.
26. That, the contents of Para 2 are wrong and hence denied. Its respectfully submitted that manufacturing of fly ash bricks have

been included in CPCB category of industries but not the manufacturing of Autoclaved Aerated Concrete Blocks. In AAC blocks fly ash/silica sand is one of the ingredients and not the only ingredient. The AAC blocks have not found any mention in the CPCB notification or the notification issued by the answering Respondent and definitely is not in white category. Further, the classification of Red, orange, green and white category industries are done based on the score of pollution index quality of emissions generated, quality of effluents generated, types of hazardous wastes generated and consumption of resources. The pollution index score is worked out as per the methodology given by CPCB.

27. That, the contents of Para 3 (a) & (b) are wrong and hence denied. The Appellant manufacturing unit was in operation and was manufacturing AAC blocks by unauthorizedly establishing the unit at Kherdi village in Dadra & Nagar Haveli without obtaining prior consent to establish and consent to operate under water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 which is a serious violation. Also, the Appellant had not obtained any authorisation under Hazardous Waste Management Rules, 2016.
28. That, the contents of the para 3 (c) to (e) are matters of records, hence needs no reply.
29. That, the contents of Para 3 (g) are wrong and hence denied. The closure order is issued since the Appellant had established its factory and was involved in manufacturing of Autoclaved Aerated Concrete Blocks without obtaining any prior consent for establishment and consent for operate under Water (Prevention and Control of Pollution) Act, 1974 Act and Air (prevention and Control of Pollution) Act, 1981. Also, they had not obtained the necessary authorisation under Hazardous Waste management Rules 2016, which is a serious violation and caused environmental damage to Dadra Nagar Haveli. Therefore, the Appellant was issued with a closure direction.
30. That, the contents of Para 3 (h) are wrong and hence denied. The Appellant has unauthorizedly established the plant and was in operation, which is a serious violation. The action taken by

answering Respondent is just, proper and well within the existing rules and as per law.

31. That, the contents of the para 4 are matters of records, hence needs no reply.
32. That, the contents of the para 5 are matters of records, hence needs no reply. The joint committee failed to go into the whole aspect of the issue and submitted a report. The representative of answering Respondent could not give her version to report and the report was submitted to NGT. The joint committee failed to mention in the conclusion that there is violation as the Appellant without obtaining the prior consents had unauthorizedly established the Appellant and started manufacturing the Autoclaved Aerated Concrete Blocks by transporting huge quantities of raw materials particularly fly ash, cement, lime, gypsum, etc and dumped in open ground, thereby caused severe damage to environment.
33. That, the contents of Para 6 are wrong and hence denied. However, the score calculated by the joint committee is disputed as the committee failed to take all other aspects into consideration.

The flyash export, transport and disposal facility is kept at sl. No. 58 under green category by CPCB and the score given is 37.5 with the remarks that this is mainly air polluting activity. This is the normalised score based on air pollution. CPCB in its earlier notification kept this item of activity under Red category. Fly ash bricks /blocks manufacturing is kept under white category. The joint committee had given a score of 37 for Fly ash bricks/blocks manufacturing using and kept under green category.

It is respectfully submitted that the categorisation of industry mainly depends on the quality of emissions generated, quality of effluents generated, types of hazardous wastes generated and consumption of resources and also the quantum of product manufactured.

It is contented that the product manufactured in the Appellant is Autoclaved Aerated Concrete blocks and not fly ash brick. From the application and the project report submitted by the Appellant, machineries installed, the manufacturing process

involved, the quantum of AAC blocks to be manufactured, quantum of fuel used and the capacity of boiler, and based on field report the pollution index is worked out as per the CPCB pollution scoring methodology as under.

1. Water Pollution Score (W)

Part A: Score W1 - Non-toxic polluted waste water having BOD below 1000mg/l and the pollutants are easily bio degradable (presence of criteria water pollutants having prescribed standard limits from 11mg/l to 250mg/l and having BOD strength below 1000mg/l) W13. The water pollutants covered under Group W13: Sodium Absorption Ratio (SAR), Biochemical Oxygen Demand (3 days at 27° C), Total Kjeldahl Nitrogen (TKN), Ammoniacal Nitrogen (asN), Suspended Solids, Total Nitrogen (as N), Chemical Oxygen Demand and BOD strength of Waste water is below 1000mg/l. The waste water normally contains BOD and Suspended solids and the score W1: **20**

Part 2 W2: Score based on huge discharges of any kind (penalty clause): **0**

Water Pollution Score (W1+W2) = **20**

2. Air Pollution Score (A)

Part 1 Score A1: Presence of criteria air pollutants having prescribed standards from 51 to 250mg/Nm³ (Group A1D): **15**

Part 2 Score A2: The Appellant uses bag filter and the fuel used is 1.33 tons per hour and 800 MT per month as per the application and report. The unit operated 3 shifts a day and the daily consumption of fuel is more than 24 MT/day and the Appellant falls in Group A2F1. All such industries in which the daily consumption of coal /fuel is more than 24MT/day and the particular (Particulate/gaseous/process) emissions from which can be controlled only with high level equipments/technology like ESPs/Bag house filters, high efficiency chemical wet scrubbers, etc. (Group A2F1): **10**

Air Pollution Score: (A1+A2) = **25**

3. Hazardous waste Generation Score (HW)

The Appellant uses several machineries and regular cleaning and lubricating requires lot of cotton waste, clothes and cleaning

material and such waste generated have to be incinerated. Incinerable HW falls under category "33.2 - Contaminated cotton rags or other cleaning material of Schedule- I" and "5.2 - Used or Spent oil of Schedule- I" as per Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. Incinerable Hazardous waste (HW2): 15

Grand Total: (W+A+HW)= (20+25+15)=60.

1. Water Pollution Score (W)			
Scores	Waste Water Category	Value	
r Score on W1	W 13	20	20
o Score on W2	-	-	-
m Water Pollution Score = W1+W2			20
2. Air Pollution Score (A)			
Scores	Air Pollutant Category	Value	
h Score on A1	A1D	15	15
e Score on A2	A2F1	10	10
Air Pollution Score = A1+A2			25
3. Hazardous Waste Score (HW)			
Score	HW Category	Value	
o HW	HW2	15	15
v Grand Total = W + A + HW			60

e, it is clear that the Appellant unit falls in Red Category based on the score of Pollution Index and definitely not fall in green category.

Apart from the pollution score and category, the issue needs to be seen in the light of the notification of MoEF&CC dated 2016 and the negative impact of hazardous wastes like fly ash on the environment and health of the human beings.

The heavy metals (Ni, Cd, Sb, As, Cr, Pb, etc) generally found in fly ash are toxic in nature. Studies show that the wet disposal of fly ash does not protect the environment from migration of metal into soil. Heavy metals cannot be degraded biologically into harmless products like other organic wastes. Due to increasing air pollution, 35% of kids in India are afflicted with poor lung conditions. There are 15 to 20 million asthmatics in the country and 10 -15 million of them are children from 5 to 11 years of age. Not only are children more

susceptible to respiratory problems, a massive spike of 300% has been noted in recent times.

Having realised its harmful impacts of fly ash to environment and life, the Govt. of India, MoEF&CC vide notification dated 25.01.2016 directed the thermal power plants to install dedicated dry ash silos having separate access roads so as to ease the delivery of fly ash and clearly discouraged the transportation of fly ash and asked the Thermal power plants using coal or lignite to promote ash based manufacturing facilities within their premises or in the vicinity of premises, mainly to reduce transportation and prevent the fly ash spread in the atmosphere and to contain its ill effects on environment and human life in other areas.

34. That, the contents of the para 7 are matters of records, hence needs no reply. The answering Respondent had initiated the process for harmonization of categories of industries into red, orange, green and white as directed by CPCB from time to time. Due to the prevailing COVID 19 pandemic situation, the entire administrative machinery is geared up to tackle the situation in the territory. Action is being taken by the respondent to harmonise the categorization of industries as instructed by CPCB.
35. That, the contents of the para 8 are matters of records, hence needs no reply. The Hon'ble NGT directed the respondent to pass a further order in accordance with law. As per the existing rules, procedures and notifications, and in compliance of the Hon'ble NGT order dated 17.01.2020, answering Respondent passed an order in the instant case vide No. dated 3.02.2020. The ill effects of fly ash when contaminated in water and mixes up in air are well known. There is a potential for triggering health impacts through air pollutants from heavy vehicles, increased dust, and creation of breeding grounds for disease vectors. Exposure to fine particulate dust are at risk of pneumoconiosis, emphysema, bronchitis, and fibrosis.
36. That, the contents of Para 9 are wrong and hence denied. The respondent always honour and respect the directions and order passed by the Hon'ble Tribunal and implemented the same in letter and spirit. The action taken by the answering respondent is in the

interest of protection and preservation of environment and prevent the people from diseases.

37. That, the contents of Para 10& 11 are wrong and hence denied. The answering Respondent being a responsible entity always follows the law and rules. The Appellant had violated the environmental norms and rules and had decided on their own and established and started manufacturing the AAC blocks without taking the mandated consents and authorization, thereby violated the law of the land. The Appellant had unauthorisedly manufacturing the products since June 2017. Even in their application dated 9.2.2019 they suppressed the fact and provided false information that the likely date of manufacturing is June 2019, Wherein the unit had already started manufacturing the products since June 2019. This is evident from the electricity tariff bill. During the inspection on April 2019 it was found that the unit was manufacturing AAC blocks at Kherdi. They do not have any respect for the law of the land and not abide by the law.

The answering Respondent has the duties, responsibilities to protect and preserve the environment and prevent the ill effects of pollution on the soil, water, air and human beings in the territory. The action of the answering Respondent is in accordance with law and also as per the precautionary principles and polluter pay principle. The Appellant's unit had established and manufactured the AAC blocks at Kherdi unauthorisedly since June 2017 and willfully suppressed the facts, as the Appellant knew well that the AAC blocks did not fall under white category and prior consents are mandatory for establish and operate.

38. That, the contents of Para 12 are wrong and hence denied. The Appellant Platinum AAC had unauthorisedly established the AAC manufacturing plant at Kherdi by violating all the existing rules and procedures and caused severe damage to the environment and ecology of DNH and put the people at risk of infecting with respiratory, renal disorders by transportation of fly ash and unmindful dumping of the same in open area in the entire premises. The notification issued by MoEF&CC dated 25.2.2019 is only a draft amendment notification related to substitution namely *no new red clay brick shall be installed and operated within 300 km from a coal or lignite based thermal power plant and the existing red clay brick*

kilns located within 300 km shall be converted into fly ash based bricks. A copy of the said notification is marked and annexed as **Annexure R-24 (Page No. 434 to 438)**. Once notified appropriate action as deem fit will be initiated in the territory. No final notification is issued and as such it is not contrary to the said notification. Regarding the CPCB letter dated 11.07.2019, a reply has been forwarded to CPCB by the answering Respondent.

39. That, the contents of Para 13 are wrong and hence denied. As mentioned in the joint committee report, answering Respondent has initiated the process of revision and upgradation of industrial sector categorization as per the final document on Revised Classification of Industrial Sectors under Red, Orange, Green and White Categories. A technical committee has been formed to review and update the categorization as per CPCB directions and also consulted with experts on the subject. The same is under process and will be completed at the earliest.
40. That, the contents of the para 14 & 15 are matter of records, hence needs no reply. The amendment notification brought out by the answering Respondent during 2018 is to consider the existing Red category industries for expansion/modernization on case to case basis.
41. That, the contents of Para 16 are wrong and hence denied. The answering Respondent has made its efforts in harmonization of categories of industries as per CPCB directions and notifications and the same is under process and will be completed at the earliest.
42. That, the contents of the para 17 are matters of records, hence needs no reply. It is respectfully submitted that the Brick kilns manufacturing activity is not mentioned and not categorized in the answering Respondent notification dated 9/10/2015. There is no ban on functioning of brick kilns imposed either by CPCB or by MoEF&CC. No directions have been received from CPCB or MoEF&CC regarding functioning of brick kilns and once received the same will be followed and implemented in the territory.
43. That, the contents of the para 18 are matters of records, hence needs no reply. It is reiterated that the fly ash creates fugitive emission and it consists of some hazardous elements. The detailed Project Report of the Appellant submitted to the answering

Respondent further corroborates the fact. It is mentioned in the said project report that fly ash, a coal combustion residue having a complex heterogenous mixture of amorphous and crystalline phases and is generally a fine powdered ferro aluminosilicate material with Al, Ca, Mg, Fe, Na and Si as predominant elements. Fly ash also contain significant amounts of toxic metals such as As, Ba, Hg, Cr, Ni, Zn and Se characteristically enriched in coal fly ash particles. The coal fly ash occupies more space in the premises of industrial plants and are mixed with water to discharge into fly ash settling ponds or landfills. Large quantity of fly ash is store in heaps or deposits whose contamination poses a serious threat to the environment as a major source of inorganic pollution. Fly ash impact on natural ecosystem is well documented in the said detailed project report and the same is reproduced below.

Heavy metals like arsenic, lead, nickel, cobalt, chromium, boron and antimony found in fly ash are hazardous for living organisms. These elements can be potentially released to the soil, surface water, and ground water by leaching process also affecting the vegetation. The leaching potential of ash pond is higher due to diurnal and seasonal variations in temperature, moisture and other parameters. Studies indicate that leach abilities of cationic metals such as cadmium, chromium, zinc, lead, mercury, and silver increases with decreasing PH or acidic conditions. Bioaccumulation of heavy metals in plants lead to increased elemental composition eventually entering the food chain. An investigation of fly ash contaminated areas in Uttar Pradesh showed the bio accumulation of heavy metals like Fe, Zn, Cu, Mo, B, Si, Al, Cr, Pb, Cd, Hg and As in native aquatic, terrestrial and algal species in the vicinity.

Leachate from the flyash dumpsite has genotoxic potential and may lead to adverse effects on vegetation and on the health of exposed human population. A study on the mutagen and genotoxicity effects of fly ash leachate showed predominance of the metals like sodium, silicon, potassium, calcium, magnesium, iron, manganese, zinc and sulphate. The Ames Salmonella mutagen assay conducted on two tested strains and genotoxicity assay on fly ash leachate carried invitro on human blood cells and in vivo on nicotiana plants indicated that the leachate was directly mutagenic and resulted in DNA damage in whole blood cells, lymphocytes and in nicotiana plants.

All elements below atomic number 92 are present in the coal ash. Particulate Matter (PM) considered as a source of air

pollution constitutes fly ash. The fine particles of fly ash reach the pulmonary region of the lungs and remain there for long periods of time. They behave like cumulative poison. The sub micron particles enter deeper into the lungs and are deposited on the alveolar walls where the metals could be transferred to the blood plasma across the cell membrane. The residual particles being silica (40-73%) causes silicosis.

The Fly ash and its negative impacts on human health is well documented and the relevant research papers are marked and annexed as **Annexure R-25. (Page No. 439 to 475)**.

From the above it is very clear that fly ash transportation, storage in open areas and use pose severe environmental problems and the closure direction issued by the answering Respondent is in the interest of people of Dadra & Nagar Haveli, its ecology and environment.

44. That, the contents of Para 19 are wrong and hence denied. Even if it is a solid waste, transportation of solid waste and its dumping from one territory to other needs permission. From para 18 it is very well established that fly ash is harmful. The Pond ash is a mixture of fly ash and bottom ash, mainly obtained from the wet disposal of the fly ash of the boiler. The chemical composition of fly ash and pond ash generally lie in the same range. Pond ash also contain silica, Alumina, iron oxide, calcium oxide, Magnesium oxide, and sulphur. The main difference is in their particle size. Pond ash also causes environmental risks like air pollution, surface water and ground water pollution and also cause. Toxic heavy metals like *Fe, Zn, Cu, Mo, B, Si, Al, Cr, Pb, Cd, Hg and As* are found in pond ash. The leachates of toxic metals emanating from pond ash may contaminate the ground water. The leaching potential of pond ash is higher due to diurnal and seasonal variations in temperature, moisture and other parameters. Studies indicate that leaching abilities of cationic metals such as cadmium, chromium, zinc, lead, mercury, and silver increases with decreasing PH or acidic conditions. The physical and chemical properties and the heavy metal contents in pond ash is well documented and the Appellant has also mentioned the same in the detailed project report submitted to answering Respondent. A copy of the relevant research publication is marked and annexed as **Annexure R-26. (Page No. 476 to 481)**.

45. That, the contents of Para 20 are wrong and hence denied. It is also respectfully submitted that, Pond ash may also get spilled while on transportation and can contaminate the soil, if proper safeguards are not followed. Also, once dried it gets into atmosphere and spread to other places and pollute the air and harm the human life and environment. The impact on transportation may be slightly less compared to fly ash but once it is dumped in the premises and dries up the impact will be similar to fly ash. will have equal potent. Nearly 22% of the pond ash is silt and is a fine particle. The fine particles reach the pulmonary region of the lungs and remain there for long periods of time. They behave like cumulative poison. The sub micron particles enter deeper into the lungs and are deposited on the alveolar walls where the metals could be transferred to the blood plasma across the cell membrane. The residual particles being silica (40-73%) causes silicosis. Leachate from the pond ash dumpsite has genotoxic potential and may lead to adverse effects on vegetation and on the health of exposed human population.
46. That, the contents of Para 21 are wrong and hence denied. From the photographs and report of the answering Respondent's officials and also the Joint Committee it is palpably evident that the entire premises were dumped with fly ash and in open areas. There is enough evidence on fugitive emission in the premises. Frequent movement of trucks and loading and unloading of fly ash in the premises, were sufficient as large quantity of fly ash is stored in heaps or deposits whose contamination poses a serious threat to the environment as a major source of inorganic pollution. The Dadra & Nagar Haveli is predominantly having tribal population and people are not aware of the causes of respiratory illness. No complaint received by the Appellant doesn't mean that there are no harmful effects on health or the environment is not polluted. People will only realize in the long run about the environmental damage and its impact. From the contents of para 21 the Appellant is agreeing to the fact that he is unauthorizedly running the unit. The industry provided employment to few individuals at a cost of environmental health and degradation. The respondent is dutiful and responsible to protect and preserve the environment and prevent the people from diseases due to air and water pollution.

47. That, the contents of the para 22 to 24 are matters of records, hence needs no reply.
48. That, the contents of para 25 are admitted to certain extent. Rest are disputed and denied. There is no denial of the fact that the fly ash needs to be utilized in an environmentally friendly way. As mentioned in the notification dated 2016, manufacturing facilities have to be created within the premises from where fly ash is generated or in the vicinity of premises to effectively avoid ill effects and reduce transportation. It is pleaded that transportation and utilization of fly ash in a small territory like DNH and DD, where there is already a heavy concentration of industries, will further aggravate and augment the problems. It was evident from the premises of the Appellant that there will always be problem of compliance of norms, and will be difficult to enforce once it is allowed.

IV. REPLY TO THE GROUNDS:

- A. That, the contents of Para A are wrong and hence denied. The Appellant is not actually doing fly ash management in environmentally safe and effective way. Rather, the unauthorised establishment of AAC blocks manufacturing unit and manufacturing of AAC blocks without giving any respite to the environment, ecology and human well beings caused irreversible damage to air, water, soil and damage to the overall environment. Establishing such unit outside the vicinity of fly ash generating areas may be avoided in the larger interest small territories like DNH&DD.
- B. That, the contents of Para B are wrong and hence denied. It's respectfully submitted that the answering Respondent is always behaving in a responsible way. The entire issue was considered objectively based on the documents submitted by the Appellant and on the field conditions by answering Respondent. The whole issue was dealt with due application of mind, duties, functions and responsibilities. All the actions have been taken in the interest of protection and preservation of environment and safeguarding the interests and lives of people of DNH.
- C. That, the contents of Para C are wrong and hence denied. It is the responsibility of the coal or lignite based thermal power plant to effectively dispose of the flyash /pond ash generated by them. As

per the existing notification it is the responsibility of the coal or lignite based thermal power plants to promote, adopt, and set up (financial or other associated infrastructure) the ash based products manufacturing facilities within the premises or in the vicinity of their premises so as to reduce the transportation of ash. Also, it is the responsibility of the coal or lignite based thermal power plants in the vicinity of the cities to promote, support and assist in setting up of ash based product manufacturing Appellant s so as to meet the requirements of bricks and other building construction materials and also to reduce transportation. Accumulation of fly ash at the thermal power station should not be the concern of the appellant. The above provisions in the notification dated 2016 of MoEF&CC is issued with sole intention of reducing the transportation of flyash/pond ash and effectively utilize the same with the premises or in the vicinity to avoid ill effects in other areas.

- D. That, the contents of Para D are wrong and hence denied. The decision on closure of the unit is taken to prevent the environmental degradation in the territory of Dadra & Nagar Haveli, is in the interest of protection and preservation of the environment and to prevent wide range of potential health effects on people including heart, lung and gastro intestinal diseases. Heavy metals such as arsenic, chromium, and cadmium found in fly ash /pond ash are known human carcinogen. For gainful economic activity and to prevent environment degradation in the territory of DNH, the appellant may shift the unit close to the vicinity of the fly ash source.
- E. That, the contents of Para E are wrong and hence denied. The Appellant is closed after taking a fair assessment of environment damage caused, to be caused by the industry for the soil, water including ground water, impact on the crop and ecosystem and likely health effects on human beings. It is the Appellant, who unauthorizedly established the unit and manufactured the AAC blocks without giving any scant regard to the health and wellbeing of the people of Kherdi, DNH and the environment.
- F. That, the contents of Para F are wrong and hence denied. The answering Respondent has dealt the issues with application of mind and discharged its duties, functions and responsibilities in safeguarding the environment and wellbeing of the people.

- G. That, the contents of Para G are wrong and hence denied. The order passed by answering Respondent is fully in the interest of protection and preservation of environment including water and air and to prevent the wide range of health effects on people of DNH. From the actions of the Appellant in shifting the unit from Mohangam, Gujarat and establishing the Appellant at Kherdi, DNH without obtaining any consent and authorisation and indulged in illegal manufacturing of AAC blocks, is evident that the Appellant has no regards for rules, procedure and law of the land.
- H. That, the contents of Para H are wrong and hence denied. The admission of Appellant that the Appellant is ready to follow the environmental norms and allow permission to start the industry proves that the appellant had committed mistakes and damaged the environment. Allowing the Appellant to operate will certainly encourage other similar placed persons to follow this path and get them regularised at a later stage. Also, allowing such industry to function will set a bad precedent and will have problems in enforcing the industries to follow the environmental norms.
- I. That, the contents of Para I are wrong and hence denied. While investing the hard earned money all aspects have to be considered. Appellant had shifted the AAC Block manufacturing unit from Mohangam, Valsad Gujarat and could have established the unit in other locations after obtaining the necessary clearances. Again, without getting the prior consents, the appellant had gone ahead with the proposal, and established the unit and were running the unit and producing Autoclaved Aerated Concrete Blocks unauthorizedly at Kherdi, Dadra & Nagar Haveli at the cost of environment and human wellbeing even after rejection of the proposal in June 2017. The appellants had least respect for the law and the environment. The wrong actions of the appellant should not be regularised otherwise everyone will follow the same path and establish their unit and get it regularised at a later date. This should not set a precedence. The Appellant has to be closed looking at the kind of damages it poses to the people and the environment.

- J. That, the contents of Para J are wrong and hence denied. The respondent is acting as per the existing rules, procedures and notification related to Pollution and environment. The respondent had acted in the interest of protection and preservation of environment and merely acted in a responsible manner in safeguarding the people and environment. Any wrong decision, will be detrimental to the wellbeing of the residents and the environment at large and in perpetuity.

V. REPLY TO THE INTERIM PRAYER:

The Platinum AAC manufacturing unit has caused severe and serious environmental damages by dumping of fly ash raw material in entire premises and manufacturing of AAC blocks, without obtaining the prior consent to establish and operate the AAC block manufacturing Appellant and running the Appellant since June 2017 is a serious violation. The unit has to be closed to safeguard the environment and protecting the people from serious respiratory, renal and other illnesses. Guidelines are there for effective disposal and utilisation of fly ash and it is the responsibility of concerned Thermal Power plants. The Appellant is so concerned for the protection and preservation of environment, would not have established the unit and damaged the environment.

VI. REPLY TO THE PRAYER:

- A. The Appellant Platinum AAC Blocks Manufacturing has violated the provisions of Water Act, 1974 and Air Act, 1981 and established the unit without obtaining the prior necessary consents and taken the law in their hand. They had polluted the environment namely soil, air, ground water and vegetation and put the human life to risk. Therefore, the unit has to be closed in the larger interest of the territory.
- B. The Notification of Pollution Control Committee dated 19.10.2015 is in harmony with the CPCB notification issued in 2012 and largely with notification issued in 2016. Harmonisation of various categories of industries as per 2016 and subsequent directions of CPCB in 2020 are under process and the same will be completed. However, the Appellant had applied for Autoclaved

Aerated Concrete Blocks only and the same was not kept in any of the categories by CPCB and answering Respondent.

- C. The amendment notification of answering Respondent is only for the expansion, modernisation of existing red category industries which are banned in the territory.
- D. The appellant industry falls in red category and definitely neither in white category nor in green category. Looking at the seriousness of issue involved, Hon'ble Tribunal may declare that such kind of unit, using huge quantities of fly ash pond ash as raw material should be established within the locality of thermal power plants or near to a cement plant or in vicinity of such industries to avoid transportation by road. Development of clusters of such similarly placed units like the Appellant near or within the location of source of raw materials particularly flyash and cement, may be an option to deal with the issue. Now Several cement plants are also putting up AAC blocks manufacturing plants in an integrated manner.
- E. The action of the respondent is in the interest of environment and people of Dadra & Nagar Haveli. Allowing such Appellant industries in the territory predominantly having tribal agrarian societies will be detrimental to their quality of life and environment.
- F. The Appellant had caused severe and serious environmental damages and violated the rules. The appellant is the defaulter and violator and misled everyone that the Appellant is manufacturing white category product. The Appellant had given false declarations and lied to the authorities that the appellant would likely to manufacture the Autoclaved Aerated Concrete (AAC) blocks in June 2019, whereas the appellant was manufacturing the AAC blocks since June 2017 as per Electricity tariff bill and November 2017 as told by the representative of the appellant to the Joint Committee. The appeal may be dismissed with heavy cost.

VII. That, the documents annexed hereto are true and correct.

Solemnly affirmed at Daman

This 23rd day of July, 2020

Thiye
Deponent

VERIFICATION

I, the deponent above named do hereby verify that the contents of paras 1 to VII of the above affidavit are true and correct and nothing material has been concealed therefrom.

Verified at Daman this 23rd day of July, 2020

Thiye
Deponent



Before me
[Signature]
कायपालक मेजीस्ट्रेट
EXECUTIVE MAGISTRATE,
दमण / DAMAN.



IN THE HIGH COURT OF GUJARAT AT AHMEDABAD**SPECIAL CIVIL APPLICATION NO. 14810 of 2014****With****SPECIAL CIVIL APPLICATION NO. 8781 of 2015****FOR APPROVAL AND SIGNATURE:****HONOURABLE MR.JUSTICE C.L. SONI****Sd/-**

1	Whether Reporters of Local Papers may be allowed to see the judgment ?	No
2	To be referred to the Reporter or not ?	Yes
3	Whether their Lordships wish to see the fair copy of the judgment ?	No
4	Whether this case involves a substantial question of law as to the interpretation of the Constitution of India or any order made thereunder ?	No

PLATINUM AAC BLOCKS PRIVATE LTD.**Versus****STATE OF GUJARAT & 15**

Appearance in Special Civil Application 14810 of 2014:

MR SAURABH SOPARKAR, SR ADVOCATE with MR BHAVIN S RAIYANI, ADVOCATE for the Petitioner

MR JANAK RAVAL, ASSTT GOVT PLEADER for the Respondent No.1

MR MUKESH A PATEL, ADVOCATE for Respondent Nos.5 to14

MR PRADEEP PATEL, ADVOCATE for Respondent No.2

MS KRUTI M SHAH, ADVOCATE for Respondent No.16

Appearance in Special Civil Application 8781 of 2015:

MS KRUTI M SHAH, ADVOCATE for the Petitioners

MR JANAK RAVAL, ASSTT GOVT PLEADER for Respondent Nos.1-8

MR SAURABH SOPARKAR, SR ADVOCATE with MR BHAVIN S RAIYANI, ADVOCATE for the Respondent No.9

CORAM: HONOURABLE MR.JUSTICE C.L. SONI**Date : 31/08/2015****COMMON CAV JUDGMENT**

1. In Special Civil Application No.14810 of 2014 (to be referred as 'First Petition') filed under Article 226 of the Constitution of India, the petitioner company has made following prayers in para

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- "(A) YOUR LORDSHIPS be pleased to issue a writ of mandamus of any other appropriate writ, order or direction, directing the respondents not to obstruct installation, function of industrial unit of petitioner and/or further not to obstruct the petitioner from using the public road passing through the village and permit the petitioner to carry its machinery for the purpose of installation in its industrial unit, in the interest of justice;*
- (B) YOUR LORDSHIPS be pleased to issue a writ of mandamus or any other appropriate writ, order or direction, directing the respondents to permit the petitioner to construct the public road, as stated in the petition, at its own cost so as to permit the petitioner to transport its vehicles and machineries to its industrial unit, in the interest of justice;*
- (C) YOUR LORDSHIPS be pleased to issue a writ of mandamus or any other appropriate writ, order or direction, directing the respondent police authorities to see that the situation of law and order may not be disturbed and to take appropriate immediate action against the wrong doers who are obstructing to the functioning of the petitioner company, in the interest of justice;*
- (D) YOUR LORDSHIPS be pleased to direct the respondent authorities to permit the petitioner to transport its vehicles and machineries with police protection, pending the admission, hearing and final disposal of this application, in the interest of justice;*
- (E) YOUR LORDSHIPS be pleased to grant such other and further reliefs, as may be deemed fit by this Hon'ble Court, in the interest of justice."*

2. The case of the petitioner is that for its industrial unit engaged in manufacturing of Autoclaved Aerated Concrete (AAC) Blocks, it has taken all necessary permissions from the concerned authorities. However, it was not permitted to carry out construction and installation of the plant by certain headstrong persons and therefore, it was required to ask for police protection. It is further case of the petitioner that such headstrong persons are frequently obstructing the vehicles passing through the village towards its industrial unit carrying its machineries and it was compelled to file complaint to prevent such illegal activities. It is averred in the petition that to the shock and surprise of the petitioner, even the Gram Panchayat and its office bearers have

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also joined hands with headstrong persons by passing one after another illegal resolution/ order to stop the petitioner from passing through the village. For such purpose, the Gram Panchayat passed resolution not to widen the road which is required to permit the petitioner to pass its vehicles and further resolved not to surface/ repair or construct the existing road. The Panchayat has also passed another resolution not to grant alternative road to the petitioner company. The petitioner company can provide sufficient opportunity of employment, however on account of obstructive and illegal activities of unscrupulous persons, the petitioner company is under constant threat and is being deprived of use of the road to reach its industrial unit though it has offered to construct the road at its own cost. It is the case of the petitioner that the petitioner has installed huge machineries, some of which are waiting for its transportation to its industrial unit, cost of which is worth of Rs.17 crore approximately.

3. This petition is opposed by filing affidavit-in-reply on behalf of respondent No.2-Mohangam Gram Panchayat, *inter alia* stating that there is no public road but the villagers have made arrangement through their fields for internal movement surfacing thereof (3 meters in width and 310 meters in length) has been made from the grant of M.P. in the year 2009/2010 and it is not correct to say that there is a public road of 9 meters width. The private respondents, some of whom are petitioners of Special Civil Application No.8781 of 2015 (To be referred as 'the second Petition'), have also filed different affidavits, opposing the petition *inter alia* stating that there is no public road passing through the village but there is a katcha private road passing through the agricultural fields of the farmers, including their fields, which is meant to be used for agriculturists. It is also stated that by misrepresentation as to existence of public road of 9 meters in width, the petitioner got permission under Section 65B of the

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Bombay Land Revenue Code ('the Code') and that industrial unit of the petitioner has violated environmental norms and even the Pollution Board has also made a report that the unit is not placed at the distance of residential area of the village. It is also alleged that the State authorities are hand in glove with the petitioner company and helped the petitioner by abusing their powers. Many other allegations are made in the affidavit which, if required, shall be referred later on.

4. In second petition filed under Article 226 of the Constitution of India, the petitioners who are owners of agricultural lands situated in village Mohangam have alleged that respondent No.9 company- the petitioner of the first petition wants to use the road passing through their private agricultural fields though such is not the public road and though their lands are not acquired for such purpose. Many other allegations are made against respondent No.9 and the State authorities as regards highhanded action of respondent No.9 in collusion with public authorities. With such background of facts, following prayers are made in para 7 of the second petition:-

- "(a) admit and allow this petition.*
- (b) issue appropriate writ order or direction against the respondent state authorities to immediately stop the respondent no.9 company from using the road passing from Daman Road and Survey No.41/3 passing through several private agricultural fields and reaching to Survey No.35/8 situated at village Mohangam, Taluka Umargam, District Valsad for the purpose of transportation of heavy vehicles or any other purpose by the respondent no.9 company.*
- (c) issue appropriate writ order or direction to the State Authorities to pay the compensation to the petitioners for illegal usage of their lands situated Block/ Survey No.41/1, 41/2, 41/3 Pardi No.12, 12/1, 12/2, 37/2, 37/2/1, 37/1, 36/2, 35/1, 36/3, 35/8 of village Mohangam, Taluka Umargam, District Valsad.*
- (d) issue appropriate writ order or direction restraining the State authorities from making any pakka construction on the road starting from Survey No.41/3 passing through*

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several private agricultural fields and reaching to Survey No.35/8 situated at village Mohangam, Taluka Umargam, District Valsad.

(e) *Pending admission, final hearing and disposal of this petition, direct the respondents not to allow the respondent no.9 company to use road passing from Survey No.41/3 passing through several private agricultural fields and reaching to Survey No.35/8, situated at village Mohangam, Taluka Umargam, District Valsad.*

(f) *Pending admission, final hearing and disposal of this petition, direct the State Authorities to maintain status quo regarding further construction and extension of the road passing from Survey No.41/3 passing through several private agricultural fields and reaching to Survey No.35/8 situated at village Mohangam, Taluka Umargam, District Valsad.*

(g) *....."*

5. This petition is opposed by respondent No.9 company by affidavit-in-reply *inter alia* stating that the road in question was prepared and constructed from the fund of the Member of Parliament in the year 2009-10 and therefore, it is a public road. It is also stated that the road is being reconstructed/ repaired from 100% funds contributed by the company and the company had already deposited Rs.6,82,000/- for reconstruction of the road. It is also stated that permission under Section 65B of the Bombay Land Revenue Code ('the Code), for using the land of the company for industrial purpose was granted after considering the objections raised by the Gram Panchayat and the village people. The respondent No.9 company has also referred to the order passed in Writ Petition (PIL) No.279 of 2014 and in Misc. Civil Application (For Review) No.3683 of 2014 to contend that the subject dispute is no longer *res intergra*.

6. Learned senior advocate Mr. Soparkar appearing with Mr. Rayani for the petitioner company submitted that the company has established the industrial unit after obtaining necessary permission from all the concerned authorities, including permission under

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Section 65B of the Code from the Collector to use the land for non-agricultural industrial purpose. Mr. Soparkar submitted that in fact, the Gram Panchayat had given no objection for establishment of the industrial unit by the company, however subsequently at the instance of some unscrupulous persons who wanted to blackmail the petitioner company, the Panchayat took up opposite stand against the company. Mr. Soparkar submitted that after the unit was constructed and some of the machineries were installed by using public road passing through the agricultural lands of the village people, suddenly some headstrong persons created obstruction against permitting the vehicles of the company to pass through the road and therefore, the company had no other option but to lodge criminal complaint and ask for police protection as also had to represent before the concerned authorities, like Collector, Executive Engineer, etc. Mr. Soparkar submitted that undisputably, the road passing through the agricultural lands of the villagers is made by using public funds and therefore, it is a public road in the eye of law and a public street as defined in Gujarat Panchayat Act, 1993 ('the Act') and therefore, the petitioner company and its officers have got absolute right to use such public road to have ingress and egress through such road for their vehicles also.

7. As against the above arguments, learned advocate Mr. Mukesh Patel appearing for some of the private respondents in the first petition has raised preliminary objections against maintainability of the petition under Article 226 of the Constitution of India on the ground that no fundamental right of the petitioner is violated, that if any civil right is violated, remedy is not under Article 226 of the Constitution of India, that good drafting or tactful pleading would not make the petition maintainable under Article 226 of the Constitution of India, that unless violation of established right is shown, remedy under Article 226 of the Constitution of

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India is not available, that there are disputed questions of fact involved in the petition on the question as to whether there exists a public road or not, and as to whether the petitioner company has right to use the private road passing through the agricultural lands, and that the resolutions passed by the Gram Panchayat against the company are not challenged and remedy to challenge such resolutions is available under the Act. Mr. Patel submitted that the claim of the petitioner company as regards existence of public road of 9 meter in width is not supported by any official record. Mr. Patel submitted that there is also no other record to suggest that there is a public road even of lesser width use of which could be claimed as a matter of right by the company. Mr. Patel submitted that the road claimed as public road is in fact a private road meant to be used by village people for their agricultural fields and such private road is only of 300 meters in length for which if some funds were utilized in past, the same would not convert it into public road, especially when beyond 300 meters, there is no even katcha road till the unit of the petitioner, which is further 200 meters away. Mr. Patel submitted that the private road through the agricultural lands of the village however is only 3 meters in width and it is not possible to use such road for big vehicles to carry heavy machineries through such road and therefore, such road cannot be claimed to be a public road for the purpose of using the same by the petitioner company. Mr. Patel submitted that the permission under Section 65B of the Code to the petitioner company was on misrepresentation as regards existence of road of 9 meter in width.

8. Learned advocate Ms. Kruti Shah appearing for some of the private respondents in the first petition and also for the petitioners in the second petition submitted that the petitioner company has established the industrial unit within 500 meters of the residential area of the village. Ms. Shah submitted that taking of permission

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from different authorities, including permission under Section 65B of the Code for establishment of the industrial unit near the village area would not *ipso facto* establish that there exists a public road which could be claimed as a matter of right by the petitioner company to reach to its industrial unit through the private fields of the village people. Ms. Shah submitted that it was wrongly represented by the company before all authorities that there exists a road of 9 meters in width without disclosing the correct fact that there is no such road of 9 meter in width and that the road claimed through private land of the village people is not till terminal point of the unit. Ms. Shah submitted that there is a private road of only 300 meters in length meant to be used only by village people which cannot be termed as a public street as sought to be contended by learned senior advocate Mr. Soparkar. Ms. Shah submitted that it is because the petitioner is a mighty company, the State authorities have gone beyond their authority in helping out the petitioner company to use the private road to permit its heavy vehicles to pass through it causing lot of damages to the agricultural fields of the villagers and but for such help extended by the State authorities. Ms. Shah submitted that nowhere from any public record, it is established that there is a public road as claimed by the petitioner company and there are highly disputed questions of fact which could not be examined in the petition filed under Article 226 of the Constitution of India.

8.1. As regards second petition, Ms. Shah submitted that the agricultural lands of the petitioners could not be permitted to be used by the respondent No.9 company under the guise that the private road passing through the agricultural lands is a public road and unless such private road is acquired and the petitioners are paid compensation for putting private road to public use, nobody including the company has right to use the same. Ms. Shah submitted that since the respondent No.9 was permitted to use the

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private road by the State authorities unauthorizedly, the State authorities and the respondent No.9 company are required to pay compensation to the petitioners who are owners of the agricultural lands through which the private road is passing. Ms. Shah submitted that the State authorities have got no right or authority to make any pakka construction of the road through the private agricultural fields of the petitioners and therefore, the respondent authorities are required to be prevented from making any pakka construction on the road passing through the private lands of the petitioners.

9. Learned advocate Mr. Pradeep Patel appearing for respondent No.2 Panchayat submitted that the petition of the company is nothing but a clever device to settle the civil disputes by resorting to remedy under Article 226 of the Constitution of India. Mr. Patel submitted that the powers of this Court under Article 226 of the Constitution of India could be invoked only when there exists an established public right in respect of which violation could be complained of. Mr. Patel submitted that there are highly disputed questions of fact involved as to existence of public road as claimed by the petitioner company and therefore, remedy of writ is not available to the petitioner company for the prayers made in the first petition. Mr. Patel submitted that the petitioner company has misled all authorities for taking different permission including permission under Section 65B of the Code by relying on the layout plan claiming existence of 9 meter road in width through the agricultural lands of the village people. Mr. Patel submitted that there is no evidence whatsoever as regards existence of a public road of 9 meter in width, and the Sarpanch of Gram Panchayat in his affidavit has clearly stated that the road claimed by the petitioner company as public road is in fact a private road of only of 300 meters in length and 3 meter in width and such short and narrow private road is made by the village people to reach to their

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fields which if at all was surfaced in past with the funds of the then Member of Parliament, the same would not convert it into a public road. Mr. Patel submitted that initially the Gram Panchayat granted no objection to the unit of the petitioner company but later on, it came to know that the company has misrepresented before various authorities as regards existence of the public road, and therefore, Gram Panchayat passed resolution opposing the use of the private road by the company and of surfacing and/or constructing upon the private road. Mr. Patel submitted that the industrial unit is 200 meters away from existing private road of 300 meters in length and use of heavy vehicles and heavy machineries by the petitioner company since has damaged the agricultural lands, the petitioner company is not entitled to any relief as prayed for in the first petition.

10. Learned Assistant Government Pleader Mr. Janak Raval appearing for the State authorities submitted that the allegations made against the State authorities are not correct and that the prayers made in the second petition cannot be granted as the second petition raises disputed questions of fact and unless it is established that the State authorities are responsible for causing any damage or have made illegal use of the land of the petitioners, the petitioners are not entitled to any compensation from the State authorities.

11. Having heard learned advocates for the parties, it appears that though the petitioner claims that it has right to use the public road passing through village Mohangam and seeks direction against the respondents not to obstruct the petitioner from using the public road and not to obstruct installation and functioning of the industrial unit of the petitioner and permit it to construct the public road at his own cost, nowhere in the petition, the petitioner has stated which road the petitioner is claiming to be public road. The petitioner has also not provided any details or particulars as

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regards geographical situation of its unit. Thus, in absence of requisite pleadings, the petitioner is not entitled to claim reliefs prayed for in the petition. However, in the context of permission granted by the Collector under Section 65B of the Code, Mr. Soparkar submitted that layout plan refers existence of 9 meters road in width. The Collector's order granting such permission is placed on record at Annexure-F, wherein what is found mentioned is that there exists a village road touching to Mohangam - Dhuya (Khatkimata) road for ingress and egress to the company. In this very order, opinion given by the Town Development Department dated 14.5.2013, copy whereof is placed at Annexure-C, for construction for FSI of 4161.99 Sq. Mtrs. for industrial purpose is referred. In such opinion, as per condition No.(2), the competent authority was to verify as regards availability of 9 meter road in width as mentioned in the layout plan submitted by the petitioner. Such opinion of the Town Development Department and permission under Section 65B of the Code is for installation of the unit on the land bearing Revenue Survey No.37/4/1, area of which is shown as 12444 Sq. Mtrs., in the limits of Mohangam village. However, it appears from the copy of the layout plan that 9 meter road in width is shown from Nikoli to Mohangam and 7.5 meter wide road is shown as internal approach road for the unit. Such 9 meter road in width is thus not the same road either as mentioned in the order of the Collector for permission under Section 65B or for passing through agricultural fields of the village people. There is no other public record to show existence of 9 meter road for ingress and egress to the company. As stated above, altogether different road is mentioned, i.e. Mohangam- Dhuya (Khatkimata) road in the order of Collector for ingress and egress to the company which is stated to be touching the village road. The village road stated to be passing through the agricultural fields of the private respondents and other villagers is described as Khatkimata Mandir (Temple) to Khandmora road and as per the affidavit of the Sarpanch, such is

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internal village road of 3 meter in width (about 9 ft.) and 310 meter in length. Such description of the road could not be disputed by the petitioner. However, learned senior advocate Mr. Soparkar however submitted that even if length of the road is of 300 meter and width is of 3 meter, it being a public road, the petitioner has got right to use such road to have ingress and egress to the unit not only for the officers of the company but also for the vehicles of the company and nobody, including the respondents, can obstruct them from using such road. Mr. Soparkar submitted that on account of obstruction created by the private respondents and some other village people, including the Gram Panchayat, it is not possible for the petitioner to complete the installation of the heavy machineries in the industrial unit of the company. To establish that such short and narrow road is a public road, Mr. Soparkar has relied on a communication dated 12.6.2015 from the Gram Panchayat at Annexure-SS1 (page 225) annexed with the Additional Affidavit filed on behalf of the petitioner, wherein it is mentioned that in the year 1992-1993, 1998-1999, 2001-2002, 2002-2003 and 2010-2011, different amounts were spent for the road from Khatkimata Mandir to Khandmora. Mr. Soparkar, therefore, submitted that since public money has been spent on such road, it is a public street as defined under Section 2(17) of the Act. Definition of 'Public Street' in the Act reads as under:

"2(17) "Public street" means any street-

- (a) over which the public have a right of way, or
- (b) heretofore levelled, paved, metalled, channelled, served or repaired out of a panchayat fund or other public fund, or
- (c) which under the provisions of this Act is declared by a panchayat to be or which under the provisions of this Act becomes a public street."

As per this definition, any street, to be a public street, has to satisfy the criteria mentioned in the definition. The definition of 'street' in Section 2(24) reads as under:-

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"2(24) "Street" means any road, footway, square, court, alley or passage accessible whether permanently or temporary to the public, whether a thoroughfare or not."

As per the definition of 'street', a road to be called as street has to be accessible whether permanently or temporary to the public, whether a thoroughfare or not. Therefore, before any street to be called as public street, it is required to be proved that it is accessible to public. The say of Gram Panchayat and private respondents is that it is purely a private road. Therefore, it is a matter of dispute which could only be resolved on the basis of evidence before appropriate forum. Clause (b) in the definition of Public Street starts with word 'heretofore', meaning thereby the legislature intends any street to be a public street if before the day of coming into force of the Act, it was levelled, paved, metalled, channelled, served or repaired out of a panchayat fund or other public fund. Thus, it is not that all streets which are levelled, paved, metalled, channelled, served or repaired out of a panchayat fund or public fund are to be taken as public streets. As per the communication from the Gram Panchayat dated 12.6.2015, which is relied by the petitioner, the fund of the Member of Parliament was stated to be spent in the year 1992-93 and in subsequent years. As per the affidavit filed by Sarpanch, the private road was surfaced with the grant of M.P. in the year 2009/2010. Therefore, it is to be proved with exactness that the road which is alleged to be public street passing through the agricultural fields was levelled, paved, metalled, channelled, served or repaired out of a panchayat fund or other public fund before the day the Act came into force. Such being the disputed question, the contention of Mr. Soparkar that the road passing through the agricultural fields of the private respondents and other villagers is a public street cannot be accepted.

12. The Court finds that the petitioner has taken different stands at different stages and before different authorities. The petitioner

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has consciously not provided any particulars/ details in the petition for the road to which it claims right to use as a public road. Mr. Soparkar however submitted that Division Bench of this Court in PIL has taken note of a road of 7.5 meters in width. The attention of the Court was drawn by Mr. Soparkar to an order dated 14.11.2014 passed in Writ Petition (PIL) No.279 of 2014 at page 184. In the said order, the Court (Coram: Hon'ble Acting Chief Justice Mr. Vijay Manohar Sahai and Hon'ble Mr. Justice R.P. Dholaria) has observed in para 6 as under:-

6. In grounds H and O of the petition, it has been stated that heavy traffic is passing from the 7.5 meter wide road as shown in the map produced by respondent No.12 before the Authorities. We have gone through the photographs at page 47 of the petition. It appears that there is a road of 7.5 meter wide but some grass has grown on the side of the road due to rainy season. Therefore, we do not find any substance in the argument of the learned counsel for the petitioner. The vehicle movement is from a road to the industry and there is no disturbance to the residential population or schools etc. and the Gujarat State Pollution Control Board has also issued a certificate to the effect that there is no environmental issues involved in setting up the industry.

13. The petitioners of the said petition, then moved Misc. Civil Application (for Review) No.3683 of 2014, stating that nowhere in their petition, they had mentioned that the road was of 7.5 meter. However, the Court rejected such application by observing that the Court while considering the photographs at page 47 of the said petition, was of the opinion that road was 7.5 meter wide but some grass has grown on the side of the road due to rainy season. But, it is pointed out that such observations were made when other parties were not before the Court and what was observed was on the basis of photographs. However, now the heart of the issue is debated before this Court by the rival parties, including the Gram Panchayat. Since there is a clear stand of the Panchayat as regards availability of the village road of only 300 meter in length and of 3 meter in width, which could not be disputed by the petitioner, and

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which is none other than the road called as Khatkimata Mandir to Khandmora road and since the petition lacks pleadings on the subject matter, it is not possible to believe that there exists a public road of either 9 meter in width or 7.5 meter in width passing through the agricultural fields of the private respondents and other village people. A short and narrow road made through agricultural fields cannot be assumed to be a public road to have open access to an industrial unit for its heavy vehicles to pass through which may cause damage to agricultural fields especially when undisputedly, the unit of the petitioner is situated 200 meters away from the road.

14. At this stage, a reference is required to be made to a communication from the office of the District Inspector of Land record, Valsad dated 15.6.2015 at page 300, addressed to the Collector, stating that as per the instructions of the Collector, measurement of the road passing through Survey Nos.41/1, 41/2, 63/1, 63/2, 63/3 was taken and as reported, the company is situated on Survey No.37/4, and the road is presently passing through the land bearing Survey No.63/1 and 63/2 (Government number) and except Survey No.63/2, other survey numbers are of private ownership as mentioned in extract of 7/12 form. It is further stated that in the measurement-sheet, presently road of about 4 meter is shown and a road of 5.50 meter approximately is also shown. Thus, as per this report also, it is not clear that the road is exactly of what width and length. As stated above, the petitioner is not certain about its claim and at different stages, road of different length and different width is shown to exist. Photographs placed with the present petition show that heavy truck loads being pulled through a narrow strip of road. The respondents have alleged highhanded action not only of the company but also of the State

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authorities, including the police to facilitate the petitioner company to get its heavy vehicles with heavy machineries passed through the narrow road through their agricultural lands and also alleged damage to their agricultural lands. In such fact situation, the petitioner is not entitled to invoke writ jurisdiction of this Court as the petitioner has tried to establish existence of public road and right to use such public road which is not permissible. Violation of the right could be complained of by petition under Article 226 of the Constitution of India when there exists established right.

15. At this stage, reference needs to be made to the decision of Hon'ble Supreme Court in the case of *Dipak Babaria and Another Vs. State of Gujarat and others* reported in (2014)3 SCC 502, wherein Hon'ble Supreme Court has held and observed in para 71 to 76 as under:-

71. Now, the effect of all that is stated above is that the land which was purchased by respondent No. 4 for Rs. 70 lakhs is permitted by the Government of Gujarat to be sold directly to respondent No.5 at Rs. 1.20 crores to set up an industry which could not have been done legally. It is undoubtedly not a case of loss of hundreds of crores as claimed by the appellants, but certainly a positive case of a loss of a few crores by the public exchequer by not going for public auction of the concerned property. It is true as pointed out by Mr. Venugopal, learned senior counsel that in a given case the State may invite an entrepreneur and give an offer. However, in the instant case, the sale of the land for industrial purpose is controlled by the statutory provisions, and the State was bound to act as per the requirements of the statute. The Minister's direction as seen from the record clearly indicates an arbitrary exercise of power. The orders passed by the Government cannot therefore be sustained. As seen earlier, there is neither a power nor a justification to make any special case, in favour of the Respondent No 5. Such exceptions may open floodgates for similar applications and orders, even though the Gujarat Government is contending that this order is purportedly not to be treated as a precedent.
72. In our view, considering the scheme of the act, the process of industrialization must take place in accordance therewith. As stated earlier if the law requires a particular thing should

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be done in a particular manner it must be done in that way and none other. The State cannot ignore the policy intent and the procedure contemplated by the statute. In the instant case, the State could have acquired the land, and then either by auction or by considering the merit of the proposal of respondent No.5 allotted it to respondent No.5. Assuming that the application of the Respondent No. 5 was for a bona fide purpose, the same had to be examined by the industrial commissioner, to begin with, and thereafter it should have gone to the Collector. After the property vests in the Government, even if there were other bidders to the property, the Collector could have considered the merits and the bona fides of the application of Respondent No. 5, and nothing would have prevented him from following the course which is permissible under the law. It is not merely the end but the means which are of equal importance, particularly if they are enshrined in the legislative scheme. The minimum that was required was an enquiry at the level of the Collector who is the statutory authority. Dictating him to act in a particular manner on the assumption by the Minister that it is in the interest of the industrial development would lead to a breach of the mandate of the statute framed by the legislature. The Ministers are not expected to act in this manner and therefore, this particular route through the corridors of the Ministry, contrary to the statute, cannot be approved. The present case is clearly one of dereliction of his duties by the Collector and dictation by the Minister, showing nothing but arrogance of power.

73. The High Court has erred in overlooking the legal position. It was expected to look into all the earlier mentioned aspects. The impugned judgment does not reflect on the issues raised in the petition. It could not be said that the petition was delayed and merely because investment had been made by the respondent No. 5, the court would decline to look into the important issues raised in the PIL.

Epilogue:

74. Before we conclude, we may observe that India is essentially a land of villages. Although, urbanization and industrialization is taking place, the industry has not developed sufficiently, and large part of our population is still required to depend on agriculture for sustenance. Lands are, therefore, required to be retained for agricultural purposes. They are also required to be protected from the damage of industrial pollution. Bona fide industrial activity may mean good income to the entrepreneurs, but it should also result into good employment and revenue to the State, causing least pollution and damage to the environment and adjoining agriculturists. While granting the permission under Section 89A (5) the Collector has to examine all these aspects. This is because the only other exception for conversion of agricultural lands to non-agricultural purpose

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is for those lands which are in an industrial zone. As far as the conversion of lands otherwise than those in the industrial zone is concerned, all the aforesaid precautions are required to be taken when a decision is to be arrived at as to whether the application is for a bona fide industrial purpose.

75. In the instant case, there were newspaper reports of apprehensions and protest of the adjoining farmers. The Revenue Secretary and the Chief Secretary had placed the statutory provisions on record. It was expected of the Government and the Revenue Minister to take cognizance of these apprehensions of the farmers as well as the statutory provisions brought to her notice by the secretaries. She has simply brushed aside the objections of the secretaries merely because the Chief Minister's secretary had written a letter, and because she was the Minister concerned. While over-ruling the opinion of secretaries to the concerned department, the Minister was expected to give some reasons in support of the view she was taking. No such reason has come on record in her file notings. She has ignored that howsoever high you may be, the law is above you.
76. Development should not be measured merely in terms of growth of gross domestic product, but it should be in terms of utility to the community and the society in general. There is a certain inbuilt wisdom in the statute which is the mandate of the legislature which represents the people. The Minister has clearly failed to pay respect to the same.

16. The Pollution Board after inspection of the unit on 13.10.2014 has observed as under :-

Crux-IR of M/s. Platinum AAC Block Pvt. Ltd.- GPCB ID:41618, Inspection ID-311283 dated 13-10-2014.

- During visit, it is observed that the unit is still under erection. It is informed that all the required machineries has arrived and may take another 2 to 3 months to commission the plant. They have constructed 2 nos of interlinked sheds of size 25 mts X 65 mts and 25 mts X 100 mts resp. They are going to provide 7 nos Autoclave, each of capacity of 36 cubic meter. Erection of one such autoclave is in progress; rest are have arrived and lying at nearby area as informed. They have erected 2 nos of cranes. A boiler of capacity 6.0 MT/Hr is under erection. Stack @ 30 mtr ht is erected. Housing for Bag Filters is partially erected. They have not proposed any additional measures for SO2 for lignite. They have elevated floor area of sheds and adjoining manufacturing activity by @ 1 to 1.5 feet fy filling earth and stone / kapachi, gradient is towards river.
- Premises is situated just on the bank of river Darotha (kalu).

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The administration of Daman have constructed a wier (checkdam) pm downstream of this river at a dist of @ 3.0 kms to supply drinking water to Daman. The river is on south side. Industry has done pitching work to make smooth slope from its boundary towards river. On north side, mango farm of Mr. Madhusudan Bhatt also containing 8 nos of residential houses is located at a distance of @ 70 mts. Approx 3 mts wide kutcha road is dividing the premises of this unit and said mango farm. On West side, anotehr mango farm located adjacent to this unit and having common boundary is located whereas East side is partly open land with grass and shrubs.

- Reportedly, they propose to procure cement and lime through bulkers and unload the same in respective silos each of storage capacity of 300 MT. They have already erected these silos, but the APCM proposed (single bag on vent of silo) is not adequate. They have further informed that they now propose to procure moist pond ash from TPS of Reliance Power, Dahanu, Maharashtra through trucks, which they propose to store in pits yet to be provided in open area near silo.
- Source of water is own borewell, having 6 inch dia and approx 100 ft depth. They have proposed to install RO plant of capacity 6000 lits per hr to generate boiler feed water. RO reject water and the steam condensate is proposed to be used in process of manufacture.
- High tension line is passing through the premises of this unit and a steel tower structure (pole) is erected @ 10 ft from their shed. They have informed Person contacted has informed that they have got NOC of Power Grid Corporation of India Ltd to construct shed.
- They have projected @ 25 -30 trips of trucks/ day to bring raw materials. This will make total @ 50-60 trips of trucks or even more, which will have to ply on of approx 400 mts Long 3 mts kutch road connected to the Mohangam Fatak to Daman road. On the bother side of the road are mango farms of Shri Madhusudan Bhatt & others.
- Then we visited farm of Shri Madusudan Bhatt alongwith Mrs. nayanaben J Dhodi (Member, Jilla Panchayat), Mr. Chintubhai halapati, Satishbhai Amtrutbhai Halpati, Mr. Mukundbhai Narayanbhai Nayak, Mr. Nitinbai Bhat and other village people. They represented that there are about 1.5 to 2 lakh mango trees & @ 150 to 200 mango farms in 2 kms radius surrounding to this unit. This project will emit dust which will destroy leaves of mango trees and crop of mango, which is their lively hood. This area receives torrential rain each other and the flyash and other materials will be washed out with rainy water and pollute river Darotha which supplies drinking water to Daman. Large no

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of heavy vehicles will be plying on narrow kutch road which will further create air pollution and nuisance as their farms and houses are located very closely to this Kutcha road.

- It is learnt from the village people that the Mohangam consists of 12 Falias and total population is approx 8000. Their main earning is from mango farming and agriculture. This unit and the mango farm of Madhusudanbhai Bhatt is located at Khandmora Falia.
- They further mentioned that handling of flyash, emission of dust from boiler, movement of vehicles etc will create air pollution which will affect their farms and health of people residing in the houses located in the farm. The unit will also cause noise pollution.
- They have represented that due to this project, width of river bed is reduced and hence there is risk of flooding of near by land / farm located on opposite side of bank of River Darotha (from this unit) which has lower elevation.

17. What is stated by the respondent Nos.5 to 14 in para 5(iii), (iv), (ix), (x) and para 6 of their affidavit is reproduced as under:-

- 5(iii) I say that in the past the petitioner company had attempted to forcefully pass its truck carrying machinery of the same size of machinery (i.e. 45x2 mts) and it had stuck because of narrowness and curves and because of that the village people were land locked for 48 hours. Not only that the mussel power was sought to be applied by the officers of the petitioner company and the frequent instances of disturbance to the public peace as well as the harassment to the villagers have taken place and is continued at the instances of the petitioner company and its influences. The copy of the one of the complaint is annexed herewith and marked as ANNEXURE R-1 to this affidavit.
- (iv) It is submitted that the hut over the PRD No.12/2 was set fired and the compound wall- fencing had been damaged on 19/04/2015 which belong to the deponent- respondent No.8 and UI had given a complaint which was not accepted by police and hence it was required to be sent by Registered post and the police recorded statement on 21/07/2015. This it self shows the approach of the police authorities. The copy of the photograph is annexed herewith and marked as ANNEXURE R-2 to this reply. The fencing reflect in the photograph was old & existing since long and the same is damaged.
- (ix) It is submitted that the lands survey number of the respondent No.5 to 14 had been measured and the map was prepared by the DILR (page 161 to 164). Thereafter the

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collector issued oral instruction on 09/06/2015 for measurement and accordingly ultimately the DILR submitted report dated 30/06/2015 showing proposed road of 5.5 Mt. width as per oral instruction given by the collector. It is well known that every thing in the government always takes place in writing on the file but in the present case innocuously it took place on oral instructions of the collector. Question also arises as to what was the reasons for getting the map prepared again once it was on record and prepared by DILR in recent past. This also shows the influence of the petitioner company over the government authorities.

- (x) It is submitted that pending the petition the petitioner alleged encroachment by land owners, ultimately the dy. Executive engineer has stated that it falls within the domain of the panchayat. Then question arises as to how the instruction followed from the collector or executive engineer to make a road with the help of the police force, though on record it is apparent that it is on the private land. This is one more instance of influences of the petitioner company worked over the government authorities. The similar situation of pressurizing the gram panchayat to favour the petitioner and to ignore the interest of villagers also have taken place which will be explained at the time of the hearing of the petition.

6. I say that the petitioner rely on the map page No.175/ which is a map of the site of the petitioner misrepresenting & by giving wrong description and on the basis thereof the other permissions have been obtained by the petitioner. On the northern side adjacent to the land of the petitioner, the road of 9 meter from Nikoli to Mohangam is wrongly shown. The said description further stands falsify from the petitioners own statement and even the DILR reports etc from which it is clear that as such there is no road from Nikili to Mohangam touching to boundary of the petitioner's land and the petitioner's site is at the distance of 500 meters and between the said area the land of villagers including of the respondent No.5 to 14 are located. In the map of the petitioner there is no description/ reference of the approach road or provision made of approach road to main State road at distance of 500 mtrs.

18. The Collector in his affidavit-in-reply at page 200 has stated in para 10 as under:-

- "10. It is stated that so far as the objections which are raised against the petitioner company by the villagers and the Resolution No.3 passed by the village Panchayat restraining the petitioner from constructing new road and Resolution

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No.6 restraining the petitioner from using the road is concerned, I say and submit that the road belongs to Gram-Panchayat and therefore, the Gram- Panchayat will have jurisdiction for granting or non-granting permission to the petitioner. "

Consciously, nothing is said about existence of the public road as claimed by the petitioner.

19. The Panchayat has passed a specific resolution for not permitting use of the road in question for passing heavy vehicles as the village people have represented that such heavy vehicles would cause lot of damages to their properties and agricultural fields.

20. Considering all the above aspects, the petitioner cannot be permitted to invoke jurisdiction of this Court under Article 226 of the Constitution of India for the reliefs claimed in the petition. The first petition thus deserves to be dismissed.

21. As regards second petition, the Court is of the view that no restraint order as prayed for in para 7(b) can be issued against respondent No.9 in exercise of powers under Article 226 of the Constitution of India as such relief could be claimed in civil remedy before competent Civil Court. So far as the prayer made in para 7(c) to direct the State authorities to pay compensation to the petitioners is concerned, such prayer also cannot be granted in the petition under Article 226 of the Constitution of India on account of availability of alternative remedy to the petitioners to establish illegal use of their lands by leading evidence based on which compensation could be prayed before alternative forum. In absence of assessment of quantum for compensation for alleged illegal use of their lands, which could be done only by adducing evidence before appropriate forum, the relief for compensation in ordinary circumstance cannot be granted. However, as regards prayer 7(d) to restrain the State authorities from making any pakka construction on the road passing through agricultural lands of the

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petitioners is concerned, the State authorities are required to be directed not to make any pakka construction of the road on the land of the petitioners without following due procedure of law.

22. In the case of *Mohanlal Nanabhai Choksi (deceased by L.Rs.) Vs. State of Gujarat and others* reported in 2011(1) GLH 357, Hon'ble Supreme Court has held and observed in para 31 as under:-

31. The right of property, may no longer be a fundamental right, but it enjoys the protection of Article 300A of the Constitution to the extent that there can be no deprivation of property save by authority of law. Authority of law would obviously mean valid authority of law. In a case of deprivation of property by acquisition, ultimately by Land Acquisition Act, 1894, which is a drastic and expropriatory piece of legislation, the owners of property, the appellants herein are admittedly entitled to raise all legally permissible objections to the legality of an acquisition proceeding.

23. In the case of *Laxman Lal (Dead) Through LRs and Another Vs. State of Rajasthan and others* reported in (2013)3 SCC 764, Hon'ble Supreme Court in the context of Article 300A of the Constitution of India and compliance of the provisions of Section 5A and 17 of the Land Acquisition Act, 1894, has held and observed in para 16 and 22.4 as under:-

16. Article 300-A of the Constitution mandates that:

"300-A. Persons not to be deprived of property save by authority of law.- No person shall be deprived of his property save by authority of law."

Though right to property is no longer a fundamental right but the constitutional protection continues inasmuch as without the authority of law, a person cannot be deprived of his property. Accordingly, if the State intends to appropriate the private property without the owners' consent by acting under the statutory provisions for compulsory acquisition, the procedure authorised by law has to be mandatorily and compulsorily followed. The power of urgency which takes away the right to file objections can only be exercised by the State Government for such public purpose of real urgency which cannot brook delay of few weeks or few months. This Court as early as in 1964 said that the right to file objections

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under Section 5-A is a substantial right when a person's property is being threatened with acquisition; such right cannot be taken away as if by a side wind (Nandeshwar Prasad v. State of U.P.)

- 22.4. Section 5-A, which gives a very limited right to an owner/person interested, is not an empty formality. The substantial right under Section 5-A is the only right given to an owner/person interested to object to the acquisition proceedings. Such right ought not to be taken away by the State Government sans real urgency. The strong arm of the Government is not meant to be used nor it should be used against a citizen in appropriating the property against his consent without giving him right to file objections as incorporated under Section 5-A on any ostensible ground. The dispensation of enquiry under Section 17(4) has to be founded on considerations germane to the purpose and not in a routine manner. Unless the circumstances warrant immediate possession, there cannot be any justification in dispensing with an enquiry under Section 5-A. As has been stated by this Court in Anand Singh⁴, elimination of enquiry under Section 5-A must only be in deserving and in the cases of real urgency. Being an exceptional power, the Government must be circumspect in exercising power of urgency.

24. In light of above, if the lands of the petitioners are to be utilized for construction of the road for public purpose, the State authorities will be required to follow due process of law.

25. For the reasons stated above, first petition, being Special Civil Application No.14810 of 2014, is dismissed. Notice discharged. Second petition, being Special Civil Application No.8781 of 2015, is partly allowed. It is directed that the petitioners shall not be deprived of any portion of their lands for the purpose of making construction of the road from their lands for public purpose without following due procedure of law. Rule is made absolute to the aforesaid extent.

Sd/-
(C.L.SONI, J.)

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Annexure - R-2

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U.T. ADMINISTRATION OF Dadra & Nagar Haveli
Pollution Control Committee - SILVASSA
Pollution Department Silvassa
SAMAY SUDHINI SEVA
Consent to Establish Green Industries under Water
Act and Air Act

Application No. : 2015120160000237

Mobile Number : 9375936584

Consent to Establish Green
Sub Service Name : Industries under Water Act and Air
Act

Applicant Name : PLATINUM AAC BLOCKS PVT
LTD

Applicant Address : SURVEY No.19/1, VILLAGE
KHERD

Date Of Application : 20-12-2016

Disposal Days : 30

Due Date : 01-02-2017

Receipt Generated
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U.T. ADMINISTRATION OF Dadra & Nagar Haveli
Pollution Control Committee - SILVASSA
Pollution Department Silvassa
SAMAY SUDHINI SEVA
Consent to Establish Green Industries under Water
Act and Air Act

Application No. : 2015120160000237

Mobile Number : 9375936584

Consent to Establish Green
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प्रदूषण नियंत्रण समिति
POLLUTION CONTROL COMMITTEE
क्षेत्रीय कार्यालय / Regional Office
सिलवासा / SILVASSA
Inward/उपस्थित 264 20/12/16
Date/दिनांक 20/12/16

20/12

→ Fall under cat-II (org).

DD Expired

28/11 - 28/12
28/12 - 28/1
28/1 - 28/2
28/12 - 28/1
28/1 - 28/2
28/2 - 28/3

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DIRECTORATE OF INDUSTRIES
DADRA & NAGAR HAVELI, SILVASSA

NAME : PLATINIUM ACC BLOCKS PVT LTD

CATEGORY : MSI IPC364

DATE : Monday, December 19,

2016

ADDRESS : SRV NO.19/1 VILLAGE KHERDI
KHERDI UT OF D&NH

ACK. NO.: 8029

PRODUCT : ACC BLOCKS

cl/31

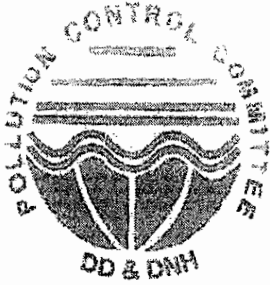
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Date Of Application	Due Date	Dept. Reply Dates & Status	Appln. Type
=====	=====	=====	=====

Consent To Est. a Unit	: 19/12/2016	18/02/2017
Construction Permission	:	
Sales Tax Registration	:	
Prov. SSI. Loc. Clearance	:	
Permanent SSI Regn.	:	
General Clearance	:	
Perm. To Instl. DG Set	:	
Perm. To Use DG Set	:	
Rel. Of Temp. Connection	:	
Rel. of Power (Interim)	:	
Rel. of Power (Final)	:	
Licence / Factory Act	:	
Occupancy Certificate	:	
Approval of Layout	:	
Certif. of Layout Plan	:	
Consent to Est. DG Set	:	
Consent to Opr. DG Set	:	
Renwl. to Opr. a DG Set	:	
Consent to Opr. a Unit	:	
Renwl. to Opr. a Unit	:	
Change in Own / Cons / Unit	:	
Expn. & Addl. Pwr. for Unit	:	
Shift Unit / Addl. Place	:	
Trn. of Lease / Subletting	:	
Fin. Tr. Order Govt. Plot	:	
Lube Licence	:	

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POLLUTION CONTROL COMMITTEE
UT's of DAMAN & DIU AND DADRA & NAGAR HAVELI

OFFICE: FORT AREA, MOTI DAMAN, DAMAN - 396 220.

Phone : (0260) - 2230524, 2230963, 2630981, 2630260

Fax No. : (0260) 2230804, 2630260

Visit us at www.pccdaman.info

4129

Name	:- PLATINUM AAC BLOCKS PVT LTD	Ack No.	:- 5764
Address	:- SURVEY No.19/1, VILLAGE KHERDI		
Application Date	:- 06/12/2016	Due Date	:- 06/03/2017
Application Type	:- Consent To "Establish"	Category	:- Green
Email Address	:- platinumasblocks@yahoo.com	File No.	:- B1068

Flag No.	Details	
A	Duly filled in application Form No. XIII under Water Act.	
B	Duly filled in application Form No. I under Air Act.	
C	Demand Draft No. 031272 Dated. 28/11/2016 of Rs. 30000	
D	Declaration giving details of capital investment including land, building and plant & machinery without depreciation.	
E	Copy of Land sale/lease agreement.	
F	Copy of Provisional registration/In principal clearance issued by District Industries Centre (DIC).	
G	Comprehensive Project Report (GI - GXIV)	
H	Details of Hazardous waste generation- type, quantity, physical form, chemical composition and method of collection, storage, treatment and disposal.	
I	Memorandum of Articles Association/Partner Ship Deed (Signed).	
J	Authorization letter to sign/receive documents.	
Note :	Your application is submitted successfully. Kindly submit your application with all above mentioned documents along with demand draft of necessary consent fees at the Pollution Control Office - Silvassa/ Daman.	

PLATINUM AAC BLOCK PVT.LTD.

28/12/2016
Director

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FORM - XIII

Application for consent for establishing or taking any Steps for establishment of Industry /Operation / Process/ or any Treatment/Disposal system for discharge, Continuation of discharge under section 25 or section 26 of the Water (Prevention and Control of Pollution) Act. 1974. (See Rule 32)

From : M/s. Platinum AAC Block Pvt. Ltd.,
Survey No.19/1, Village Kherdi, Silvassa - 396 230.

To, The Member Secretary,
Pollution Control Committee,
Daman, Diu and Dadra & Nagar Haveli.

Sir,

I/We hereby apply for Consent/Renewal of consent under Section 25 or Section 26 of the water (Prevention and Control of Pollution) Act. 1974) for establishing or taking any steps for establishment of industry/operation process /or any treatment/disposal system to bring into use any new/alterd outer for discharge of "sewage/trade effluent", to continue to discharge "sewage/trade effluent" from land/premise owned by :- M/s. Platinum AAC Block Pvt. Ltd.

The other relevant details are as below:

- | | |
|--|--|
| 1. Full Name of the applicant | :- Shri Pragji R. Patel |
| 2. Nationality of the applicant | :- INDIAN |
| Email Id | :- platinummaasblocks@yahoo.com |
| Mobile No | :- 9375936584 |
| 3. State of the applicant | :- Private Limited Company |
| 4. Name Address and Telephone Nos. of the applicant (the full list of Individuals, partners, Managing Directors, Managing Partners (Directors (full or Part-time), other kinds of office bearers are to be furnished with their period of tenure in the respective office with telephone No's and address) | :- Mr Dilipkumar D Kavidar
Mr Hasmukhkumar M Patel
Mr Pragji R Patel
Mr Jitendra G Jalavadia
Mr Sanjaykumat Bhut |
| 5. Address of the Industry
Survey No. Khasra No. location as per the revenue records, Village Firke, Tehsil, District, Police Station or SHO, Jurisdiction of the First-Class Magistrate). | :- M/s. Platinum AAC Block Pvt. Ltd.,
Survey No.19/1, Village Kherdi, Silvassa. |
| 6. Details of Commissioning etc. | :- |
| a) Approximate date of the proposed Commissioning of work. | :- April 2017 |
| b) Expected date of production. | :- April 2017 |

PLATINUM AAC BLOCK PVT.LTD.

Yash Kumar
Director

*T. G.
R.*

15. I/We further declare that the information furnished above is correct to the best of my/our knowledge. :- **Yes**
16. I/We hereby submit that in case of change either of the point of discharge or the quantity of discharge or its quality, a fresh application for CONSENT shall be made and until such CONSENT is granted no change shall be made: :- **Yes**
17. I/We hereby agree to submit to the Pollution Control Committee an application for renewal for renewal of consent one month in advance of the date of expiry of the consented period for outlet/discharge if to be continued there after. :- **Agree**
18. I/We undertake to furnish any other information within one month of its being called by the Pollution Control Committee. :- **Agree**

Ans

I/We enclose herewith Demand Draft No. **031272** Dated : **28/11/16** for Rs. **30000** in favour of the Pollution Control Committee, Daman as fees payable under section 25 of the Act.

Yours Faithfully
PLATINUM AAC BLOCK PVT.LTD.

[Handwritten Signature]

Signature of Applicant

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MINISTRY OF ENVIRONMENT AND FORESTS
NOTIFICATION
NEW DELHI, THE 31st MARCH, 1992.

4123

G.S.R. 379(E) - In exercise of the powers conferred by Section 54 of the Air (Prevention and Control of Pollution) Act, 1981 (14 of 1981) The Central Government in consultation with the Central Pollution Control Board, hereby makes the following rules further to amend the Air (Prevention and Control of Pollution) (Union Territories) Rules, 1983 namely:

1. These rules may be called the Air (Prevention and Control of Pollution) (Union Territories) Amendment Rules, 1992.
2. They shall come into force on the date of their publication in the Official Gazette.

In the Air (Prevention and Control of Pollution) (Union Territory) Rules, 1983 for Form I, the following Form shall be submitted namely:

FORM - I

(See Rule 9)

Application for consent for emission/continuation of emission under Section 21 of the Air (prevention and Control of Pollution) Act 1981.

From :- M/s. Platinum AAC Block Pvt. Ltd.,

Survey No.19/1, Village Kherdi, Silvassa - 396
230.

To,

The Member Secretary,
Pollution Control Committee,
DD & DNH, Daman/ Silvassa.

Sir,

I/We hereby apply for CONSENT/RENEWAL OF CONSENT under Section 21 of the Air (Prevention and Control of Pollution Act, 1981 (14 of 1981) to bring into use a new/altered stack for the discharge of emission/to begin/to make new discharge of emission/to continue/to discharge emission from stack in

industry owned by :- M/s. Platinum AAC Block Pvt. Ltd.

FOR OFFICE USE ONLY

1. Code No.:-
2. Whether the unit is situated in a critical Polluted area :-
as identified by Ministry of Environment & Forests.

PART A - GENERAL

3. (a) Name of the Owner / Occupier :- Shri Pragji R. Patel
- (b) Name & Address of the Unit and location :- M/s. Platinum AAC Block Pvt. Ltd.,
Survey No.19/1, Village Kherdi, Silvassa - 396
230.
4. (a) Whether the unit is generating hazardous waste :- No
as defined in the Hazardous Wastes
(Management, Handling and Transboundary
Movement) Rules, 2008.
- (b) If so the category no. :- As per the the Hazardous And Other Wastes
(Management and Transboundary Movement)
Rules, 2015 no hazardous wastes will be generate
from the process, machinery or any other activity.

PLATINUM AAC BLOCK PVT.LTD.

Yoush S. U. 231
Director

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PART C - PERTAINING TO STACK AND VENT EMISSION

11. (a) No. of Stacks and vents with height & dia (m). :- **Boiler = 6000 Kg/ Hr 1 No.**
Stack Height: 30 Mtrs
Stack Dia: 500 mm
- (b) Quality and Quantity of stack emission from each of the above stacks particulate matter & Sulphur Dioxide (SO₂) (Additional Parameters) as specified by the concerned Pollution Control Board). :- **So₂ < 80 Mg/Nm³**
No₂ < 80 Mg/Nm³
PM₁₀ < 100 Mg/Nm³
PM_{2.5} < 60 Mg/Nm³
- (c) A brief account of the Air Pollution Control Unit to deal with the emission. :- **Adequate stack height will be provided to the Boiler with Bag Filter. (Details enclosed)**
- (d) Parameters and frequency of self monitoring :- **As per PCC Norms**

PART D - PERTAINING TO HAZARDOUS WASTE AND HAZARDOUS CHEMICALS

12. (a) Total quantum of generation :- **As per the the Hazardous And Other Wastes (Management and Transboundary Movement) Rules, 2015 no hazardous wastes will be generate from the process, machinery or any other activity.**
- (b) Quantum of hazardous waste generated and its nature as defined under the Environment (Protection) Act, 1986 (see the Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008) :- **Not Applicable**
- (c) Made of storage within the plant, method of disposal and any other information suggested by the concerned Pollution :- **Not Applicable**
13. (A) Hazardous Chemical as defined under Environment (Protection) Act, 1989(See the Manufacture, Storage & Import of Hazardous Chemical Rules, 1989). :- **NO Hazardous Chemicals will be used.**
- (B) Whether any isolated storage is involved if yes, attach details. :- **Not Applicable**
- (C) Whether emergency plans are prepared for taking.
- (a) On-site measurement :- **No**
- (b) Off-site measurement :- **No**

I/We enclose herewith Demand Draft No. **031272** dated **28-11-2016** for Rs. **30000** in favour of the Pollution Control Committee, Daman as fees payable under section 25 of the Act.

Yours Faithfully
PLATINUM AAC BLOCK PVT.LTD.

[Signature]
 Signature of Applicant

- Note :**
1. An application knowingly giving incorrect information or suppressing any information pertaining there shall be liable to be punished under the Act.
 2. Strike out which is not applicable. (X)

T. Co
[Signature]

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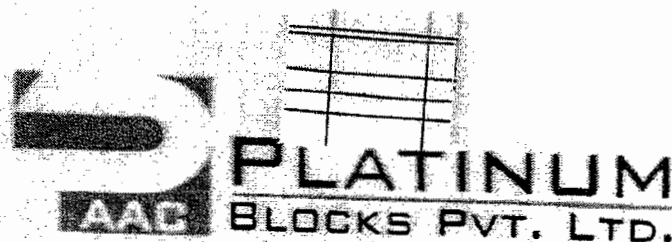
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~~PTM~~ *and*

S. Post.

Please sign above



PLATINUM AAC BLOCKS PVT. LTD.

Survey No. 19/1 Village-Kherdi

D&NH-Silvassa

DECLARATION

I, Shri. PRAGJIBHAI R PATEL resident of 402, Shantinath Co-op Society, Nehru Street, Vapi, Gujarat hereby declare that the above/following information is true to the best of my knowledge and belief and nothing has been canceled therein. I am well aware of the fact that if the information given by me is proved false/not true, I will have to face the punishment as per the law and that the benefits availed by me shall be summarily withdrawn.

That the Director/ proprietor/ authorized signatory of the company Shri, PRAGJIBHAI R PATEL resident of 402, Shantinath Co-op Society, Nehru Street, Vapi, Gujarat do hereby solemnly affirm and declare.

1. That we have taken on lease an industrial gala/ building/ shed admeasuring 23950 sq. feet/ sq meters bearing company PLATINUM AAC BLOCKS PVT LTD, Survey No.19/1, Village Kherdi, UT of D&NH.
2. That the construction plan of the industrial gala/ building/ shed has been approved by the PWD, Daman/ Silvassa vide Diary No. _____
Date: _____
3. That no other industrial/ trading/ residential unit is established in the same gala/ building.
4. That in future I shall not use the above premises for any other industrial purpose except for establishing and operating the industry PLATINUM AAC BLOCKS PVT LTD
5. That Gross Fixed Capital Investment of the unit including land, building, plant machinery excluding depreciation is Rs. 7.65 Crores, (Rupees Seven crores sixtyfive lacs only.)

This is to certify that I have read and understood the provision of section 199 and 200 of the Indian Penal Code which state as follows:-

Section 199. False statement made in declaration which is by law receivable as evidence :- Whoever, in any declaration made or subscribed by him, which declaration any Court of justice, or any Public Servant or other person, is bound or authorized by law to receive as evidence of any fact, makes any statement which is false, and which he either knows or believes to be false or does not believe to be true, touching any point material to the object for which the declaration is made or used, shall be punished in the same manner as if he gave false evidence.

Section 200. Using as true such declaration knowing it to be false :- Whoever corruptly uses or attempts to use as true any such declaration, knowing the same to be false in any material point, shall be punished in the same manner as if he gave false evidence.

Explanation : A declaration which is inadmissible merely upon the ground of some information, is a declaration within the meaning of Section 199 and 200.

Place :

PLATINUM AAC BLOCK PVT.LTD.

Dated :

Shop No. 269, 2 Flor, Amidhara Complex, Near CNG Pump, N.H. No. 8, G.I.D.C., Char Rasta, Vapi-396 195.
E-mail: platinumaacblocks@yahoo.com, platinumaacblocks@gmail.com

Director

T.C.
/

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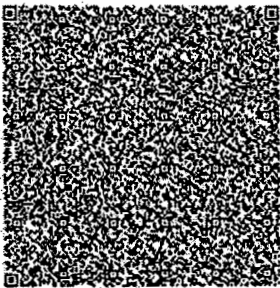


सत्यमेव जयते

INDIA NON JUDICIAL Government of Union Territory of Dadra and Nagar Haveli

e-Stamp

| | |
|---------------------------|---|
| Certificate No. | : IN-DN029856216702770 |
| Certificate Issued Date | : 21-Oct-2016 12:03 PM |
| Account Reference | : SHCIL (FI)/ dnshcil01/ SILVASSA/ DN-DN |
| Unique Doc. Reference | : SUBIN-DNDNSHCIL01030271065717280 |
| Purchased by | : PLATINUM AAC BLOCKS PVT LTD |
| Description of Document | : Article Lease Deed |
| Property Description | : IND.N.A. LAND SR.NO:19/1, 23950 SQ.MT, FACT BLDG, G.F, 4109.82 SQ.MTR, VILL: KHERDI DNH |
| Consideration Price (Rs.) | : 7,43,22,600
(Seven Crore Forty Three Lakh Twenty Two Thousand Six Hundred only) |
| First Party | : MAHENDRASINH T RATHOD |
| Second Party | : PLATINUM AAC BLOCKS PVT LTD |
| Stamp Duty Paid By | : PLATINUM AAC BLOCKS PVT LTD |
| Stamp Duty Amount(Rs.) | : 74,325
(Seventy Four Thousand Three Hundred And Twenty Five only) |



Please write or type below this line.....

PLATINUM AAC BLOCK PVT.LTD.

Yash Suresh
Director

0002328464

Statutory Alert:

1. The authenticity of this Stamp Certificate should be verified at www.shcisstamp.com. Any discrepancy in the details on this Certificate and as available on the website renders it invalid.
2. The onus of checking the legitimacy is on the users of the certificate.
3. In case of any discrepancy please inform the Competent Authority.

T.C.
[Signature]

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UNION TERRITORY
ADMINISTRATION OF DADRA & NAGAR HAVELI
DEPARTMENT OF INDUSTRIES, DISTRICT INDUSTRIES CENTRE
GROUND FLOOR, UDYOG BHAVAN, 66 KVA ROAD
AMLI, SILVASSA-396230

ACKNOWLEDGEMENT-I

| | | |
|---|--|------------------------------|
| NAME OF ENTERPRENURE/APPLICANT/AUTHORISE PERSON | MR.PRAGJI R. PATEL | |
| NAME OF ENTERPRISE | M/S PLATINIUM AAC BLOCKS PVT. LTD. | |
| TYPE OF ENTERPRISE(PROPERIETORY/PARTNERSHIP/PRIVATE/PUBLIC LIMITED/LLP/HUF/JVC ETC) | PRIVATE LIMITED | |
| CATEGORY OF ENTERPRISES (MSME/MNFG/SRV | MEDIUM MANUFACTURING ENTERPRISES | |
| PRODUCTS(ANNUAL CAPACITY)/SERVICES
TOTAL PRODUCTION CAPACITY | AAC BLOCKS (AUTOCLAVED AREATED CONCRETE)
(CAPACITY - 250000 CM3 PER ANNUM) SUBJECT TO
PRIOR PERMISSION FROM PCC DNH. | |
| ADDRESS/LOCATION OF ENTERPRISE | SURVEY NO.19/1, VILLAGE KHERDI | |
| | DISTRICT | UT OF DADRA AND NAGAR HAVELI |
| | STATE/UT | UT OF DADRA AND NAGAR HAVELI |
| | PIN | 396230 |
| | MOBILE NO | 9327924419 |
| | E-MAIL | platinumaacblocks@yahoo.com |
| TOTAL CAPITAL INVESTMENT
(RUPEE IN LAKHS) | LAND= 00 +BUILDING=00 P&M/C= 765 LAKHS
OTHER= 00
TOTAL= 765 LAKHS | |
| POWER(HP/KVA) | 400 KVA | |
| EMPLOYMENT IN NOS | STAFF= 10 +UNSKILLED= 40 +SEMI SKILLED= 05
+SKILLED= 05
TOTAL= 60 | |
| DATE OF COMMENCEMENT
(IN CASE OF PART-II/COMMENCEMENT) | - | |
| TURN OVER IN RUPEE (PREVIOUS FY)
(IN CASE OF PART-II/COMMENCEMENT) | - | |
| PREVIOUS REGISTRATION DETAILS | SSI | - |
| | EM-I | - |
| | EM-II | - |
| ACKNOWLEDGEMENT | DATE OF SUBMISSION | 25.11.2016 |
| | DATE OF ISSUE | 25.11.2016 |

NOTE: ON LINE FILING OF EM-I HAS BEEN ABOLISED, NEED NOTE TO FILE THROUGH UDHYOG AADHAR PORTAL IS FOR RUNNING UNIT ONLY

THE ABOVE IS ISSUED AS PER PERMISSION DATED-12-10-2015 & IN VIEW OF DESIGNATED NODAL OFFICER VIDE DO REPLY LETTER DATED-30-10-2015 AND IN CONTINUATION WITH ERALIER ORDER OF DOI NO-DIC/14(147)/EST/96/VOL-II/167, DATED-07-02-2013, ORDER NO-DIC/STAFF/WORKS/2015/507, DATED-05-06-2015 & APPROVAL BY GM DIC IN FILE NO-MSMED/MICRO/MFG/2776 TO FACILITATE THE ENTERPRENUER TO OBTAINED VARIOUS. ..

NO-DIC/MSMED/A-I /MED. MFG./ 2016/1243
PLACE: SILVASSA-396230, DATE-25.11.2016
IPC-8-364
A-135

PLATINIUM AAC BLOCK PVT.LTD.

YUNG 2111 1007

T.C.



PROJECT MANAGER
NODAL OFFICER MSME/NON MSME
SWIFT/IFC, DIC
SILVASSA.

37-1

263

Comprehensive Project Report

| | | | |
|---|--|--|---|
| Unit Name :- | PLATINUM AAC BLOCKS PVT LTD | | |
| Address :- | Survey No.19/1, Village Kherdi, Silvassa - 396 230. | | |
| G(I) List of Products to be manufactured | | | |
| Product Name :- | AAC Blocks (Autoclaved Areated Concrete) | Product Capacity :- | - 2,50,000 CM3 Per Annum |
| G(II) List of raw materials to be used (product-wise) & quantity required per month | | | |
| Raw Material Name :- | Fly Ash/ Slica Sand, Cement, Lime, Aluminum Powder, Gypsum, Sol Oil, Furnace Oil, Agrowaste Briquette | Raw Material Capacity :- | 550 Tons, 1512 Tons, 756 Tons, 6.1 Ton, 126 Tons, 10000 Lit, 7500 Lit, 800 Tons |
| G(III) List of Plant & Machinery to be installed | | | |
| Machine Name :- | Silo Tank, Slurry Pool, Weighing Scale, Pouring Mixture, Block Molds, Cutting machineline, Tilting Crane, Loading Crane, Auto Clave, Ferry Pusher, Rail Track, Loader Truck, Boiler, Air Compressor, Vacuum Pum, RO Plant, Sludge Pump, Production Crane, Coalcrusher, Winch M/c, Header, Tractor with Bull, JCB ect (copy enclosed) | Quantity :- | 50 Nos. |
| | | Power Requirement :- | 400 KVA |
| G(IV) Details of Boilers/Thermic Fluid Heaters/DG Sets to be installed and their capacity, fuel to be used and fuel consumption | | | |
| | Boiler : 6000 Kgs/ Hr 1 No.
Fuel Consumption: 1332 Kg/Hr
Fuel: Agrowaste Briquette | | |
| G(V) Details of hazardous chemicals, chemical name and its Boiling Point ("C), Flash Point ("C) and storage capacity (Tones) at any given time. | | | |
| | NO Hazardous Chemicals will be used. | | |
| G(VII) Detailed manufacturing process (product-wise) including chemical reactions. | | :- RM - Mixing - Moulding - Drying - Despatch. | |
| G(VIII) Process Flow Chart (product-wise). | | :- RM - Mixing - Moulding - Drying - Despatch. | |

PLATINUM AAC BLOCK PVT.LTD.

YUVS SURENDRA
Director

T.C.
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TECHNICAL DATA FOR BAG FILTER

CLIENT NAME: M/s. Platinum Blocks Pvt. Ltd.

DESIGN BASIS

| | |
|-------------------------------|---|
| Boiler Capacity | 6000 Kg/hr. |
| Fuel Consumption | 1332 Kg/hr (@ Agrowaste Briquette GCV 3200 Kcal/hr) |
| Type of Boiler | Fluidised Bed |
| Gas Volume | 7146 NM ³ /Hr. |
| Gas Density | 1.3 Kg/M3 |
| Dust to be handled | Agrowaste Briquette |
| Specific Gravity of Dust | 2.2 |
| Bulk Density | 600 Kg/M3 |
| Guaranteed Emission | Less than 100 mg/Nm ³ |
| Expected Δp across Bag filter | 125-150 mm WGC |
| Particle Size distribution | Particle size (Microns) % Distribution |
| | 0-10 2 |
| | 10-20 2 |
| | 20-40 11 |
| | 40-80 20 |
| | 80< 65 |

Bag Filter

| | |
|--------------------------------------|---|
| Type | Pulsejet online Bag Filter |
| Filtration Area Per Bag | 1.83 m ² |
| Total Filtration Area | 219.6 m ² |
| Compartment | 1 No. |
| Electronic sequence Controller Timer | 1 No. |
| Type of dust discharge | Through Rotary Airlock Driven by geared motor from Discharge hopper |

Filter Bags Details

| | |
|-------------------|---|
| Total No. of Bags | 120 Nos. |
| Bag dimensions | Dia 160 x 3660 Long |
| | Type of bags Cylindrical, top open and bottom closed. |
| Material | Ryton 550(PPS) |

Discharge Equipment Details

| | |
|-----------------------------------|--------------------------|
| Rotary Air Lock Valve | |
| Size Recommendation/type of rotor | 150 mm x 150 mm – 1 Nos. |
| Drive Details | 0.37 Kw/21.5RPM |
| Capacity | 10 m ³ /hr |
| Drive arrangement | Direct Driven |

Safety Feature

| | |
|------------------------------|----------------------------------|
| Spark Resistor (Baffle Type) | To prevent any spark in Flue gas |
|------------------------------|----------------------------------|

PLATINUM AAC BLOCK PVT.LTD.

[Signature]
Director

T.C.
[Signature]



Young 2000 427
Director

T.C.
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Opp. Gondal Bypass BRTS Bus Stop, 150 Feet Ring Road, (West),
Vavdi, Rajkot - 360 004. Phone : (0) 0281 - 2360335
Mo. 94266 04335 / 94280 10201 / 94266 34335 / 98250 34335
E-mail : yorlabindia@gmail.com / yorlabrajkot@gmail.com

Test Certificate

Report no. : YL/RI/150325/01

Date : 25/03/2015

Name of Party : Royal Industries,
Near Ambika oil mill,
Junagadh road,
Dhoraji,
Kevin Patel

Nature of Sample : White Coal

TEST RESULT ARE AS UNDER

| Sr. No. | Element tested | Obtain value |
|---------|-----------------|---------------------|
| 01 | Molsture | 6.20 % |
| 02 | Ash content | 5.65 % |
| 03 | Volatile matter | 75.35 % |
| 04 | Fix Carbon | 12.80 % |
| 05 | Calorific value | 4250 Cal./Gm Approx |

Remarks;

mls/gp
Prepared By



[Signature]
Authorized Signatory

- NOTE:**
- 1, Sample is not drawn by Yorlab
 - 2, Analysis of particular this sample.
 - 3, This certificate may not be used for commercial purpose and legal advertisement.

END OF REPORT

INDUSTRIAL & LABORATORY SERVICES

PLATINUM AAC BLOCK PVT.LTD.

[Signature]
Director

T.C.
[Signature]

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LIST OF RAW MATERIALS WITH MONTHLY CONSUMPTION

| SR. No. | RAW MATERIALS | CAPACITY. TPM |
|---------|---------------------|---------------|
| 1 | FLY ASH/SILICA SAND | 5500 TN |
| 2 | CEMENT | 1512 TN |
| 3 | LIME | 756 TN |
| 4 | ALUMINUM POWDER | 6.1 TN |
| 5 | GYPSUM | 126 TN |
| 6 | SOL OIL | 10000/LT |
| 7 | FURNACE OIL | 7500 / LT |

| | | |
|----|-----------------|------------|
| 8 | COAL | 800 TN |
| 9 | CASTING SODA | IF REQUIRE |
| 10 | EXPANDED CLAY | IF REQUIRE |
| 11 | AGENT FOMING | IF REQUIRE |
| 12 | BLACK TRAP DUST | IF REQUIRE |
| 13 | SAND | IF REQUIRE |

PLATINUM AAC BLOCK PVT. LTD.

Director

T.C.



PLATINUM
BLOCKS PVT. LTD.

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| Sr. NO. | PRODUCT | Capacity |
|---------|---|--------------------|
| 1. | Aerated Autoclave concrete Block in different size
4", 6", 8" or specified by the customer | 25000 m3/
Month |

Director

Shop No. 269, 2 Flor, Amidhara Complex, Near CNG Pump, N.H. No. 8, G.I.D.C., Char Rasta, Vapi-396 195.
E-mail: platinumaachlocks@yahoo.com, platinumaachlocks@gmail.com

T.C.

269



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LIST OF MACHINERY FOR AUTOCLAVED AERATED CONCRETE BLOCK PRODUCTION

| | |
|----|----------------------------------|
| 1. | SILO TANK |
| 2. | SLURRY POOL |
| 3. | CEMENT AND SLURRY WEIGHING SCALE |
| 4. | POURING MIXTURE |
| 5. | BLOCK MOULD |
| 6. | CUTTING MACHINE LINE |
| 7. | TILTING CRANE |
| 8. | LOADING CRANE |

| | |
|-----|-------------------|
| 9. | AUTOCLAVE |
| 10. | FERRY PUSHER |
| 11. | RAIL TRACK |
| 12. | LOADER TRUCK |
| 13. | COAL STEAM BOILER |
| 14. | AIR COMPRESSOR |
| 15. | VACUUM PUMP |
| 16. | R.O PLANT |

| | |
|-----|-------------------|
| 17. | SLUDGE PUMP |
| 18. | PRODUCTION CRANE |
| 19. | COAL CRUSHER |
| 20. | WINCH MACHINE |
| 21. | HEADER |
| 22. | TRACTOR WITH BULL |
| 23. | J C B |

PLATINUM AAC BLOCK PVT. LTD.

[Signature]
Director

Shop No. 269, 2 Flor, Amidhara Complex, Near CNG Pump, N.H. No. 8, G.I.D.C., Char Rasta, Vapi-396 195
E-mail: platinumaacblocks@yahoo.com, platinumaacblocks@gmail.com

[Signature]
P.C.

270



d/s3

LIST OF MACHINERY FOR AUTOCLAVED AERATED CONCRETE BLOCK PRODUCTION

| | |
|-----|---------------------------|
| 24. | PLASTIC ROPE |
| 25. | FORCLIP |
| 26. | D G SET |
| 27. | E T P PLANT |
| 28. | DUMPAR |
| 29. | ALL ELECTRIC MOTERS |
| 30. | ALL TYPE OF PUMPES |
| 31. | ALL TYPE OF FITTING PIPES |

| | |
|-----|--|
| 32. | ALL TYPE OF ELECTRICAL FITTING |
| 33. | WIRE ROPE |
| 34. | ALL MACHINERY SPAREPARTS |
| 35. | ALL SIZE OF BEARINGS |
| 36. | ALL TYPE OFF OFFICE ACCESSORIES
(COMPUTER, FURNITURE & FIXTURE & ETC) |
| 37. | WEIGH BRIDGE |
| 38. | REDDY MATE CABIN |
| 39. | ALL TYPE OF LABORATORY TESTING EQUIPMENTS |

| | |
|-----|---|
| 40. | CIMENT FEEDING PUMP(SILO LODING SYSTEM) |
|-----|---|

PLATINUM AAC BLOCK PVT.LTD.

Yund Renuka
Director

Shop No 269, 2 Flor, Amidhara Complex, Near CNG Pump, N.H. No. 8, G.I.D.C., Char Rasta, Vapi-396 195
E-mail: platinumaacblocks@yahoo.com, platinumaacblocks@gmail.com

T.C.
[Signature]

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d/s

LIST OF PACKING RAW MATERIALS

| Sr No. | ITEM |
|--------|--------------------|
| 1. | THERMOCAL SHEET |
| 2. | L D BUBBLE SHEET |
| 3. | PLASTIC BAGS |
| 4. | PVC PLASTIC SHEET |
| 5. | BOX STRAPING PATTI |
| 6. | NON WOVAN BAG |
| 7. | G I CLIP |

| | |
|-----|---|
| 8. | ALUMINUM CLIP |
| 9. | PLASTIC SUTLI |
| 10. | PLASTIC KHUNA |
| 11. | ALL OTHER PACKING MATERIALS |
| 12. | ALL ELECTRICAL FITTING
(NATBOLT,CABLE,WIRE, SCREW) |
| 13. | ALL OTHER HARDWER ITEM |

PLATINUM AAC BLOCK PVT.LTD.

Director

T.C.

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JOB NO.-IB-2804

CLIENT :- M/s. PLATINUM AAC BLOCKS PVT. LTD.



INDUSTRIAL BOILERS LTD.

227, INDUSTRIAL TOWNSHIP, VAPI - 396 195.

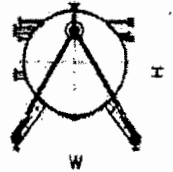
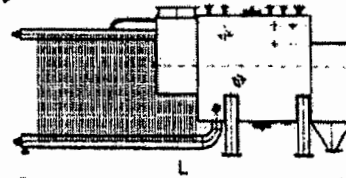
1. Boiler Shell With Water Wall Assembly :-

Length :- 7175 MM

Width :- 3385 MM

Height :- 3675 MM

Weight :- 13090 Kgs.



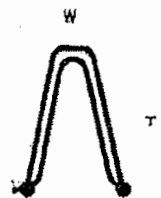
2. Inbed Assembly :-

Length :- 1900 MM

Width :- 1875 MM

Height :- 2850 MM

Weight :- 1225 KGS.



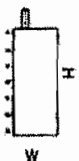
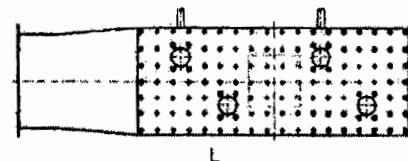
3. Wind Box :-

Length :- 3265 MM

Width :- 670 MM

Height :- 1470 MM

Weight :- 610 KGS.



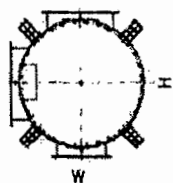
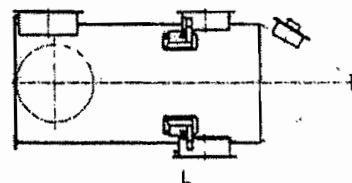
4. Air Pre-Heater :-

Length :- 4020 MM

Width :- 1605 MM

Height :- 1700 MM

Weight :- 2765 Kgs.



IMPORTANT NOTE:-

THE ABOVE DETAILS GENERATED FROM OUR DRAWINGS HENCE TO CONSIDER FOR GUIDANCE PURPOSE ONLY. THE ABOVE DATA MAY BE VARIED FROM 5 TO 7 % IN WEIGHT & 3 TO 4% IN SIZES. THE DESIGN DEPARTMENT DOES NOT RESPONSIBLE FOR EXACT DIMENSIONS OF THAT EQUIPMNETS. THE DISPATCH DEPARTMENT/ TRANSPORTER TO VERIFY THE CONSIGNMENTS & TAKE THE ACTUAL MEASUREMENTS PRIOR TO FINALISE THE VEHICLE(S). IF ANY ITEMS MISSED IN THIS DATA SHEET, DISPATCH DEPARTMENT/ TRANSPORTER HAS TO INTIMATE/ CONSIDER. THE ABOVE SIZES & WEIGHTS ARE ONLY FOR MAJOR ITEMS. OTHER APPLICABLE ITEMS LIKE FANS, PUMPS, PANEL, MOTORS, MOUNTINGS & FITTINGS, DOORS, BARS/ FURNACE MATERIALS, FEEDERS, LINES WHATSOEVER ARE TO BE SUPPLIED ARE NOT CONSIDERED IN THIS LIST.

PREPARED BY:

CHKD. BY:
(FROM DRAWING)VERIFIED BY:
(ACTUAL FROM EQUIPMNETS)Page No.
1 of 1

PLATINUM AAC BLOCK PVT.LTD.

Director

T.C.

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PHONE : (0260) 2432899, 24315
 FAX : (0260) 2421102
 INTERNET : <http://www.indboilers.co>
 E-mail : vapi@indboilers.com



INDUSTRIAL BOILERS LTD.

MANUFACTURERS OF STEAM BOILERS



IBL IS AN ISO 9001 : 2000 ACCREDITED COMPANY

Ref. No.: IB / V / E / 028 / 2014

Date : 23rd January 2014

M/s. Platinum AAC Blocks Pvt. Ltd.,
Vapi.



WORKING DRAWING OF 6 TPH COAL / LIGNITE FIRED F.B.C. BOILER
 INTERNATIONAL STANDARD
 PARTS - 2006

Dear Sir,

We are sending herewith following drawings of 6 TPH Coal / Lignite fired F.B.C. Boiler.

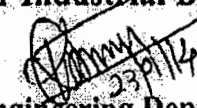
1. General Arrangement of Boiler House (Plan view)
2. General Arrangement of Boiler House (Section At A-A')
3. General Arrangement of Boiler House (Section At B-B')
4. General Arrangement of Boiler House (Section At C-C' / D-D')
5. General Arrangement of Boiler House (Section At E-E')
6. Terminal Details of General Arrangement
7. Civil Arrangement of Boiler House (Foundation Plan)
8. Civil Arrangement of Boiler House (Sectional view)

All above drawings are in two sets.

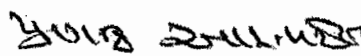
Hope the above is in line with your requirement.

Thanking you and assuring you of our best services and attention at all time. We remain,

Your's faithfully,
For Industrial Boilers Ltd.


 (Engineering Department)

PLATINUM AAC BLOCK PVT.LTD.


 Director

Regd. Office : 701-C, Poonam Chambers, Dr. Annie Besant Road, Worli, Mumbai 400018

Tel : 66602236, 66607738/39 Fax : (022) 24937505 E-mail : mumbai@indboilers.com

Regional Office : 79-80, Satkar, Nehru Place, New Delhi - 110019 (INDIA)

Tel : 011-26453194/95, 26417983 Fax : 91-11-26453197 E-mail : delhi@indboilers.com



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| | | |
|---|----------|-------------------------------------|
|  INDUSTRIAL BOILERS LTD.
Works : 225/1-B, 226, 227, 228, Vapi Industrial Township, G.I.D.C., Vapi - 396 195, Dist. Valsad, Gujarat | Phone : | +91-260-2431549, 2432899
2422614 |
| | Fax : | +91-260-2421102 |
| | E-mail : | vapi@indboilers.com |
| | Web : | http://www.indboilers.com |
| PROFORMA INVOICE | | |

| | | | | |
|--|---|--|------------------|--|
| CLIENT PLATINUM AAC BLOCKS PVT LTD
Vapi | | PROFORMA INVOICE
No. : 13
Date : 26.06.2014 (Revised of 20.06.2014)
P.O.No. IB/V/001/2014
Date : 06.01.2014 | | |
| Sr. No. | | Qty | Unit Rate | Total Amount |
| 1 | Industrial Coal/Lignite fired Boiler having an evaporation capacity of 5500 Kg/hr (F & A 100 deg c) and suitable for a working pressure of 17.58kg/cm2. | 1.00 Units | 2301000.00 | 2301000.00 |
| Remark: Pl Send Your Dispatch Address & VAT No before dispatch | | | | |
| Name of Bank Corporation Bank
Branch of Bank Worli, Mumbai
Account No 017400401030001
RTGS Code CORP0000174 | | Price
Packing & Forwarding
Excise Duty
Education Cess
S.H.E.
V.A.T.
Advance Received | | 2301000.00
0.00
230100.00
4602.00
2301.00
126900.00 |
| Balance To Be Received | | | | 2664903.00 |
| Rupees : Twenty Six Lacs Sixty Four Thousand Nine Hundred Three Only | | | | |

Excise Chapter No. CH 84
 Registration No. AAAC15736NXM001
 Heading No. 84. 8402.12.00
 E.C.C. No. AAAC15736NXM001
 V.A.T. TIN. No. 24250700059 Dt. 01-07-2002
 C.S.T. No. 24750700059 Dt. 12-03-1975

Note : This is computer generated report hence no signature is required

For. Industrial Boilers Ltd.

Authorised Signatory

Regd. Office : 701-C, Peonam Chambers, D. Aravli Besant Road, Worli, Mumbai - 400 018
 Tel : +91-22-46602235, 66607718, 39 Fax : +91-22-24927505 e-mail : mumbai@indboilers.com
 Regional Office : 79-40, Sahakar, Netra Palace, New Delhi - 110 019
 Tel : +91-11-26417963, 26453164, 95 Fax : +91-11-26453167 e-mail : delhi@indboilers.com

Signature of Client

PLATINUM AAC BLOCK PVT.LTD.

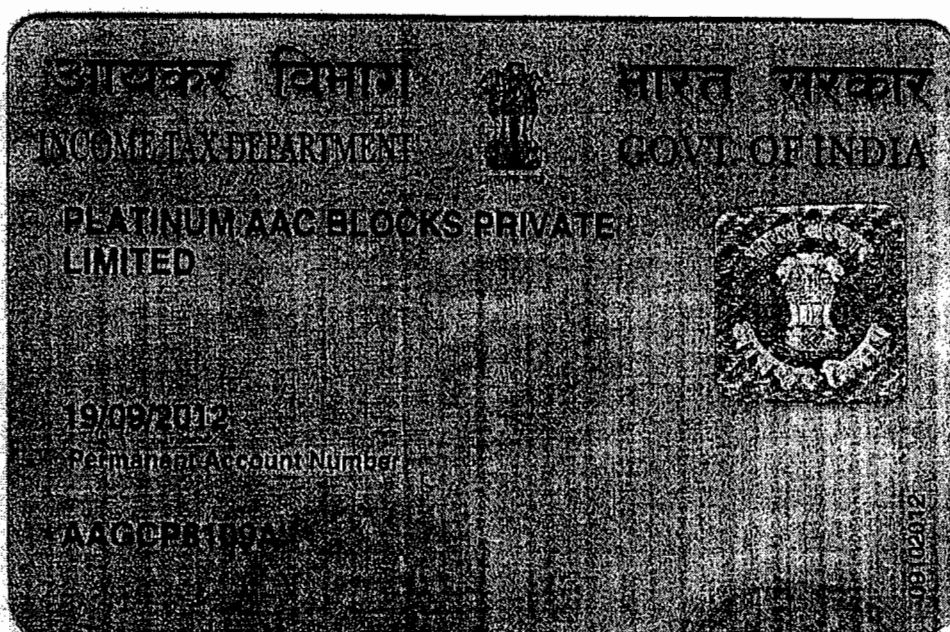
Director

Marketing Dept.
 INDUSTRIAL BOILERS LTD.

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PLATINUM AAC BLOCK PVT.LTD.

Yash Sankar
Director

T.C.
[Signature]

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PLATINUM AAC BLOCKS PVT.LTD.

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List of Board of Directors

| Sr No. | Name Of Director | Permanent Address | Tel/Mob.No. | PAN No. |
|--------|------------------------------|--|---------------------------|-----------------------|
| 1 | Dilipkumar Dahyabhai Kadivar | Narayan bunglow Plot No.7,gurudev nagar,Bhilad. | +91 9898730803 | ANUPK0360Q |
| 2 | ~~Denis D. Kadivar~~ | ~~Narayan bunglow Plot No.7,gurudev nagar,Bhilad.~~ | ~~+91 9558795585~~ | ~~BHOPK9648G~~ |
| 3 | Pragji R. Patel | 402,Shanthinath Co-op Soc,Nehru Streer,Vapi | +91 9375936584 | AGGPP6558G |
| 4 | Jitendra G.Jalavadia | A-104, Angan aptt,Gokul vihar Township,Gunjan,Vapi | +91 9824141045 | ACVPJ5988M |
| 5 | Sanjaykumar B. Bhut | Flat No-304, Shubhm appt,Gokul vihar,Vapi | +91 9376668884 | AKKPB5854F |
| 6 | Hasmukh kumar M. Patel | Block No-2/A,Anupam Society,Sama Kanthe,Morbi,Dist-Rajkot | +91 9825215791 | AJEPP0044Q |

For PLATINUM AAC BLOCKS PVT. LTD.

210451202001009

Director/Chairman

PLATINUM AAC BLOCK PVT.LTD.

210451202001009

Director

Shop No. 269, 2 Flor, Amidhara Complex, Near CNG Pump, N.H. No. 8, G.I.D.C., Char Rasta, Vapi-396 195.
E-mail: platinumaacblocks@yahoo.com, platinumaacblocks@gmail.com

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TAG: g

MANUFACTURING PROCESS

Fly ash or silica sand will be grinded into slurry with water. Similarly cement and lime will also be mixed up with water in other slurry tank. Fly ash, cement and lime slurry will be mixed up and add gypsum, aluminum powder and other chemicals like sol oil and caustic soda etc. will be added and finally filled into mould. After maintaining, foaming and solidifying blocks or plank of different specifications will be cut out and conveyed into autoclave.

In autoclaves, under the high temperature and steaming curing, light weighted Aerated concrete Blocks will form.

For PLATINUM AAC BLOCKS PVT. LTD.

Director/Chairman

PLATINUM AAC BLOCK PVT. LTD.

Director

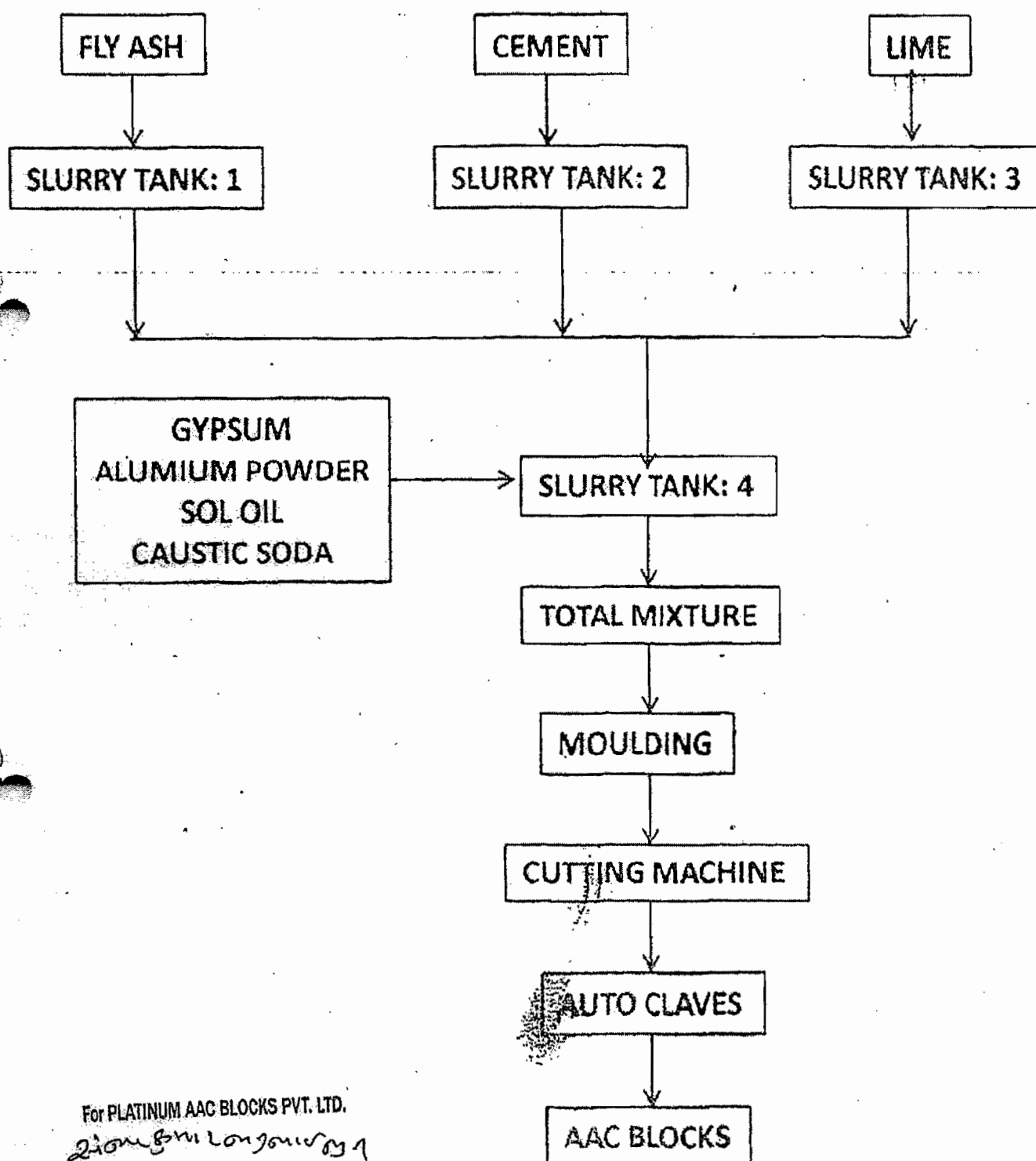
Shop No: 269, 2 Flor, Amidhara Complex, Near CNG Pump, N.H. No. 8, G.I.D.C., Char Rasta, Vapi-396 195.
E-mail: platinumaacblocks@yahoo.com, platinumaacblocks@gmail.com

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chf

PROCESS FLOW DIAGRAM



For PLATINUM AAC BLOCKS PVT. LTD.

Signature

Director

PLATINUM AAC BLOCK PVT.LTD.

Signature

Director

Shop No. 269, 2 Flor, Amidhara Complex, Near CNG Pump, N.H. No. 8, G.I.D.C., Char Rasta, Vapi-396 195.
E-mail: platinumaacblocks@yahoo.com, platinumaacblocks@gmail.com

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Ans

No. PCC/DDD/0-2764/^{Q/A}/_{DA}/16.17/606-
Office of the Member Secretary,
Pollution Control Committee,
Daman Diu & Dadra Nagar Haveli,
Daman.

Dated: 03/03/2017

To,

M/s Platinum AAC Block PLtd.,
Sr.no.19/1, Village Kherdi,
Silvassa

Sub: Grant of consent to Establish under Water/Air Acts – reg.

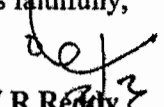
Ref: Your SWIFT ack.no 8029 and SSS application dated 20/12/2017

Sir,

With reference to your application mentioned above, you are requested to submit the below mentioned details for further processing the case since the reply submitted for various details is incomplete. Further the date of reply will be treated as the date of application.

- To submit the details of capacity of Effluent Treatment Plant, mode of effluent generation and its quantity and quality as submitted in the list of plant and machinery.
- To submit the details of the raw material FLY ASH from where it is procured and how it will be transported as submitted in the list of raw material as per the Fly Ash notification.
- To submit the details of hazardous waste to be generated and its mode of collection and disposal.
- The DD submitted vide no.31272 dated 28/11/2016 is expired hence please submit new valid DD.

Yours faithfully,


O V R Reddy

Member Secretary,
Pollution Control Committee,
Daman Diu & Dadra Nagar Haveli
Daman.

Copy to : The SWIFT I/C, Daman/Silvassa.

T.C.


Annexure - A-4

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SINGLE WINDOW SYSTEM (SWIFT)

<http://localhost/SWIFT/DepCopyPerApp.aspx?Qstring=AppCopy,MS..>

DEPARTMENT : MS PCC

Department Copy

SINGLE WINDOW

**DIRECTORATE OF INDUSTRIES
DADRA & NAGAR HAVELI, SILVASSA**

NAME : PLATINIUM ACC BLOCKS PVT LTD

CATEGORY : MSI IPC364

DATE : Friday, May 12, 2017

ADDRESS : SRV NO.19/1 VILLAGE KHERDI
KHERDI UT OF D&NH

ACK. NO.: 8029

PRODUCT : ACC BLOCKS

C/MS

=====

| | Date Of
Application | Due Date | Dept. Reply
Dates & Status | Appln.
Type |
|-------|------------------------|----------|-------------------------------|----------------|
| ===== | | | | |

| | | | | |
|-----------------------------|--------------|------------|------------|--|
| Consent To Est. a Unit | : 12/05/2017 | 26/05/2017 | 07/03/2017 | |
| Construction Permission | : | | | |
| Sales Tax Registration | : | | | |
| Prov. SSI. Loc. Clearance | : | | | |
| Permanent SSI Regn. | : | | | |
| General Clearance | : | | | |
| Perm. To Instl. DG Set | : | | | |
| Perm. To Use DG Set | : | | | |
| Rel. Of Temp. Connection | : | | | |
| Rel. of Power(Interim) | : | | | |
| Rel. of Power(Final) | : | | | |
| Licence / Factory Act | : | | | |
| Occupancy Certificate | : | | | |
| Approval of Layout | : | | | |
| Certif. of Layout Plan | : | | | |
| Consent to Est. DG Set | : | | | |
| Consent to Opr. DG Set | : | | | |
| Renwl. to Opr. a DG Set | : | | | |
| Consent to Opr. a Unit | : | | | |
| Renwl. to Opr. a Unit | : | | | |
| Change in Own / Cons / Unit | : | | | |
| Expn. & Addl. Pwr. for Unit | : | | | |
| Shift Unit / Addl. Place | : | | | |
| Trn. of Lease / Subletting | : | | | |
| Fin. Tr. Order Govt. Plot | : | | | |
| Lube Licence | : | | | |



0-2764

de 16/5

Handwritten signature and date: 11/1-170112

पदस्थ नियंत्रण समिति
POLLUTION CONTROL COMMITTEE
क्षेत्रीय कार्यालय/Regional Office
Dadra & Nagar Haveli, Silvassa
228 DI/तारीख 10/5/17
DI/तारीख

Signature Computer Data Entry Operator (SWIFT)

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4/39

To,
The Member Secretary,
Pollution Control Committee,
UT of D & NH, Silvassa.

Ref: SWIFT ack No.8029
Subject: Grant of Consent to Establish.

Sir,

With the above mentioned subject we have received a query letter from your side vide No.PCC/DDD/0-2764/WA-AA/ICD/16-17/606 dtd: 03.3.2017 wherein you have demanded the clarification for the following:

1. No Effluent is generated so no effluent plant is there.
2. Regarding FLY ASH , necessary letter is attached regarding its procurement and transportation.
3. There no hazardous waste in our manufacturing process.
4. Valid DD for Rs.30,000/- attached herewith.

Kindly process our application for grant of Consent to establish and oblige.

Thanking you,

Your's truly

For PLATINUM AAC BLOCKS PVT LTD

PLATINUM AAC BLOCKS PRIVATE LIMITED

[Signature]

Director

DIRECTOR/CHAIL

Mobile No.

T.C.
[Signature]

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KARNAWAT TRADING

GOVT. REGD. CONTRACTORS & SUPPLIERS

Date: - 18-April-2017

To,

PLATINUM AAC BLOCKS PVT. LTD

Survey No. 19/1 village Kherdi

D&NH-SILVASSA

Sub:- Transportation of Fly Ash and Pond Ash Powder.

Dear Sir,

As per your letter dated 11/01/2017 that your company wants to do business with us that is M/s. Karnawat Trading which is dealing in Fly Ash and Pond Ash Powder. Our company M/s. Karnawat Trading is ready to supply Fly Ash and Pond Ash Powder and Powder to your company PLATINUM AAC BLOCKS PVT. LTD Survey No. 19/1 Village Kherdi D&NH- Silvassa. We insure that during the transportation Fly Ash and Pond Ash Powder will not be harmed/ Spilled out from the truck or container / will not disturb the environment. Will be packed in will manner and will be safe.

Thanking you in advance and assuring you of our best co-operation always.

Thank You.



Yours Faithfully,
For KARNAWAT TRADING

Authorised Signatory

PLATINUM AAC BLOCKS PRIVATE LIMITED

DIRECTOR/CHAIRMAN

OPP. HANUMAN MANDIR, DAHANU FORT - 401 601 DIST. PALGHAR MAHARASHTRA

Annexure - R-5

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Dated: 14/06/2017

M/s Platinum AAC Block PLtd.,
Sr.no.19/1, Village Kherdi,
Silvassa

Ref: Your SWIFT ack.no 8029 and SSS application dated 20/12/2017

With reference to your application mentioned above of M/s. Platinum AAC Block PLtd., Sr.no.19/1, Village Kherdi, Silvassa . It was reexamined in details in view of the reply dated 17/5/2017 and the application dated 19/12/2016 and observed that the product , activity and process is not mentioned in the PCC notification dated 9.10.2015 and its falls in category I as below:

- The **transport** of Fly Ash is under Category-I. at Sr.no.25 ie. Fly ash export, transport and disposal facilities.
- The Boiler proposed is also 5 TPH steam generating capacity using **Coal/lignite fired boiler** which is under Category-I.

Yours faithfully,

Copy to : Samay Sudhini Seva Citizens Charter Services of Pollution Control Committee,
DD& DNH

T.C.

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Annexure - R-6

SINGLE WINDOW SYSTEM (SWIFT)

http://localhost/SWIFT/DeptCopyReport.aspx?DeptName=MS.PC.

DEPARTMENT : MS. PCC

Department Copy

SINGLE WINDOW

**DIRECTORATE OF INDUSTRIES
DADRA & NAGAR HAVELI, SILVASSA**

NAME : PLATINIUM ACC BLOCKS PVT LTD

CATEGORY : MSLIPC364

DATE: Monday, September 25, 2017

PRODUCT : ACC BLOCKS

ACK. NO.: 8029

ADDRESS : SRV NO.19/1 VILLAGE KHERDI
KHERDI UT OF D&NH

| | Date Of
Application | Due Date | Dept. Reply
Dates & Status | Appln. Type |
|-----------------------------|------------------------|------------|-------------------------------|-------------|
| Consent To Est. a Unit | : 25/09/2017 | 04/10/2017 | | |
| Construction Permission | : | | | |
| Sales Tax Registration | : | | | |
| Prov. SSI. Loc. Clearance | : | | | |
| Permanent SSI Regn. | : | | | |
| General Clearance | : | | | |
| Perm. To Instl. DG Set | : | | | |
| Perm. To Use DG Set | : | | | |
| Rel. Of Temp. Connection | : | | | |
| Rel. of Power(Interim) | : | | | |
| Rel. of Power(Final) | : | | | |
| Licence / Factory Act | : | | | |
| Occupancy Certificate | : | | | |
| Approval of Layout | : | | | |
| Certif. of Layout Plan | : | | | |
| Consent to Est. DG Set | : | | | |
| Consent to Opr. DG Set | : | | | |
| Renwl. to Opr. a DG Set | : | | | |
| Consent to Opr. a Unit | : | | | |
| Renwl. to Opr. a Unit | : | | | |
| Change in Own / Cons / Unit | : | | | |
| Expn. & Addl. Pwr. for Unit | : | | | |
| Shift Unit / Addl. Place | : | | | |
| Trn. of Lease / Subletting | : | | | |
| Fin. Tr. Order Govt. Plot | : | | | |
| Lube Licence | : | | | |

Query From Deartment

Inward/ Outward No. 1079
 Date 26/9/17
 Pollution Control Committee
 Regional Office
 Silvassa
 Inward/ Outward No. 1079
 Date 26/9/17

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PLATINUM AAC BLOCKS PVT. LTD.

No.

Date: 22.09.2017

To,

The Member Secretary,

Pollution Control Committee,

Secretariat, Silvassa.

Sub: Grant of Consent to Establish under Water Act and
Air Act -reg.

Ref: Your letter No.PCC/DDD/O-2764/WA/AA/KD/16-
17/216 dated 19.06.2017.

Sir,

We acknowledge the receipt of your above referred letter and we would like to submit our compliance as under for your kind consideration:-

1. Sir, it is to submit that we are not going to transport fly ash, but we will be buy/purchase fly ash from Reliance Infrastructure Limited, Dhanu Thermal Power Station, Dhanu.
2. Sir, it is to submit that fuel of Boiler 5 TPH is Briquette and by mistake we had mentioned the fuel as Coal.

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Sir, hope you will find our reply satisfactorily and in compliance and we request your good self to kindly consider our establish application and grant us consent under Water Act and Air Act.

Thanking you,

Sincerely yours,

Sd/-

For Platinum AAC Blocks Pvt. Ltd.

Director

//TRUE TYPED COPY//

T.C.
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✓

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M/s. JAY GURUDATTA SUPPLIER

MANUFACTURE/SUPPLIER OF FLY ASH BRICKS

Office: - At Post-Vangaon, Tal-Dahanu, Dist-Palghar, Maharashtra-401103

Mob - 9823354332/9673354540- Email-jaygurudattasupplier@gmail.com

Ref No.

Date: 13.04.2017

To,

Platinum AAC Blocks Pvt. Ltd.

Survey No.19/1, Village-Kherdi,

Silvassa-396230

Dadra And Nagar Haveli

Sub: Transportation of Pond Ash and Fly Ash

Dear Sir,

As per your letter dated 11.01.2017 that your company wants to do business with us that is M/s. Jay Gurudatta Supplier which is dealing in Pond Ash and Fly Ash. Our company M/s. Jay Gurudatta Supplier is ready to supply Pond Ash and Fly Ash powder to your company PLATINUM AAC BLOCKS PVT. LTD. Survey No.19/1, Village-Kherdi, Dadra And Nagar Haveli-Silvassa. We insure that during the transportation Pond Ash will not be harmed/spilled out from the truck or container will not disturb the environment. Will be packed in well manner and will be safe.

T.C.
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Thanking you in advance and assuring you of our best co-operation always.

Thank you,

Sd/-

For Jay Gurudatta Supplier

Encl.

Authorization letter from Reliance

Sd/-

For Platinum AAC Blocks Pvt. Ltd.

Director

//TRUE TYPED COPY//

T.C.
Pm

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RELIANCE INFRASTRUCTURES LTD
DAHANU THERMAL POWER STATION
DAHANU ROAD
THANE-401608

Ref: DTPS/HR/2013-14

Date 21/11/2013

To

Pro. Rajkumar R. Thakur
Jai Gurudutt Supplier Vangaon
Taluka-Dahanu, Dist. Thane

Sir,

Sub: About doing truck loading by JCB to lift the Pond
Ash

As per your letter dated 16/11/2013 the permission has
been granted to you to lift the ash by JCB and Truck from
Ash Pond of the Company at Asangaon.

Regards,

Yours faithfully,
Sd
N.C. Suryavanshi
Vice President Human Resources

Copy to: Dy. Superintendent of Police for information

//TRUE TYPED COPY//

290

KARNAWAT TRADING
GOVT.REGD. CONTRACTORS & SUPPLIER

Date: 13 April, 2017

To,

Platinum AAC Blocks Pvt. Ltd.

Survey No.19/1, Village-Kherdi,

D&NH-Silvassa

Sub: Transportation of Fly Ash

Dear Sir,

As per your letter dated 11.01.2017 that your company wants to do business with us that is M/s. Karnawat Trading which is dealing in Fly Ash. Our company M/s. Karnawat Trading is ready to supply Fly Ash and Powder to your company PLATINUM AAC BLOCKS PVT. LTD. Survey No.19/1, Village-Kherdi, D&NH-Silvassa. We insure that during the transportation Fly Ash will not be harmed/spilled out from the truck or container will not disturb the environment. Will be packed in well manner and will be safe.

Thanking you in advance and assuring you of our best co-operation always.

Thank you,

Yours faithfully,

Sd/-
For Karnawat Trading

//TRUE TYPED COPY//

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Annexure - R-7

9/163

No.PCC/DDD/0-2764/WA/120/16-7/860
Office of the Member Secretary
Pollution Control Committee
DD & DNH, Daman.

Dated : 07/12/2017

Sub: Grant of Consent to Establish under Water Act/Air act- reg.

Ref: Your application dated 25/9/2017 and reply dated 22/09/2017 SWIFT Ack.

Application no.8029

With reference to the above cited subject and application dated 25/9/2017 through SWIFT Ack.no.8029 it is to inform you that it was already informed with reason vide this office letter dated 19/6/2017(copy enclosed) that the application is not considered and is rejected.


Member Secretary
Pollution Control Committee
DD & DNH,
Silvassa

Copy to : SWIFT I/C, Silvassa/Daman.

Encl: As above.

To,

M/s. Platinum AAC Block P.Ltd.,
Sr.no.19/1, Village Kherdi,
Silvassa.

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Annexure - R-8



Date: 19/02/2019

To,

(1) Secretary (Environment & Forests),

Administration of Union Territories of DD & DNH,

Secretariat, Fort Area, Moti Daman – 396220, DD & DNH

&

Chairman, Pollution Control Committee, Daman, DD & DNH

(2) The Member Secretary,

Pollution Control Committee,

Fort Area, Moti Daman, Daman,

Daman and Diu 396220, DD & DNH

Sub: Our application for Grant of Consent To Establish under provisions of The Water Act, 1974 & The Air Act, 1981.

Respected Sir,

In connection with the above cited subject, we would like to bring to your kind notice that we have applied to your good office, vide our application Ack. No. 5764 dated 06/12/2016 for obtaining Consent To Establish under provisions of The Water Act, 1974 & The Air Act, 1981 for manufacturing of AAC Blocks for which Flyash is main raw material. Our application has been rejected by the Pollution Control Committee, Daman Diu & Nagar Haveli (PCC) vide letter dated 19/06/2017 stating that the product, activity and process is not mentioned in the PCC notification dated 9.10.2015 and it falls in category I for the following reasons:

- Transport of Flyash is under Category – I at Sr. No. 25 (i.e. Flyash export, transport & disposal facilities) in the PCC notification dated 9.10.2015.

The Boiler proposed is also 5 TPH steam generating capacity using Coal/Lignite fired boiler which is under Category – I.

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Sir, we humbly invite your kind attention to the following facts:

- (1) The Central Pollution Control Board, New Delhi (CPCB) has published Revised Classification of Industrial Sectors under Red, Orange, Green and White Categories on 29th February, 2016 (i.e. after Notification dated 9/10/2015 of PCC), of which is attached herewith at **ANNEXURE – I**, in which Flyash export, transport & disposal facilities is shifted from Red to Green Category. (Please refer Sr. No. 58 in Table G-4 : Final List of Green Category Industrial Sectors)
- (2) The notification No. PCC/DMN/13-(PartIV)/98-99/2014-15/1200 of the PCC, Daman Diu & Nagar Haveli (PCC) quoted in your rejection letter has been notified on dated 9th October, 2015 i.e. prior to the CPCB's revised classification of Industrial Sectors under Red, Orange, Green and White categories.
- (3) The Ministry of Environment, Forests & Climate Change (MOEF&CC), Govt. of India has published Flyash notification dated 14/09/1999, which is amended from time to time. The notification makes it compulsory to utilize flyash in manufacturing of Bricks & other flyash based products & activities. Further, to promote & encourage use of flyash, as per this notification all the Thermal Power Plants are required to supply flyash free of cost to all those units using flyash as raw material which are located within 300 Kms radius. Sir, Flyash is main raw material for our product i.e. AAC Block, which is considered as an Environmentally friendly product vice conventional red bricks made from soil. Dahanu Thermal Power Station, Dahanu, Maharashtra @ 60 to 70 Kms from the project site will supply Flyash to our unit.
- (4) In our application, we have proposed to use **Agricultural Briquettes (800 MT/Month)** in our 6 TPH Boiler, which is also considered as environmentally friendly fuel. We have not applied to use Coal / Lignite as fuel as mentioned in your rejection dated letter 19/06/2017. We already have submitted our letter dated 22/09/2017 to your good office in this regard, a copy of which is attached herewith as "Annexure-II".

Hence, It is very much unfair and injustice to consider our project in Category – I in accordance with PPC notification dated 9.10.2015, which was published prior to CPCB's

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revised classification of Industrial Sectors under Red, Orange, Green and White categories. In fact, our project activity should have been considered in Green Category in line with the revised categorization by the CPCB.

Further, the preamble of the PCC notification dated 9.10.2015 has emphasized on the Government of India's initiatives viz "Make in India" and "Ease of Doing Business" and also on "Harmonizing the categorization of Industries" by the CPCB.

Under the circumstances, Sir, we earnestly request you look into the above facts and do needful to remove Flyash export, transport & disposal facilities from the Category - I of the Notification dated 09/10/2015 of the PCC, consider our project as Green Category Project and grant us Consent to Establish to our project for manufacture of environmentally friendly Flyash based ACC Blocks at the earliest.

We have appended a copy of our project report for your kind reference.

Looking forward for your positive response.

Yours Sincerely,

PLATINUM AAC BLOCKS PVT. LTD.



Enclosures : As Above

T.C.
 [Signature]

MINISTRY OF ENVIRONMENT AND FORESTS
NOTIFICATION
NEW DELHI, THE 31st MARCH, 1992.

G.S.R 379(E) - In exercise of the powers conferred by Section 54 of the Air (Prevention and Control of Pollution) Act, 1981 (14 of 1981) The Central Government in consultation with the Central Pollution Control Board, hereby makes the following rules further to amend the Air (Prevention and Control of Pollution) (Union Territories) Rules, 1983 namely:

1. These rules may be called the Air (Prevention and Control of Pollution) (Union Territories) Amendment Rules 1992.
2. They shall come into force on the date of their publication in the Official Gazette.

In the Air (Prevention and Control of Pollution) (Union Territory) Rules, 1983 for Form I, the following Form shall be submitted namely:

FORM - I

(See Rule 9)

Application for consent for emission/continuation of emission under Section 21 of the Air (prevention and Control of Pollution) Act 1981.

From :- M/s. Platinum AAC Block Pvt. Ltd.,

Survey No.19/1, Village Kherdi, Silvassa - 396
230.

To,

The Member Secretary,
Pollution Control Committee,
DD & DNH, Daman/ Silvassa.

Sir,

I/We hereby apply for CONSENT/RENEWAL OF CONSENT under Section 21 of the Air (Prevention and Control of Pollution Act, 1981 (14 of 1981) to bring into use a new/alterd stack for the discharge of emission/to begin/to make new discharge of emission/to continue/to discharge emission from stack in

industry owned by :- M/s. Platinum AAC Block Pvt. Ltd.

FOR OFFICE USE ONLY

1. Code No.:
2. Whether the unit is situated in a critical Polluted area as identified by Ministry of Environment & Forests.

PART A - GENERAL

3. (a) Name of the Owner / Occupier - Shri Pragji R. Patel
- (b) Name & Address of the Unit and location - M/s. Platinum AAC Block Pvt. Ltd.,
Survey No.19/1, Village Kherdi, Silvassa - 396
230.
4. (a) Whether the unit is generating hazardous waste as defined in the Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008. - No
- (b) If so the category no. - As per the the Hazardous And Other Wastes (Management and Transboundary Movement) Rules, 2015 no hazardous wastes will be generate from the process, machinery or any other activity.

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5. (a) Total capital investment on the project. Within 10 Crore
- (b) Year of commencement of production. 2017
- (c) Whether the industry works generally 2 shift round the clock. Round the Clock
6. (a) List and quantum of products & by-products. AAC Blocks (Autoclaved Areated Concrete) - 2,50,000 CM3 Per Annum
- (b) List of quantum of raw materials used. Fly Ash/ Silica Sand - 550 Tons, Cement - 1512 Tons, Lime - 756 Tons, Aluminum Powder - 6.1 Ton, Gypsum - 126 Tons, Sol Oil - 10000 Lit, Furnace Oil - 7500 Lit, Agrowaste Briquette - 800 Tons
7. Furnish a flow diagram of manufacturing process showing input and output in terms of products and waste generated including for captive power generation and de-mineralized water. RM - Mixing - Moulding - Drying - Despatch.

PART B- PERTAINING TO SEWAGE AND TRADE EFFLUENT:

8. Quantity And Source Of Water For: (in m3/Day)
- (a) Cooling - Bore well
- (b) Process - Nil
- (c) Domestic Use - 80000 Lit
- (d) Others - 3000 Lit
9. Sewage And Trade Effluent Discharge: 45000 Lit (Boiler)
- (a) Quantum Of Discharge m3/day Through septic tank
- (b) Is there any effluent treatment plant. DOM: 3000 Lit, INDL: Nil
- (c) If yes, a brief description of usual operations with capacity. No
10. Characteristics of Final Effluent: NO Waste water will generate from the process or any other activity.
- (a) Suspended solids - Not Applicable
- (b) Dissolved solids - Not Applicable
- (c) Chemical Oxygen Demand (COD) - Not Applicable
- (d) Bio-Chemical Oxygen Demand (BOD) - Not Applicable
- (e) Oil & Grease (Additional parameters as specified by the concerned pollution control board) - Not Applicable
- (f) Mode of disposal and final discharge point (enclose map showing the discharge point) - Not Applicable
- (g) Parameters and frequency of self monitoring - Not Applicable

T.C.
Pm

PART C - PERTAINING TO STACK AND VENT EMISSION

11. (a) No. of Stacks and vents with height & dia (m) :- Boiler = 6000 Kg/ Hr 1 No.
Stack Height: 30 Mtrs
Stack Dia: 500 mm
- (b) Quality and Quantity of stack emission from each of the above stacks particulate matter & Sulphur Dioxide (SO₂) (Additional Parameters) as specified by the concerned Pollution Control Board). :- So₂ < 80 Mg/Nm³
No₂ < 80 Mg/Nm³
PM₁₀ < 100 Mg/Nm³
PM_{2.5} < 60 Mg/Nm³
- (c) A brief account of the Air Pollution Control Unit to deal with the emission. :- Adequate stack height will be provided to the Boiler with Bag Filter. (Details enclosed)
- (d) Parameters and frequency of self monitoring :- As per PCC Norms

PART D-PERTAINING TO HAZARDOUS WASTE AND HAZARDOUS CHEMICALS

12. (a) Total quantum of generation :- As per the the Hazardous And Other Wastes (Management and Transboundary Movement) Rules, 2015 no hazardous wastes will be generate from the process, machinery or any other activity.
- (b) Quantum of hazardous waste generated and its nature as defined under the Environment (Protection) Act, 1986 (see the Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008) :- Not Applicable
- (c) Made of storage within the plant, method of disposal and any other information suggested by the concerned Pollution :-
Not Applicable
13. (A) Hazardous Chemical as defined under Environment (Protection) Act, 1989(See the Manufacture, Storage & Import of Hazardous Chemical Rules, 1989). :- NO Hazardous Chemicals will be used.
- (B) Whether any isolated storage is involved if yes, attach details. :- Not Applicable
- (C) Whether emergency plans are prepared for taking.
- (a) On-site measurement :- No
- (b) Off-site measurement :- No

I/We enclose herewith Demand Draft No. 031272 dated 28-11-2016 for Rs. 30000 in favour of the Pollution Control Committee, Daman as fees payable under section 25 of the Act.

Yours Faithfully

— sd —

Signature of applicant

- Note:**
1. An application knowingly giving incorrect information or suppressing any information pertaining there shall be liable to be punished under the Act.
 2. Strike out which is not applicable. (X)

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TECHNICAL DATA FOR BAG FILTER

CLIENT NAME: M/s. Platinum Blocks Pvt. Ltd.

DESIGN BASIS

| | |
|---------------------------------------|---|
| Boiler Capacity | 6000 Kg/hr. |
| Fuel Consumption | 1332 Kg/hr (@ Agrowaste Briquette GCV 3200 Kcal/hr) |
| Type of Boiler | Fluidised Bed |
| Gas Volume | 7146 NM ³ /Hr. |
| Gas Density | 1.3 Kg/M ³ |
| Dust to be handled | Agrowaste Briquette |
| Specific Gravity of Dust | 2.2 |
| Bulk Density | 600 Kg/M ³ |
| Guaranteed Emission | Less than 100 mg/Nm ³ |
| Expected Δp across Bag filter | 125-150 mm WGC |
| Particle Size distribution | Particle size (Microns) % Distribution |
| | 0-10 2 |
| | 10-20 2 |
| | 20-40 11 |
| | 40-80 20 |
| | 80< 65 |

Bag Filter

| | |
|--------------------------------------|---|
| Type | Pulsejet online Bag Filter |
| Filtration Area Per Bag | 1.83 m ² |
| Total Filtration Area | 219.6 m ² |
| Compartment | 1 No. |
| Electronic sequence Controller Timer | 1 No. |
| Type of dust discharge | Through Rotary Airlock Driven by geared motor from Discharge hopper |

Filter Bags Details

| | |
|-------------------|---|
| Total No. of Bags | 120 Nos. |
| Bag dimensions | Dia 160 x 3660 Long |
| Material | Type of bags Cylindrical, top open and bottom closed.
Ryton S50(PPS) |

Discharge Equipment Details

| | |
|-----------------------------------|--------------------------|
| Rotary Air Lock Valve | |
| Size Recommendation/type of rotor | 150 mm x 150 mm - 1 Nos. |
| Drive Details | 0.37 Kw/21.5 RPM |
| Capacity | 10 m ³ /hr |
| Drive arrangement | Direct Driven |

Safety Feature

| | |
|------------------------------|----------------------------------|
| Spark Resistor (Baffle Type) | To prevent any spark in Flue gas |
|------------------------------|----------------------------------|

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Comprehensive Project Report

| | | | |
|---|--|---|---|
| Unit Name :- | PLATINUM AAC BLOCKS PVT LTD | | |
| Address :- | Survey No.19/1, Village Kherdi, Silvassa - 396 230. | | |
| G(I) List of Products to be manufactured | | | |
| Product Name :- | AAC Blocks (Autoclaved Areated Concrete) | Product Capacity :- | 2,50,000 CM3 Per Annum |
| G(II) List of raw materials to be used (product-wise) & quantity required per month | | | |
| Raw Material Name :- | Fly Ash/ Silica Sand, Cement, Lime, Aluminum Powder, Gypsum, Sol Oil, Furnace Oil, Agrowaste Briquette | Raw Material Capacity :- | 550 Tons, 1512 Tons, 756 Tons, 6.1 Ton, 126 Tons, 10000 Lit, 7500 Lit, 800 Tons |
| G(III) List of Plant & Machinery to be installed | | | |
| Machine Name :- | Silo Tank, Slurry Pool, Weighing Scale, Pouring Mixture, Block Molds, Cutting machineline, Tilting Crane, Loading Crane, Auto Clave, Ferry Pusher, Rail Track, Loader Truck, Boiler, Air Compressor, Vacuum Pum, RO Plant, Sludge Pump, Production Crane, Coalcrusher, Winch M/c, Header, Tractor with Bull, JCB ect (copy enclosed) | Quantity :- | 50 Nos. Power Requirement :- 400 KVA |
| G(IV) Details of Boilers/Thermic Fluid Heaters/DG Sets to be installed and their capacity, fuel to be used and fuel consumption | | | |
| | Boiler : 6000 Kgs/ Hr 1 No.
Fuel Consumption: 1332 Kg/Hr
Fuel: Agrowaste Briquette | | |
| G(V) Details of hazardous chemicals, chemical name and its Boiling Point (°C), Flash Point (°C) and storage capacity (Tones) at any given time. | | | |
| | NO Hazardous Chemicals will be used. | | |
| G(VII) Detailed manufacturing process (product-wise) including chemical reactions. | | RM - Mixing - Moulding - Drying - Despatch. | |
| G(VIII) Process Flow Chart (product-wise). | | RM - Mixing - Moulding - Drying - Despatch. | |

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| | | |
|---|---|---|
| G(X) Source of waste generation and its quantity | - | As per the the Hazardous And Other Wastes (Management and Transboundary Movement) Rules, 2015 no hazardous wastes will be generate from the process, machinery or any other activity Not Applicable |
| G(X) Quality of effluent generation before and after treatment and discharge point. | - | NO Waste water will generate from the process or any other activity. |
| G(XI) Details of Effluent Treatment Plant including design, blue print and treatment process. | - | NO Waste water will generate from the process or any other activity. |
| G(XII) Details of solid wastes generation (non-hazardous)- type, quantity and method of collection, storage, treatment and disposal. | | |
| Type & Quantity | - | Misc. Scrap - 500 Kg |
| Method of Collection, Storage, Treatment and Disposal | - | Generate Misc. Scrap will be collected manually and store at seperate place, it will be sale out to scrap dealer. |
| G(XIII) Details of stack and the process equipment/machinery to be attached with it and "Air Pollution Control Devises" to be installed including blue print :- | | |
| Adequate Stack heigh is provided to the Boiler with monitoring falicity. Bag Filtter will also be installed (Copy Enclosed) | | |
| G(XIV) Quantity and quality of stack emission before and after treatment :- | | |
| Not Applicable | | |
| (H) Details of hazardous waste generation- type, quantity, physical form, chemical composition and method of collection, storage, treatment and disposal :- | | |
| As per the the Hazardous And Other Wastes (Management and Transboundary Movement) Rules, 2015 no hazardous wastes will be generate from the process, machinery or any other activity. Not Applicable Not Applicable | | |

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Annexure - R-9

RESUBMITTED APPLN 25/2/2019 (VII)

2/25/2019

SINGLE WINDOW SYSTEM (SWIFT)

DEPARTMENT : MS PCC

Department Copy

SINGLE WINDOW

**DIRECTORATE OF INDUSTRIES
DADRA & NAGAR HAVELI, SILVASSA**

NAME : PLATINUM AAC BLOCK PVT LTD

CATEGORY : SSI

ADDRESS : SRV NO.19/1 KHERDI
KHERDI UT OF D&NH

DATE : Monday, February 25, 2019

ACK. NO.: 23

PRODUCT : OLD ACK NO.8029

| | Date Of
Application | Due Date | Dept. Reply
Dates & Status | Appln.
Type |
|-----------------------------|------------------------|------------|-------------------------------|----------------|
| Consent To Est. a Unit | 25/02/2019 | 06/03/2019 | | |
| Construction Permission | | | | |
| Sales Tax Registration | | | | |
| Prov. SSI. Loc. Clearance | | | | |
| Permanent SSI Regn. | | | | |
| General Clearance | | | | |
| Perm. To Instl. DG Set | | | | |
| Perm. To Use DG Set | | | | |
| Rel. Of Temp. Connection | | | | |
| Rel. of Power (Interim) | | | | |
| Rel. of Power (Final) | | | | |
| Licence / Factory Act | | | | |
| Occupancy Certificate | | | | |
| Approval of Layout | | | | |
| Certif. of Layout Plan | | | | |
| Consent to Est. DG Set | | | | |
| Consent to Opr. DG Set | | | | |
| Renwl. to Opr. a DG Set | | | | |
| Consent to Opr. a Unit | | | | |
| Renwl. to Opr. a Unit | | | | |
| Change in Own / Cons / Unit | | | | |
| Expn. & Addl. Pwr. for Unit | | | | |
| Shift Unit / Addl. Place | | | | |
| Trn. of Lease / Subletting | | | | |
| Fin. Tr. Order Govt. Plot | | | | |
| Sube. Licence | | | | |

POLUTION CONTROL COMMITTEE

CHIEF, PCC

DADRA & NAGAR HAVELI

SILVASSA

1753

26/02/19

2198

06/03/19

Signature Computer Data Entry Operator (SWIFT)

T.C.

2 NEED OF ASH UTILISATION

2.1 PROBLEM STATEMENT

India is the third largest producer of coal and coal based thermal power plant installations in India contribute about 70% of the total installed capacity for power generation. However, the bituminous and sub-bituminous coals used contain over 40% ash content. Coal fly ash is an industrial waste generated from coal combustion process in thermal power plants. It is a fly ash, a coal combustion residue having a complex heterogeneous mixture of amorphous and crystalline phases and is generally fine powdered ferro aluminosilicate material with Al, Ca, Mg, Fe, Na and Si as the predominant elements. The coal fly ash also contains significant amounts of toxic metals such as As, Ba, Hg, Cr, Ni, V, Pb, Zn and Se characteristically enriched in coal fly ash particles.

The coal fly ashes occupy more space in the premises of industrial plants and are mixed with water to discharge into fly ash settling ponds or landfills. Large quantities of coal fly ashes are stored in the form of waste heaps or deposits, whose contamination poses a serious threat to the environment as a major source of inorganic pollution. The behaviour of many metal pollutants and the release of such metals during storage can have deleterious effects on the environment as well as on human health. Metals present in the ashes are originated from the composition of the coal used in combustion, combustion conditions, removal efficiency of air pollution control device and method of coal fly ash disposal.

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2.2 IMPACT ON NATURAL ECOSYSTEM

Heavy metals like arsenic, lead, nickel, cobalt, chromium, boron and antimony found in fly ash are hazardous for living organisms. These elements can potentially be released to the soil, surface water, and groundwater by leaching processes also affecting the vegetation. The leaching potential of ash ponds is higher due to diurnal and seasonal variations in temperature, moisture and other parameters. Studies indicate that leachability of cationic metals such as cadmium, chromium, zinc, lead, mercury, and silver increases with decreasing pH or acidic conditions. Bio-accumulation of heavy metals in plants lead to increased elemental composition eventually entering the food chain. An investigation of fly ash contaminated areas in Uttar Pradesh, India showed the bio-accumulation of heavy metals like Fe, Zn, Cu, Mo, B, Si, Al, Cr, Pb, Cd, Hg and As in

native aquatic, terrestrial and algal species in the vicinity.

Leachate from fly ash dumpsites has genotoxic potential and may lead to adverse effects on vegetation and on the health of exposed human populations. A study on the mutagenicity and genotoxicity effects of fly ash leachate showed predominance of the metals like sodium, silicon, potassium, calcium, magnesium, iron, manganese, zinc, and sulphate. The Ames Salmonella mutagenicity assay conducted on two-tester strains and genotoxicity assay on fly ash leachate carried in vitro on human blood cells and in vivo on Nicotiana plants indicated that the leachate was directly mutagenic and resulted in DNA damage in whole blood cells, lymphocytes, and in Nicotiana plants.



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2.3 EFFLUENT AND DISPOSAL

Disposal and management of fly ash is a major problem in coal-fired thermal power plants. Fly ash emissions from a variety of coal combustion units show a wide range of composition. All elements below atomic number 92 are present in coal ash. A 500 MW thermal power plant releases 200 MT SO₂, 70T NO₂ and 500T fly ash approximately every day. Particulate matter (PM) considered as a source of air pollution constitutes fly ash. The fine particles of fly ash reach the pulmonary region of the lungs and remain there for long periods of time; they behave like cumulative poisons. The submicron particles enter deeper into the lungs and are deposited on the alveolar walls where the metals could be transferred to the blood plasma across the cell membrane. The residual particles being silica (40-73%) cause silicosis.

All the heavy metals (Ni, Cd, Sb, As, Cr, Pb, etc.) generally found in fly ash are toxic in nature. Fly ash can be disposed off in a dry or wet state. Studies show that wet disposal of this waste does not protect the environment from migration of metal into the soil. Heavy metals cannot be degraded biologically into harmless products like other organic waste. Studies also show that coal ash satisfies the criteria for landfill disposal, according to the Environmental Agency of Japan. According to the hazardous waste management and handling rule of 1989, fly ash is considered as non-hazardous. With the present practice of fly-ash disposal in ash ponds (generally in the form of slurry), the total land required for ash disposal would be about 82,200 Ha by the year 2020 at an estimated 0.6 Ha per MW. Fly ash can be treated as a by-product rather than waste.

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3 ABOUT FLY ASH

Fly ash is the coal combustion residue generated from the coal based thermal power plant. From last three decades, the demand for electricity is increasing continuously due to increase in population and industries. Hence requirement of energy also increased. A lot of pressure on a coal based thermal power plant to generate more energy and the amount of fly ash is also increased which creates the problem to our environment because fly ash contains large number of heavy metals. Fly ash can be utilized as resources materials in numerous applications.

Fly ash is a by-product of coal-based thermal power plants. A huge quantity of fly ash generated at coal based thermal power plant if not managed pollutes the air, water and soil but fly ash is also useful resource material.

3.1 FLY ASH CLASSIFICATION

Depending upon the type of coal from which the fly ash is generated the composition of the fly ash is given in below Table :-

| Component | Bituminous | Sub-bituminous | Lignite |
|--------------------------------|------------|----------------|---------|
| SiO ₂ | 20 - 60 | 40 - 60 | 15 - 45 |
| Al ₂ O ₃ | 5 - 35 | 20 - 30 | 10 - 25 |
| Fe ₂ O ₃ | 10 - 40 | 4 - 10 | 4 - 15 |
| CaO | 1 - 12 | 5 - 30 | 15 - 40 |
| MgO | 0 - 5 | 1 - 6 | 3 - 10 |
| SO ₃ | 0 - 4 | 0 - 2 | 0 - 10 |
| Na ₂ O | 0 - 4 | 0 - 2 | 0 - 6 |
| K ₂ O | 0 - 3 | 0 - 4 | 0 - 4 |
| LOI | 0 - 15 | 0 - 3 | 0 - 5 |

Variability of the chemical and physical properties of fly ash depends on several factors such as coal type and source, type of boiler, conditions during combustion, type of emission control devices, and storage and handling methods. Changes in any of these factors affect the characteristics of the fly ash, and its engineering properties. Coal type is one of the factors having the greatest effect

(CaO) increases the pozzolanic activity of the fly ash increases (Meyers et al. 1976).

on the fly ash characteristics. In general as the amounts SiO₂, Al₂O₃ and free lime

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3.3 POND ASH

The pond ash is a waste product from boilers, where the coal is burnt to heat the water for preparing the steam, which is a common process in most of coal based thermal power plants. It is mainly obtained from the wet disposal of fly ash. The fly ash gets mixed with bottom ash and disposed of in large pond or dykes as slurry. It is also termed as ponded fly ash and contains relatively coarse particles. The large areas of land are used to store such a mixture of pond ash resulting in land degradation near the thermal power plants. As the pond ash is being produced at an alarming rate, hence the efforts are required to safely dispose it and if possible find ways of utilizing it. In the pond ash the dissolvable alkalis present are washed with water. The metal oxides, sulphur, siliceous & aluminous materials with less pozzolanic properties than fly ash, are some main constituents of pond ash. These ash produced, if disposed of unscientifically, can cause environmental risks i.e. air pollution, surface water and groundwater pollution.

and thus its safe disposal is indispensable. In fact, the pond ash is a mixture of fly ash and bottom ash. The main difference between pond ash and fly ash is in their particle size. The pond ash being coarser and less pozzolanic and hence is not being accepted as pozzolana. Thermal power plants use Electrostatic Static Precipitators (ESP) for arresting ash from flue gas generated after combustion of coal. Usually there is a series of ESP's in a thermal power plant. Ash coming out from

those at the beginning of this series has larger particle size (in microns) and higher amount of Loss of Ignition (LoI - non-burnt coal particles). Since quantity of this peculiar ash is much higher compared to that coming out at the end of ESP series, storing this ash becomes a problem. In order to store and transport it, this ash is mixed with water and sent away to ponds. Hence the name 'Pond Ash'. Ash that comes out of ESP's near the end of the series is very fine, has lower LoI and is called as 'Fly Ash' or 'Pulverized Fuel Ash' (PFA). This ash can't be stored in open and needs to be stored in structures called 'Silo'.

Fly ash is usually consumed by cement plants in order to produce Portland Pozzolana Cement (PPC) by blending it with Ordinary Portland Cement (OPC). Although there is difference between pond ash and fly ash in terms of particle size and LoI, common factor is Silica (SiO_2) content. SiO_2 level is almost similar in both kinds of ash generated from same power plant. Pond ash freshly dumped into a pond. There is a huge disparity between cost of pond ash and fly ash. E.g. Most thermal power plants provide pond ash for free while they charge anywhere around Rs. 200-600/ton for fly ash. After adding transportation component, onsite price for pond ash comes to around Rs. 300-500/ton while that of fly ash would range between Rs. 500-1100/ton. Due to this huge difference it is not hard to identify what would be the raw material of choice for most AAC block factories.

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Some of the physical properties of pond ash are described in Table

| Sr. No. | Properties | Pond Ash |
|---------|---|-----------------------|
| 1 | Lime Reactivity of Pond ash | 0.66 |
| 2 | Specific Gravity | 2.16 |
| 3 | Bulk density in Loose State | 824 Kg/m ³ |
| 4 | Bulk density in Compacted State | 990 kg/m ³ |
| 5 | Atterberg's Limits Liquid Limits percentage | 47.3 |
| 6 | Grain size distribution | |
| | Sand % | 72 |
| | Silt % | 28 |
| | Clay % | Nil |
| 7 | IS Classification | SP-SM |

Chemical composition of Fly ash & Pond Ash

| Constituent | Fly ash (%) | Pond ash (%) |
|--|-------------|--------------|
| Silica (SiO ₂) | 49-67 | 67.40 |
| Alumina (Al ₂ O ₃) | 16-29 | 19.44 |
| Iron Oxide (Fe ₂ O ₃) | 4-10 | 8.5 |
| Calcium Oxide (CaO) | 1-4 | 2.7 |
| Magnesium Oxide (MgO) | 0.2-2 | 0.45 |
| Sulphur (SO ₃) | 0.1-2 | 0.30 |
| Loss of Ignition | 0.5-3 | 3.46 |

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12 PROJECT DETAILS

12.1 ABOUT THE PROPOSED PROJECT

The Company will undertake manufacturing of Autoclaved Aerated Concrete Blocks popularly known as Fly Ash Blocks/Bricks. The company acquired land, constructed building and acquired plant & machinery including key machines from China and installed it. Fortunately, they have find a plot of land and a ready building constructed thereon which was suitable for the project which they have acquired on a 10 years lease initially and have installed machinery, completed the required civil works like water tanks silos and foundation of machineries, shifted the machineries to the site and are in the process of installing them to make them ready for production.

12.1.1 MANUFACTURING FACILITIES

Site Location : The company has acquired a plot of land with a ready construction at Sr. No. 19/1 Village - Kherdi, Dadra & Nagar Haveli (DNH) ad measuring 23950 Sq Mtrs along with a built up shed ad measuring 4110 Sq Mtrs on ground floor and 695 Sq Mtrs on first floor, a lease of initial period of 10 years w.e.f. 01.03.2017 as per a lease deed registered on 21st October 2016, the lease rent payable is Rs 5.50 lakh per month. Bank must take suitable steps for protecting interest while creating charge on the Plant & Machineries and Stock on leased premises.

The building is suitable and adequate for the proposed activities and for a minor expansion. The land & building was purchase by the owners in a public auction form DRT -1 Delhi.

12.1.2 LOCATIONAL ADVANTAGES

The main advantages of the unit would be exemption in Excise duty and lower power tariff. The main raw material i.e. the fly ash would be available from the Dahanu Power Plant of Reliance which is about 60-70 Kms from the site. The power plants always have the problem of disposal of fly ash and are quite willing to offer it free. However, the transportation cost of fly ash is higher because of the handling problems due to its light weight. The company has entered into a contract with a transporter who is ready to supply (Lifting & transportation) of fly ash @ Rs 650/ Per MT.

| | | |
|---------------|-----------------------------------|---------------|
| Plant Address | S. No. 19/1, Village Kherdi, D&NH | |
| Area | 23950 Sq Mtrs. | |
| Boundaries | North | S. No 27 & 28 |

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PLATINUM AAC BLOCKS PVT LTD (PABPL)

C/205

Of the property South S. No 19/2 and road
 East S. No 17/1 & 17/2
 West S. No 19/2, 24/1 & 26
 Status of land Lease Hold industrial use

12.1.3 EXISTING BUILDINGS & STRUCTURES

The plant is having shed for installation of the block making plant other machineries. The details of existing structures are as under the shed is having RCC frame structure, Open shed GI sheet roofing, . It is suitable for the proposed activities

Ground Floor : Industrial shed admeasuring 4110 M2 in which all the activities like the storage of raw materials, production and storage of finished blocs can be carried out without any difficulty.

First Floor : 695 M2- This area can be utilised by the company for their office etc. Even the packing material can also be stored on First floor.

The company has already gone ahead with the construction of silos and foundations for machinery which have been completed

Plant Layout The plant layout has been designed in a manner ensuring that material handling would be minimum leading to higher productivity.

All the utility facilities like boiler chimney have reached the site and as soon as the foundations are ready, they would be erected tested and commissioned.

12.1.4 RAW MATERIALS

The various raw materials required are Fly Ash, Portland cement, Lime Gypsum or plaster of Paris, and lubricant. The quantity of each per cu mtr of block is as under

| Sr NO | Raw Material | Unit of Measure | Qty. Per Cu.m. | Rate | Cost (Rs) |
|-------|------------------|-----------------|----------------|---------|-----------|
| 1 | Fly ash | Kg | 350 | 650.00 | 227.50 |
| 2 | Lime | Kg | 50 | 5250.00 | 262.50 |
| 3 | Cement | Kg | 150 | 4300.00 | 645.00 |
| 4 | Plaster of Paris | Kg | 7 | 4.60 | 32.20 |
| 5 | Soluble Oil | Ltr | 0.70 | 35.00 | 24.50 |

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PLATINUM AAC BLOCKS PVT LTD (PABPL)

| | | | | | |
|---|-----------------|----|----|--------|---------|
| 6 | Aluminum Powder | Kg | 4 | 230.00 | 92.00 |
| | TOTAL | | | | 1283.70 |
| | Yield | | 96 | | |
| | Cost per Cu.m. | | | | 1337.19 |

C/283

12.1.4.1 INPUT OUTPUT RATIO

While estimating the quantum of raw material required, a yield of 96% or a 4 % process loss/rejection has been considered. Therefore, the cost of Raw materials per M³ would go up to Rs 1337.19 The cost of raw materials works out to 54.80% of sale value which is in line with the industry norms.

12.1.4.2 CONSUMABLES

The consumables required are the lubricating oil which are applied to the mould box so that material does not stick to the mould box. Its cost has been added in the raw material cost considered above. As stated earlier the fly ash is easily available from the Dahanu Thermal Power Plant of Reliance. The company has already entered into a contract with the transporter. All other raw materials are available from open market easily. Therefore, the company will not face any difficulty in getting adequate quantities at the prices considered.

12.2 UTILITIES

12.2.1 POWER

The Company is sourcing the power supply from Local Electricity Board. It has a sanction of 275 KVA power for the plant. As power is easily available in the UT of D & NH and at lower cost than the adjoining states, no difficulty is envisaged in getting adequate power. Since the process is continuous type, any power stoppage, even for 15 minutes, may cause a loss of entire batch. Hence the company has acquired a DG set of 320 KVA for emergency use.

12.2.2 WATER

The water requirement for the project is for the mixing purpose as well as for the boiler. The water is being availed from a bore well existing at the premises from which all year round supply is available.

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PLATINUM AAC BLOCKS PVT LTD (PABPL)

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12.2.3 FUEL

The fuel required for the boiler will be coal which is easily available from traders in Vapi or Mumbai. Requirement of coal is estimated at 50 Kg/M³ of block. Therefore at this installed capacity of 150000 M³ the annual requirement will be 750 MTPA. The rate considered is Rs 4600/- PMT which is reasonable.

12.2.4 ENVIRONMENT MANAGEMENT

The Company will be taking all the necessary safety measures regarding the environment to minimize pollution.

The approvals related to the environment will be ensured. The Company have to obtain Consent to operate from the Local Pollution Control Board for the project for its capacity of 150000 M³ before commencing production. The Bank should ensure this compliance before agreeing to the loan restructuring proposal. In fact, by using the fly ash, it is helping in pollution reduction.

12.2.5 MANPOWER REQUIREMENT

Overall the company would employ work force as under

| MANPOWER | | | | | | | |
|--------------------------------|--------------------------|-----------|-----------|------------|------------|------------|------------|
| Category | Manpower Strength in Nos | | | | | | |
| | FY 19-20 | FY 20-21 | FY 21-22 | FY 22-23 | FY 23-24 | FY 24-25 | FY 25-26 |
| Production Manpower | | | | | | | |
| Chemist | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Production Supervisor | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Production Workers | 65 | 75 | 90 | 105 | 120 | 140 | 143 |
| Electrician | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mechanic | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Forklift Operator 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Non-Production Manpower | | | | | | | |
| General Manager | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Sales Manager | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Administrative Staff | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Total | 73 | 83 | 98 | 113 | 128 | 148 | 151 |

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PLATINUM AAC BLOCKS PVT LTD (PABPL)

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Industrial utilities are available at the site. Plant is located just behind Reliance Power limited manufacturing unit to produce wind power towers.

This location offers below advantages.

- Power is available @ 6.50 per unit which is cheaper compared to other states.
- Close proximity to Major cities like Mumbai, Vapi, Surat, where major development takes place.
- Markets of western India as well of rest of India can be catered due to ready Rail and Road Network. Mumbai and Surat are major railway stations from the new location.
- Proximity to GIDC Vapi and Thane area ensures easy availability of Technical, Skilled and unskilled manpower.

The project is for manufacture of wide range of AAC Blocks.

Main ingredient of AAC blocks is fly ash. Plant location is near to Adani's Dahanu Thermal Power Station, Ukai Thermal Power Station, Dhuvaran Thermal Power Station which are near to the proposed project. The company has to arrange for transportation of the fly ash. Moreover, there are no taxes / royalty on fly ash. Due to which it is easier for client to procure main raw material i.e. fly ash at only transportation cost.

Power requirement are well tied up with DGVCL with 275 KVA at New location situated at R. S. No.19/1, Situated at Village - Kherdi, U.T.of Dadra & Nagar Haveli and whereas water is available at Plant site through borewells.

The manufacturing process selected for proposed location is well proven and established for production of the planned output.

Presently, Shifting and Installations of machineries is underway. It is estimated that the production will commence from the month of June 2019.

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Annexure -R-11

N/A

M/s. Platinum AAC Block P. Ltd., Sr.no. 19/1, Village Kherdi, Silvassa

Inspection Report:

As per verbal instructions of Chairman, Sir given on 19.4.2019 the site location Site location of M/ Platinum AAC Block P. Ltd., Sr.no. 19/1, Village Kherdi, Silvassa was inspected on 25.4.2019 in the presence of Mr. Bhavin Patel, Manager of the project and unit. At the time of inspection of the unit the following observations were noted:

| Check List for Inspection | Observations | | |
|--|--|----------|--|
| Status of Unit present at the site | Unit was established at the site and installed with all the plant and machinery and fully operational without obtaining Consent to Establish/Operate/Renewal under Water and Air act though application was rejected twice vide this office letter dated 19/6/2017 and | | |
| Environmental display sign board properly filled with product and waste generation details | Environmental display sign board filled with product and waste generation details was not provided. | | |
| Whether, unit was in operation at the time of inspection? | Yes, unit was operational. | | |
| Whether manufacturing activities were going on? | Yes, manufacturing activities were observed. | | |
| Details of raw materials observed during the time of inspection. | During inspection it was informed and also observed that raw material such as Ash 550 Tons(5,50,000 Kgs), Lime powder- 72 Tons(72000 kgs) Cement-32 Tons(32000 kgs), Aluminium powder 500 kgs to 1000 kgs) Was lying in and around the premises compound. | | |
| Details of machineries installed in the industrial premises. | Water requirement 1.25 Lakhs liters/day | | |
| | Machine | Quantity | Total Capacity |
| | Slurry tanks | 2 nos. | 50 M3 |
| | Slurry pool | 4 nos. | 10 M3 |
| | Cement and slurry weighing scale | 2 nos. | -- |
| | Pouring mixture | 1 no. | -- |
| | Block mould | 24 nos. | 3.05 M3 |
| | Cutting m/c line | 2 nos. | -- |
| | Tilting crane | 1 no. | -- |
| | Loading crane | 1 no. | -- |
| | Autoclave | 7 nos | 400 C3M
12 hours shift. |
| | Mould Pusher Device | 5 nos. | -- |
| | Rail track | | 1224 Meters |
| | Loader Track | -- | -- |
| | Boiler | 1 no. | 6 Lakh K.Cal/hr. using
Briquette fuel |
| | Air compressor | 1 | 9 kg/Cm2 |
| | Vacuum pump | 1 | 20 kg/Cm2 |
| | R.O plant | 1 | 6000 Lts/hr |
| | Sludge pump | 5 nos. | With motor capacity 11 |

| | | | | |
|---|--|-----------|--------------|----------|
| Products being manufactured during the time of inspection. | Autoclaved Aerated Concrete block- 2,50,000 CM ³ per annum. | | | |
| Mode of disposal for generated domestic wastewater. | Septic tank & Soak pit | | | |
| Mode of disposal for generated effluent from industrial activity. | <ol style="list-style-type: none"> 1. Water is used to form slurry during mixing of raw material which is tapped from bore well. The total water proposed to be used is 1.25 Lakhs liters/day. 2. Effluent is generated before curing the products and also during mixing of material to form slurry. 3. ETP was proposed in the list of machinery, but the unit was in operation without providing any treatment plant. | | | |
| Details of any emission causing installation/process in industrial premises. | Installation/ Process | Fuel | Stack Height | Acoustic |
| | One Boiler – 6 L.K.Cal/hr with filter bag | Briquette | 30 meters | N. A. |
| | One D.G. Set – 550 KVA | Diesel | 9 Meter | Provided |
| Housekeeping observed in industrial premises. | Very poor | | | |
| Adequacy of facilities for collection, storage, packaging, transportation, treatment, recycling, pre-processing, utilization or disposal of H & O Wastes. | The waste or rejected products, used oil etc are not stored in pre designated place. | | | |
| Number of employee working in industrial premises. | 60 | | | |
| Any other observations, if any. | <ol style="list-style-type: none"> 1. Unit was informed that the application is not considered and was rejected vide dated 19.6.2017. 2. Unit was in operation without obtaining CTE under Water and Air act. 3. The raw material mainly fly ash was present spreaded all over in the open ground of the premises in large quantity. 4. Photographs of the plant are placed in file below for kind perusal please. | | | |

The details of application of M/s. Platinum AAC Block P. Ltd., are as under;

| | |
|--|---|
| Name of the unit | M/s. Platinum AAC Block P. Ltd., |
| Address | Sr.no. 19/1, Village Kherdi, Silvassa |
| Area | Kherdi |
| Category as per 9.10.2015 PCC notification | <ol style="list-style-type: none"> 1. The product proposed are: ie. AAC (Autoclaved Aerated Concrete) - 2,50,000 CM³ per annum. It is not mentioned in the notification dated 9/10/2015. 2. During scrutiny and processing of the application it is observed that the activity will attract Category-I at Sr. no.25 (i.e. Flyash export, transport and disposal facilities). |
| Status of earlier application | |

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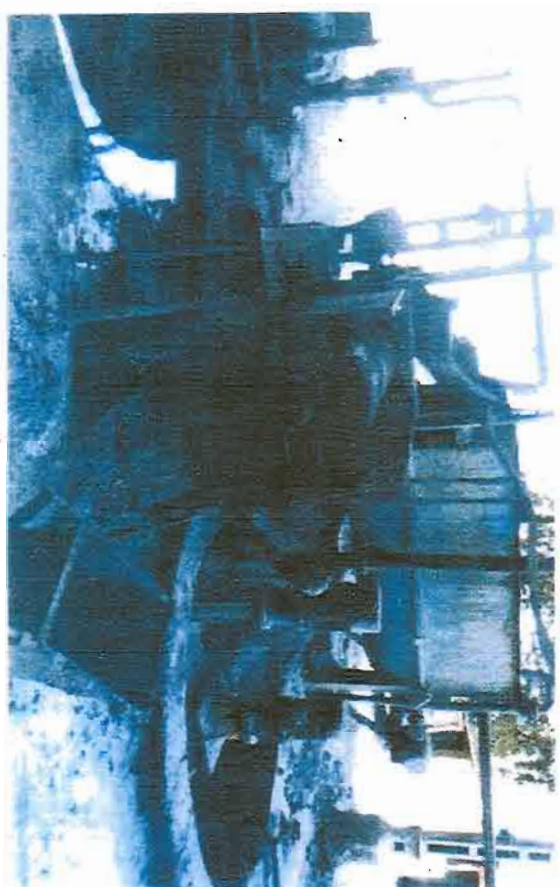
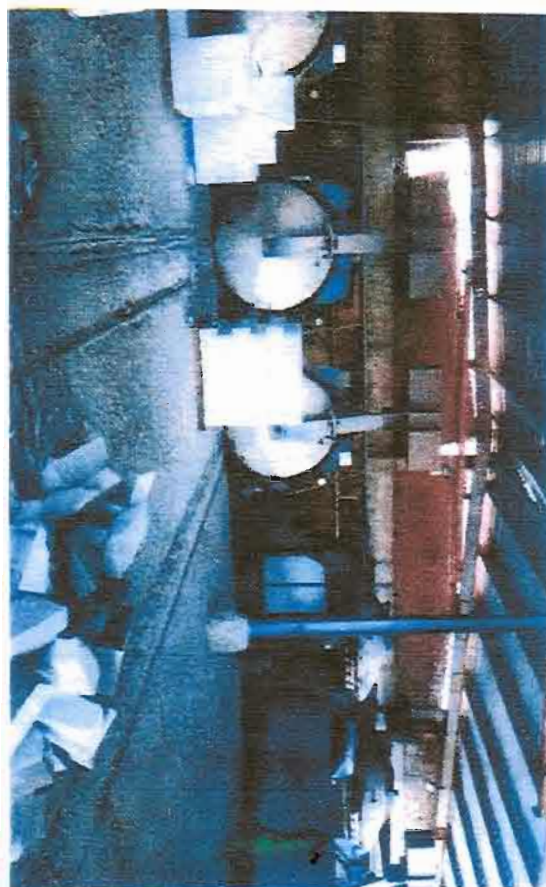

Description of the unit.

The following observations were made during inspection of the site location;

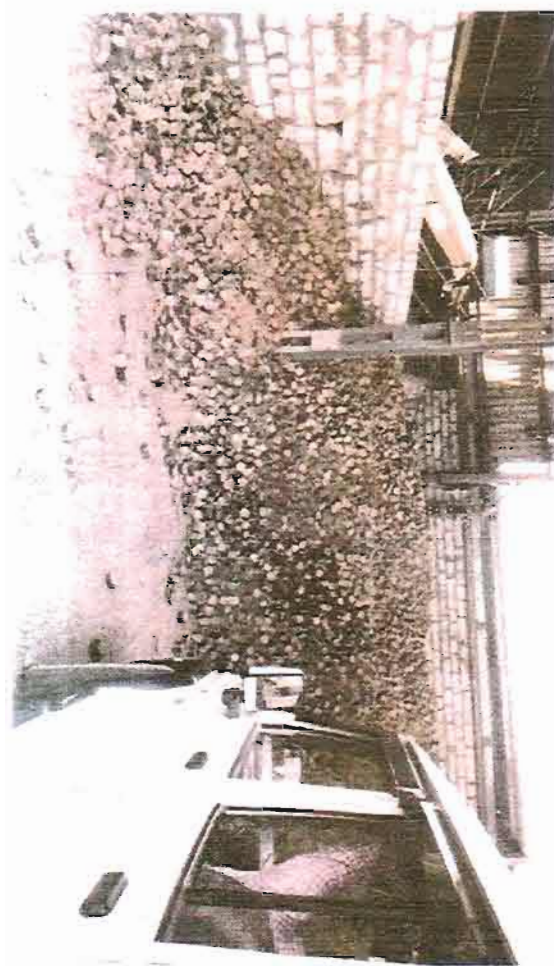
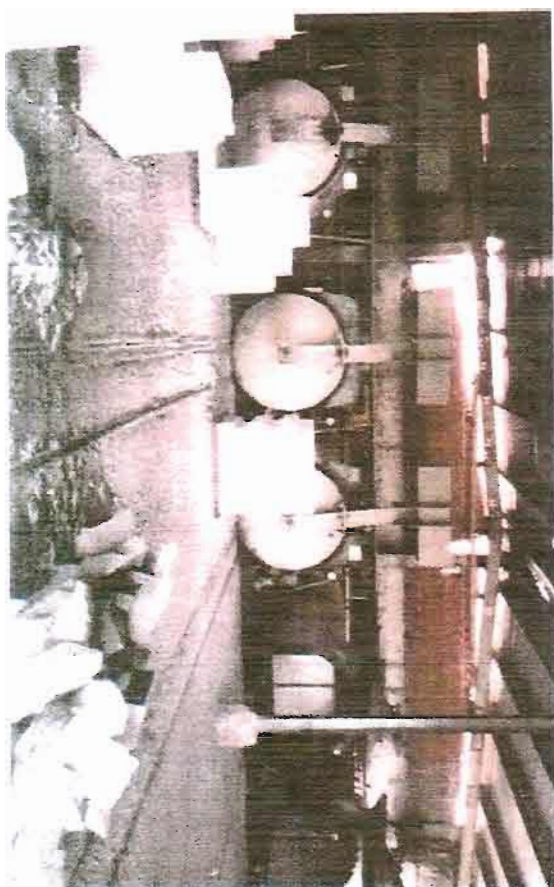
- Unit established at the site with all plant and machineries and was fully operational without obtaining prior Consent to Establish/ Operate under Water (Prevention and Control of Pollution) Act 1974 and Air (Prevention and Control of Pollution) Act 1981.
- Unit was established in total area of 23950 Sq. M, with built up shed area of 4110 Sq. M on ground floor and 695 Sq. M in first floor. The unit was having the manufacturing capacity of 2,50,000 cubic meters of AAC Blocks/year.
- The unit is established in the human habitation predominantly having tribal population.
- Raw materials such as Fly Ash 550 Tons (5,50,000 Kgs), Lime powder- 72 Tons (72000 kgs), Cement-32 Tons (32000 kgs), Aluminum powder 500 kgs to 1000 kgs) was lying in the unit premises.
- The following plant and machineries were installed viz. Machine-2 nos. Slurry tanks-- 50 M3 capacity, Slurry pool-4 nos. (10 M3 capacity), Cement and slurry weighing scale- 2 nos, Pouring mixture - 1 no., Block mould- 24 nos. (3.05 M3), Cutting m/c line-2 nos., Tilting crane- 1 no., Loading crane- 1 no., Autoclave- 7 nos., (400 Cubic M each and run for 3 shifts), Mould Pusher Device - 5 nos., Rail track—1224 meters, Loader Track, Boiler- 5 T/hour using Briquette fuel, Air compressor- 1 no. 9 kg/Cm2, Vacuum pump-1 no. 20 kg/Cm2, R.O. Plant- 1 no. 6000 ltrs/hr, sludge pump- 5 nos., with motor capacity 18 KW, winch m/c- 2 nos. 60 MTrs., D.G. set- 550 KVA- 1 no. using diesel fuel without any consent to establish.
- Manufacturing process was going on which involved Raw materials (mixing of Fly ash/Limestone powder/Cement/Gypsum/ Plaster of paris/Aluminium powder/paste) —dosing and mixing – casting rising and procuring- demoulding and cutting.
- Water was used to form slurry during mixing of raw material which was tapped from bore well. Three bore wells were dug out and ground water was extracted used for operations. The total quantum of water used in the manufacturing process was about 1.25 Lakhs liters/day.
- Effluent was generated before curing the products and also during mixing of material to form slurry.
- ETP was proposed in the list of machinery, but the unit was in operation without any Effluent Treatment Plant.
- The waste or rejected products, used oil, etc., were not stored at proper designated place.

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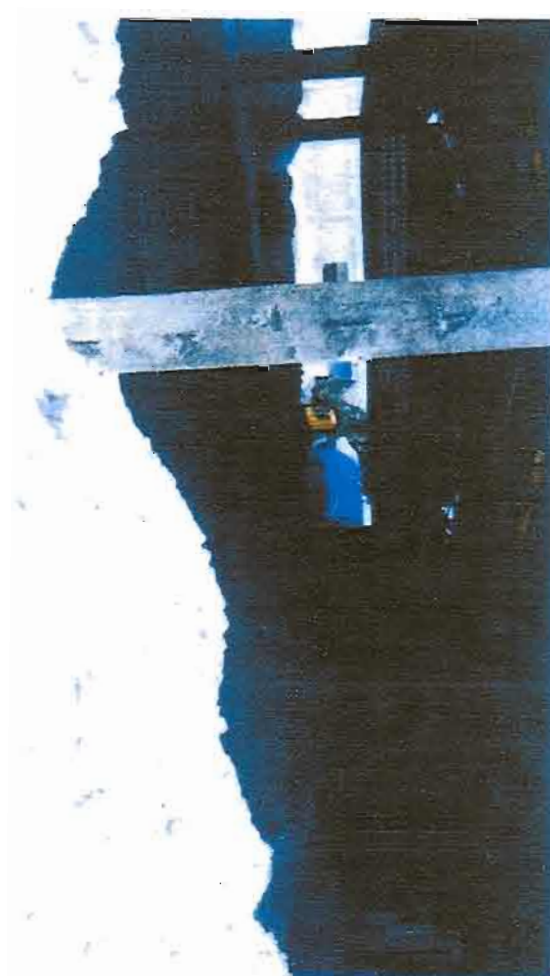






Unit 1000 - 2000 - 1000 - 1000





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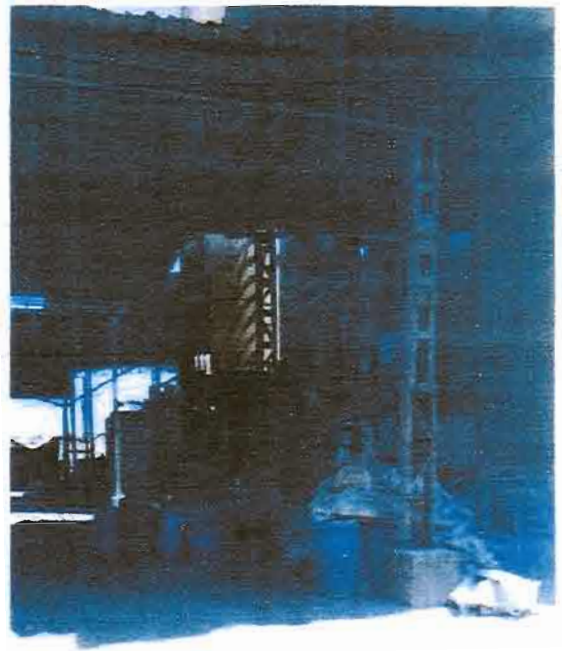


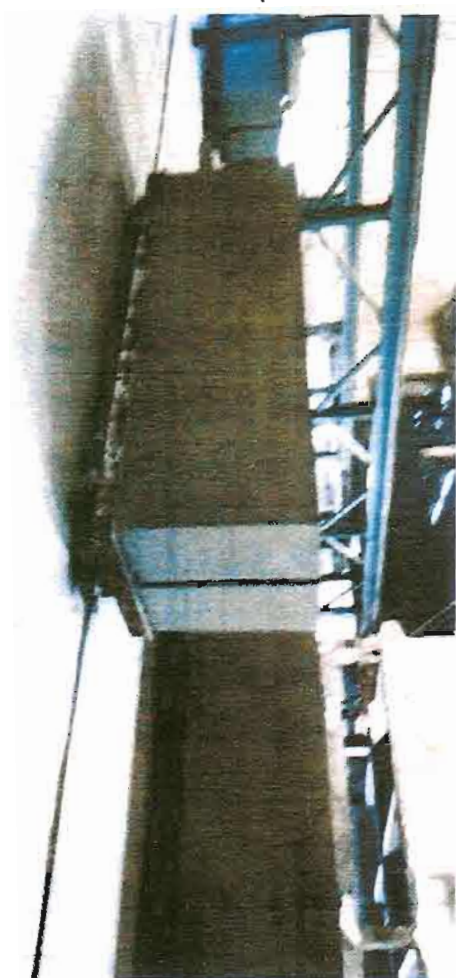


Light 1111 M111111



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Fly Ash Stored in Platinum AAC Blocks premises at Kherdi





Fly Ash spread in the unit premises and source of mixing in the air





Possibilities of vehicle tyres carrying the fly ash and its spread



Flyash dumped in open areas source of fugitive emission



Fugitive emission of Flyash



Leachate of flyash



AAC Blocks



Leaching of flyash



Potential ground water contamination





Unloading of Fly Ash



Leachate of fly ash



Flyash dust



Plant & Machinery in Platinum AAC block



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AAC blocks out from Autoclave



AAC Blocks

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Annexure - P-13

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U.T. ADMINISTRATION OF Dadra & Nagar Haveli
DNH Power Distribution Corporation Limited -
SILVASSA
North Zone 1
SAMAY SUDHINI SEVA
New Industrial High Tension Connection

Application No. : 2000920160000018

Mobile Number : 9375936584

**Sub Service Name : New Industrial High Tension
Connection**

Applicant Name : Platinum AAC Blocks P Ltd.,

Applicant Address : Survey No 19/1, Village Kherdi

Date Of Application : 07-12-2016

Disposal Days : 30

Due Date : 12-01-2017

Receipt Generated nimisha.patel on 2016-12-07

By : 11:47:27

**Powered By : National Informatics Centre - DD &
DNH**

**To Know Your Application Status Visit :
www.daman.nic.in/status**

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9/12/16

DEPARTMENT :ELECTRIC DEPT

Department Copy

SINGLE WINDOW

DIRECTORATE OF INDUSTRIES
DADRA & NAGAR HAVELI, SILVASSA

NAME : PLATINIUM ACC BLOCKS PVT LTD

CATEGORY : MSLIPC/36

DATE:Tuesday, December 06, 2016

PRODUCT : ACC BLOCKS

ACK. NO.: 8029

ADDRESS :SRV NO.19/1 VILLAGE KHERDI
KHERDI UT OF D&NH

=====

| | Date Of
Application | Due Date | Dept. Reply
Dates &
Status | Appln.
Type |
|-------|------------------------|----------|----------------------------------|----------------|
| ===== | | | | |

- Consent To Est. a Unit :
- Construction Permission :
- Sales Tax Registration :
- Prov. SSI. Loc. Clearance :
- Permanent SSI Regn. :
- General Clearance :
- Perm. To Instl. DG Set :
- Perm. To Use DG Set :
- Rel. Of Temp. Connection : 06/12/2016 27/12/2016
- Rel. of Power(Interim) : 06/12/2016 10/01/2017
- Rel. of Power(Final) :
- Licence / Factory Act :
- Occupacy Certificate :
- Approval of Layout :
- Certif. of Layout Plan :
- Consent to Est. DG Set :
- Consent to Opr. DG Set :
- Renwl. to Opr. a DG Set :
- Consent to Opr. a Unit :
- Renwl. to Opr. a Unit :
- Change in Own / Cons / Unit :
- Expn. &Addl. Pwr. for Unit :
- Shift Unit / Addl. Place :
- Trn. of Lease / Subletting :
- Fin. Tr. Order Govt. Plot :
- Lube Licence :

Query From Deartment :



(A Government Undertaking)

SIN LAB REPORT 09/20/2017

Dtd. 18/06/2017.

“बिजली की बचत ही बिजली का उत्पादन है। ENERGY IS LIFE, CONSERVE IT.”

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DNH Power Distribution Corporation Limited

(A Government Undertaking)

Dadra & Nagar Haveli, U.T., Silvassa

Corporate Identity Number: U40100DN2012GOI000405

| | | | | | |
|------------------------|-----------------------------------|--------------------|------------|--------------|--------------|
| Service Connection No: | S9/041/ | Bill Date: | 26/07/2017 | Bill No: | 062017000900 |
| Name Of Consumer: | M/S. PLATINUM AAC BLOCKS PVT LTD; | Tariff Applicable: | HTXI | | |
| Address: | SURVEY NO.19/1, VILLAGE - KHERDI | | | | |
| Category: | HT | Due Date: | 10/08/2017 | Month & Year | Jun, 2017 |

| First Meter | | Energy | | | Details of Contract Demand | |
|-------------|------------|--------|-------|-------|-------------------------------------|---------|
| Reading | Date | KWH | KVAH | KVARH | Contract Demand in KVA | 275 |
| Current | 01/07/2017 | 6.19 | 12.06 | 9.01 | 75 % of Contract Demand in KVA | 206 |
| Previous | 12/06/2017 | 2.18 | 2.34 | 0.58 | Average KVA Demand of past 3 months | 0 |
| Difference | | 4.01 | 9.72 | 8.43 | Average KWH Units of past 3 months | 0 |
| MF | | 300 | | | Max Demand Recorded in the months | 0.08600 |
| Total Cons. | | 1203 | 2916 | 2529 | Max Demand Recorded in the month | 26 |

| Second Meter | | Energy | | | Details of Metering Equipments | | |
|-------------------|------|--------|------|-------|--------------------------------|-------------|----------|
| Reading | Date | KWH | KVAH | KVARH | Details | CTPT | Meter |
| Current | | 0.00 | 0.00 | 0.00 | Sr. No. | 5876/1 | SIL73013 |
| Previous | | 0.00 | 0.00 | 0.00 | Make | GAWDE ELECT | SECURE |
| Difference | | 0.00 | 0.00 | 0.00 | Meter Const. | 1 | 1 |
| MF | | 0 | | | CT Ratio | 15/5 A | |
| Total Cons. | | 0 | 0 | 0 | PT Ratio | 100/0 | |
| Total Consumption | | 1203 | 2916 | 2529 | MF | 300 | |
| Power Factor | | 0.41 | | | | | |

| Details Of Bill | | | | Sr | Description | Amount in Rs. |
|-------------------------------|------|--------|-----------|----|-----------------------------------|---------------|
| A. Demand Charges | | | | 1 | Demand Charges | 39,140.00 |
| Billed Demand | KVA | @Rs | Amount | 2 | Energy Charges | 3,909.75 |
| Normal Charges | 206 | 300.00 | 39,140.00 | 3 | PF Charges | 8,609.95 |
| Penalty Charges | 0 | 600.00 | 0.00 | 4 | Total | 51,659.70 |
| | | Total | 39,140.00 | 5 | Meter Rent | 0.00 |
| B. Energy Charges | | | | 6 | FPPCA Charge for HT | 0.00 |
| | KWH | @Rs | Amount | 7 | FPPCA Charge for Domestic | 0.00 |
| All Units | 1203 | 3.25 | 3,909.75 | 8 | Total FPPCA Charge | 0.00 |
| Penalty Charges | 0 | 6.50 | 0.00 | 9 | Open Access Charge | 0.00 |
| Standby Charges/KWH | 0 | 0.00 | 0.00 | 10 | Total Current Bill | 51,659.70 |
| | | Total | 3,909.75 | 11 | Arrears | 0.00 |
| C. PF Charges | | | | 12 | Credit | 0.00 |
| | | | Amount | 13 | Prompt Payment Rebate | 0.00 |
| Power Factor Charges | 0 | | 8,609.95 | 14 | Advance Payment Rebate | 0.00 |
| D. Open Access Charges | | | | 15 | Security Deposit Interest, if any | 0.00 |
| | | @Rs | Amount | 16 | Other Charge | 0.00 |
| Additional Surcharge/KWH | 0 | 0.00 | 0.00 | 17 | Grand Total | 51,659.70 |
| Cross Subsidy Charge/KWH | 0 | 0.00 | 0.00 | 18 | Delay Payment Charges | 1,033.19 |
| Transmission Charge/MW/Day | 0 | 0.00 | 0.00 | 19 | @ 2% on Grand Total* | |
| Reactive Charge | | | 0.00 | 19 | Net Amount | 52,692.89 |
| | | Total | 0.00 | | | |

Amount of Rs. 51,660.00 (Fifty One Thousand Six Hundred Sixty Rupees Only) payable on or before 10/08/2017 and if not paid, an amount of Rs. 52,693.00 shall be recovered which includes delay payment charges also.

Notice: According to Clause No. 56(1) of Indian Electricity Act - 2003 & Clause 9.1 of JERC Supply Code, in case the dues are not paid within 15 days from the date of bill the supply of electricity will cut-off, until such charge or other sum, together with any expenses incurred by DNHPDCL in cutting off and reconnecting the supply, are paid by consumer.

Note:

Remarks:

| Sr No. | Security Deposit Type | Security Deposit Amount Available | Bank Guarantee Expires |
|--------|-----------------------|-----------------------------------|------------------------|
| 1) | Cash | ₹ 0.00 | Amount:- |
| 2) | Fixed Deposit | ₹ 0.00 | ₹ 6,10,000.00 |
| 3) | Bank Guarantee's | ₹ 6,10,000.00 | Expiry Date :- |
| Total | | ₹ 6,10,000.00 | 29-MAY-21 |

Executive Engineer
DNH Power Distribution Corporation Limited
Dadra & Nagar Haveli, U.T.
Silvassa

Regd. Office: Vidyut Bhavan, 66 KV Road, Near Secretariat, Amli, Silvassa - 396230

Tele: (0260) 2406500 | TeleFax: (0260) 2642338 | Fax: (0260) 2406502 | Email: support@dnhpdcl.in | Website: www.dnhpdcl.in

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Annexure - R-14

No. PCC/DDD/O-2764/WA/AA/KD/16-17/124
Pollution Control Committee,
DD & DNH,
Daman.

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Date: - 03/05/19.

Direction under Section 33-(A) of the Water (Prevention and Control of Pollution) Act, 1974 and Section 31-(A) of the Air (Prevention and Control of Pollution) Act, 1981.

WHEREAS the site location of M/s. Platinum AAC Block P. Ltd., Situated at Sr.no. 19/1, Village Kherdi, Silvassa, UT of DNH was inspected by the PCC official on 25.4.2019 in the presence of Mr. Bhavin Patel, Manager of the project and it was observed that your unit is engaged in manufacturing of " AAC (Autoclaved Aerated Concrete) blocks-2,50,000 CM3 per annum " from Fly Ash which is brought by transport from Thermal Power Plant without obtaining any Consent to Establish/Operate from the PCC.

AND WHEREAS an application submitted vide dated 20/12/2017 for the above mentioned proposed products was issued letter by this office vide no.PCC/DDD/O-2764/WA/AA/KD/16-17/316 dated 19/6/2017 that the application is not considered and is rejected as mentioned below :

- (i) The transport of Fly Ash is under Category-I, at sr. no.25 ie. Fly ash export, transport and disposal facilities.
- (ii) The boiler proposed earlier was also for 5 TPH steam generating capacity using coal /lignite fired boiler which is under category-I.

AND WHEREAS again an application dated 25/2/2019 made through SWIFT was received in the office of Pollution Control Committee on 6/3/2019 for the same above mentioned application.

AND WHEREAS carrying out industrial activities which is not permissible and operating without obtaining Consent to Establish or Consent to Operate are gross violations of Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 and Section 21 of the Air (Prevention and Control of Pollution) Act, 1981.

NOW THEREFORE, it is to conclude that you have grossly violated the provisions under Section 25 of Water (Prevention and Control of Pollution) Act, 1974 and Section 21 of the Air (Prevention and Control of Pollution) Act, 1981. In exercise of Section 33-A of Water (Prevention and Control of Pollution) Act, 1974 and Section 31-A of the Air (Prevention and

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gross violation of the above Acts and to prevent environment pollution. Also the application submitted vide dated 25/2/2019 received in PCC on 6/3/2019 through SWIFT hereby stands cancelled and refused. It is further ordered under Section 33-A of Water (Prevention and Control of Pollution) Act, 1974 and Section 31-A of the Air (Prevention and Control of Pollution) Act, 1981 for the immediate disconnection of the Electricity/power supply to the above unit. The Executive Engineer, DNH Power Distribution Corporation, Silvassa to submit compliance report regarding disconnection of power supply to the PCC, DD & DNH within 48 hours.

o/c

M/s. Platinum AAC Block P. Ltd., Situated at Sr.no. 19/1, Village Kherdi, Silvassa , UT of DNH

(1) The Chairman, PCC, DD & DNH for kind information. (103-0)

(2) The Executive Engineer, DNH Power Distribution Corporation, Silvassa with a request to disconnect the power supply to the industrial plant of M/s. Platinum AAC Block P. Ltd., Situated at Sr.no. 19/1, Village Kherdi, Silvassa, UT of DNH with immediate effect and intimate to this office within 48 hours.

Letter Received
3/5/19. 3/30 PM
35677 17654

क्लार्क / Clerk
कार्यपालक अभियंता (विद्युत)
Executive Engineer (Elect.)
 लालमोहन प्रसाद, एन. टी. पी.
 डिप्टी सहायक अभियंता
 उत्तर प्रदेश विद्युत बोर्ड
 गोरखपुरा-206001

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Annexure - R-15

THE GAZETTE OF INDIA

EXTRAORDINARY

PART II -- Section 3 -- Sub-section (ii)

MINISTRY OF ENVIRONMENT AND FORESTS

NOTIFICATION

New Delhi, the 14th September, 1999

S.O.763(E).- Whereas a draft notification containing certain directions was published, as required by subrule (3) of rule 5 of the Environment (Protection) Rules, 1986 under the notification of the Government of India in the Ministry of Environment and Forests number S.O. 453(E) dated 22nd May, 1998 inviting objections and suggestions from all persons likely to be affected thereby, before the expiry of the period of sixty days from the date on which the copies of the Gazette of India containing the said notification are made available to the public;

And, whereas, copies of the said Gazette were made available to the public on the same date;

And, whereas, the objections and suggestions received from the public in respect of the said draft notification have been duly considered by the Central Government;

Where as it is necessary to protect the environment, conserve top soil and prevent the dumping and disposal of fly ash discharged from coal or lignite based thermal power plants on land;

And, whereas, there is a need for restricting the excavation of top soil for manufacture of bricks and promoting the utilisation of fly ash in the manufacture of building materials and in construction activity within a specified radius of fifty kilometers from coal or lignite based thermal power plants;

And, Whereas, the Hon'ble High Court of Judicature, Delhi vide its order dated 25th August, 1999 in CWP No. 2145/99 Centre for Public Interest Litigation, Delhi v/s Union of India directed that the Central Government to publish the final notification in respect of fly ash on or before 26th October, 1999;

Now, therefore, in exercise of the powers conferred by sub-section (1), read with clause (v) of sub-section (2) of section 3 and section 5 of the Environment (Protection) Act, 1986 (29 of 1986); and in pursuance of the orders of the Hon'ble High Court, Delhi stated above, the Central Government hereby issues the following directions which shall come into force on the date of the publication of this notification, namely:-

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[Signature]

1. Use of fly ash, bottom ash or pond ash in the manufacture of bricks and other construction activities.-

(1) No person shall within a radius of fifty kilometers from coal or lignite based thermal power plants, manufacture clay bricks or tiles or blocks for use in construction activities without mixing at least 25 per cent of ash (fly ash, bottom ash or pond ash) with soil on weight to weight basis. '

(2) The authority for ensuring the use of specified quantity of ash as per para (1) above shall be the concerned Regional Officer of the State Pollution Control Board or the Pollution Control Committee as the case may be. In case of non-compliance, the said authority, in addition to cancellation of consent order issued to establish the brick kiln, shall move the district administration for cancellation of mining lease. The cancellation of mining lease shall be decided after due hearing. To enable the said authority to verify the actual use of ash, the thermal power plant shall maintain month-wise records of ash made available to each brick kiln.

(3) In case of non-availability of ash from thermal power plant in sufficient quantities as certified by the said power plant, the stipulation under para (1) shall be suitably modified (waived/ relaxed) by the concerned State/Union Territory Government.

(4) Each coal or lignite based thermal power plant shall constitute a dispute settlement committee which shall include the General Manager of the thermal power plant and a representative of All India Brick and Tile Manufacture's Federation (AIBTMF). Such a committee shall ensure unhindered loading and transport of ash without any undue loss of time. Any unresolved dispute shall be dealt with by a State/Union Territory level committee to be set up by State/Union Territory Government comprising Member Secretary of the State Pollution Control Board/Pollution Control Committee, representatives of Ministry of Power in the State/Union Territory Government and a representative of AIBTMF.

2. Utilisation of ash by Thermal Power Plants.

All coal or lignite based thermal power plants shall utilise the ash generated in the power plants as follows: -

(1) Every coal or lignite based thermal power plant shall make available ash, for at least ten years from the date of publication of this notification, without any payment or any other consideration, for the purpose of manufacturing ash-based products such as cement, concrete blocks, bricks, panels or any other material or for construction of roads, embankments, dams, dykes or for any other construction activity.

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(2) Every coal or lignite based thermal power plant commissioned subject to environmental clearance conditions stipulating the submission of an action plan for full utilisation of fly ash shall, within a period of nine years from the publication of this notification, phase out the dumping and disposal of fly ash on land in accordance with the plan. Such an action plan shall provide for thirty per cent of the fly ash utilisation, within three years from the publication of this notification with further increase in utilisation by atleast ten per cent points every year progressively for the next six years to enable utilisation of the entire fly ash generated in the power plant atleast by the end of ninth year. Progress in this regard shall be reviewed after five years.

(3) Every coal or lignite based thermal power plant not covered by para (2) above shall, within a period of fifteen years from the date of publication of this notification, phase out the utilisation of fly ash in accordance with an action plan to be drawn up by the power plants. Such action plan shall provide for twenty per cent of fly ash utilisation within three years from the date of publication of this notification, with further increase in utilisation every year progressively for the next twelve years to enable utilisation of the entire fly ash generated in the power plant.

(4) All action plans prepared by coal or lignite based thermal power plants in accordance with sub-para (2) and (3) of para 2 of this notification, shall be submitted to the Central Pollution Control Board/Committee and concerned, State Pollution Control Board/Committee and concerned regional office of the Ministry of Environment and Forests within a period of six months from the date of publication of this notification.

(5) The Central and State Government Agencies, the State Electricity Boards, the National Thermal Power Corporation and the management of the thermal power plants shall facilitate in making available land, electricity and water for manufacturing activities and provide access to the ash lifting area for promoting and setting up of ash-based production units in the proximity of the area where ash is generated by the power plant.

(6) Annual implementation report providing information about the compliance of provisions in this notification shall be submitted by the 30th day of April every year to the Central Pollution Control Board, concerned State Pollution Control Board/Committee and the concerned Regional Office of the Ministry of Environment and Forests by the coal or lignite based thermal power plants.

3. Specifications for use of ash-based products.-

(1) Manufacture of ash-based products such as cement, concrete blocks, bricks, panels or any other material or the use of ash in construction activity such as in road laying, embankments or use as

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landfill to reclaim low lying areas including back filling in abandoned mines or pitheads or for any other use shall be carried out in accordance with specifications and guidelines laid down by the Bureau of Indian Standards, Indian Bureau of Mines, Indian Road Congress, Central Building Research institute, Roorkee, Central Road Research Institute, New Delhi, Building Materials and Technology Promotion Council, New Delhi, Central Public Works Department, State Public Works Departments and other Central and State Government agencies.

(2) The Central Public Works Department, Public Works Departments in the State/Union Territory Governments, Development Authorities, Housing Boards, National Highway Authority of India and other construction agencies including those in the private sector shall also prescribe the use of ash and ash-based products in their respective schedules of specifications and construction applications, including appropriate standards and codes of practice, within a period of four months from the publication of this notification.

(3) All local authorities shall specify in their respective building bye-laws and regulations the use of ash and ash-based products and construction techniques in building materials, roads, embankments or for any other use within a period of four months from the date of publication of this notification.

[F. No. 16-2/95-HSMD]

V RAJAGOPALAN, Jt.. Secy.

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ANNEXURE- R/ \6

From

Engineer-in-Chief, Haryana
Public Health Engineering Department,
Panchkula.

To

All Superintending Engineers,
Public Health Engineering Circles,
In Haryana.

All Executive Engineers,
Public Health Engineering Circles,
In Haryana.

Memo No.36741-99 – PHED/Urban Dated: 26.04.2016

Sub: Amendment in Notification of fly ash vide dated
25.01.2016 by Ministry of Environment, Forest & Climate
Change.

Please refer to the subject noted above.

Please find enclosed herewith a copy of letter
No.HSPCB/2016/78-88 dated 04.04.2016 received from
Haryana State Pollution Control Board, Panchkula, Sector-6,
Panchkula alongwith copy of notification for information and
necessary action.

DA/As above

Sd/-
Executive Engineer (U),
For Engineer-in-Chief, Haryana,
PHED, Panchkula

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Endst. - PHED/Urban Dated:

A copy of the above is forwarded to All Chief Engineers,
Head Office for information please.

Executive Engineer (U),
For Engineer-in-Chief, Haryana,
PHED, Panchkula

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HARYANA STATE POLLUTION CONTROL BOARD

C-11, SECTOR-6, PANCHKULA

PH-2577870-73

E-mail:hspcbho@gmail.com

No.HSPCB/2016/78-88

Dated: 04.04.2016

To

1. The Managing Director,
HSIIDC, Panchkula
2. The Chief Administrator,
Haryana Urban Development Authority Sec 6, Panchkula
3. The Managing Director, Marketing Board
Sector-6, Panchkula
4. The Managing Director, Haryana Police Housing
Corporation
Sector-6, Panchkula
5. The Director General, Central Public works Department
(CPWD), Ministry of Urban Development, 101-A, Nirman
Bhawan, New Delhi.
6. The Engineer-in-Chief, Haryana PWD, Public Health
Department, Sector-4, Panchkula
7. The Engineer-in Chief, Haryana PWD (B&R) Department,
Nirman Sadan, Plot No.01, Dakshin Marg, Sector 33-A,
Chandigarh.

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8. The Engineer-in Chief, Haryana PWD, Irrigation Department (Sinchai Bhawan) Sector-5, Panchkula.
9. The Chief Engineer, Panchayati Raj, Haryana
10. The Chairman, National Highway Authority of India, G5 & 6 Sector-10, Dwarka, New Delhi
11. The Chairman, Haryana Housing Board, Sector-6, Panchkula

Sub.: Amendment in notification of fly ash vide dated 25.01.2016 by Ministry of Environment, Forest & Climate Change.

Kindly refer to the subject noted above.

In this connection, please find enclosed herewith the amendment in notification of fly ash vide dated 25.01.2016 by Ministry of Environment, Forest & Climate Change for your information and necessary compliance.

DA/As above.

Sd/-

Sr. Scientist (HQ),

For Member Secretary

//TRUE TYPED COPY//



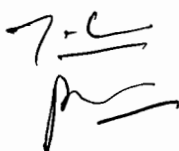
MINISTRY OF ENVIRONMENT, FORESTS AND CLIMATE CHANGE
NOTIFICATION

New Delhi, the 25th January, 2016

S.O. 254(E) – Whereas as draft of certain amendments to the Government of India in the Ministry of Environment, Forests and Climate Change number S.O. 763(E), dated the 14th September, 1999 (hereinafter referred to as the said notification) which the Central Government proposes to make under sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with clause (d) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, was published in the Gazette of India, Extraordinary, Part II, section 3, sub-section (ii), vide S.O. 1396(E), dated the 25th May, 2015 inviting objections and suggestions from all persons likely to be affected thereby before the expiry of sixty days from the date on which copies of the Gazette containing the said draft amendments were made available to the public.

And, whereas copies of the said Gazette were made available to the public on 25th May, 2015:

And, whereas all the objections and suggestions received from all persons likely to be affected thereby in respect of the



said draft notification have been duly considered by the Central Government.

Now, therefore, in exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with clause (d) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, the Central Government hereby makes the following amendments to the said notification, namely:-

1. In the said notification, in paragraph 1-
 - (a) in sub-paragraph 1(A), for the words "hundred kilometers", the words "three hundred kilometers" shall be substituted;
 - (b) in sub-paragraph (3), for the figures and letters "100 km", the words "three hundred kilometers" shall be substituted;
 - (c) in sub-paragraph (5), for the words "hundred kilometers", the words "three hundred kilometers" shall be substituted;
 - (d) in sub-paragraph (7), for the words "hundred kilometers", the words "three hundred kilometers" shall be substituted;
2. In the said notification, in paragraph 2:-
 - (a) after sub-paragraph (1), the following proviso shall be inserted, namely:-



"provided further that the restriction to provide 20% of dry ESP fly ash free of cost shall not apply to those thermal power plants which are able to utilise 100% fly ash in the prescribed manner.

(b) after sub-paragraph (7), the following sub-paragraphs shall be inserted, namely:-

"(8) Every coal or lignite based thermal power plants (including captive and or co-generating stations) shall, within three months from the date of notification, upload on their website the details of stock of each type of ash available with them and thereafter shall update the stock position at least once a Month.

(9) Every coal or lignite thermal power plants shall install dedicated dry ash silos having separate access roads so as to ease the delivery of fly ash.

(10) The cost of transportation of ash for road construction projects or for manufacturing of ash based products or use as soil conditioner in agriculture activity within a radius of hundred kilometers from a coal or lignite based thermal power plant shall be borne by such coal or lignite based thermal power plant and the cost of transportation beyond the radius of hundred kilometers and up to three hundred kilometers shall be shared equally between the user and the coal or lignite based thermal power plant.

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(11) The coal or lignite based thermal power plants shall promote, adopt and set up (financial and other associated infrastructure) the ash based product manufacturing facilities within their premises or in the vicinity of their premises so as to reduce the transportation of ash.

(12) The coal or lignite based thermal power plants in the vicinity of the cities shall promote, support and assist in setting up of ash based product manufacturing units so as to meet the requirements of bricks and other building construction materials and also to reduce the transportation.

(13) To ensure that the contractor of road construction utilizes the ash in the road, the Authority concerned for road construction shall link the payment of contractor with the certification of ash supply from the thermal power plants.

(14) The coal or lignite based thermal power plants shall within a radius of three hundred kilometers bear the entire cost of transportation of ash to the site of road construction projects under Pradhan Mantri Gramin Sadak Yojna and asset creation programmes of the Government involving construction of buildings, road, dams and embankments".

3. In the said notification, in paragraph 2, sub-paragraph (2A) be read as sub-paragraph (15) and at the end of the said sub-paragraph, the following sub-paragraph shall be added, namely:-

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"and the coal or lignite based thermal power plants located in coastal districts shall support, assist or directly engage into construction of shore line protection measures."

4. In the said notification, in paragraph 3, after subparagraph (7), the following shall be inserted, namely:-

"(8) It shall be the responsibility of all State Authorities approving various construction projects to ensure that Memorandum of Understanding or any other arrangement for using fly ash of fly ash based products is made between the thermal power plants and the construction agency or contractors.

(9) The State Authorities shall amend Building Bye Laws of the cities having population One million or more so as to ensure the mandatory use of ash based bricks keeping in view the specifications necessary as per technical requirements for load bearing structures.

(10) The concerned Authority shall ensure mandatory use of ash based bricks or products in all Government Scheme or programmes e.g. Mahatma Gandhi National Rural Employment Guarantee Act, 2005 (MNREGA), SWACHH BHARAT ABIYAN, Urban and Rural Housing Scheme, where built up area is more than 1000 square feet and in infrastructure construction including buildings in

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designated industrial Estates or Parks or Special Economic Zone.

(11) The Ministry of Agriculture may consider the promotion of ash utilization in agriculture as soil conditioner."

5. The time period to comply with the above provisions by all concerned authorities is 31st December, 2017. The coal or lignite based thermal power plants shall comply with the above provision in addition to 100% utilization of fly ash generated by them before 31st December, 2017.

[F.No.9-8/2005-HSMD]
BISHWANATH SINHA, Jt. Secy.

Note: The principal notification was published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (ii) vide notification S.O. 763(E), dated the 14th September, 1999 and was subsequently amended vide notification S.O. 979(E), dated the 27th August, 2003 and S.O. 2804(E), dated the 3rd November, 2009.

//TRUE TYPED COPY//

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From

Engineer-in-Chief, Haryana
Public Health Engineering Department,
Panchkula.

To

All Superintending Engineers,
Public Health Engineering Circles,
In Haryana.

All Executive Engineers,
Public Health Engineering Circles,
In Haryana.

Memo No.36741-99 – PHED/Urban Dated: 26.04.2016

Sub: Amendment in Notification of fly ash vide dated
25.01.2016 by Ministry of Environment, Forest & Climate
Change.

Please refer to the subject noted above.

Please find enclosed herewith a copy of letter
No.HSPCB/2016/78-88 dated 04.04.2016 received from
Haryana State Pollution Control Board, Panchkula, Sector-6,
Panchkula alongwith copy of notification for information and
necessary action.

DA/As above

Sd/-
Executive Engineer (U),
For Engineer-in-Chief, Haryana,
PHED, Panchkula



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Endst. No.376877-880 - PHED/Urban Dated: 26.04.2017

A copy of the above is forwarded to All Chief Engineers,
Head Office for information please.

Executive Engineer (U),
For Engineer-in-Chief, Haryana,
PHED, Panchkula

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MINISTRY OF ENVIRONMENT, FORESTS AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 25th March, 2015

S.O. 1396(E) – Whereas by notification number S.O. 763(E) dated the 14th September, 1999 (hereinafter referred to as the said notification) notifications S.O. 979(E) dated the 27th August, 2003 and S.O.2804(E) dated the 3rd November, 2009, the Central Government issued directions for restricting the excavation of top soil for manufacture of bricks and promoting utilization of fly ash in the manufacture of building materials and in construction activities with a specified radius of one hundred kilometers from coal or lignite based thermal power plants;

And whereas, vide the said amendment notification number S.O. 804(E) dated the 3rd November 2009, timeline to achieve the target of hundred per cent utilization of fly ash by thermal power plants was specified;

And whereas, it is observed that the thermal power plants are yet to achieve the target of hundred per cent utilization of lay ash and the unutilized fly ash quantum is continuously increasing;



And whereas, it is observed that the construction agencies are not using fly ash and fly ash based products in their construction projects;

And whereas, it is felt that there is an urgent need to provide additional measures for utilization of fly ash and fly ash based products in the country;

And whereas, the issue has been examined by the Government of India in the Ministry of Environment and Forest and the Central Government is of the opinion that the said notification needs to be amended;

And whereas, clause (a) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986 provides that whenever the Central Government considers it expedient to impose prohibition or restriction on the locations of any industry or the carrying on of processes or operations in any area, it may give notice of its intention to do so;

Now, therefore, in exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of the section 3, and section 5 of the Environment (Protection) Act, 1986 (29 of 1986), the following further amendments, which the Central Government proposes to make in the said notification is hereby published as required by clause (a) of sub-rule(3) of rule 5 of the Environment (Protection) Rules, 1986 for the information

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of the public likely to be affected thereby and notice is hereby given that the said draft amendment notification will be taken into consideration on or after the expiry of the period of sixty days from the date on which copies of the Official Gazette, in which this notification is published, are made available to the public;

Objections or suggestions, if any, may be addressed to the Secretary, Ministry of Environment, Forests and Climate Change, 4th Level, Prithvi Block, Indira Paryavaran Bhawan, Jorbagh Road, New Delhi-110003 or electronically at e-mail address: bnsinha@gov.in, sharad.sapra@nic.in. The objection or suggestion which may be received from any person with respect to the said draft amendments within the period specified above, will be taken into consideration by the Central Government.

DRAFT AMENDMENTS

1. In the said notification, in paragraph 1-
 - (a) in sub-paragraph 1(A), for the words "hundred kilometers", the words "five hundred kilometers" shall be substituted;
 - (b) in sub-paragraph (3), for the figures and letters "100 km", the words and letters "five hundred kilometers" shall be substituted;



(c) in sub-paragraph (5), for the words "hundred kilometers", the words "five hundred kilometers" shall be substituted;

(d) in sub-paragraph (7), for the words "hundred kilometers", the words "five hundred kilometers" shall be substituted;

2. In the said notification, in paragraph 2, after the sub-paragraph (7), the following sub-paragraphs shall be inserted, namely:-

"(8) Every coal or lignite based thermal power plants shall, (A suitable date prospective to final notification is to be specified) upload the stock of each type of fly ash available with them on their website and, thereafter shall update the stock position for each type of fly ash at least once in every fortnight.

(9) A radius of hundred Kilometers from a coal or lignite based thermal power plant, the cost of transportation of fly ash for building and road construction projects shall be borne by such coal or lignite based thermal power plant and the cost of transportation beyond a radius of hundred Kilometers and upto five hundred kilometers shall be shared equally between the user construction agency engaged and the coal or lignite based thermal power plant.

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(10) The cost of lignite based thermal power plants within a radius of five hundred kilometers shall bear the entire cost of transportation of fly ash to the site of road construction projects under Pradhan Mantri Gramin Sadak Yojna and asset creation programmes of the Government involving construction of buildings, road, dams and embankments".

3. In the said notification, in paragraph 3, after the sub-paragraph (7) the following sub-paragraph shall be inserted, namely:-

"(8) It shall be the responsibility of all State Authorities approving various construction projects to ensure that Memorandum of Understanding or any other arrangement for using fly ash of fly ash based products is made between the thermal power plants and the construction agency or contractors.

[F.No.9-8/2005-HSMD]
BISHWANATH SINHA, Jt. Secy.

Note: The principal notification was published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (ii) vide notification S.O. 763(E), dated the 14th September, 1999 and was subsequently amended vide notification numbers S.O. 979(E),



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dated the 27th August, 2003 and S.O. 2804(E),
dated the 3rd November, 2009.



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370

Subject: Amendment in notification of fly ash vide dated 25.01.2016 by Ministry of Environment, Forest & Climate Change.

Vide PUC, Member Secretary, HSPCB Panchkula vide letter dated 04.04.2016 has sent a copy of amendment in notification of fly ash vide dated 25.01.2016 by Ministry of Environment, Forest and Climate Change for information and necessary compliance. The copy of notification dated 25.05.2015 at F/A.

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Annexure - R-17



Date: 06.06.2019

To,
Kanan Sir,
Collector of Dadra Nagar Haveli,
DNH, Silvassa.

Sub: Notice received from Pollution Control Committee, Daman.

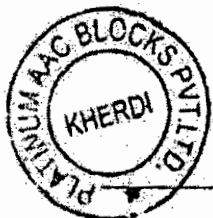
Ref:

- (1) Letter no. PCC/DDD/O-2764/W/ICD/16-17/124, dated 3/5/19.
- (2) Our application for obtaining Consent dtd. 25/2/2019 made through SWIFT.
- (3) Application for Granting Permission of "fly-ash brick/block manufacturing" as per the Notification No. PCC/DMN/13-(Part IV)-98-99/2014-15/1200 Dt. 09.10.2015 under the category-3, section 37 as per the Dadra And Nagar Haveli Gazette Vol. No. XXX Silvassa published on 30.10.2015

Respected Sir,

We had applied for obtaining Consent for manufacturing of AAC (Autoclaved Aerated Concrete) blocks 2,50,000 cm³/annum in the name of M/s. Platinum AAC Block P. Ltd. At Survey no. 19/1, Village Kherdi, Silvassa, UT of DNH. With reference to the same, we have received the above-referred letter from the Pollution Control Committee, for disconnection of electricity. Accordingly, we wish to offer the following clarifications for your kind consideration:

In reference to the G.R. notification No. PCC/DMN/123/Part(IV)/98-99/2014-25/1200, as per our understanding, we wish to clarify that our project does not fall under Category-I



Office - 10874/2019/CCF-FAS

PCC / DNH / 10874

Inward Date... 18/2/19

Outward Date...

Works : Survey No. 19/1, Village - Kherdi, D & NH - Silvassa - 396230.

Adm. Office : 269 - Floor, Amidhara Complex, Near CNG Pump, N.H. No. 8, G.I.D.C., Char Rasta, Silvassa - 396230.

Ph. No. 0260-2400388, E-mail: platinum.aac@platinum.aac.co.in

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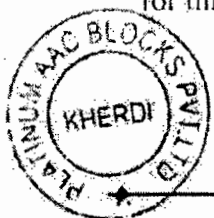
Section 25, regarding "Fly ash export, transport, disposal facilities" as mentioned in the since we are neither into the export of fly ash, nor we are engaged any type of disposal facilities of fly ash. We are also not engaged exclusively into the transportation of the fly-ash or transportation for export or disposal. The transportation of fly-ash from the Power plant to our site is done for recycling of the fly-ash for manufacturing of blocks, which is a major raw material for the product in our project and which is also suggested by CPCB, Delhi vide letter no.B29016/ROGW/IPC-VI/2018-19-18058, dated 14/3/19. It may please be noted the transportation of fly-ash for recycling purpose is done with adequate care in covered trucks to ensure that there are no fugitive dust emissions which may impact the environment.

Hence, as per the above-referred notification, our project falls under the category-3, section 37 regarding "fly-ash brick/block manufacturing".

We hope you will consider fact that our project is actually a green project and by using the fly ash generated, our industry is actually helping to keep the environment clean. Government promotes use of Fly Ash Bricks and Fly Ash Blocks for Construction Works.

We have given employment to more than 80 workers in our organization and also taken a lump sum borrowed capital from public as well as from Government Bank. We are regular tax payer of the Government. If we do not get consent for this project a huge loss is to be bear by people at large.

We most humbly request yourself to consider our application and grant us the Consent for this project and reestablish the power supply connection and oblige



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Kindly let us know that should we file a fresh application for Granting Permission of "fly-ash brick/block manufacturing" as per the Notification No. PCC/DMN/13-(Part IV)/98-99/2014-15/1200 Dt. 09.10.2015 or our old application filed for obtaining consent Dt. 25.02.2019 will be considered for the same. Kindly let us know which documents are required for a fresh application

Thanking you,
Yours faithfully,

For Platinum AAC Blocks Pvt. Ltd.


Authorised Signatory
(Authorize Signatory)

Pragjibhai Van (Mo. 9375936584)
Vinaybhai Gandhi (Mo. 7567717654)

Note:

- 1) Copy of notice received from Pollution Control Committee, Daman, dated 03/05/2019
- 2) G.R. notification no. PCC/DMN/123/Part (IV)/98-99/2014-25/1200, dated. 09/10/2015
- 3) Copy of letter received from CPCB, Delhi

C.C. to:
Dr. K. Ravichandran,
Chief Conservator Of Forest,
DNH, Silvassa.



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Date: 12.06.2019

To,
Kanan Sir,
Collector of Dadra Nagar Haveli,
DNH, Silvassa.

Sub: Application for Granting Permission of "fly-ash brick/block manufacturing" under "White Category" as per Modified Direction U/s.18(1)(b) of the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 Dt. 07.03.2016

Ref:

- (1) Letter no. PCC/DDD/O-2764/W/ICD/16-17/124, dated 3/5/19.
- (2) Our application for obtaining Consent dtd. 25/2/2019 made through SWIFT.
- (3) Application Dt. 06.06.2019 for Granting Permission of "fly-ash brick/block manufacturing" as per the Notification No. PCC/DMN/13-(Part IV)/98-99/2014-15/1200 Dt. 09.10.2015 under the category-3, section 37 as per the Dadra And Nagar Haveli Gazette Vol. No. XXX Silvassa published on 30.10.2015.

Respected Sir,

With reference to your letter No. PCC/DDD/O-2764/W/ICD/16-17/124, dated 3/5/19 we have made detail submission 06.06.2019 to the concerned officer. We have studied law and notification issued by the CPCB time to time as well as judgements passed by competitive Courts and Tribunals. We would like to draw your kind attention to following points:

1. Your office has rejected our application on basis of (1) "The transport of Fly Ash is under Category-I, at Sr. No. 25 i.e. Fly Ash export, transport and disposal facilities". Copy of letter no. PCC/DDD/O-2764/W/ICD/16-17/124, dated 03/05/2019 is enclosed (Annexure-1) is enclosed.



Dy Co.

दादरा एवं नगर हवेली, सिवसा

Dadra & Nagar Haveli, Silvassa

आवक सं. / Inward/आवक सं. 3988/611
दिनांक / Date 12/6/19

POLLUTION CONTROL COMMITTEE

क्षेत्रीय कार्यालय / Regional Office

सिवसा / Silvassa

Inward/आवक सं. 3988/611 Dt. 12/6/19

आवक सं. 3988/611 Dt. 12/6/19

आवक सं. / Inward/आवक सं. 3988/611
दिनांक / Date 12/6/19

Register Office : Asopalav Apartment, Shop No. 2, Near Railway Station, Bhilad-396105 (Gujarat).

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In respect of the same, we wish to clarify that our project does not fall under Category-1, Section 25, regarding "Fly ash export, transport, disposal facilities" as mentioned in the letter. Since we are neither into the export of fly ash, nor we are engaged any type of disposal facilities of fly ash. We are also not engaged exclusively into the transportation of the fly-ash or transportation for export or disposal.

The transportation of fly-ash from the Power plant to our site is done for recycling of the fly-ash for manufacturing of blocks, which is a major raw material for the product in our project and which is also suggested by CPCB. It may please be noted the transportation of fly-ash for recycling purpose is done with adequate care in covered tucks to ensure that there are no fugitive dust emissions which may impact the environment.

"As per Modified directions under section 18(1)(b), fly ash export, transport & disposal facilities is lies under Green category at Sr. No. 58, which is previously lies at Sr. No. 25 in the Red category".

Thus, the transportation of fly ash for manufacturing of blocks falls under Green category.

2. The Central Government of India issued Notification vide MoEF&CC Notification No. 763(E) dated 14th September, 1999 as amended vide notification dated 27.08.2003, 3rd November 2009, further amended vide notification dated 25.01.2016, 8th November, 2018 and further amended on 25.02.2019 issued directions as under:

"for restricting the excavation of top soil for manufacture of bricks and promoting the utilization of fly ash in the manufacturing of building material and in construction activity within a specified radius of 300 kilometers from coal and lignite based thermal power plants". Copy of the said notification (Annexure-2) is enclosed.



3. Judgement of Green Tribunal, Central Zonal Bench, Bhopal. Application No. 124/2014 (CZ)- Ajay Dubey Vs. State of Chhattisgarh &Ors., An application no. 122/2015(CZ)- Anhad Mishra Vs. Union of India &Ors., an Application No. 95/2015- Laxmi Chouhan Vs. Union of India & 7 Ors., an

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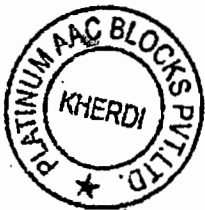
application no. 36/2015 (CZ)- Laxmi Chouhan Vs. Union of India & 5 Ors., an Appeal No. 42/2015(CZ)- Chhattisgarh State Power Generation Co. Ltd. Vs CG Environment Conservation Board & Ors. And an

application no. 29/2015(CZ)- Titksha Social Organisation Vs. Union of India & 5 Ors. on dated 04th July, 2016.

In the aforesaid judgement it has been clearly mentioned that the Govt. of India has revised the distance in the present notification of 2016 to 300 Kms. Making it mandatory for the scheduled industries as mentioned in the notification to utilise of flyash. Under the said notification and even apart from the same we have been informed that fly ash has been utilise in the following industries mainly: (1) Cement works (2) Fly ash brick manufactures along with caving blocks (3) in the construction industry. It has been made mandatory for state and central government agencies along with government undertaking to utilise such fly ash brick and blocks in the construction.

And in para no.02 it is clearly mentioned that,

"The state Government shall prepare a report indicating the areas where such fly ash is being generated and also the areas where the same can be utilized. The respective department of the Central and the State Governments and the Mines Department need to work out for their ongoing projects, the possible requirement of fly ash and the nearest point where it can be made available by the respective generation units. Even if some of the consumer units lie outside the State but in the close proximity that is within the radius of 300 kms. As provided under the notification of 2016 and wherever generation of fly ash is more and could be possibly utilised even beyond 300 kms. Radius such areas may also be identified. This task of compilation of the report shall be completed within a period of one month".



(Copy of Judgement of Green Tribunal, Central Zonal Bench, Bhopal is enclosed at Annexure-3)

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4. As per Google Map Distance between Adani Dahanu Thermal Power Station to Platinum AAC Blocks Pvt. Ltd. is 40.70 kilometers. As per the notification issued by government of India we also falls under the said radius are of 300 Kilometers. Copy of the print out shown in Google Map (Annexure-4) is enclosed.
5. The second reason for rejection of our application is, "The boiler proposed earlier was also for 5TPH steam generating capacity using coal/lignite fired boiler which is under category-I".

As per Modified directions under section 18(1)(b), on page No. 11 Table F-2 of Air Pollution Score calculation method based on 'Range of Prescribed Standard of criteria pollutants' is mentioned. There are two parts. Part 1 : Score A1 = Score based on types of expected criteria Air Pollutants present in the emissions. Part 2 : Score A2 = Score based on consumption of fuels and technologies required for air pollution control .

"All such industries in which the daily consumption of coal/fuel is from 12 MT/day to 24 MT/day and the particular (Particulate/gaseous/process) emissions from which can be controlled with suitable proven technology falls under Group of A2F2. Marks for the same considered for 5 Score".

Consumption of white coal and Briquette in Steam Based Boiler is 5 to 6 MT/day and emission from it is below 3 Score. Total Waste water is reused in manufacturing process. So no water pollution is created. As well as No Hazardous Waste is generated by our organization.

6. As per the Modified Direction U/s. 18(1)(b) of the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 Dt. 07.03.2016 CPCB had harmonized and classified industrial sectors under Red/Orange/Green/White categories. CPCB had developed the criteria of categorization of Industrial Sectors based on the concept of Pollution Index which is a function of the emissions (Air Pollution), effluents (Water Pollutants), hazardous wastes generated and consumption of resources.



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 [Signature]



- Industrial Sectors having Pollution Index score of 60 and above – Red Category
- Industrial Sectors having Pollution Index score of 41 to 59 – Orange Category
- Industrial Sectors having Pollution Index score of 21 to 40 – Green Category
- Industrial Sectors having Pollution Index score incl. & upto 20 – White Category

Based on relative Pollution Index, the number of industries in various categories are as under:

- The Red category of industrial sectors: 60
- The Orange category of industrial sectors: 83
- The Green Category of industrial sectors: 63 and
- The Newly introduced White category :36

As per the Range of Pollution Index for categorization, Industrial Sectors having pollution Index Score including and upto 20 Score, falls under "White Category"/ "Non-Polluting Industry".

"There is no necessity of consent" for White-Category/Non-Polluting Industries. Intimation to concerned SPCB/PCC shall suffice.

| Calculation Sheet for Industrial Sector | | | |
|---|------------------------|-------|---|
| 1. Water Pollution Score (W) | | | |
| Scores | Waste Water Category | Value | |
| Score on W1 | | | 0 |
| Score on W2 | | | 0 |
| Water Pollution Score = W1+W2 | | | 0 |
| 2. Air Pollution Score (A) | | | |
| Scores | Air Pollutant Category | Value | |
| Score on A1 | | | 0 |
| Score on A2 | A2F2 | 3 | 3 |
| Air Pollution Score = A1+A2 | | | 3 |
| 3. Hazardous Waste Score (HW) | | | |
| Score | HW Category | Value | |
| HW | | | 0 |
| Grand Total = W + A + HW | | | 3 |



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As per the Range of Pollution Index for categorization, Industrial Sectors having pollution Index Score of our organization is 3, which below 20 Score as prescribed by the modified directions for "White Category"/ "Non-Polluting Industry".

As per the Modified directions under section 18(1)(b), activity of "fly-ash brick/block manufacturing" of our organization Platinum AAC Blocks Pvt. Ltd falls under Sr. No. 16 of "White Category", which is previously lies at Sr. No. 37 in the Green category. Copy of the said directions (Annexure-5) is enclosed.

We most humbly request your goodself to consider our submission and grant as the consent for this project under "White Category" and reestablish the power supply connection and oblige.

Thanking you,

Yours faithfully,

For Platinum AAC Block Pvt. Ltd.

PLATINUM AAC BLOCKS PVT.LTD.

[Signature]

(Director) DIRECTOR

Dilip Kadivar (Mo. 9898730803)

Pragjibhai Van (Mo. 9375936584)

C.C. to:

Dr. K. Ravichandran,

Chief Conservator Of Forest,

DNH, Silvassa



T.C
[Signature]

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PLATINUM
BLOCKS PVT. LTD.

To,

25th July, 2019

Hon. Regional Director,

Central Pollution Control Board,

New Delhi,

Ministry Of Environment, Forest & Climate Change, Govt. Of India.

Sub: Application granting for permission "fly-ash brick/block no.

PCC/DDD/0-2764/WA/KD/16-17/124. Indian Govt. has been

motivate & helpful to fly ash used in any requirement Industry.

Silvassa Dadra Nagar & Haveli Pollution Control Board is not

giving answer of letter.

Respected Sir,

Your letter no. B-29016/ROGW/IPC-VI/ 2018-19 received on 20.03.2019.

Your second letter no. ZOW/Tech-305/PC/Gen/2019-20/280 received on

11.07.2019.

I have done 5 time conversation on telephonic in Central Pollution Control Board Vadodara- 390023.

Please Sir solve my problem immediately.

We have giving the detail to Pollution Control Board please find it below.



मुख्य वन संरक्षक, सिलवासा
C.C.F., SILVASSA
आवक संख्या/Inward No., 205
दिनांक/Date 01-08-19



Shop No. 269, 2 Flor, Amidhara Complex, Near CNG Pump, N.H. No. 8, G.I.D.C., Char Rasta, Vapi-396 195.
E-mail: platinumaacblocks@yahoo.com, platinumaacblocks@gmail.com

T.C.
✓



- 1) No. B-29012/ESS(CPA)/2015-16/07 March, 2016. Modified Direction New Categories.
- 2) M-12016/06/2017-RH(M&T) 12 September, 2018 Govt. of India.
- 3) D.O No. 9-8/2005-HSMD 28 April, 2016. Notification on Fly Ash Utilization.
- 4) Notification Ministry Of Environment, Forest & Climate Change, New Delhi, 25 January, 2016.
- 5) The Gazette of India New Delhi, Wednesday, 27 February, 2019/PHALGUNA 8, 1940 No.141
- 6) The National Green Tribunal, Direction Dated.10 August,2016 Application in O.A. No. 42/2015,
- 7) The National Green Tribunal, New Delhi Dated 09 April,2019. M.A. No. 858/2014, M.A. No.872/2014,42/2015,287/2015,694/2015 & 580/2016)
- 8) B-33018/07/IPC-II/12509-12547 Dated 8 November,2018 The Chairman SPCBs & PCCs.
- 9) NGT Directs States, UTs to expeditiously submit action plan on use of fly ash Dated 19 February, 2018.

This much notification we have giving but they are telling in Silvassa & Daman fly ash is not allowed. They are telling that according to old gazette reference we cannot allow for fly ash but they are not giving in written only oral conversation they are doing. They had told us that any rules & regulation of Central Pollution Control Board & Green Tribunal Court we not consider. For this company Bank, Public & we has invested huge for this, if it will not start we to suffer with heavy losses. According to CPCB, Indian Govt. Gazette & Green Tribunal Court Judgment we have to get permission. They had told that we can manufacture the fly ash Bricks/ blocks but we can't transport the fly ash. The Indian Govt. & Green Tribunal has define that from power project radius by 300kms fly ash we can be transport.



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Before starting the company we ask to the Central Pollution Control Board. Our projects comes in white categories & we can't do transportation, the company is doing transportation to us Adani Power Project already have license's, license's no. 1.0/BO/CAC-Cell/EIC No:-NG-13350-15/CAC/CAC-14033 we don't have requirement for transportation license's. For our company we need the license's to manufacture the fly ash bricks/blocks. After this letter received our company has closed from pollution control board Silvassa letter no.B-29016/ROGW/IPC-VI/2018-19. We had started company according to CPCB gazette 2015-16 white category. For this problem we are applying so many times but we can't get any reply. We are requesting to solve our problem electricity connection start as soon as possible.

Thanking You.

Your faithfully,

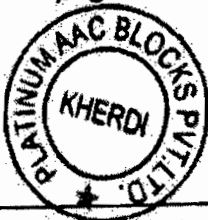
Platinum AAC Blocks Pvt. Ltd.

9898730803

DIRECTOR
Directors,

CC to copy

- 1) Regional Director (West), Central Pollution Control Board, Synergy House- II, Gorwa Subhanpura road Subhanpura, Vadodara- 390023.
- 2) Collector Dadra & Nagar Haveli
- 3) Member Secretary, Pollution Control Committee & Environment.
- 4) Udyog manager Dadra & Nagar Haveli.



T.C
[Signature]

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केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार)
(MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, GOVT. OF INDIA)

ZOW/Tech-305/PC/Gen/2019-20/280

July 11, 2019

To

The Member Secretary
Pollution Control Committee
Daman, Diu Dadra & Nagar Haveli
Second Floor, Secretariat
Amli Hanuman Road, Silvassa
UT of Daman, Diu Dadra & Nagar Haveli

Sub: Application for granting permission of "fly-ash brick/block manufacturing" under "white category" as per Modified Direction U/s 18(1)(b) of the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of pollution) Act, 1981 dt. 07/03/2016 - Reg.

Ref:

1. Representation received from M/s Platinum AAC Blocks Pvt. Ltd., dated 24/06/2019 (Same representation was made to Collector of Dadra Nagar Haveli, DHN, Silvassa, date 12/06/2019)
2. Letter sent to your office by CPCB, HO, Delhi vide letter No. B-29016/ROGW/IPC-VI/2018-19/18058, dated 14/03/2019
3. Telephonic conversation done by the applicant (Director, Platinum AAC Blocks Pvt. Ltd.) with the Regional Director, RD(West), Vadodara, CPCB, dated 10/07/2019.

Sir

Kindly refer the enclosed representation received by M/s Platinum AAC Blocks Pvt. Ltd. regarding categorization of their industry into the White Category.

In this regard, it is requested to kindly examine and take necessary action on this issue. The action taken may be informed to the applicant and CPCB, Head Office (Delhi) along with a copy to this office.

Thanking you,

Yours faithfully,

Encl.: As above

(Prasoon Gargava)
Regional Director

Copy to:

The Director
M/s Platinum AAC Blocks Pvt. Ltd.
269- Floor, Amidhara Complex, Near CNG Pump
N. H. No. 8, GIDC, Char Rasta, Vapi - 396195

(Prasoon Gargava)

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Grievance Status

Details for registration number :
PMOPG/E/2019/0349668

Name Of Complainant DILIP D KADIVAR
Date of Receipt 27/06/2019
Received By Ministry/Department Prime Ministers Office

Grievance Description

We are running Fly Ash Blocks Manufacturing company at S No 19 1, Village Kherdi, Silvassa 396230. We have started our business on 09.11.2017 after making application for permission from Pollution Control Committee Dadra Nagar Haveli. Our Electricity Connection was cut by DNH Power Distribution Corp. on the instructions of Pollution Control Committee, Dadra And Nagar Haveli on 03.05.2019 giving reasons that. Fly ash export, transport, disposal facilities and the boiler proposed earlier was also for 5 TPH steam generating capacity using coal lignite fired boiler falls under Red Category. As per Modified directions under section 18(1) (b) Dt. 07.03.2016 of CPCB, they have harmonized category of Industrial Sectors on the basis Pollution Index Scores in four categories Red, Orange, Green and White. As per the Range of Pollution Index for categorization, Industrial Sectors having pollution Index Score including and upto 20 Score, falls under White Category/Non-Polluting Industry. In the said direction CPCB mentioned that, there is no necessity of consent for White-Category/Non-Polluting Industries. Intimation to concerned SPCB PCC shall suffice. As per CPCB's Modified Directions on 07.03.2016 our pollution index score comes to 3 Score, so Fly Ash Blocks Manufacturing activity of our company falls under White Category-Non Polluting Industry. We use 85 percentage of fly ash as raw material in manufacturing of Fly Ash Blocks and helping in reducing pollution. As there is no Thermal Power Plant in Dadra And Nagar Haveli we acquire Fly Ash from Adani Thermal Power Plant, Dahanu, Maharashtra by road with proper care. Distance between both the companies is around 41 mtrs. Fly ash Transportation activity falls under Green Category as per Modified Directions Dt. 07.03.2016. Sir, we use 5 to 7 MT White Briquette per day in Boiler. Which is too lower than the prescribed quantity to be used in Boiler 12 MT to 24 MT per day mention in the direction of CPCB. So Air Pollution Index Score comes to 3 Score. No water pollution is generated in our plant as we reuse water in manufacturing activity. No Hazardous Waste is generated in our manufacturing industries. We have time to time requested concerned Officers of Pollution Control Committee of Dadra And Nagar Haveli And Daman And Diu for granting us permission to run our plant as per CPCB's Directions. But they refused to grant us permission giving reason that at per the law of Dadra Nagar Haveli And Daman And Diu Transportation of Fly Ash falls under Red Category. They are not willing to

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/2019

Grievance Status

follow CPCB's Modified directions under section 18(1)(b) Dt. 07.03.2016. Government has also published amended notification dt. 25.02.2019 for restricting the excavation of top soil for manufacture of bricks and promoting the utilization of fly ash in the manufacturing of building material and in construction activity within a specified radius of 300 kilometers from coal and lignite based thermal power plants. But concerned pollution Control Committee of Dadra Nagar Haveli do not willing to follow CPCB latest directions and notifications issued by Government. They bluntly deny to giving us permission to run Fly Ash Manufacturing activity. We are giving employment to around 80 Workers in our company. We are regular tax payer of Government. Moreover we have taken borrowed capital from public as well as from Bank. Also invested our savings in the organization. We are facing critical financial lose as our plant was shut down by Pollution Control Committee, Dadra And Nagar Haveli. And if our plant do not start it will affect people at large financially. We humbly request you Sir to look in to the matter and give directions to the concerned officers. If possible give us time for personal presentation. Jay Hind.

Current Status

Under process

Date of Action

02/07/2019

Remarks

ATR be submitted.

Officer Concerns To**Officer Name**

Kannan Gopinathan

Officer Designation

Member Secretary

Contact Address

Silvassa

Email Address**Contact Number**T.C
[Signature]

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केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन विभाग भारत सरकार
MINISTRY OF ENVIRONMENT FOREST & CLIMATE CHANGE GOVT. OF INDIA

B-29016/ROGW/IPC-VI/2018-19

March 14, 2019

To

The Member Secretary
Daman, Diu & Dadra Nagar Haveli
Pollution Control Committee
Office of the Deputy Conservator of Forests
Moti Daman,
Daman - 396220.
Daman & Diu

क.प्र.वि.स.स.
आवक संख्या: 2455
दिनांक/ Date: 20.3.19

Sub.: Categorization and Consent to Establish for M/S AAC Platinum Blocks Pvt. Ltd.-reg.

Sir,

Please find enclosed a representation of M/s AAC Platinum Blocks Pvt. Ltd. regarding categorization of their industry into the Green category and grant CTE.

It is requested to examine the representation and take necessary action. The action taken may be informed to the applicant under intimation to this office.

Yours faithfully,

(P.K. Gupta)

AD & Div. Head IPC-VI

Encls.: As above

Copy to:

Shri Parth Gandhi, Director
AAC Platinum Blocks Pvt. Ltd.
262, 2nd floor, Amidhara Complex,
Near CNG Pump, N.H. No. 8,
GIDC., Char Rasta, Vapi-396195
Gujarat

: With ref. to your letter dated 19.02.2019.

✓ The Regional Director
Regional Directorate (West)
Central Pollution Control Board
Synergy House- II, Gorwa
Subhanpura Road Subhanpura,
Vadodara- 390023

: With the request to follow up the matter

(P.K. Gupta)

T.C
PL

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6/7/2019

https://mail.gov.in/iwc_static/layout/shell.html?lang=en&3.0.1.2.0_15121607

Subject: Application made for Granting Permission of "fly-ash brick/block manufacturing" Date: 06/07/19 12:40 PM

To: "collector-dnh@nic.in" <collector-dnh@nic.in>

From: Platinum Aacblocks <platinumaacblocks@yahoo.com>

Reply-To: Platinum Aacblocks <platinumaacblocks@yahoo.com>

PLATINUM AAC BLOCKS PVT. LTD. APPL. FOR GRANTING P. (1.4MB)

Respected Sir,

Please find attached herewith scan copy of Application made on 06.06.2019 for Granting Permission of "fly-ash brick/block manufacturing" under the category-3, section 37 as per the Notification No. PCC/DMN/13-(Part IV)/98-99/2014-15/1200 Dt. 09.10.2015 as per the Dadra And Nagar Haveli Gazette Vol. No. XXX Silvassa published on 30.10.2015.

Awaiting for your positive reply.

Best Regards,

Roshni

Platinum AAC Blocks Pvt. Ltd.

Office No. 269, Amidhara Complex,

Nr. CNG Pump, G.I.D.C. Char Rasta,

Vapi - 396195

Email id: platinumaacblocks@yahoo.com

platinumaacblocks@gmail.com

Landline: 0260-2400388

PCC



PCC / DNH / 299
Inward Date... 13/06/19
Outward Date.....

T-C


3893/6011
7/6/19

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Date: 06.06.2019

To,
Kanan Sir,
Collector of Dadra Nagar Haveli,
DNH, Silvassa.

Sub: Notice received from Pollution Control Committee, Daman.

Ref:

- (1) Letter no. PCC/DDD/O-2764/W/ICD/16-17/124, dated 3/5/19.
- (2) Our application for obtaining Consent dtd. 25/2/2019 made through SWIFT.
- (3) Application for Granting Permission of "fly-ash brick/block manufacturing" as per the Notification No. PCC/DMN/13-(Part IV)/98-99/2014-15/1200 Dt. 09.10.2015 under the category-3, section 37 as per the Dadra And Nagar Haveli Gazette Vol. No. XXX Silvassa published on 30.10.2015

Respected Sir,

We had applied for obtaining Consent for manufacturing of AAC (Autoclaved Aerated Concrete) blocks - 2,50,000 cm³/annum in the name of M/s. Platinum AAC Block P. Ltd. At Survey no. 19/1, Village Kherdi, Silvassa, UT of DNH. With reference to the same, we have received the above-referred letter from the Pollution Control Committee, for disconnection of electricity. Accordingly, we wish to offer the following clarifications for your kind consideration:



In reference to the G.R. notification No. PCC/DMN/123/Part(IV)/98-99/2014-25/1200, as per our understanding, we wish to clarify that our project does not fall under Category-1.

T.C
[Signature]

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Section 25. regarding "Fly ash export, transport, disposal facilities" as mentioned in the since we are neither into the export of fly ash, nor we are engaged any type of disposal facilities of fly ash. We are also not engaged exclusively into the transportation of the fly-ash or transportation for export or disposal. The transportation of fly-ash from the Power plant to our site is done for recycling of the fly-ash for manufacturing of blocks, which is a major raw material for the product in our project and which is also suggested by CPCB, Delhi vide letter no.B29016/ROGW/IPC-VI/2018-19-18058, dated 14/3/19. It may please be noted the transportation of fly-ash for recycling purpose is done with adequate care in covered trucks to ensure that there are no fugitive dust emissions which may impact the environment.

Hence, as per the above-referred notification, our project falls under the category-3, section 37 regarding "fly-ash brick/block manufacturing".

We hope you will consider fact that our project is actually a green project and by using the fly ash generated, our industry is actually helping to keep the environment clean. Government promotes use of Fly Ash Bricks and Fly Ash Blocks for Construction Works.

We have given employment to more than 80 workers in our organization and also taken a lump sum borrowed capital from public as well as from Government Bank. We are regular tax payer of the Government. If we do not get consent for this project a huge loss is to be bear by people at large.

We most humbly request yourself to consider our application and grant us the Consent for this project and reestablish the power supply connection and oblige.

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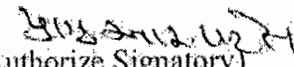


Kindly let us know that should we file a fresh application for Granting Permission of "fly-ash brick/block manufacturing" as per the Notification No. PCC/DMN/13-(Part IV)/98-99/2014-15/1200 Dt. 09.10.2015 or our old application filed for obtaining consent Dt. 25.02.2019 will be considered for the same. Kindly let us know which documents are required for a fresh application

Thanking you,
Yours faithfully,

For Platinum AAC Block Pvt. Ltd.

PLATINUM AAC BLOCKS PVT. LTD.


(Authorize Signatory)
Authorised Signatory

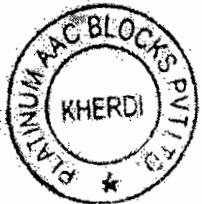
Pragjibhai Van (Mo. 9375936584)
Vinaybhai Gandhi (Mo. 7567717654)

Note:

- 1) Copy of notice received from Pollution Control Committee, Daman, dated 03/05/2019
- 2) G.R. notification no. PCC/DMN/123/Part (IV)/98-99/2014-25/1200, dated. 09/10/2015
- 3) Copy of letter received from CPCB, Delhi

C.C. to:

Dr. K. Ravichandran,
Chief Conservator Of Forest,
DNH, Silvassa





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6/12/2019

https://mail.gov.in/iwc_static/layout/shell.html?lang=en&3.0.1.2.0_15121607

Subject: Application for Granting Permission of "fly-ash brick/block mfg." under "White Category".

To: collector_dnh@nic.in, collector-dnh@nic.in

Date: 06/12/19 04:29 PM

From: platinum aasblocks <platinumaacblocks@gmail.com>

LETTER TO KANAN SIR DT. 12.06.2019 LATEST.docx (29kB)

Respected Sir,

Please find attached herewith application for Granting Permission of "fly-ash brick/block mfg." under "White Category".

Best Regards,
Roshni

Platinum AAC Blocks Pvt. Ltd.

Office No. 269, Amidhara Complex,

Nr, CNG Pump, G.I.D.C. Char Rasta,

Vapi - 396195

Email id: platinumaacblocks@yahoo.com

platinumaacblocks@gmail.com

Landline: 0260-2400388

pce

13/6

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PCC / DNH / 3993
Inward Date... 14/06/19
Outward Date.....

3993/6011
12/6/19

392

Date: 12.06.2019

To,
Kanan Sir,
Collector of Dadra Nagar Haveli,
DNH, Silvassa.

Sub: Application for Granting Permission of "fly-ash brick/block manufacturing" under "White Category" as per Modified Direction U/s.18(1)(b) of the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 Dt. 07.03.2016

Ref:

- (1) Letter no. PCC/DDD/O-2764/W/ICD/16-17/124, dated 3/5/19.
- (2) Our application for obtaining Consent dtd. 25/2/2019 made through SWIFT.
- (3) Application Dt. 06.06.2019 for Granting Permission of "fly-ash brick/block manufacturing" as per the Notification No. PCC/DMN/13-(Part IV)/98-99/2014-15/1200 Dt. 09.10.2015 under the category-3, section 37 as per the Dadra And Nagar Haveli Gazette Vol. No. XXX Silvassa published on 30.10.2015.

Respected Sir,

With reference to your letter No. PCC/DDD/O-2764/W/ICD/16-17/124, dated 3/5/19 we have made detail submission 06.06.2019 to the concerned officer. We have studied law and notification issued by the CPCB time to time as well as judgements passed by competitive Courts and Tribunals. We would like to draw your kind attention to following points:

1. Your office has rejected our application on basis of (1) "The transport of Fly Ash is under Category-I, at Sr. No. 25 i.e. Fly Ash export, transport and disposal facilities". Copy of letter no. PCC/DDD/O-2764/W/ICD/16-17/124, dated 03/05/2019 is enclosed (**Annexure-1**) is enclosed.

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In respect of the same, we wish to clarify that our project does not fall under Category-1, Section 25, regarding "Fly ash export, transport, disposal facilities" as mentioned in the letter. Since we are neither into the export of fly ash, nor we are engaged any type of disposal facilities of fly ash. We are also not engaged exclusively into the transportation of the fly-ash or transportation for export or disposal.

The transportation of fly-ash from the Power plant to our site is done for recycling of the fly-ash for manufacturing of blocks, which is a major raw material for the product in our project and which is also suggested by CPCB. It may please be noted the transportation of fly-ash for recycling purpose is done with adequate care in covered trucks to ensure that there are no fugitive dust emissions which may impact the environment.

"As per Modified directions under section 18(1)(b), fly ash export, transport & disposal facilities is lies under Green category at Sr. No. 58, which is previously lies at Sr. No. 25 in the Red category".

Thus, the transportation of fly ash for manufacturing of blocks falls under Green category.

2. The Central Government of India issued Notification vide MoEF&CC Notification No. 763(E) dated 14th September, 1999 as amended vide notification dated 27.08.2003, 3rd November 2009, further amended vide notification dated 25.01.2016, 8th November, 2018 and further amended on 25.02.2019 issued directions as under:

"for restricting the excavation of top soil for manufacture of bricks and promoting the utilization of fly ash in the manufacturing of building material and in construction activity within a specified radius of 300 kilometers from coal and lignite based thermal power plants". Copy of the said notification (Annexure-2) is enclosed.

3. Judgement of Green Tribunal, Central Zonal Bench, Bhopal. Application No. 124/2014 (CZ)- Ajay Dubey Vs. State of Chhattisgarh &Ors., An application no. 122/2015(CZ)- Anhad Mishra Vs. Union of India &Ors., an Application No. 95/2015- Laxmi Chouhan Vs. Union of India & 7 Ors., an

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application no. 36/2015 (CZ)- Laxmi Chouhan Vs. Union of India & 5 Ors., an Appeal No. 42/2015(CZ)- Chhattisgarh State Power Generation Co. Ltd. Vs CG Environment Conservation Board & Ors. And an application no. 29/2015(CZ)- Titksha Social Organisation Vs. Union of India & 5 Ors. on dated 04th July, 2016.

In the aforesaid judgement it has been clearly mentioned that the Govt. of India has revised the distance in the present notification of 2016 to 300 Kms. Making it mandatory for the scheduled industries as mentioned in the notification to utilise of flyash. Under the said notification and even apart from the same we have been informed that fly ash has been utilise in the following industries mainly: (1) Cement works (2) Fly ash brick manufactures along with caving blocks (3) in the construction industry. It has been made mandatory for state and central government agencies along with government undertaking to utilise such fly ash brick and blocks in the construction.

And in para-no.02 it is clearly mentioned that,

"The state Government shall prepare a report indicating the areas where such fly ash is being generated and also the areas where the same can be utilized. The respective department of the Central and the State Governments and the Mines Department need to work out for their ongoing projects, the possible requirement of fly ash and the nearest point where it can be made available by the respective generation units. Even if some of the consumer units lie outside the State but in the close proximity that is within the radius of 300 kms. As provided under the notification of 2016 and wherever generation of fly ash is more and could be possibly utilised even beyond 300 kms. Radius such areas may also be identified. This task of compilation of the report shall be completed within a period of one month".

(Copy of Judgement of Green Tribunal, Central Zonal Bench, Bhopal is enclosed at Annexure-3)

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[Signature]

4. As per Google Map Distance between Adani Dahanu Thermal Power Station to Platinum AAC Blocks Pvt. Ltd. is 40.70 kilometers. As per the notification issued by government of India we also falls under the said radius are of 300 Kilometers. Copy of the print out shown in Google Map (Annexure-4) is enclosed.
5. The second reason for rejection of our application is, "The boiler proposed earlier was also for 5TPH steam generating capacity using coal/lignite fired boiler which is under category-I".

As per Modified directions under section 18(1)(b), on page No. 11 Table F-2 of Air Pollution Score calculation method based on 'Range of Prescribed Standard of criteria pollutants' is mentioned. There are two parts. Part 1 : Score A1 = Score based on types of expected criteria Air Pollutants present in the emissions. Part 2 : Score A2 = Score based on consumption of fuels and technologies required for air pollution control .

"All such industries in which the daily consumption of coal/fuel is from 12 MT/day to 24 MT/day and the particular (Particulate/gaseous/process) emissions from which can be controlled with suitable proven technology falls under Group of A2F2. Marks for the same considered for 5 Score".

Consumption of white coal and Briquette in Steam Based Boiler is 5 to 6 MT/day and emission from it is below 3 Score. Total Waste water is reused in manufacturing process. So no water pollution is created. As well as No Hazardous Waste is generated by our organization.

6. As per the Modified Direction U/s. 18(1)(b) of the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 Dt. 07.03.2016 CPCB had harmonized and classified industrial sectors under Red/Orange/Green/White categories. CPCB had developed the criteria of categorization of Industrial Sectors based on the concept of Pollution Index which is a function of the emissions (Air Pollution), effluents (Water Pollutants), hazardous wastes generated and consumption of resources.

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- Industrial Sectors having Pollution Index score of 60 and above – Red Category
- Industrial Sectors having Pollution Index score of 41 to 59 – Orange Category
- Industrial Sectors having Pollution Index score of 21 to 40 – Green Category
- Industrial Sectors having Pollution Index score incl. & upto 20 – White Category

Based on relative Pollution Index, the number of industries in various categories are as under:

- The Red category of industrial sectors: 60
- The Orange category of industrial sectors: 83
- The Green Category of industrial sectors: 63 and
- The Newly introduced White category :36

As per the Range of Pollution Index for categorization, Industrial Sectors having pollution Index Score including and upto 20 Score, falls under "White Category"/ "Non-Polluting Industry".

"There is no necessity of consent" for White-Category/Non-Polluting Industries. Intimation to concerned SPCB/PCC shall suffice.

| Calculation Sheet for Industrial Sector | | | |
|---|------------------------|-------|---|
| 1. Water Pollution Score (W) | | | |
| Scores | Waste Water Category | Value | |
| Score on W1 | | | 0 |
| Score on W2 | | | 0 |
| Water Pollution Score = W1+W2 | | | 0 |
| 2. Air Pollution Score (A) | | | |
| Scores | Air Pollutant Category | Value | |
| Score on A1 | | | 0 |
| Score on A2 | A2F2 | 3 | 3 |
| Air Pollution Score = A1+A2 | | | 3 |
| 3. Hazardous Waste Score (HW) | | | |
| Score | HW Category | Value | |
| HW | | | 0 |
| Grand Total = W + A + HW | | | 3 |

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As per the Range of Pollution Index for categorization, Industrial Sectors having pollution Index Score of our organization is 3, which below 20 Score as prescribed by the modified directions for "White Category"/ "Non-Polluting Industry".

As per the Modified directions under section 18(1)(b), activity of "fly-ash brick/block manufacturing" of our organization Platinum AAC Blocks Pvt. Ltd falls under Sr. No. 16 of "White Category", which is previously lies at Sr. No. 37 in the Green category. Copy of the said directions (**Annexure-5**) is enclosed.

We most humbly request your goodself to consider our submission and grant as the consent for this project under "White Category" and reestablish the power supply connection and oblige.

Thanking you,

Yours faithfully,

For Platinum AAC Block Pvt. Ltd.

(Director)

Dilip Kadivar (Mo. 9898730803)
Pragibhai Van (Mo. 9375936584)

C.C. to:
Dr. K. Ravichandran,
Chief Conservator Of Forest,
DNH, Silvassa

T.C
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Annexure - R-18

CENTRAL POLLUTION CONTROL BOARD
(MINISTRY ENVIRONMENT, FOREST & CLIMATE CHANGE,
GOVT. OF INDIA)

ZOW/Tech-305/PC/Gen/2019-20/280

July 11, 2019

To

The Member Secretary

Pollution Control Committee

Daman, Diu Dadra & Nagar Haveli

Second Floor, Secretariat

Amli Hanuman Road, Silvassa

UT of Daman, Diu Dadra & Nagar Haveli

Sub: Application for granting permission of "fly-ash brick/block manufacturing" under "white category" as per Modified Direction U/s 18(1)(b) of the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 dated 07.03.2016 – Reg.

Ref:

1. Representation received from M/s Platinum AAC Blocks Pvt. Ltd., dated 24.06.2019 (Same representation was made to Collector of Dadra Nagar Haveli, DHN, Silvassa, dated 12.06.2009)

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2. Letter sent to your office by CPCB, HO, Delhi vide letter No.B-29016/ROGW/IPC-VI/2018-19/18058, dated 14.03.2019
3. Telephonic conversation done by the applicant (Director, Platinum AAC Blocks Pvt. Ltd) with the Regional Director, RD (West), Vadodara, CPCB, dated 10.07.2019.

Sir,

Kindly refer the enclosed representation received by M/s Platinum AAC Blocks Pvt. Ltd regarding categorization of their Industry into the White Category.

In this regard, it is requested to kindly examine and take necessary action on this issue. The action taken may be informed to the applicant and CPCB, Head Office (Delhi) along with a copy to this office.

Thanking you,

Yours faithfully,

(Prasoon Gargava)
Regional Director

Copy to:

The Director
M/s Platinum AAC Blocks Pvt. Ltd
269- Floor, Amidhara Complex, Near CNG Pump
N.H. No.8, GIDC, Char Rasta, Vapi-396195

Sd/-
(Prasoon Gargava)


//TRUE TYPED COPY//

Annexure-R-19
400

No.PCC/DDD/O. 2484/WA/PA/100/16.17/543
Office of the Member Secretary
Pollution Control Committee
DD & DNH,
Silvassa

C/651

Dated : 26/08/2019

Sub: Grant of Consent to Establish under Water Act/Air act- reg.

Ref: (i) Your application dated, 16.6.2019, 20.6.2019, 29/7/2019 emails dated
13.6.2019, 14.6.2019

(ii) CPCB letter No. No.ZOW/Tech-305/PC/Gen/2019-20 /279 dated 11/7/2019

With reference to the above cited subject and application mentioned under reference, it is to inform you that it was already informed with reason vide this office letter dated 19/6/2017(copy enclosed) that the application is not considered and is rejected. However, again it is to inform that at present, transportation of fly ash Falls in Category-I at sr. no.25 of PCC Notification dated 9/10/2015 (copy enclosed) and thus your application cannot be considered and is rejected.


Member Secretary
Pollution Control Committee
DD & DNH,
Silvassa

Encl: As above.

To,

M/s. Platinum AAC Block P.Ltd.,
Sr.no.19/1, Village Kherdi,
Silvassa.

Copy to :

- (i) Praseon Gargava, Regional Director, CPCB, MOEF & CC, GOI, Parivesh Bhawan,
Near Ward Office:10, Subhanpura, Vadodara-390 023 for information.

TC
12

Item No. 08

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

Appeal No. 77 /2019
(I.A. No. 606/2019 & I.A. No. 607/2019)

M/s. Platinum AAC Blocks Pvt. Ltd.

Appellant(s)

Versus

The Pollution Control Committee,
Daman Diu & Dadra Nagar Haveli & Ors.

Respondent(s)

Date of hearing: 19.09.2019

CORAM:

HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE S.P. WANGDI, JUDICIAL MEMBER
HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

For Appellant(s):

Mr. Sanjay Upadhyay, Advocate

ORDER

1. The question for consideration is that whether the appellant unit falls under Category - I of the classification as per CPCB guidelines dated 29.02.2016 prohibiting carrying on industrial activities without consent to operate.
2. According to the appellant, the appellant is transporting fly ash as per law.
3. With a view to consider the above submissions, we find it necessary to have an assistance by way of a report from a joint Committee comprising CPCB and PCC Daman Diu and Dadra Nagar Haveli. Such report may be furnished within one month by e-mail at judicial-ngt@gov.in.

*Broomika
Put up on file.
25/9/19*

12/9/19

FCC / DNH / 496
Inward Date..... 25/9/19
Outward Date.....

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4. The appellant may serve sets of paper on CPCB and PCC Daman Diu and Dadra Nagar Haveli and file an affidavit of service within one week.

List for further consideration on 26.11.2019.

Adarsh Kumar Goel, CP

S.P Wangdi, JM

K. Ramakrishnan, JM

Dr. Nagin Nanda, EM

September 19, 2019
Appeal No. 77 /2019
A



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Gmail

403 41
PCC Daman & Diu DDDNH <pccddnh@gmail.com>

FW: ORDER passed in Appeal No. 77 /2019

1 message

Member Secretary <mpec_dmn@pccdaman.info>
To: PCC Daman & Diu DDDNH <pccddnh@gmail.com>

C/205
25 September 2019 at 11:41

From: judicial-ngt@gov.in [mailto:judicial-ngt@gov.in]
Sent: Wednesday, September 25, 2019 10:08 AM
To: CPCB; miscb.epcb@nic.in; mspcc_dmn@pccdaman.info
Subject: ORDER passed in Appeal No. 77 /2019

Respected Sir/Madam,

I am directed to forward a copy of the order dated 19/09/19 passed in Appeal No. 77 /2019 M/s. Platinum AAC Blocks Pvt. Ltd. Versus The Pollution Control Committee, Daman Diu & Dadra Nagar Haveli & Ors. for your kind perusal & necessary action.

for further correspondence please send all the documents on the new mail-id i.e.

judicial-ngt@gov.in

Kindly acknowledge the same.

Regards

Consultant(Judicial)

 **Platinum AAC Blocks Pvt. Ltd..pdf**
157K

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CPCB Seal Serial No. NGT - XIV (A) 178
केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार)
(MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, GOVT OF INDIA)

Annexure - R-21
404

ZOW/Tech-302/Legal/NGT(27)/OA No. 77 of 2019/2019-20/611

November 20, 2019

To

Sh. P. K. Gupta
Sec. 'E' & I/c IPC-VI
Central Pollution Control Board
Parivesh Bhavan
East Arjun Nagar
Delhi - 110038

Sub: Assessment Report in compliance of order dated 19.09.2019 w.r.t. OA No 77 of 2019 (PB) by Hon'ble NGT, New Delhi-reg.

Ref.: E-mail received from your office dated 14.10.2019, reading Hon'ble NGT order in the matter of OA No. 77/2019 (M/s Platinum AAC Blocks Pvt. Ltd. V/s PCC, DD&DNH & Ors.)

Sir,

In the matter of Original Application NO. 77 of 2019 (PB), M/s Platinum AAC Blocks Pvt. Ltd. V/s PCC, DD&DNH & Ors., where CPCB is Respondent No. 2, Hon'ble NGT has directed to submit the report on review of categorization application by M/s Platinum AAC Blocks Pvt. Ltd., by the joint committee comprising CPCB and PCC, DD&DNH.

Visit was carried by the joint committee on 15/10/2019 and the draft report was sent through e-mail by this office to PCC for their input on 24/10/2019. PCC sent their input in the report on 08/11/2019, after the reminder e-mail sent on 29/10/2019. Report was modified based on the input received by PCC, observations made during the visit and documentary evidences, the final report for confirmation and signature was sent to PCC through e-mail on 08/11/2019. Subsequently followed-up with PCC through e-mail dated 15/11/2019. But response not received so far. Therefore, it is requested that it may be arranged to submit the report to the Hon'ble NGT by CPCB with necessary approval from the Competent Authority. The date of hearing for the matter is on 26/11/2019.

Yours faithfully

Encl.: As above

PCC / DNH /.....

Inward Date.....

Outward Date.....

(Prasoon Gargava)
Regional Director

भारतीय निदेशालय(पश्चिम): "परिवेश भवन", बॉर्ड कार्यालय नं-१० के पास, सुभानपुरा, वडादरा - 390 023 Fax : 0265 - 2392987

Regional Directorate (West): "Panvesh Bhawan", Near Ward Office No. -10, Subhanpura, VADODARA-390 023. Tel.: 0265-2392931-33, 2392955-56

मुख्यालय : परिवेश भवन, पूर्वी अर्जुन नगर, शाहदरा, दिल्ली - 110 032. EPABX Pilot No.: 011-43102030

C/265

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Copy to:

✓ 1. The Member Secretary
Pollution Control Committee
Daman, Diu Dadra & Nagar Haveli
Second Floor, Secretariat
Amli Hanuman Road
Silvassa
UT of Daman, Diu Dadra & Nagar Haveli

2. Sh. G. Rambabau
Sc. 'D' & I/c Law Division
Central Pollution Control Board
Parivesh Bhavan
East Arjun Nagar
Delhi - 110032


(Prasoon Gargava)

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**JOINT COMMITTEE REPORT ON REVIEW OF CATEGORIZATION
APPLICATION BY M/S PLATINUM AAC BLOCKS PVT. LTD., VILLAGE
KHERDI, SILVASSA, IN COMPLIANCE OF ORDER OF HON'BLE NGT,
PRINCIPAL BENCH, NEW DELHI**

IN ORIGINAL APPLICATION NO. 77/2019

**IN THE MATTER
OF
M/S PLATINUM AAC BLOCKS PVT. LTD.
VERSUS
THE POLLUTION CONTROL COMMITTEE,
DAMAN DIU & DADRA NAGAR HAVELI & ORS**



**PREPARED BY:
CENTRAL POLLUTION CONTROL BOARD
REGIONAL DIRECTORATE (WEST), VADODARA
&
POLLUTION CONTROL COMMITTEE DAMAN AND DIU AND DADRA &
NAGAR HAVELI**

November 2019

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(M/S PLATINUM AAC BLOCKS PVT. LTD.) | 2 |
| 3.0 | ACTION TAKEN BY PCC-DD&DNH AGAINST THE
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PREVALENT NOTIFICATION OF UNION TERRITORY OF
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JOINT COMMITTEE REPORT ON CATEGORISATION APPLICATION BY M/S PLATINUM AAC BLOCKS PVT. LTD., VILLAGE KHERDI, SILVASSA IN COMPLIANCE OF ORDER OF HON'BLE NGT, PRINCIPAL BENCH, NEW DELHI IN THE MATTER M/S PLATINUM AAC BLOCKS PVT. LTD. VERSUS M/S POLLUTION CONTROL COMMITTEE DAMAN AND DIU AND DADRA & NAGAR HAVELI [OA NO. 77/2019]

1.0 BACKGROUND

Hon'ble National Green Tribunal (NGT), Principal Bench, New Delhi, passed an order in the matter of M/s Platinum AAC Blocks Pvt. Ltd. versus Pollution Control Committee, Daman Diu & Dadra Nagar Haveli (PCC) & Ors. (OA No. 77/2019) on dated 19.09.2019 (**Annexure-I**).

The matter is based on the proceedings initiated by Hon'ble NGT on receipt of letter by the Appellant alleging that closure of the unit by PCC is irrelevant, unjust and incorrect, resulting in huge loss to the unit. The unit's Consent to Establish (CTE) application to manufacture the fly ash bricks at the Union Territory of Dadra Nagar Haveli has been rejected by the PCC, as the transport of fly ash within the Union Territory is not permitted as it is listed under Category-I (As per the Gazette Notification No. PCC/DMN/13-(Part-IV)/98-99/2014-15/1200, dated 09/10/2015, enclosed at **Annexure-II**). This ban for transport of fly ash under Category – I as mentioned above in the Union Territory of Dadra & Nagar Haveli is due to the high pollution potential which may endanger public health, safety and environment. The Union Territory of Dadra & Nagar Haveli has been declared as air pollution control area vide Notification No. G.S.R. 429(E), dated 10.02.1989 of Ministry of Environment & Forests, GOI (**Annexure-III**).

Unit has approached Hon'ble NGT to direct the PCC (Respondent No. 1) to grant consent/permission to the Appellant to start the production, as "Fly ash export, transport and disposal facilities" are listed under Green Category and "Fly-ash bricks/blocks manufacturing" is listed under White Category as per the "Final Document on Revised Classification of Industrial Sectors Under Red, Orange, Green and White Categories (February 29, 2016)" by Central Pollution Control Board under harmonization of classification of industrial sectors. In view of submission of the appellant, the Hon'ble NGT directed a committee comprising of CPCB and PCC to assist the Tribunal by submitting a report on this issue.

In accordance with the order of Hon'ble NGT, a joint committee comprising of the following official from Regional Directorate (West), Central Pollution Control Board (CPCB) and the Pollution Control Committee of Dadra & Nagar Haveli (PCC) visited the unit viz. M/s Platinum AAC Blocks Pvt. Ltd., Village Kherdi, Silvassa on 15/10/2019 and discussed the matter in detail:

1. Ms. Kavitha B. V., Scientist – D, CPCB, RD(W), Vadodara

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2. Ms. Bhoomika Rana, Junior Lab Assistant, PCC – DD&DNH

Sh. Vinay Gandhi, General Manager and his partners were present during the visit and provided the required information.

2.0 SUMMARY OF SUBMISSION MADE BY THE APPELLANT (M/S PLATINUM ACC BLOCKS PVT. LTD.)

The appellant (hereafter called as 'the unit') is a manufacturer of AAC Blocks (Fly-ash blocks) having set up of the unit at Survey No. 19/1, Village Kherdi, Dadra and Nagar Haveli. The unit uses fly ash as raw material along with lime and cement to produce Autoclaved Aerated Concrete (AAC) Blocks. The unit has procured fly ash from M/s Adani Dahadu Thermal Power Station, Maharashtra, located about 60 kms. from the unit, through a transporter. The unit had submitted application for obtaining CTE for manufacturing of the Fly ash bricks from PCC, but PCC has rejected the CTE as the "Fly Ash Export, Transport & Disposal Facilities" falls under Category-I and units falling under Category – I are banned by PCC as per their notification dated 09/10/2015. The chronology of unit's approach to obtain CTE from PCC and PCC's reply & action is as below:

| S. No. | Date | Event |
|--------|------------|--|
| 1 | 20/12/2016 | Unit applied for CTE for the first time |
| 2 | 03/03/2017 | PCC sent queries to the unit and asked to submit the valid Demand Draft (DD) as the DD submitted was expired |
| 3 | 17/05/2017 | Unit replied to the queries raised by PCC and submitted fresh DD |
| 4 | 19/06/2017 | PCC rejected the CTE application for the following reason:
1. The transport of fly ash is under Category-I, at Sr. No. 25, i.e. Fly ash export, transport and disposal facilities
2. The boiler proposed earlier was for 5 TPH steam generating capacity using coal/lignite fired boiler which is under Category-I |
| 5 | 22/09/2017 | Unit has replied and informed that white coal and briquettes will be used in place of coal and lignite |
| 6 | 20/02/2019 | Unit re-applied for CTE |
| 7 | 06/03/2019 | PCC rejected the CTE for the second time, quoting the same reasons as per the communication dated 19/06/2017, mentioned at Sr. no. 3 of this table. |
| 8 | 03/05/2019 | PCC issued Closure Direction to the unit for operating unit without obtaining CTE & CTO, based on the observation of the visit carried |

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|----|------------|---|
| | | out by PCC Officials on 14/09/2019. |
| 9 | 12/06/2019 | Unit submitted the letter to PCC to review the closure order and to grant permission for manufacturing of fly ash bricks and allow the unit resume its operation under "White Category" |
| 10 | 20/08/2019 | PCC rejected the submission of the unit quoting the same reasons as per the communication dated 19/06/2017, mentioned at s. no. 3 of this table. |

Unit mentioned that as per the modified direction issued by CPCB under Section 18(1)(b) of the Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1984, dated 07/03/2016, regarding harmonization of classification of industrial sectors under Red, Orange, Green and White categories:

- Fly ash export, transportation and disposal is categorised under Green Category
- Fly-ash Bricks/blocks manufacturing is categorized under white category

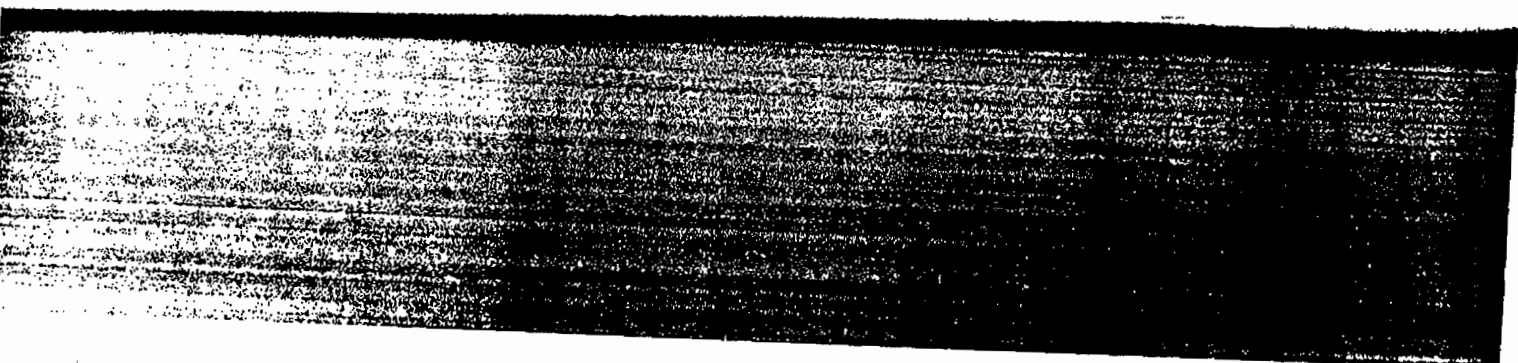
Hence, unit claimed that they do not require CTE for "Fly Ash Export, Transport and Disposal Facility" as the unit is neither exporting fly ash nor they are engaged in any type of disposal facilities of fly ash. The unit has only transported the fly-ash from thermal power plant to their unit.

Also, unit claimed that as unit manufacturing fly ash bricks/blocks is categorized under white category as per the said modified directions issued by CPCB for the categorization of industries, there shall be no necessity to obtain consent to operate "White Category Industries" and only intimation to concerned SPCB or PCC shall suffice.

3.0 ACTION TAKEN BY PCC-DD&DNH AGAINST THE APPELLANT AND CATEGORIZATION OF INDUSTRY AS PER PREVALENT NOTIFICATION OF UNION TERRITORY OF DD&DNH

As mentioned in the table above, PCC has rejected CTE to the unit, as the "Fly ash export, transport and disposal facility" falls under Category-I as per the notification No. PCC/DMN/13-(Part-IV)/98-99/2014-15/1200, dated 09/10/2015, at the official Gazette of UT Administration of Dadra & Nagar Haveli (placed at **Annexure-II**). The industries falling under Category-I are banned in the Union Territory of Daman & Diu due to high pollution potential/ manufacturing processes / products which may endanger public health, safety and environment and UT of DD&DNH has been declared as Air Pollution Control Area vide

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Notification No. G.S.R. 429(E) dated 10/02/1989 of MOEF, GOI. The present notification dated 09/10/2015 is the revision of notification dated 03/05/1999 of UT of Dadra Nagar Haveli, based on the direction issued by CPCB dated 04/06/2014 to bring/maintain the uniformity in classification of industries across the country as red, orange and green categories.

PCC team visited the site/unit on 19/04/2019 w.r.t. to the CTE application by the unit and unit's representations to grant CTE to PCC and CPCB. During the visit, it was found that in spite of rejecting the CTE, the unit was established with all required machinery and facilities for manufacture of AAC blocks. Since the unit was established and was in operation without obtaining CTE, PCC has issued closure direction with disconnection of power supply dated 03/05/2019. And subsequent to this closure order, the unit has stopped its production since May 2019. The Closure Direction issued by PCC vide letter No. PCC/DDD/O-2764/W/ICD/16-17, dated 03/05/2019, as enclosed at **Annexure-IV**.

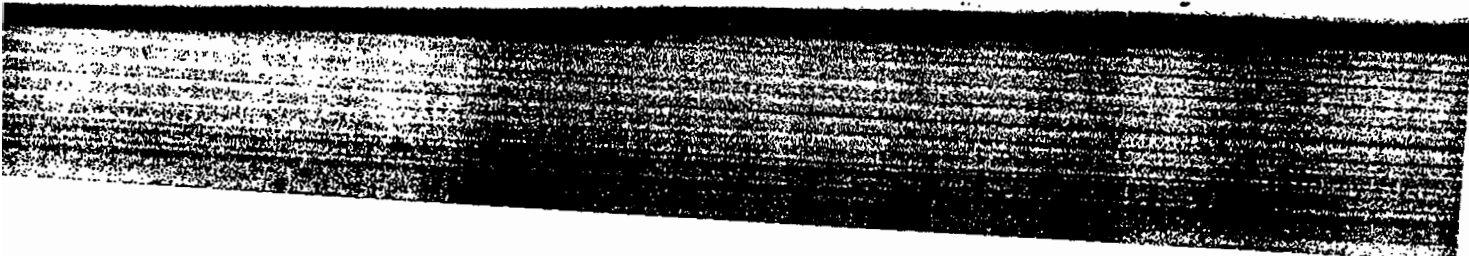
As on date PCC is granting the CTE based on the categorization of industries as per the Gazette notification dated 09/10/2015. As per this notifications, the industries are categorized into Category-I, Category-II and Category-III. All the industries falling under Category-I (except those marked with #) are banned in the Union Territory.

PCC has initiated the process of revision and upgradation of industrial sector categorisation as per the "Final Document on Revised Classification of Industrial Sectors Under Red, Orange, Green and White Categories" (February 29, 2016) (**Annexure-V**). A technical committee has been formed to review and upgrade the categorization as per CPCB directions.

4.0 CATEGORIZATION OF RED/ORANGE/GREEN/WHITE INDUSTRIES AS PER CPCB DIRECTIONS

The concept of categorization of industries has continuously evolved and since different State Pollution Control Boards interpreted it differently, a need arose to bring about necessary uniformity in its application across the country. In order to harmonize the "Criteria of categorization", directions were issued by CPCB under Section 18(1)(b) of the Water (Prevention & Control of Pollution) Act, 1974 & Air (Prevention & Control of Pollution) Act, 1981, to all SPCBs / PCCs to maintain uniformity in categorization of industries as Red, Orange, Green and White as per list finalized by CPCB.

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In order to bring about the aforementioned uniformity in classification of industrial sectors across the country, CPCB developed common criteria and came up with the "Final Document on Revised Classification of Industrial Sectors Under Red, Orange, Green and White Categories (February 29, 2016)". The categorization is based on the relative pollution potential of the industrial sectors and grouping of the industrial sectors based on the use of raw materials, manufacturing process adopted and pollutants likely to be generated. CPCB issued Directions (**Annexure-V**) under Section 18(1)(b) of the Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981, dated 07/03/2016, and subsequent reminders w.r.t harmonization of classification of industrial sectors under Red, Orange, Green and White categories. Under these directions the SPCBs and PCCs were required to revise / prepare the inventory of Red, Orange, Green and White categories of industries operating in their jurisdiction based on the revised criteria specified in the final report. It was directed to submit the revised list of industrial categories to CPCB within 90 days i.e., before 30.05.2016.

Referring to this document for categorisation of industries, it can be seen that "Fly ash export, transport & disposal facilities" is classified under Green Category while "Fly ash bricks / blocks manufacturing" is classified under White Category. Further, CPCB in its document also clarified that addition of any new or left-over industrial sectors and their categorization which is not listed in the categorization done by CPCB shall be done by a committee at the level of concerned SPCB/PCC in accordance with the revised criteria and guidelines. It would be pertinent to note that there is no classification of "**Fly ash bricks / blocks manufacturing using fuel**" in the document. Therefore, in this case, SPCB/PCC has to categorize "**Fly ash bricks / blocks manufacturing using fuel**" industry. The detailed calculations for these classifications are as given hereunder:

A. Categorisation of "Fly ash export, transport & disposal facilities"

Referring to Table G-4: Final List of Green Category of Industrial Sectors (page 47 of the document) at Sr. No. 58 categorisation of "Fly ash export, transport & disposal facilities" is classified under Green Category (Refer Annexure-V). Based on the document referred in Annexure-V, the joint committee has calculated the score as under:

| Pollutant Group | Score | Justification |
|-----------------|-------|---|
| W | 00 | No effluent generated |
| A1F | 10 | Generation of fugitive emission of Particulate matter
which are: |

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| | | |
|-----------|----|---|
| | | <ul style="list-style-type: none"> Not generated as a result of combustion of any kind of fossil-fuel Generated due to handling/processing of materials without involving the use of any kind of chemicals Which can be easily contained/controlled with simple conventional methods |
| A2 | 00 | Score based on consumption of fuels and technologies required for air pollution control (not considered as the coal used at boiler is less than 12 MT/day) |
| A = A1+A2 | 10 | |
| H | 00 | No Hazardous Waste generated |
| W+A+H | 25 | Score normalised since there is no water pollution or hazardous waste generation ($100 \times 10/40$) = 25 |

Since the score is between 21 and 40, the activity is considered as Green Category

B. Categorisation of "Fly ash bricks / blocks manufacturing"

Referring to Table G-5: Final List of White Category of Industrial Sectors. (page 51 of the document) at Sr. No. 16 categorisation of "Fly ash bricks / blocks manufacturing" is classified under White Category. But this categorisation is for manufacturing process without using any fuel or having installed any boiler.

C. Categorization of "Fly ash bricks / blocks manufacturing using fuel"

The unit is having a boiler of capacity 5.5 MT/Hr to generate the steam which will be used in the autoclaves in the process. Agriculture briquette is being used as fuel in the boiler. Looking at the huge setup of the unit and the huge quantity of raw materials stored and used, quantity of water consumed, wastewater generated due to spillage of slurry and washing of the floors & boiler blow down, hazardous waste (used oil) generated from the utilities like D.G.Set, Boiler, machineries, disposal of used oil drums, the joint committee has calculated the score as under:

| Pollutant Group | Score | Justification |
|-----------------|-------|--|
| W1-15* | 12 | Wastewater generated from the physical unit operations/processes and which is polluted due to presence of TDS of inorganic nature and the natural origin like fresh-water RO rejects, Boiler Blow downs, |

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| | | brine solution rejects etc.
Note: Effluent generated during mixing of material during slurry formation, moulding and curing, floor washing and boiler blow down. |
| A1D | 15 | Presence of criteria air pollutants having prescribed standard from 51 to 250 mg/Nm ³
Note: Unit is operating the Boiler of 5.5 MT/Hr capacity and hence there is emission. |
| A2 | 00 | The daily consumption of coal/fuel is approximately 2.5 MT/day (as per project report), which is less than 12 MT/day. Hence score considered is zero. |
| A = A1+A2 | 15 | |
| HW4 | 10 | Recyclable HW, which are easily recyclable with proven technologies
Note: Used oil generated from Boilers/D.G. Set/ Plant and Machineries and cleaning and leakage of used oil storage drums. During committee visit the used oil drums procured by the unit for greasing the moulds were found stored in the premises of the unit. |
| W+A+H | 37 | Total score is 37 |

* During the joint visit the unit was non-operational and hence the effluent was not observed.

Effluent generation is considered as per PCC report based on PCC visit to the unit on 14/09/2019.

Since the score is between 21 and 40, the activity is considered as Green Category

"Fly ash bricks / blocks manufacturing using fuel" category is a new/left-out category which is neither listed in CPCB categorization list nor in the list of categorization as per PCC Gazette Notification. This category has been considered by the joint committee as per the score calculated by the joint committee based on the observations made during the joint committee visit and documentary evidences made available. It is clarified in the "Final document on revised Classification of industrial sector under Red, Orange, Green & White Categories" published by CPCB that addition of any new or left over industrial sector and their categorization which is not listed in the categorization done by CPCB shall be done by the committee at the level of concerned SPCB/PCC in accordance with the revised criteria and guidelines.

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5.0 OBSERVATIONS AND FINDING BASED ON JOINT VISIT BY CPCB & PCC-DD&DNH

A joint committee constituted as per the order of Hon'ble NGT mentioned above visited the unit on 15/10/2019, located at Survey No. 19/1, Village Kherdi, Dadra and Nagar Haveli. During the visit, it was found that the unit has established full-fledged AAC Block manufacturing without obtaining Consent to Establish (CTE) and operated without obtaining Consent to Operate (CTO), even after rejection of CTE by PCC.

At the time of visit on 15/10/2019, unit was non-operational and it was informed that unit has stopped its operations and manufacturing process since May 2019, subsequent to closure directions dated 03/05/2019, from PCC.

Unit is established with plot of total area 23950 Sq. Mtrs., with a built-up shed area measuring 4110 Sq. Mtrs. on ground floor and 695 Sq. Mtrs., in first floor. The unit is having the manufacturing capacity of 2,50,000 cubic meters of AAC Blocks/year and operates seven days and week and three shifts a day. One of the raw materials for manufacture of AAC block is fly ash. Out of all raw materials used, fly ash consumption is 82% to 85%. The total investment of the project is 10 crores as per the application submitted by the unit for granting of CTE.

The process of AAC block production is as follows:

Initially fly ash is mixed with water to form fly ash slurry. Slurry thus formed is mixed with other ingredients like lime powder, cement, gypsum and aluminium powder in quantities required as per product recipe. All the ingredients are mixed in the mixing drum and churned for set time. After thorough mixing, slurry containing fly ash, lime powder, cement, gypsum and aluminium powder is poured in moulds. These moulds are cured for about 2.5 hrs. to 4 hrs. Once the cake has achieved the required cutting strength, it is de-moulded and cut as per requirements. The cut cakes are autoclaved for about 11 to 12 hrs. in the autoclave before the final AAC blocks are ready.

At the time of visit the it was observed that a range of machineries viz, Slurry tanks, Slurry pool, Cement & slurry weighing scale, pouring mixture, block mould, cutting machine, tilting crane, autoclaves, mould pusher devices, Rail track (1224 mtrs.), loader track, sludge sump, D.G. set, production crane etc. are installed in the unit. Also, it was observed that a boiler of capacity 5.5 MT/hr is installed in the unit and it was informed that agricultural briquettes are used as the fuel in this boiler. Boiler is provided with cyclone separator and Bag filter

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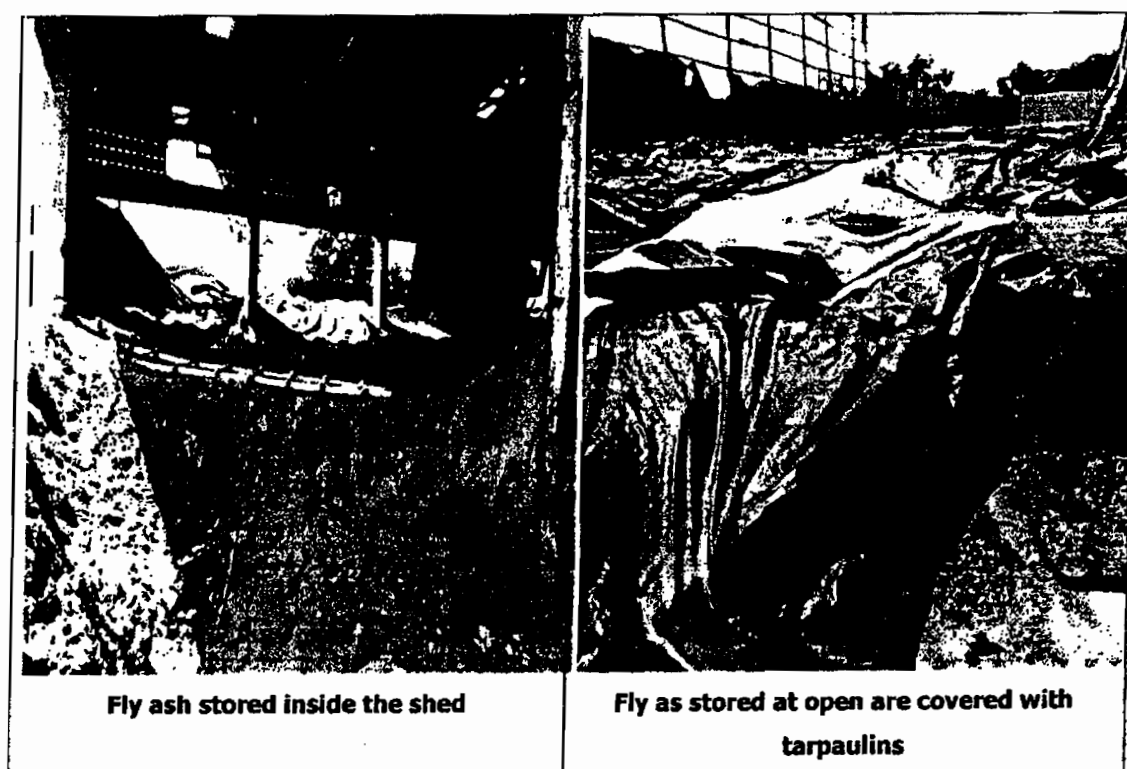
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c/843

(reportedly with 98 bags) as air pollution control device (APCD) and stack of 30 mtrs. height. Source of fresh water for the manufacturing process and for domestic use is the bore well available in the site and reportedly 1.25 Lakh litres/ day of fresh water is being consumed by the unit.

The unit was transporting the fly ash (pond ash with 15% moisture) from M/s Adani Dahadu Thermal Power station, Maharashtra in closed containers/trucks. At the time of visit, it was observed that the fly ash was found stored in the unit in a shed and as well as outside the shed on open surface.

During the visit it was observed that used oil is being used for greasing the moulds, reportedly procured from different automobile workshops, without obtaining authorization for reusing of HW. Unit has also not obtained NOC from Central Ground Water Authority and District Administrator for extraction of ground water from bore well.

During the visit, the unit representative informed that unit was in operation since November, 2017, without obtaining CTE & CTO till May 2019. Few photographs of the unit are provided below:



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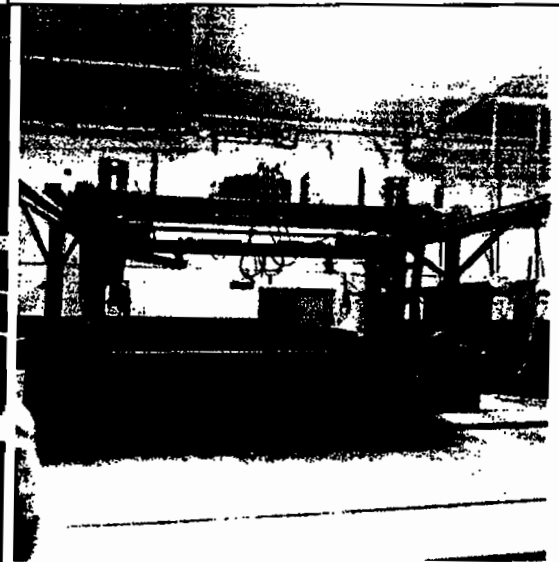
Improper storage of Fly ash in premises



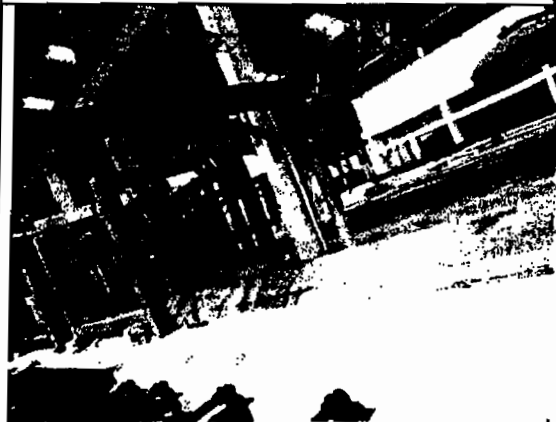
Agriculture briquetts used as boiler fuel



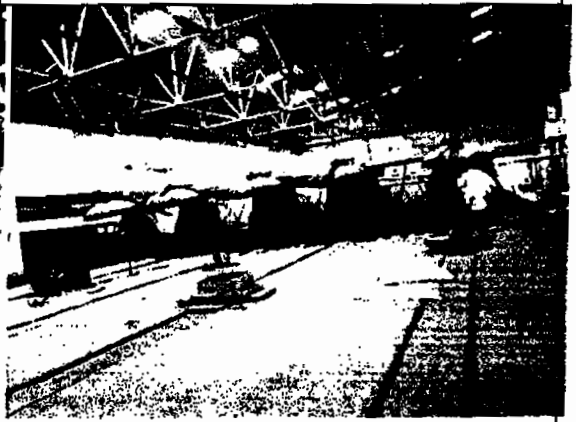
AAC Block Mould



Loading Crane used to operate the moulds



Block Cutting machine Line



Autoclaves

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C/239



**Stored used oil used for greasing the mould
without authorization**



ACC Blocks stored inside the unit premises

6.0 CONCLUSION & RECOMMENDATION

On the basis of facts and observations recorded as above, it is concluded that the said unit has established and operated without getting Consent to Establish (CTE) and Consent to Operate (CTO) from the PCC. PCC has rejected to grant CTE to the unit as the unit falls under Category-I, which is banned in the Union Territory of DD&DNH as per the Gazette Notification No. PCC/DMN/13-(Part-IV)/98-99/2014-15/1200, dated 09/10/2015.

In order to harmonize the "criteria of Categorization of industries" and bring about necessary uniformity in its application across the country, CPCB has issued directions to all SPCBs/PCCs dated 07/03/2016, to revise/prepare the inventory of Red, Orange, Green and White Categories of industries operating in their jurisdiction based on the revised criteria specified in the document (Final document on revised Classification of industrial sector under Red, Orange, Green & White Categories) published by CPCB dated 29/02/2016. The PCC, Daman Diu & Dadra Nagar Haveli is in the process to harmonize the categorization of industries in compliance of the direction issued by CPCB.

The unit carries out the following two activities to produce the fly ash bricks/blocks:

1. Fly ash Transport
2. Fly ash Bricks/blocks manufacturing using fuel

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Based on Joint committee of CPCB & PCC officials visit to the unit, observations and calculations, it is concluded that the unit falls under the categories mentioned at Sr. No. 1 (for transportation of Fly ash) and Sr. No. 3 (for fly as bricks/Blocks manufacturing using fuel) of the following table:

| S. No. | Industry sector | Category of the industry as per CPCB Criteria (document dated 29/02/2016) | Category of Industry as per PCC Gazette notification dated 09/10/2015 |
|--------|--|--|---|
| 1. | Fly ash export, transport & disposal Facilities | Green Category | Category-I (which is banned in PCC) |
| 2. | Fly ash Bricks/Blocks manufacturing | White Category | Category-III |
| 3. | *Fly ash Bricks/Blocks manufacturing <u>using Fuel</u> | New/Left-out Sector (to be categorized by SPCB/PCC)
However, as per the Joint Committee Calculation the unit falls under "Green Category" | Not Categorized |

* It is also clarified in the "Final document on revised classification of industrial sector under Red, Orange, Green & White Categories", published by CPCB that addition of any new or left over industrial sector and their categorization which is not listed in the categorization done by CPCB shall be done by the committee at the level of concerned SPCB/PCC in accordance with the revised criteria and guidelines. There is no classification of 'Fly ash Bricks/blocks manufacturing using fuel' under the CPCB classification document. It is new/left-out industrial sector.

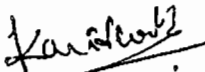
As per the score calculated by the joint committee, based on the observations made during the visit and documentary evidences made available, it is concluded that 'Fly ash export, transport and disposal facility' falls under "Green Category" and 'Fly ash Bricks/Blocks Manufacturing using Fuel' also falls under "Green Category" as mentioned at Sr. No. 1 and Sr. No. 3 respectively, of the above table. The detailed score calculation is provided at Section 4.0 of this report.

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The PCC is yet to harmonize the categorization of industries in compliance of Modified Directions issued by CPCB vide letter dated 07/03/2016, under Section 18(1)(b). Now, any consideration about admissibility of the consent to the said unit may be viewed based on harmonization of industries by PCC. The violations w.r.t Consent to Establish and Consent to Operate by the unit may be dealt by PCC as per provisions of relevant Acts and Rules.

(Bhoomika Rana)*
JSA
PCC-DD&DNH


(Kavitha B. V.)
Sc. 'D'
CPCB, Vadodara

* Subsequent to the exchange of draft version of the report, this report was sent to PCC, Daman, Diu and Dadra Nagar Haveli, for confirmation and signature on 08/11/2019 through e-mail. Subsequently followed up through e-mail dated 15/11/2019. But response not received so far. Therefore this report is submitted from CPCB.

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Annexure R-22
421

Item No. 04

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

Appeal No.77/2019
(I.A. Nos. 606/2019 & 607/2019)
(With report dated 27.11.2019)

M/s. Platinum AAC Blocks Pvt. Ltd.

Appellant(s)

Versus

The Pollution Control Committee,
Daman Diu & Dadra Nagar Haveli & Ors.

Respondent(s)

Date of hearing: 17.01.2020

CORAM:

**HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE S.P WANGDI, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER
HON'BLE MR. SIDDHANTA DAS, EXPERT MEMBER**

For Appellant(s):

Ms. Saumya Chaudhari and Ms. Fizza
Zaidi, Advocates

For Respondent(s):

Mr. Srinivas Vishven, Advocate for CPCB

ORDER

This appeal has been preferred against the order of the Pollution Control Committee (PCC), Dadra Nagar Haveli, Silvassa under Section 33-A of the Water (Prevention and Control of Pollution) Act, 1974 and Section 31-A of the Air (Prevention and Control of Pollution) Act, 1981 directing closure of the unit of the appellant incidental directions after holding that the activities of the Appellant were not permissible and were without requisite consent.

Considering the plea of the appellant that utilization of fly ash was not red category industry, as wrongly assumed, by order dated 19.09.2019, the Tribunal sought a report from a joint Committee comprising CPCB and PCC Daman Diu and Dadra Nagar Haveli.

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Accordingly, a report has been filed on 27.11.2019 concluding as follows:

"6.0. CONCLUSIONS & RECOMMENDATIONS

On the basis of facts and observations recorded as above, it is concluded that the said unit has established and operated without getting Consent to Establish (CTE) and Consent to Operate (CTO) from the PCC. PCC has rejected to grant CTE to the unit as the unit falls under Category-I, which is banned in the Union Territory of DD&DNH as per the Gazette Notification No. PCC/DMN/13-(Part-IV)/98-99/2014-15/1200, dated 09/10/2015.

In order to harmonize the "criteria of Categorization of Industries" and bring about necessary uniformity in its application across the country, CPCB has issued directions to all SPCBs/PCCs dated 07/03/2016, to revise/prepare the inventory of Red, Orange, Green and White Categories of industries operating in their jurisdiction based on the revised criteria specified in the document (Final document on revised Classification of industrial sector under Red, Orange, Green & White Categories) published by CPCB dated 29/02/2016. The PCC, Daman Diu & Dadra Nagar Haveli is in the process to harmonize the categorization of industries in compliance of the direction issued by CPCB.

The unit carries out the following two activities to produce the fly ash bricks/blocks:

1. Fly ash Transport
2. Fly ash Bricks/blocks manufacturing using fuel

Based on Joint Committee of CPCB & PCC officials visit to the unit, observations and calculations, it is concluded that the unit falls under the categories mentioned at Sr. No. 1 (for transportation of Fly ash) and Sr. No. 3 (for fly ash bricks/blocks manufacturing using fuel).

| S. No. | Industry sector | Category of the industry as per CPCB Criteria (document dated 29/02/2016) | Category of Industry as per PCC Gazette notification dated 09/10/2015 |
|--------|---|---|---|
| 1. | Fly ash export, transport & disposal Facilities | Green Category | Category-1
(which is banned in PCC) |

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| 2. | <i>Fly ash Bricks/ Blocks manufacturing</i> | <i>White Category</i> | <i>Category-III</i> |
| 3. | <i>*Fly ash Bricks/ Blocks manufacturing using Fuel</i> | <i>New/Left-out Sector (to be categorized by SPCB/PCC) However, as per the Joint Committee Calculation the unit falls under "Green Category"</i> | <i>Not Categorized</i> |

**It is also clarified in the "Final document on revised classification of industrial sector under Red, Orange, Green & White Categories", published by CPCB that addition of any new or left over industrial sector and their categorization which is not listed in the categorization done by CPCB shall be done by the committee at the level of concerned SPCB/PCC in accordance with the revised criteria and guidelines. There is no classification of 'Fly ash Bricks/blocks manufacturing using fuel' under the CPCB classification document. It is new/left-out industrial sector.*

As per the score calculated by the joint committee, based on the observations made during the visit and documentary made available, it is concluded that 'Fly ash export, transport and disposal facility' falls under "Green Category" and 'Fly ash Bricks/Blocks Manufacturing using Fuel' and falls under "Green Category" as mentioned at Sr. No. 1 and Sr. No.3 respectively, of the above table. The detailed score calculation is provided at Section 4.0 of this report.

The PCC is yet to harmonize the categorization of industries in compliance of Modified Directions issued by CPCB vide letter dated 07/03/2016, under Section 18(1)(b). Now any consideration about admissibility of the consent to the said unit may be viewed based on harmonization of industries by PCC. The violations w.r.t. Consent to Establish and Consent to Operate by the unit maybe dealt by PCC as per provisions of relevant Acts and Rules."

In view of the above, the view taken by the PCC cannot be sustained and is set aside. The PCC may pass a further order in accordance with law within two weeks.

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The appeal is disposed of.

Adarsh Kumar Goel, CP

S.P Wangdi, JM

Dr. Nagin Nanda, EM

Siddhanta Das, EM

January 17, 2020
Appeal No. 77/2019
(I.A. Nos. 606/2019 & 607/2019)
R



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PCC Daman & Diu DDDNH <pccdddnh@gmail.com>

Annexure - R-23
425 J879

Order dated 17.1.2020 Passed by the Hon'ble NGT, Principal Bench, New delhi in the matter of M/s. platinum AAC Blocks P.Ltd., village- Kherdi, Silvassa- Reg.

2 messages

PCC Daman & Diu DDDNH <pccdddnh@gmail.com>

3 February 2020 at 15:07

To: prasoon.cpcb@nic.in, asim.human@gmail.com, pkgupta.cpcb@nic.in, jucicial-ngt@gov.in

Sir,

Please kindly find the attached Order Copy.

From:
Pollution Control Committee,
DD & DNH.

 scan0131.pdf
1581K

Mail Delivery Subsystem <mailer-daemon@googlemail.com>
To: pccdddnh@gmail.com

3 February 2020 at 15:07



Address not found

Your message wasn't delivered to jucicial-ngt@gov.in because the address couldn't be found or is unable to receive email.

The response from the remote server was:

550 #5.1.0 Address rejected.

Final-Recipient: rfc822; jucicial-ngt@gov.in

Action: failed

Status: 5.0.0

Remote-MTA: dns; mailgw.nic.in. (164.100.14.59, the server for the domain gov.in.)

Diagnostic-Code: smtp; 550 #5.1.0 Address rejected.

Last-Attempt-Date: Mon, 03 Feb 2020 01:37:22 -0800 (PST)

----- Forwarded message -----

From: "PCC Daman & Diu DDDNH" <pccdddnh@gmail.com>

To: prasoon.cpcb@nic.in, asim.human@gmail.com, pkgupta.cpcb@nic.in, jucicial-ngt@gov.in

Cc:

Bcc:

Date: Mon, 3 Feb 2020 15:07:06 +0530

Subject: Order dated 17.1.2020 Passed by the Hon'ble NGT, Principal Bench, New delhi in the matter of M/s. platinum AAC Blocks P.Ltd., village- Kherdi, Silvassa- Reg.

Sir,

Please kindly find the attached Order Copy.

From:
Pollution Control Committee,
DD & DNH.

----- Message truncated -----

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426 dgm

No.PCC/DDD/NGT-77(2019)(DNH)-ACC
Platinum/2019-2020/44
Office of the Member Secretary
Pollution Control Committee
Dadra Nagar Haveli and Daman & Diu,
Silvassa

Dated : 03/02/2020

Sub: Order dated 17.1.2020 passed by the Hon'ble NGT, Principal Bench, New Delhi in the matter of M/s. Platinum AAC Blocks P.Ltd., village Kherdi, Silvassa- reg.

ORDER

WHEREAS, a case was filed by M/s. Platinum AAC Block P.Ltd.. against the Pollution Control Committee & Ors. before the National Green Tribunal, Principal Bench, Delhi vide O.A. 77 of 2019 on date 11.9.2019.

AND WHEREAS an Order was issued by the National Green Tribunal vide its hearing dated 17.1.2020 has directed the PCC, DNH & DD to pass an order in the said matter within two weeks.

AND WHEREAS a letter dated 22/1/2020 has been received from Shri. Asim Sarode, Advocate for the unit informing about the order passed by the NGT requesting the PCC, DNH & DD to pass order in accordance with law and intimate about the action taken,

AND WHEREAS M/s. Platinum AAC Blocks P.Ltd. at Survey.No.19/1.village Kherdi, Silvassa had made an application to the office of the Pollution Control Committee, DNH & DD dated 19/12/2016 & 17/5/2017 for granting Consent to Establish under Water (Prevention and Control of Pollution) Act, 1974 and under Air (Prevention and Control of Pollution) Act, 1981 to manufacture product AAC (Autoclaved Aerated Concrete). 2,50,000 CM³ per annum by using fly ash / silica sand 5500 MT, Cement 1512 MT, Lime 756 MT,

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Aluminium Powder 6.1 MT, Gypsum 126 MT, SOL oil 10,000 litres, Furnace oil 7500 litres and coal 800 MT per month.

AND WHEREAS, the Administrator of Daman and Diu and Dadra & Nagar Haveli in exercise of powers conferred by Sub section (1) read with clause (v) of subsection (2) of section 3 and clause (e) of sub section (2) of section 6 of the environment (Protection) Act, 1986 and Government of India, Ministry of Home Affairs Notification S.O. 667 (E) dated 10.09.1992 recategorized all the industries in Dadra & Nagar Haveli into Category I, Category II and category III list of categories vide Notification No. PCC/DMN/13- (part IV)/98-99/2014-15/1200 dated 09.10.2015.

AND WHEREAS, the PCC vide its office letter dated 19/6/2017 rejected the proposal on the grounds that the activity was falling under Category-I at Sr.no.25 i.e. Flyash export, transport and disposal facilities which is banned as per the PCC Gazette Notification No. PCC/DMN/13-(Part IV)/98-99/2014-15/1200 dated 9/10/2015. The Fly Ash bricks/blocks manufacturing falls under Category-III at Sr.no. 37. However, the aforesaid product i.e.AAC (Autoclaved Aerated Concrete) is not categorized in the said notification.

AND WHEREAS, as per the PCC Notification dated 9/10/2015 the above activities are categorized as follows;

- (a) The **transport** of Fly Ash is under Category-I at Sr.no.25 i.e. Fly ash export, transport and disposal facilities.
- (b) Any industry/industrial activity which is not covered under the category I but having coal fired boiler with steam generation capacity more than 5T/Hr will be covered under Category I The Boiler proposed is also 5 TPH steam generating capacity using **Coal/lignite fired boiler** which is under Category-I.

AND WHEREAS, M/s Platinum AAC Blocks Private Limited had again submitted a letter dated 3/10/2017 to PCC,DNH & DD against the rejection letter issued vide No.PCC/DDD/O-2764/WA/AA/KD/16-17/216 dated 19/6/2017 stating that;

- (a) *They are not going to transport fly ash, but they will buy/purchase fly ash from Reliance Infrastructure Ltd. Dhamu Thermal Power Station.Dhamu. Enclosed copy of letter from M/s. Jay Gurudatta Supplier manufacturer*

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/supplier of Fly ash bricks, Palghar, Maharashtra is ready to supply Pond Ash and Fly Ash to M/s. Platinum AAC Blocks P.Ltd.Survey.No.19/1, village Kherdi, DNH, Silvassa.

(b) That fuel of Boiler 5 TPH is Briquette and by mistake they had mentioned the fuel as coal.

AND WHEREAS, the unit had admitted in the aforesaid letter dated 31/10/2017 stating that they will purchase the fly ash from Dhanu Thermal Power Station etc thus *transport* the fly ash from other state.

AND WHEREAS, the Union Territory of Dadra & Nagar Haveli and Daman and Diu are small and human habitations are spread across the entire area, setting up of such a huge plant is not advisable and transportation of flyash will certainly create fugitive emission as it consists primarily of oxides of silicon, aluminum iron and calcium. Magnesium, potassium, sodium, titanium, and sulfur are also present to a lesser degree.

AND WHEREAS, the unit proposed to bring the fly ash as raw material from outside the territory and use Dadra & Nagar Haveli for manufacturing AAC blocks and this will certainly disturb the environment particularly the air quality and due to fugitive emission, the PM10, PM2.5 and So2 in air will increase, which will in turn affect the human health.

AND WHEREAS, the spread of fly ash in agricultural and forest areas will be detrimental to the crop productivity

AND WHEREAS, the unit was informed vide letter dated 7/12/2017 that the said application submitted for grant of Consent to Establish was rejected vide letter dated 19/6/2017 as transportation of fly ash is falling under Category-I at Sr.no.25 i.e. Fly ash export, transport and disposal facilities which is banned as per the PCC Gazette Notification No. PCC/DMN/13-(Part IV)/98-99/2014-15/1200 dated 9/10/2015.

AND WHEREAS, M/s. Platinum AAC Block P.Ltd again submitted an application for Consent to Establish vide application dated 6/3/2019. The site of M/s.

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Platinum AAC Block P.Ltd., Situated at Survey No.19/1, Village Kherdi, Silvassa, UT of DNH was inspected on 19.4.2019 by the officials of PCC, DNH &DD and following observations were made.;

- a. Unit established at the site with all plant and machineries and was fully operational without obtaining prior Consent to Establish/ Operate under Water (Prevention and Control of Pollution) Act 1974 and Air (Prevention and Control of Pollution) Act 1981.
- b. Unit was established in total area of 23950 Sq. M, with built up shed area of 4110 Sq. M on ground floor and 695 Sq. M in first floor. The unit was having the manufacturing capacity of 2,50,000 cubic meters of AAC Blocks/year.
- c. The unit is established in the human habitation predominantly having tribal population.
- d. Raw materials such as Fly Ash 550 Tons(5,50,000 Kgs), Lime powder- 72 Tons(72000 kgs), Cement-32 Tons(32000 kgs), Aluminum powder 500 kgs to 1000 kgs) was lying in the unit premises.
- e. The following plant and machineries were installed viz. Machine-2 nos. Slurry tanks-- 50 M3 capacity, Slurry pool-4 nos. (10 M3 capacity), Cement and slurry weighing scale- 2 nos, Pouring mixture - 1 no., Block mould- 24 nos. (3.05 M3), Cutting m/c line-2 nos., Tilting crane- 1 no., Loading crane- 1 no., Autoclave- 7 nos., (400 Cubic M each and run for 3 shifts), Mould Pusher Device - 5 nos., Rail track—1224 meters, Loader Track, Boiler- 5.5 MT/hour using Briquette fuel, Air compressor- 1 no. 9 kg/Cm2, Vacuum pump-1 no. 20 kg/Cm2, R.O. Plant- 1 no. 6000 ltrs/hr, sludge pump- 5 nos., with motor capacity 18 KW, winch m/c.- 2 nos. 60 MTrs., D.G.set- 550 KVA- 1 no. using diesel fuel without any consent to establish.
- f. Manufacturing process was going on which involved Raw materials (mixing of Fly ash/Limestone powder/Cement/Gypsum/ Plaster of paris/Aluminium powder/paste) —dosing and mixing – casting rising and procuring- demoulding and cutting.
- g. Water was used to form slurry during mixing of raw material which was tapped from bore well. Three bore wells were dug out and ground water was extracted used for operations. The total quantum of water used in the manufacturing process was about 1.25 Lakhs liters/day.
- h. Effluent was generated before curing the products and also during mixing of material to form slurry.
- i. ETP was proposed in the list of machinery, but the unit was in operation without any Effluent Treatment Plant.
- j. The waste or rejected products, used oil, etc., were not stored at proper designated place.
- k. The raw material mainly fly ash was lying all over in the open ground in large quantity.

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- I. Fly ash being a fine particle can be spread to other areas outside the premises and easily mixed in air and cause problems

AND WHEREAS, the unit applied for power supply on 6.12.2016 and the first electric consumption bill was raised to the said unit on 12.06.2017, which shows that the unit M/s Platinum AAC Block P. Ltd, Kherdi, Silvassa established and started its operation since June, 2017.

AND WHEREAS, the unit has violated the norms of PCC and unauthorizedly manufacturing AAC blocks without obtaining prior Consent to Establish/Operate under Water (Prevention and Control of Pollution) Act 1974 and Air (Prevention and Control of Pollution) Act 1981 without valid consent under Section 25 of Water (Prevention and Control of Pollution) Act, 1974 and under Sec.21 of Air (Prevention and Control of Pollution) Act, 1981, and without obtaining Authorization under Hazardous Waste Rules, 2016, thereby caused pollution to the environment.

AND WHEREAS, the unit M/s. Platinum AAC Block P.Ltd., Kherdi. Silvassa has extracted huge quantum of ground water through borewells and used for manufacturing AAC blocks without obtaining the necessary clearances from the Central Ground water Authority and violated the norms of the guidelines.

AND WHEREAS, the unit M/s. Platinum AAC Block P.Ltd., was issued with a Closure direction vide dated 3/5/2019 under Section 33(A) of Water (Prevention and Control of Pollution) Act 1974 and Section 31(A) of Air (Prevention and Control of Pollution) Act 1981 with power disconnection for carrying out industrial activities which were not permissible and operating the unit without valid consent under Section 25 of Water (Prevention and Control of Pollution) Act, 1974 and under Sec.21 of Air (Prevention and Control of Pollution) Act, 1981, and without obtaining Authorization under Hazardous Waste Rules, 2016.

AND WHEREAS, M/s Platinum AAC Block P. Ltd, Kerdi, Silvassa violated the norms of PCC and polluted the environment in habitation areas of the village of Godamba, Kherdi, Silvassa where the said unit is located.

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AND WHEREAS, as per the final report of the working group was prepared and finalized in 57th Conference of Chairmen and Member Secretaries of CPCB & SPCBs/PCCS, for inventorisation of Industries to maintain uniformity in categorization of industries in RED, ORANGE and GREEN on dated June, 2012. As per the CPCB report of 2012, activity of Fly Ash export, transport and disposal facilities is kept under category I, Red category. The PCC had adopted the list of the classified industries of the abovesaid classification. The Fly Ash export, transport and disposal facilities falls under Category-I and the same is banned in Dadra & Nagar Haveli as per PCC Notification No. PCC/DMN/13-(Part IV)/98-99/2014-15/1200 dated 9/10/2015 due to their high pollution potential/manufacturing process/products which may endanger public health, safety and environment.

AND WHEREAS, as per the amendment notification of PCC dated 18/1/2018 only units which are existing prior to the 2015 notification would be allowed for expansion/modernization. The extract of the said notification is reproduced as under:

" All the industries falling under Category-I, EXCEPT those marked with "#", are Banned (Establishment) in the Union Territory of Daman, Diu and Dadra Nagar Haveli due to their high pollution potential /manufacturing processes/products which may endanger public health, safety and environment". Any application for expansion/modernization shall be considered on case to case basis in compliance of various norms of Pollution Control Committee, Central Pollution Control Board and MoEF & CC, New Delhi in non-ecologically sensitive areas.

AND WHEREAS, the PCC, DNH & DD received NGT order dated 19.9.2019 on 30/9/2019 against the appeal filed in NGT by M/s. Platinum AAC Block P.Ltd. instructing to have an assistance by way of a report from a joint committee comprising CPCB and PCC Daman, Diu and Dadra Nagar Haveli.

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AND WHEREAS, the joint inspection report was sent to the CPCB, Delhi for further filing to the NGT without including the suggestions and observations of the representative of PCC.

AND WHEREAS, as per existing notification issued vide No. PCC/DMN/13-(Part IV)/98-99/2014-15/1200 dated 9/10/2015 by the PCC, DNH& DD, which in currency, the activities carried out by the unit without obtaining consent to establish and consent to operate from PCC can be classified in the following category:

1. Fly ash bricks/blocks manufacturing falls under Green Category at Sr. no.37 of PCC notification but the proposed product Autoclaved Aerated Concrete is not categorized.
2. Fly ash Export, Transport and Disposal facilities falls at Sr.no.25 of Category-I which is in banned category. As such the unit can not transport fly ash and use the same as one of the raw materials for manufacturing of Autoclaved Aerated Concrete.

AND WHEREAS, it is to conclude that the said unit was established and operated without obtaining prior Consent to Establish (CTE) and prior Consent to Operate (CTO) from the PCC. The unit has not approached the authorities with the clean hands and has violated the provisions of Environment (Protection) Act, 1986, Environment (Protection) Rules, 1986, Water (Prevention and Control of Pollution) Act 1974 and Air (Prevention and Control of Pollution) Act 1981. It is mandatory to obtain Consent to Establish before setting up the industries in DNH and DD and consent to operate to start the manufacturing. The application has been rejected by PCC considering the prevailing provisions of categorization of industries in PCC as well as the declaration of 'Air Pollution Control Area' vide Notification No. G.S.R. 429(E), dated 10/02/1989 by Ministry of Environment & Forest, GOI, in spite of rejection, the unit had established and started its manufacturing process

NOW THEREFORE, in view of the above, it is ordered that as per the existing notification dated 9.10.2015 applicable to Dadra and Nagar Haveli, fly ash export,

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transport and disposal facility falls under the banned category and manufacturing of Autoclaved Aerated Concrete using fly ash is not allowed to be established.

This is approved with the approval of the Competent Authority vide diary no. 577184 date 3/2/2020.

o/c
Member Secretary
Pollution Control Committee
DD & DNH,
Silvassa

To,

M/s. Platinum AAC Block P.Ltd., Sr.no.19/1, Village Kherdi, Silvassa.

Copy to :

- D. Lipbani
JES- 9898730803
03.02.2020
03.02.2020
- (i) ✓ The Chairman, PCC, DNH & DD for information.
 - (ii) Praseon Gargava, Regional Director, CPCB, MOEF & CC, GOI, Parivesh Bhawan, Near Ward Office: 10, Subhanpura, Vadodara-390 023 for information.
 - (iii) Asim Sarode and Associates(Adv), Flat no.1, Prathmesh CHS. Lane No.5, Prabhat Road, Pune- 04 Phone no. 25457222. Cell no.9850821117 email: asim.human@gmail.com for information.
 - (iv) Shri.P.K.Gupta, The Additional Director & Div. Head-IPC-VI, Central Pollution Control Board, East Arjun Nagar, Delhi 110032. Email: pkgupta.cpcb@nic.in for information.
 - (v) The Advocate for Pollution Control Committee, DNH and DD email: jucicial-ngt@gov.in for necessary action.



भारत का राजपत्र The Gazette of India

असाधारण

EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (i)

PART II—Section 3—Sub-section (i)

प्राधिकार से प्रकाशित

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पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

अधिसूचना

नई दिल्ली, 25 फरवरी, 2019

सा.का.नि. 157 (अ).— केंद्रीय सरकार ने, पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3 की उपधारा (1) उपधारा (2) के खंड (v) तथा धारा 5 के अधीन जारी की गई भारत सरकार के पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय (पूर्ववर्ती पर्यावरण और वन मंत्रालय) की अधिसूचना का.आ.763 (अ) तारीख 14 सितंबर, 1999 द्वारा (जिसे इसमें इसके पश्चात् उक्त अधिसूचना कहा गया है) ईंटों के विनिर्माण के लिए ऊपरी मृदा के उत्खनन को रोकने तथा कोयला या लिग्नाइट आधारित तापीय विद्युत संयंत्रों से तीन सौ किलोमीटर के विनिर्दिष्ट परिधि के भीतर निर्माण क्रियाकलाप में तथा निर्माण सामग्री के विनिर्माण में फ्लाई ऐश के उपयोग का संवर्धन करने के लिए निदेश जारी किए गए थे।

और पर्यावरण (संरक्षण) नियम, 1986 के नियम 5 के उपनियम (3) के खंड (क) में यह उपबंध है कि जब कभी केंद्रीय सरकार यह समझती है कि किसी क्षेत्र में किसी उद्योग या किन्हीं प्रक्रियाओं या संक्रिया पर प्रतिषेध या निर्बंधन अधिरोपित किया जाना चाहिए तो वह ऐसा करने के अपने आशय की सूचना देगी;

अतः अब पर्यावरण (संरक्षण) अधिनियम, 1986 की धारा 3 की उपधारा (1) और उपधारा (2) के खंड (v) तथा धारा 5 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए केंद्रीय सरकार उक्त अधिसूचना में निम्नलिखित संशोधन, जिससे जन-साधारण के प्रभावित होने की संभावना है, किए जाने का प्रस्ताव करती है और एतद्वारा सूचित किया जाता है, कि उक्त संशोधन के प्रारूप पर, आधिकारिक राजपत्र में इस अधिसूचना के प्रकाशित होने के पश्चात् उसकी प्रतियां जन-साधारण के लिए उपलब्ध होने की तारीख से साठ दिनों की अवधि पूरी होने पर अथवा उसके पश्चात् विचार किया जाएगा।

T.C
[Signature]

उक्त प्रारूप अधिसूचना के संबंध में ऊपर विनिर्दिष्ट अवधि के भीतर किसी भी व्यक्ति से प्राप्त होने वाले आक्षेप या सुझाव पर केंद्रीय सरकार द्वारा विचार किया जाएगा।

आक्षेप या सुझाव, यदि कोई हो, सचिव, पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय, इंदिरा पर्यावरण भवन, जोर बाग रोड, नई दिल्ली-110003 को या निदेशक (एचएसएमडी) को ई-मेल पते अर्थात् m.gangeya@gov.in पर भेजे जा सकते हैं।

प्रारूप संशोधन

1. उक्त अधिसूचना में, पैराग्राफ 1 में:-

- (i) "कोई व्यक्ति" से प्रारंभ और "भार आधार" पर समाप्त होने वाले उप-पैराग्राफ (i) के लिए, निम्नलिखित को प्रतिस्थापित किया जाएगा; अर्थात्:-

"इस अधिसूचना के प्रकाशन के पश्चात् किसी कोयला या लिग्नाइट आधारित ताप विद्युत संयंत्र से 300 किमी. के भीतर किसी भी नए रेड क्ले की ईट के भट्टे की संस्थापना या प्रचालन नहीं किया जाएगा। 300 किलोमीटर के भीतर विद्यमान रेड क्ले के ईट भट्टों को इस अधिसूचना के प्रकाशन की तारीख से एक वर्ष के भीतर फ्लाई ऐश आधारित ईटों या ब्लॉकों या टाइल उत्पादन इकाई में परिवर्तित किया जाएगा। इस परिवर्तन को प्रोत्साहित करने के लिए ताप विद्युत संयंत्रों द्वारा प्रति टन एक रुपये की दर से फ्लाई ऐश उपलब्ध कराया जाना चाहिए और 300 किलोमीटर तक की ऐसी इकाइयों तक पूरी परिवहन लागत को वहन किया जाना चाहिए।

परंतु यह कि शुष्क ईएसपी फ्लाई ऐश के कम से कम की बीस प्रतिशत भाग को, अन्य उपयोक्ताओं से अधिमानता के आधार पर, फ्लाई ऐश ईटों, ब्लॉकों और टाइलों की विनिर्माता इकाइयों को एक रुपये प्रति टन की दर से उपलब्ध कराया जाएगा। यह, ताप विद्युत संयंत्र द्वारा पिछले वर्षों में 100 प्रतिशत उपयोग की उपलब्धि प्राप्त करने के पश्चात् भी लागू रहेगा। एक रुपये प्रति टन का यह नाममात्र का प्रभार बीजक तैयार करके अन्वेषण योग्यता/पारदर्शिता सुनिश्चित करेगा।"

- (ii) उप पैराग्राफ (1क) के लिए, निम्नलिखित शब्दों का लोप किया जाएगा, अर्थात् :-

"या क्ले फ्लाई ऐश ईट, ब्लॉक या टाइल"

- (iii) उप-पैराग्राफ (1ग) के लिए निम्नलिखित को प्रतिस्थापित किया जाएगा, अर्थात् :-

"(1ग) "फ्लाई ऐश आधारित उत्पाद" प्रवर्ग के रूप में अर्हता प्राप्त करने के लिए निर्माण सामग्रियों या उत्पादों के लिए न्यूनतम फ्लाई ऐश अंतर्वस्तु वह होगी, जो नीचे सारणी-1 में दी गई है :-

सारणी

| क्र.सं.
(1) | निर्माण सामग्री या उत्पाद
(2) | भार के आधार पर फ्लाई ऐश का न्यूनतम प्रतिशत
(3) |
|----------------|--|---|
| 1. | फ्लाई ऐश, चूने, जिप्सम, बालू, पत्थरों की धूल आदि (क्ले के बिना) से बनी हुई फ्लाई ऐश, ईटें, ब्लॉक, टाइलें आदि | कुल कच्ची सामग्री का 50 प्रतिशत |
| 2. | पैविंग ब्लॉक, पैविंग टाइलें, चैकर टाइलें, मोजाइक टाइलें, रफिंग शीटें, प्रीकास्ट एलीमेंट आदि जिनमें सीमेंट का बाइंडर के रूप में उपयोग किया जाता है। | पीपीसी (आईएस-1489: भाग-1) या पीएससी (आईएस-455) या ओपीसी (आईएस-269/8112/12269) के 15 प्रतिशत अंतर्वस्तु का उपयोग |
| 3. | सीमेंट | कुल कच्ची सामग्री का 15 प्रतिशत |

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| | | |
|----|-----------------------------|---|
| 4. | कंक्रीट, मोर्टर और प्लास्टर | पीपीसी (आईएस-1489: भाग-1) या पीएससी (आईएस-455) या ओपीसी (आईएस-269/8112/12269) के 15 प्रतिशत अंतर्वस्तु का उपयोग |
|----|-----------------------------|---|

(iv) उप-पैराग्राफ (1ड) के लिए, निम्नलिखित प्रतिस्थापित किया जाएगा, अर्थात् :-

"(1ड) अनुपालन को सुनिश्चित करने के लिए उप-पैराग्राफ (1क), (1ख) और (1ग) के उपबंधों के प्रवर्तन और निगरानी के लिए संबंधित राज्य सरकार और जिला दंडाधिकारी का समवर्ती क्षेत्राधिकार होगा।"

2. उक्त अधिसूचना में, पैराग्राफ 2 में :-

(i) उप-पैराग्राफ (1) (ii) में, "शुष्क ईएसपी फ्लाई ऐश के कम से कम बीस प्रतिशत से प्रारंभ होने और व्ययन किया जा सकता है" पर समाप्त होने वाले भाग के लिए निम्नलिखित प्रतिस्थापित किया जाएगा, अर्थात् :-

"ताप विद्युत संयंत्रों के दायित्वों में पैरा 1(1) में दिए गए अनुसार शामिल होंगे।"

(ii) उप-पैराग्राफ (1) (ii) के पश्चात् निम्नलिखित भाग का लोप किया जाएगा;

"परंतु यह और कि शुष्क ईएसपी फ्लाई ऐश के 20 प्रतिशत का निःशुल्क प्रदाय करने का निर्बंधन उन तापीय विद्युत संयंत्रों पर लागू नहीं होगा, जो विहित रीति में 100 प्रतिशत फ्लाई ऐश का उपयोग करने में समर्थ हैं।"

3. उक्त अधिसूचना में, पैराग्राफ 3 में :-

(i) उप-पैराग्राफ (10) में, "जहां निर्मित क्षेत्र 1000 वर्ग फीट से अधिक है" शब्दों के लिए, शब्द "सभी सरकारी भवन और" प्रतिस्थापित किए जाएंगे।

[फा.सं. 09/01/2019-एचएसएमडी]

रितेश कुमार सिंह, संयुक्त सचिव

टिप्पण : (क) मूल अधिसूचना भारत के राजपत्र, असाधारण, भाग II-खंड 3-उपखंड (i) में का.आ.763(अ) दिनांक 14 सितम्बर, 1999 द्वारा प्रकाशित की गई थी।

(ख) संशोधन भारत के राजपत्र, असाधारण, भाग II-खंड 3-उप खंड (i) में का.आ.979(अ) दिनांक 27 अगस्त, 2003 द्वारा प्रकाशित किए गए थे।

(ग) संशोधन भारत के राजपत्र, असाधारण, भाग II, खंड 3-उप खंड (i) में का.आ.2804(अ) दिनांक 3 नवम्बर, 2009 द्वारा प्रकाशित किए गए थे।

(घ) संशोधन भारत के राजपत्र, असाधारण, भाग II-खंड 3-उप खंड (i) में का.आ.254(अ) दिनांक 25 जनवरी, 2016 द्वारा प्रकाशित किए गए।

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MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE NOTIFICATION

New Delhi, the 25th February, 2019

G.S.R. 157(E).—Whereas by notification of the Government of India in the Ministry of Environment, Forest and Climate Change (erstwhile Ministry of Environment & Forests) S.O. 763(E) dated the 14th September, 1999 (hereinafter referred to as the said notification) issued under sub-section (1) and clause (v) of sub-section (2) of section 3 and section 5 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government, issued directions for restricting the excavation of top soil for manufacture of bricks and promoting the utilization of fly ash in the manufacturing of building materials and in construction activity within a specified radius of three hundred kilometers from coal or lignite based thermal power plants.

And whereas clause (a) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986 provides that whenever the Central Government considers that prohibition or restrictions of any industry or carrying on any processes or operation in any area should be imposed, it shall give notice of its intention to do so;

Now, therefore, in exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 and section 5 of the Environment (Protection) Act, 1986, the Central Government proposes to make the following further amendments in the said notification for the information of the public likely to be affected thereby and notice is hereby given that the said draft amendment notification will be taken into consideration on or after the expiry of a period of sixty days from the date on which copies of the Official Gazette, in which this notification is published, are made available to the public.

The objection or suggestion, which may be received from any person with respect to the said draft amendments within the period specified above, will be taken into consideration by the Central Government.

Objections or suggestions, if any, may be addressed to the Secretary, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-110003, or send it to Director (HSMD) e-mail address i.e. m.gangeya@gov.in.

Draft amendments

1. In the said notification, in paragraph 1: -

(i) For sub-paragraph (1) beginning with “no person and ending with weight basis”, the following shall be substituted, namely: -

“No new red clay brick kiln shall be installed and operated within 300 km from a coal or lignite based thermal power plant after publication of this notification. The existing red clay brick kilns located within 300 km shall be converted into fly ash based bricks or blocks or tiles manufacturing unit within one year from the date of publication of this notification. In order to encourage the conversion, Thermal Power Plants (TPPs) should provide fly ash at the rate of 1 Re per ton and bear the full transportation cost upto 300 km to such units.

Provided that at least 20% of dry ESP fly ash shall be made available to units manufacturing fly ash bricks, blocks and tiles fly ash products on priority basis over other users at the rate Re 1 per ton. This shall apply even if, the Thermal Power Plant has achieved 100% utilisation in previous years. The nominal charge of Re 1 per ton will ensure traceability/transparency by generating invoice.”;

(ii) For sub-paragraph (1A), the following words shall be omitted, namely: -

“or clay fly ash bricks, blocks or tiles”

(iii) For sub-paragraph (1C), the following shall be substituted, namely:—

“(1C) Minimum fly ash content for building materials or products to qualify as “fly ash based products” category shall be as given in the Table I below:

TABLE I

| Serial Number | Building Materials or Products | Minimum % of fly ash by weight |
|---------------|--|--|
| (1) | (2) | (3) |
| 1. | Fly ash bricks, blocks, tiles, etc. made with fly ash, lime, gypsum, sand, stone dust etc. (without clay). | 50% of total input materials |
| 2. | Paving blocks, paving tiles, checker tiles, mosaic tiles, roofing sheets, pre-cast elements, etc. wherein | Usage of PPC (IS- 1489:Part-1) or PSC (IS-455) or 15% of OPC (IS-269/8112/12269) |

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| | cement is used as binder. | content. |
| 3. | Cement. | 15% of total raw materials |
| 4. | Concrete, mortar and plaster. | Usage of PPC (IS-1489: Part-1) or PSC (IS-455) or 15% of OPC (IS-269/8112/12269) content. |

(iv) For sub-paragraph (1E), the following shall be substituted, namely:-

“1 (E) The concerned State Government and the District Magistrate shall have concurrent jurisdiction for enforcement and monitoring of the provisions of sub-paragraph (1A), (1B) and (1C) for ensuring compliance;”.

2. In the said notification, in paragraph 2: -

(i) in sub-paragraph (1) (ii) for portion beginning with “at least 20 % of dry ESP fly ash and ending with as may be possible”, the following shall be substituted, namely:-

“the responsibilities of Thermal Power Plants shall include as given in Para 1(1).”;

(ii) After sub-paragraph (1) (ii), the following portion shall be omitted;

“Provided further that the restriction to provide 20 % of dry ESP fly ash free of cost shall not apply to those thermal power plants which are able to utilise 100 % fly ash in the prescribed manner”.

3. In the said notification, in paragraph 3: -

(i) in sub-paragraph (10), for the words “where built up area is more than 1000 square feet”, the words “All Government Buildings and” shall be substituted.

[F.No. 09/01/2019-HSMD]
RITESH KUMAR SINGH, Jt. Secy.

Note:(a) The principal notification were published in the Gazette of India, Extraordinary, PART II-Section 3-Sub-section (i), vide SO 763(E), dated the 14th September, 1999.

(b) The amendments were published in the Gazette of India, Extraordinary, PART II-Section 3-Sub-section (i), vide SO 979 (E), dated the 27th August, 2003.

(c) The amendments were published in the Gazette of India, Extraordinary, PART II-Section 3-Sub-section (i), vide SO 2804 (E), dated the 3rd November, 2009.

(d) The amendments were published in the Gazette of India, Extraordinary, PART II-Section 3-Sub-section (i), vide SO 254 (E), dated the 25th January, 2016.

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Annexure R-25
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TOXICITY AND OCCUPATIONAL HEALTH HAZARDS OF COAL FLY ASH (CFA). A REVIEW OF DATA AND COMPARISON TO COAL MINE DUST

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(Received in final form 12 May 1997)

Abstract—Coal fly ashes (CFA) are complex particles of a variable composition, which is mainly dependent on the combustion process, the source of coal and the precipitation technique. Toxic constituents in these particles are considered to be metals, polycyclic aromatic hydrocarbons and silica. The purpose of this review was to study the *in vitro* and *in vivo* data on coal fly ash and relate the studied endpoints to the role of (crystalline) silica, considering its recent classification as a human carcinogen. For most of the effects coal mine dust was chosen as a reference, since it contains up to 10% of crystalline silica (α -quartz) and is well studied both *in vivo* and *in vitro*. Most studies on fly ash toxicity were not designed to elucidate the effect of its silica-content nor did they include coal mine dust as a reference. Taking this into account, both *in vitro* and *in vivo* experimental studies show lower toxicity, inflammatory potential and fibrogenicity of CFA compared to silica and coal mine dust. Although *in vitro* and *in vivo* studies suggest genotoxic effects of fly ash, the data are limited and do not clarify the role of silica. Epidemiological studies in fly ash exposed working populations have found no evidence for effects commonly seen in coal workers (pneumoconiosis, emphysema) with the exception of airway obstruction at high exposure. In conclusion, the available data suggest that the hazard of coal fly ash is not to be assessed by merely adding the hazards of individual components. A closer investigation of 'matrix' effects on silica's toxicity in general seems an obligatory step in future risk assessment on fly ashes and other particles that incorporate silica as a component. © 1997 British Occupational Hygiene Society. Published by Elsevier Science Ltd.

INTRODUCTION

Fly ash particles are released into the environment in effluents from the combustion of fossil fuel and these particles provide a matrix for the interactions of a great variety of substances during the combustion of coal and the emission process. Combustion temperature is an important factor that determines the physical properties of the particles. At conventional, high temperature ($>1400^{\circ}\text{C}$) combustion, the major aluminosilicate melts and condenses to form small, spherical particles. Fluidized bed combustion (FBC) offers the potential of burning at lower temperatures ($800\text{--}1000^{\circ}\text{C}$) and does not require additional fuel gas desulfurization. The fly ash particles that arise are mostly irregular in shape, but both types contain four major elements: aluminium, silica, iron, and calcium. Trace elements like metals (Ni, As, Cr, Pb, Cd) can differ between fly ash types and also between days and seasons.

Depending on their toxicity, chemical properties and concentration in the air, fly ash particles may pose an inhalation hazard to exposed workers. When fly ash particles are inhaled and deposited in the lung they can impose health risks by leaching genotoxic compounds, and through the alteration of immunological

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mechanisms. More specifically, as the lung burden of particles increases, alveolar macrophages and epithelial cells become activated leading to the release of inflammatory mediators, reactive oxygen species (ROS), enzymes (elastase, proteases, collagenase), cytokines (TNF α , MIP-1) and growth factors (TGF β) that control and stimulate fibrosis (Heppleston *et al.*, 1984; Borm, 1994; Vanh  e *et al.*, 1995) and genotoxic events (Borm and Driscoll, 1996; Driscoll *et al.*, 1996, 1997). In this review some of these key-events will be discussed as markers of the toxicity or activity of coal fly ash in experimental systems. Studies are discriminated into experimental studies, including *in vitro* and animal research, and human studies.

The background of this review was provided by several meetings or reports that put forward crystalline silica as a non-genotoxic human carcinogen (DECOS, 1996; IARC, 1987). A renewed evaluation of silica's carcinogenicity by the International Agency for Research on Cancer (IARC) in October 1996 decided on crystalline silica (quartz, cristobalite) as a human carcinogen. This opens the general question of whether exposure to all dusts that contain crystalline silica should comply with new national threshold levels based on their silica content. No adequate evidence is available for the carcinogenicity of inhaled coal mine dust, despite the millions of coal miners exposed worldwide and the high levels of exposure, especially in the past. Coal mine dust is known to contain up to 10% quartz, but the quartz is part of a carbon matrix that clearly influences its intrinsic properties. Coal mine dust therefore seemed a good reference in the discussion and evaluation of the available data on coal fly ashes. No data on residual oil fly ash (ROFA) were reviewed since this type of fly ash contains (almost) no silica, and was therefore considered to be beyond the scope of this risk evaluation. The general term coal fly ash is used throughout the document, since in the available literature it is not always clear which type of ash is involved.

METHODS

A search of available literature on fly ash was done in 1996 using references on CD-ROM (DOE Energy Science and Technology and CIMI) and on-line searches in the following databases: CAPLUS, RTECS, CSNB, BIOSIS, EMBASE, MEDLINE (STN International). The search was done retrospectively until 1980, using the items quartz, silica, silicon dioxide, silicates, fly ash(es), flyash(es), health, safety, toxic(ity) and equivalent terms in Dutch, French and German. Language restrictions were set to English, German, French and Dutch. Abstracts were screened by the author and the original publications retrieved from national libraries. TNO reports (R85/156; R83/182a and V 93-008) and an ICI report (Pigott, 1983) were provided by H. W. Hoeksema (EPON, Zwolle). The literature on coal dust was available in the authors' collection and complemented with an IARC-search on coal dust in all available literature. The data were reviewed with special emphasis on: documentation of treatment and exposure, type of ash, use of appropriate positive and negative controls, particle size data, data on silica (quartz) content, and effect parameters measured. The results are critically reviewed in a conventional approach discriminating experimental (*in vitro*, animal) studies and human studies.

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NOMENCLATURE, CHEMICAL AND MINERALOGICAL CHARACTERIZATION OF COAL FLY ASH

The term fly ash is used both in the literature and in daily practice for the ash that remains after the complete combustion of any material. In many publications concerning properties, and sometimes toxic aspects, only the term fly ash is used and no more details are given. The best known combustion processes are municipal waste combustion and coal combustion, the latter for energy production. The properties of the fly ash generated during these processes are different and are illustrated by the concentrations of heavy metals. This review deals mainly with fly ash originating from coal combustion although (for the above reasons) the literature search was done with the keywords 'fly ash' and 'coal firing'.

Coal can be fired in different ways including stoker fired (in grid boilers) combustion, in fluidized bed combustion (FBC), as pulverized coal in dry-bottom boilers, slag-tap boilers and cyclone boilers. To a large extent the type of boiler influences the properties of the fly ash. A second important parameter is the flue gas cleaning equipment, especially the particulate control devices such as the hot- or cold-side electrostatic precipitator ESP, wet scrubbers, baghouses etc. Both the size and the chemical composition of the fly ash, therefore depend upon the type of boiler and the type and degree of efficiency of the control devices. Of course the coal itself is also a major parameter that determines fly ash properties by its degree of carbonization, geological origin, and previous washings.

In The Netherlands, the energy sector uses only pulverized coal-fired dry bottom boilers. In all cases fly ash is removed from the flue gases by high efficiency cold-side electrostatic precipitation (ESPs). Furthermore, in all cases additional flue-gas cleaning is established using wet flue-gas desulphurization (FGD) of the lime/limestone-gypsum process. The coal used is bituminous and is from mainly the U.S.A. (eastern), Australia, Columbia, South Africa, Indonesia and to a lesser extent Venezuela, China, Poland. It has an average ash content of 11%. At this type of power plant, three or four types of ash stream need to be considered, each with its characteristic properties. The most important ash stream, making up about 88% of the total, is the ash removed from the flue gases in the ESP, specified as ESP-ash or pulverized fuel ash (PFA).

PFA is spherical (solidified droplets), and the average particle size is characterized by $D_{(m)10} = 5 \mu\text{m}$, $D_{(m)50} = 20 \mu\text{m}$ and $D_{(m)90} = 60 \mu\text{m}$. PFA consists of 60–80% amorphous silicon-aluminium-glass with small amounts of mullite ($\text{Al}_6\text{Si}_2\text{O}_{13}$) and α -quartz (SiO_2) (Si: 23.1% and Al: 13.8%). Other major components are iron (4.2%), calcium (2.4%) and unburned carbon (few per cent). Typical average concentrations of trace elements are arsenic 36 ppm, barium 1503 ppm, bromine 4 ppm, cadmium 0.9 ppm, cobalt 47 ppm, chromium 149 ppm, copper 115 ppm, fluorine 145 ppm, mercury 0.5 ppm, molybdenum 22 ppm, nickel 91 ppm, lead 59 ppm, antimony 5 ppm, selenium 15 ppm, vanadium 231 ppm and tungsten 163 ppm. Secondly, about 12% of the ash is removed at the bottom of the boiler and this type of ash is labelled bottom ash (sometimes called slag). The ash is coarser and relatively low in heavy metals with respect to the PFA. The third source of ash is the proportion that remains in the flue gases downstream of the ESP (about 0.1%) and which is released into the air via the chimney if no other flue gas cleaning

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equipment is present. This is labelled fly ash. Fly ash is finer than PFA and the concentrations of heavy metals are relatively higher. When an FGD-plant is present (standard in many countries) another 90% of the ash is removed from the flue gases and the remaining dust which is released into the air is labelled fly dust. Fly dust is finer than fly ash and also consists of gypsum particles.

IN VITRO STUDIES

Red blood cells, haemolysis

Red blood cell haemolysis has been used for decades as a simple test for indicating mineral dust toxicity and surface activity. Using red blood cells as a target it is well-known that all crystalline silica varieties induce haemolysis in the range of 1–15 mg/ml. Studies with coal-mine dusts in this system have shown varying results. Haemolysis by coal mine dust from low-rank mines in the U.K. did not correlate with its total or individual components, while lysis by dust from high-rank pits increased with the amount of noncoal minerals and quartz present but not with the kaolin or mica levels (Gormley *et al.*, 1979). Seasonal variations in fly ash constituents, including silica and metals, were not correlated with their haemolytic activity (Srivastava *et al.*, 1986). CFA (Si-content, 53%) haemolytic activity (EC_{50} , 1 h: 5.5 mg/ml) was about one fifth that of pure silica (EC_{50} , 1 h: 1.0 mg/ml) at equal particle size (Liu *et al.*, 1986). Surprisingly, calcium-rich CFA (and low silica, 34%) induced similar haemotoxicity in red blood cells compared to pure silica (Liu *et al.*, 1987). The authors of the latter study checked for a possible effect of pH change of this Ca-enriched CFA. A number of fly ash samples from thermal power stations in India ($< 5 \mu m$) all showed similar haemolysis (10–15% at 16 mg/ml) compared to quartz which gave 50% hemolysis at 2 mg/ml (Kaw *et al.*, 1988). No data on the quartz content of these dusts were given. However, results from haemolysis are in general poorly correlated with results of cytotoxicity in macrophages (Gormley *et al.*, 1979). In addition, extensive studies in the coal mining industry revealed a poor correlation between the outcome of this test and various measurements of pneumoconiosis risk (Reisner and Robock, 1975; Davis *et al.*, 1983; Bruch and Rehn, 1994).

Alveolar macrophages or other phagocytic cells

Both fresh macrophages from different animal species (rat, guinea-pig, dog, rabbit, bovine, hamster) and a cell line of Chinese hamster ovary cells (CHO) have been used in cytotoxicity assays of coal fly ashes and various coal mine dusts, using proper positive (for example quartz) and negative controls (for example TiO_2). Gormley *et al.* (1979) conducted a study with coal dust using P388D1 cells, viability counts (trypan blue exclusion) and several biochemical indices of cytotoxicity (release of lactate dehydrogenase LDH, glucosaminidase, lactic acid, total protein) and failed to demonstrate a correlation between quartz and cytotoxicity. Actually, they demonstrated that the role of rank and non-coal mineral content was more important. Similar studies with model particulate compounds and fly ash particles were done using rabbit alveolar macrophages (RAM) and Chinese hamster ovary cells (CHO). Garrett *et al.* (1981) tested silica, silicic acid, titanium oxide and size-

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fractionated fly ash particles with and without coating with various metal oxides, and found silica to be highly toxic (EC_{50} in viability-assay: 0.1 mg/ml) and uncoated fly ash relatively non-toxic ($EC_{50} > 5$ mg/ml) in RAM. However, a marked toxicity of uncoated fly ash was seen in the CHO clonal assay at 1 mg/ml. In general, coating with metal oxides increased the toxicity in both assay methods (Garrett *et al.*, 1981). Using three different assays for cell function in RAM and CHO cells, Mumford and Lewtas (1982) showed that FBC fly ash (6% silica) was more toxic than fly ash obtained by conventional combustion (13.7% silica). Typically, in their study the CHO cells were less sensitive to fly ash toxicity than RAM. Unfortunately, interpretation of these data is hindered by the fact that the fly ash samples were of different particle sizes (FBC contained smaller, $< 1 \mu\text{m}$, particles), no silica reference was studied, and the FBC ash came from an experimental miniplant and therefore was not representative.

Another *in vitro* study using (bovine) alveolar macrophages compared different fly ash samples to three coal dust samples using appropriate positive (Min-U-Sil and quartz) and negative (glass beads) controls (Hooftman and Arkesteijn, 1983; Hooftman *et al.*, 1985). Using cell survival, leakage of lactate dehydrogenase (LDH) and phagocytosis as tests for cell viability and function, Mount St Helens fly ash and glass beads were relatively inert. All fly ash samples ($n=8$) from a plant in Apeldoorn (NL) showed similar data, that is a significant effect on macrophage phagocytosis at 0.1–0.3 mg/ml in the absence of lethality. Less toxicity was seen in two fly ashes sampled by electroprecipitation in a powder-coal combustion plant from Nijmegen (NL). Among the positive silica-controls α -quartz (DQ12) was more toxic than Min-U-Sil, both EC_{50} -levels for survival not exceeding 0.03 mg/ml. Monolayers of quinea-pig macrophages showed significant loss of viability (LDH release, dye uptake) after incubation (3 h, 20 h) with 300 μg but not 75 or 150 μg of fly ash (Kaw *et al.*, 1988). However, no differences were seen among samples from four different thermal power stations in India, and quartz exerted significantly higher toxicity than fly ashes. Unfortunately, the data in this study do not allow extrapolation to other *in vitro* studies (mg/ml) or *in vivo* work. In a similar approach Hill and Hobbs (1982), using dog alveolar macrophages, showed no differences in toxicity between fly ashes from a number of coal combustors and types of coal. The tested types included three types of pulverized coal combustor (all ESP), two fluid bed combustors (Baghouse) and one stoker-fed combustion (ESP), the positive control used was quartz. Whereas quartz reached 50% toxicity at 100 $\mu\text{g}/10^6$ cells, coal ashes induced only 5% viability loss at this level. Similar results were obtained by incubation of RAM with ex-Australian coal fly ash supplied by Dutch PGEM at different samples sizes (< 5 , $< 10 \mu\text{m}$), but with similar α -quartz content (18, 15%). Using dye exclusion, after 2 h exposure to fly ash (5–25 mg) 'inert-type dust responses' were found (Pigott, 1983).

Genotoxicity assays

The *in vitro* mutagenic potential of fly ashes has been evaluated mainly in the Ames test and in human blood lymphocytes (SCE, aberrations). Most studies show that the ESP fraction fly ash from pulverized coal combustion is not mutagenic, but that other fractions can contain mutagenic activity, which is related to ash content of (nitro-containing) aromatic hydrocarbons (Fisher *et al.*, 1978; Harris *et al.*, 1984).

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A marked mutagenicity of FBC ash (6% silica) but not of CC fly ash (13.7% silica) was observed in the Ames test (TA98, TA1538) between concentrations of 3 and 20 mg fly ash or 20 and 600 µg of extractable mass (per plate). The mutagenicity of FBC ash was enhanced by metabolic activation and/or solvent extraction and therefore was concluded to be due to organic compounds absorbed on the surface (Mumford and Lewtas, 1982). Later studies using the more sensitive tester strains TA97 and TA102 observed a minor mutagenic activity of PCC fly ash (median size: 2.4 µm, silica content unknown). Lytag-dust (PCC fly ash: humidified, heated to 1100°C), however, caused marked mutagenic effects in TA97 and TA102 (Kleijnans *et al.*, 1989) at concentrations of between 1 and 10 mg per plate, while no mutagenic activity was detected in the extracts of either dust. The same study showed a significant increase of SCE in human blood lymphocytes after 48 h incubation with Lytag and PCC fly ash (ECP fraction) at 0.01 mg/ml. Interestingly, the number of SCEs was also increased in workers exposed to Lytag dust (no exposure data) but the effect was only significant in non-smokers (9.5 SCE/cells in exposed vs 8.0 SCE/cell in controls).

Formation of reactive oxygen species (ROS) in guinea-pig alveolar macrophages by fly ash and other pollutants was measured by Hatch *et al.* (1980), showing that uncoated fly ash (2–5 µm) was relatively inactive (155% of control) compared to latex microspheres (400%), silica (1180%) and crocidolite asbestos (2600%). Adverse effects of ROS in the lung may include (1) damage to cell membranes through lipid peroxidation, (2) oxidation of proteins, and (3) DNA damage. Oxidative DNA damage may play a role in carcinogenesis, most likely through hydroxyl-radicals formed in Fenton-like reactions (Janssen *et al.*, 1993). Basically, two mechanisms by which mineral dust exposure causes formation of ROS have been demonstrated. First, direct formation of ROS through the intrinsic properties of particles such as silanol groups on the surface of silica, surface charge properties (Brown and Donaldson, 1989) and the iron content of asbestos fibers. Also mechanical processes, such as the grinding and cleavage of dust, including coal dust, are believed to result in the generation of radicals on 'fresh' surfaces (Dalal *et al.*, 1989, 1995). Since fly ash is known to contain trace metals that can induce Fenton-like reactions, and these metals vary considerably from sample to sample, the negative results from this study should be interpreted with caution. A second, indirect pathway for the excessive formation of ROS is by the oxidative burst of macrophages and neutrophils during particle phagocytosis and inflammation. However, no data were found on the ROS production of AM or PMN (*ex vivo*) after exposure to coal fly ash.

IN-VIVO ANIMAL STUDIES

Coal dust and fibrosis

Early studies by Ray *et al.* (1951) were aimed at determining the effects of coal dust (or graphite) and supplemented α -quartz (2–40%) in rats after intratracheal doses of 100 mg of each dust. They observed typical fibrotic lesions and concluded that coal dust (anthracite) had no inhibitory action on quartz-induced fibrosis. Later studies typically using intratracheal administration of 50 mg coal dust in rats

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confirmed that coal dust was less fibrogenic than quartz or hard rock dust, but did suggest that coal dust had an attenuating effect on the quartz-induced effect. An intratracheal dose of 50 mg coal dust containing 4, 7 or 18% quartz showed significant development of fibrosis 3–18 months after installation, whereas the high-quartz dusts (7 and 18%) always led to more fibrosis (Martin *et al.*, 1972). Rosmanith *et al.* (1982) injected 50 mg of each of 30 different coal mine dusts into rats. The study showed focal or diffuse fibrosis in parenchyma and lymph nodes in five groups of rats at 6 and 12 months after administration. The corresponding samples were those that caused the highest dust and ash content in the lymph nodes. A similar i.t. dose (50 mg) of coal dust supplemented with quartz to 10% (final ratio) caused an increase in the numbers of cells in the tracheobronchial lymph nodes of rats after 90 days follow-up (Sahu *et al.*, 1988).

Several subchronic and chronic inhalation studies have evaluated the pathologic changes associated with the experimental exposure of rats and some other species to coal dust. SPF-Wistar rats exposed for 20 months (6 h/day, 5 days/wk) at levels of 6.6 and 14.9 mg/m³ developed lesions similar to simple CWP in humans (Busch *et al.*, 1981). No advanced lesion types (micro- or macronodules, infective granulomas) were observed in these animals, but focal bronchiolization occurred after 20 months of exposure. The importance of quartz in coal dust fibrogenicity was demonstrated by Ross *et al.* (1962) and Martin *et al.* (1972) who exposed rats to different coal-quartz mixtures. Fibrosis was apparent in all groups exposed to coal dust (300 mg/m³, 6 h/day, 5 days/wk, 3 months) supplemented with quartz, but only at 18 months for the lowest concentration (4%). With higher quartz levels (7 and 18%) collagen formation was already increased at 6 months, and above 10% nodules appeared and collagen production was five times greater than with coal alone (Martin *et al.*, 1972). Previously similar experiments using rats at dust levels of 60 mg/m³ (16 h/day, 10 months) and quartz percentages from 5 to 40%, showed little fibrosis in the rats exposed to mixtures with 5 and 10% quartz (Ross *et al.*, 1962). However, rats exposed to 20 and 40% quartz-coal mixtures had at the end of exposure considerable pathology in fibrosis-grade and collagen content. Both parameters appeared to be correlated with the total silica remaining in the lung after exposure (420 days).

Coal fly ash and fibrosis

Few inhalation studies have been done using (coal) fly ash. MacFarland *et al.* (1971) and Alarie *et al.* (1975) generated fly ash aerosols for exposure of monkeys and rodents and reported no unique biological effects. Raabe *et al.* (1982) exposed rats to two concentrations of fly ash (0.6 mg/m³ and 4.25 mg/m³) for 8 h/day for up to 180 consecutive days, and found no health effects in the lower exposure group and only minor effects in the high exposure group. These effects included more and larger macrophages in BAL, and minor changes in glycoprotein secretion (mucus), or viability, adherence and phagocytic index of macrophages. The authors conclude that these mild responses are natural to inhaled particles and not unique to coal fly ash (Raabe *et al.*, 1988), although no negative or positive controls were studied. Another inhalation study was done by Bice *et al.* (1987) who exposed male and female F344 rats for 20 days (4 weeks, 5 days/week, 7 h/day) to levels of 36–38 mg/m³ of α -quartz, CFA from a fluidized bed combustor (FBC) or CFA from a

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pulverized coal combustor (PCC). The data indicate that the lung-associated lymph nodes accumulated fly ash and quartz particles, that were cleared in the lung lymphatics, resulting in an increased number of cells in these tissues. Although the (massive) exposure was only short (4 weeks), the increased number of cells was still seen at 52 weeks both for CFA and quartz. At this time point, however, the lungs from rats exposed to FBC fly ash had minimal lesions. The lesions from rats exposed to PCC fly ash were more severe and included some small granulomas and refractive particles in epithelioid cells. The lesions were most severe in quartz-exposed rats, with granulomas up to 0.5 mm scattered throughout the lung and associated with the typical interstitial inflammation and fibrosis (Table 1).

Various studies have used intratracheal administration of coal fly ash, although this technique easily leads to (initial) overload and, therefore, should be interpreted to identify the hazards from the administered agent. An excellent study is described by Schreider *et al.* (1985) using intratracheal installation of three different doses (5, 15 and 45 mg) of six types of dust, including three different coal fly ashes (Schreider *et al.*, 1985) with data on particle size and elementary composition. After 90 days the most severe fibrosis was found in quartz-treated rats (Sprague-Dawley, 300 g), followed in order of intensity by, heated clay, Mount St Helens volcano ash, hopper-collected CFA, stack-collected CFA and baghouse filter-collected coal-oil mixture fly ash (COM). In hopper CFA mild interstitial inflammation and fibrosis was seen at the low- and mid-dose (5 and 15 mg), and clear fibrotic lesions were seen only after the high dose. Stack CFA showed no fibrosis at the lower dose and multifocal, moderate fibrosis at mid- (15 mg) and high (45 mg) doses. COM fly ash showed minimal to mild accumulation of macrophages, thickening of alveolar septa and mild, loose fibrosis. The fibrotic activity of the stack and hopper CFA were found to be approximately equal, in line with their total silica content of 26.8 and 26%; however only 1.3 and 1.7% of the total amount is quartz, the rest are alumina-silicates. COM contained 19.2% silica, but no data on quartz were given. The authors relate the lower activity of the COM fly ash to the abundance of large particles (Schreider *et al.*, 1985).

A single administration of 30 mg of fly ash from an experimental fluidized bed combustor (FBC) to Syrian Golden hamsters was carried out by Lantz and Hinton (1986), with morphometric analysis of the lungs 1, 3, 6, 9, and 30 days post-administration. They observed an initial (<9 days) recruitment of PMNs and AM which returned to control levels at 30 days post-administration. At this point, however, an increased volume of the noncellular interstitium was observed. Unfortunately, no histology or biochemistry was done to confirm interstitial fibrosis. Intratracheal administration of 2, 10 and 50 mg fly ash (low-temperature combustion) to male Wistar rats, using silica (Min-U-Sil, 5 μ m) and TiO₂ as positive and 'negative' controls, was reported by Arts (1993). No significant differences between the effects of fly ash and TiO₂ in general were detectable up to 4 weeks post-administration, except for: (i) a dose-related increase in granulocytes at days 14 and 28 after inoculation of fly ash, and (ii) a small increase in lymphocyte numbers in the high dose (50 mg/kg) CFA on day 28. The histopathology did not show fibrosis. From the data, the author suggests a non-observed effect level for CFA of 2 mg/kg, corresponding to a 14 mg/m³ exposure level in man (Arts, 1993).

An interesting report, which is only useful for the ranking of acute toxicity of

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Table 1. Overview of *in vivo* animal studies either using inhalation or intratracheal administration of coal fly ash (CFA)

| Type ash ^a | Exposure | Species | Effect(s) | Ref |
|-----------------------|--|------------------------|---|--|
| CFA, not specified | 8 h/day, 180 days 0.6 and 4.25 mg/m ³ | Rat | Mild response, No fibrosis | Raabe <i>et al.</i> , 1982 |
| CFA (FBC and PCC) | 4 weeks, 5 days/week, 7 h/day 36–38 mg/m ³ | Rat (F344) male/female | Chronic cell influx. Sil > PCC > FBC | Bice <i>et al.</i> , 1987 |
| CFA (2 types) and COM | Intratracheal (5, 15, 45 mg) quartz positive control | Rat (SD) | Fibrosis at 15 mg Mild inflammation all doses of CFA. COM less toxic. | Schreider <i>et al.</i> , 1985 |
| CFA (FBC) | Intratracheal (30 mg) | Hamster (SG) | Transient (30 days) recruitment of PMN and AM | Lantz and Hinton, 1986 |
| CFA (PFA) | Intratracheal (2, 10, 50 mg) TiO ₂ and quartz as controls | Rat (Wistar) male | Dose-related influx of PMN, NOEL of 2 mg/kg | Arts, 1993 |
| CFA | Intratracheal (10 mg), other dusts incl. quartz as controls | Rat (Wistar) female | Ranking: quartz > CFA > mica | Bajpai <i>et al.</i> , 1992 ^b |
| CFA (PCC?) | Intratracheal (12.5 mg), 60 days; quartz controls | Rat | No fibrosis; dust laden AM and cells dusts including quartz | Kaw <i>et al.</i> , 1988 |

^aFBC: fluidized bed combustion; PCC: pulverized coal combustion; COM: coal oil mixture fly ash; PFA: pulverized coal fuel ash; NOEL: No observed effect level; AM: alveolar macrophages; PMN: polymorphonuclear neutrophils.

^bFibrosis was not studied as an endpoint.

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industrial dusts, is by Bajpai *et al.* (1992), who studied several markers of damage in bronchoalveolar lavage (BAL) of female Wistar rats (165 g) instilled with 10 mg of various dusts. After 8 days BAL was recovered and markers of toxicity (LDH, total protein, β -glucuronidase) were determined. The dusts tested were ranked in the following order of fibrogenic potential: quartz > CFA > mica > corundum. A few years earlier the same research group (Lucknow, India) published some papers on the modifying capacity of CFA on the fibrogenic action of quartz (Kaw and Khanna, 1988; Kaw *et al.*, 1990). After 60 days a single dose of CFA (intratracheal, 12.5 mg) alone induced mostly intracellular dust without much change in morphological characteristics, although dust-laden macrophages were seen in lymphoid aggregates surrounding the blood vessels and airway walls. Interestingly, in rats first exposed to silica (10 mg, 60 days) fly ash had an attenuating effect on the fibrogenicity of quartz. These data are less relevant from the point of view of risk assessment, but should be interpreted as a contribution to mechanisms involved in pulmonary defence. In fact, this model could be similar to the attenuation of inflammation and fibrosis in mice, when administered silica and FMLP, a protein chemotactic for PMN (Adamson *et al.*, 1992).

Effects on immune system and inflammatory cells. Studies aimed at the mechanism of action of coal dust and quartz have focused on inflammatory cells or precursors from bronchoalveolar lavage (BAL) and spleen after *in vivo* exposure of animals to coal dust and/or silica. Many studies done using coal dust show an increase in the number of alveolar macrophages and neutrophils. However, the duration of this effect seems to be strongly dependent on the exposure-route and regimen, and the total dose. In rats exposed to 10 mg/m³ coal dust (7 h/day, 5 days/week, 32 days) the number of neutrophils and lymphocytes is still increased (15 vs 0.5%) 64 days after recovery, while the total cell number is back to normal (Brown and Donaldson, 1989). However, after a single intratracheal instillation (Adamson and Bowden, 1978) the AM-yield increases for the first 6 days after instillation, returning to control levels by 28 days, while neutrophils increased after 1 day and return to normal after 3 days. The NIOSH long-term inhalation study with coal dust and/or diesel (2 mg/m³, 7 h/day, 5 days/week, 2 yr) resulted in a chronic elevation of AM in rats (Castranova *et al.*, 1985), no effect on influenza infection in mice (Hahon *et al.*, 1985) and failed to demonstrate any effects on immunocompetence. AM function, measured by phagocytosis and bacterial killing was shown to be affected in rats after inhalation exposure to two coal dust types (Utah, Pennsylvania) at levels of 2 mg/m³ (6 h/day, 5 days/week, 4 months) (Bingham *et al.*, 1975).

Typically, few studies have investigated the functional properties of alveolar macrophages after inhalation or intratracheal inoculation of coal fly ash. After intratracheal administration of quartz, mica, corundum or coal fly ash to rats (50 mg/kg, 8 days), animals were sacrificed, the lungs were perfused and cells harvested (Dixit *et al.*, 1990). CFA caused a significant cell-influx (three-fold increase) compared to saline-instilled rats, whereas silica caused a five-fold increase in total cells. Phagocytosis and adherence of AM, as well as the appearance of antibody forming cells in lymph nodes were moderately but significantly affected by *in vivo* exposure to both fly ash and silica (Kaw *et al.*, 1988; Dogra *et al.*, 1995). Inhalation studies with Syrian Golden hamsters using silica (Min-U-Sil, 1 mg/m³,

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2 weeks) or fly ash (CFA, 1.6 mg/m³, 6 weeks) showed a depressed ability of alveolar macrophages from BCG-primed and rechallenged hamsters to mediate *ex vivo* tumor cell lysis. Moreover, fly ash, and not silica, suppressed the ability of BCG-activated macrophages to lyse target cells through antibody-dependent cell-mediated cytotoxicity (Burns and Zarkower, 1982). Acute inhalation exposure of mice (C57BL/6) to fly ash or silica (200 mg/m³, 100 min) showed a significant depression of *ex vivo* AM phagocytosis after 6 and 15 days of exposure. Although macrophage colony-forming efficiency was initially depressed (2 days), a marked increase was seen at day 15. In summary, their data showed recruitment of blood cells into the lung. Inhalation of fly ash (15 days, 6 h/day, 0.27 mg/l) significantly elevated pulmonary and hepatic (surfactant) lipids at 1 and 15 days after cessation of exposure (Chauhan and Misra, 1991).

HUMAN DATA

Pneumoconiosis

Diseases caused by coal (mine) dust exposure have been reviewed previously (Heppleston, 1992; Wouters *et al.*, 1994). Apart from simple coal workers' pneumoconiosis (CWP), characterized by the presence of small opacities (<10 mm) on the chest X-ray (ILO, 1980), complicated CWP (PMF, progressive massive fibrosis), pleural abnormalities, emphysema, chronic bronchitis, accelerated lung function loss, lung and stomach cancer have also been reported in (ex) coal miners and some occupations other than mining. CWP and PMF are highly correlated with estimates of cumulative dust exposure or dust components remaining in the lung (Hurley *et al.*, 1982, 1987; Attfield and Seixas, 1995). The amount remaining is the net result of deposited dose minus long-term clearance. Several post-mortem studies have been done in which the whole lung is digested or ashed and the total or specific dust in the lung measured (Nagelschmidt *et al.*, 1963; Rossiter, 1972; Douglas *et al.*, 1986). These studies show that in coal workers, 40–60 g of total dust may be found in the lungs, and suggest that the lung dust burden is not simply a reflection of cumulative exposure, but that deposition and/or clearance might be fine-tuning factors. No generalization can be made about the effects of quartz content and coal rank on the induction of fibrotic endpoints (review: Heppleston, 1988) and the no-CWP-level of between 50 and 100 mg yr/m³, is associated with an 2 mg/m³ coal dust limit in a number of countries (U.S.A., Germany). Data on the pneumoconiotic effects of coal fly-ash can be derived from studies done in U.K. workers employed by the electricity supply industry throughout 1950 to 1977, and reviewed by Bonnell *et al.* (1980). Studies in more than 1465 workers in power stations in South Wales and the Midlands have failed to demonstrate the existence of pneumoconiosis caused by working in coal-combusted power plants, other than in men with previous exposure in underground coal mining. Two of these studies were surveys of entire populations of power stations and boiler makers (1960–1961). Two others concentrated on 'high-risk groups', meaning those employed in dusty environments, as identified by station managers. Although no firm deductions can be made from these studies, since they were done systematically and on a voluntary basis, the (total) number of screened workers

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and the (negative) outcome do not argue for a high fibrogenic potential of CFA. Interestingly, a recent case-report (Cho *et al.*, 1994) documented fairly well a man with acute silicosis following a massive, accidental, exposure to fly ash when (un)loading his truck. Both chest-X ray and CT-scan, supported by open lung biopsy showed silicotic nodules. A disease course like this is usually only seen after massive exposure to ground silica.

Chronic obstructive pulmonary disorders (COPD)

Another characteristic, though controversial, component of simple coal dust lesions is localized (focal) emphysema. Post-mortem analyses of coal miners lungs have demonstrated an association between dust exposure (Ruckley *et al.*, 1984) and dust content (Leigh *et al.*, 1994), but failed have to reveal the role of silica and pre-existing dust-related fibrosis. The basic mechanism suggested is the protease-antiprotease balance in which activated neutrophils and coal dust play a role through their release of oxidants inactivating $\alpha 1$ -antitrypsin on the one hand (Zay *et al.*, 1995; Li *et al.*, 1997) and releasing elastases/proteases on the other (Rom, 1990; Huang *et al.*, 1993). No data are available that show the ability of fly ash to induce emphysema in humans.

Chronic bronchitis and airflow obstruction are common effects of inorganic dust exposure in the workplace (review: Oxman *et al.*, 1993). The extra loss of lung function has been estimated from both cross-sectional and longitudinal studies to be somewhere between -0.5 and -1.2 ml FEV₁ per g h/m³ of exposure which is equivalent to 40–100 ml at current standards of 2 mg/m³. Chronic bronchitis is also increased among smoking and non-smoking coal miners and is associated with a greater loss of FEV₁ (Rogan *et al.*, 1973; Marine and Gurr, 1988). Respiratory effects of prolonged exposure to pulverised fuel ash (PFA) were shown by Schilling *et al.* (1988), in a survey among 268 men with a history of more than 10 yr exposure to PFA. The workers were grouped using their occupational histories into high-, medium- and low exposure categories. Lung function tests showed a modest effect on FVC, FEV₁, PEF and gas transfer, associated with heavy exposure to PFA. Workers with prolonged heavy exposure also showed higher prevalence of all respiratory symptoms. This study suggests that prolonged inhalation of PFA caused effects in line with other inorganic dusts (Oxman *et al.*, 1993) including coal dust.

Genetic risks

Although several fly ashes, and also nitrosated coal dust, have been described as exerting genotoxicity in bacterial and human cells *in vitro*, few data are available on the *in vivo* genotoxicity of coal dust- or coal fly ash-exposed workers. In a study among 38 retired coal miners and 24 age-matched controls, oxidative DNA-damage was determined in blood lymphocytes (by the ratio of 7-hydroxy-8-oxo-2'-deoxyguanosine versus deoxyguanosine) and was found to be significantly higher in coal miners (Schins *et al.*, 1995). Cumulative exposure of these miners was between 93 (reference miners) and 145 g h/m³ (miners with CWP), but no difference in oxidative damage was seen between these groups. These data can be explained by the presence of coal dust containing stable coal dust radicals (Dalal *et al.*, 1989) that could affect the circulating lymphocytes' DNA. In workers exposed to fly ash increased frequencies of chromosome aberrations have been observed (Bauman and

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Horvat, 1981; Léonard *et al.*, 1984), although radioactivity seems the main source of risk. Two other studies have described genetic effects in a population of workers exposed to Lytag-dust (a humidified and heated ECP-collected fly ash from pulverized coal combustion). In a first survey, the frequency of sister-chromatid exchanges (SCE) was compared between 22 exposed workers and 22 controls (from the flour-processing industry), and the frequency of SCEs was different (that is, higher in Lytag workers) between the non-smokers in both groups (Kleinjans *et al.*, 1989). After exposure-reducing measures, a follow-up of 18 Lytag workers and 18 controls (from the same groups) was carried out using SCE and micronucleus frequencies, as well as mutations in the HPRT gene, as effect parameters in blood lymphocytes (Stierum *et al.*, 1993). No differences in these markers were detected between the groups, although it was noted that a downward drift of SCE counts had occurred over the years. Unfortunately no exposure data are listed in either study, limiting their use for risk assessment or comparison with coal miners.

DISCUSSION

Coal fly ashes constitute complex particles with associated chemicals, which are not always homogeneous and depend on the combustion process, source of coal and the type of precipitation. Unfortunately, not all studies on coal fly ash have documented these variables to allow comparison of different toxicity studies. Nevertheless some general trends are noted in the work on fly ashes.

First, *in vitro* studies show that coal fly ash (CFA)—independent of type of coal combustion, origin or precipitation—exerts cytotoxicity in a number of conventional tests using either animal lung cells, human red blood cells or cell lines such as hamster ovary cells. In general, CFA is less toxic than crystalline silica (when used as positive control) but significantly more toxic than negative controls (TiO₂, latex beads, methacrylate-polymers). *In vitro* data do not support the importance of the silica content in toxicity as demonstrated in similar studies using samples of coal dust (Davis *et al.*, 1982; Robock and Reisner, 1982). However, it should be mentioned that studies with fly ashes have not really addressed this hypothesis. An obvious reason for this is that silica's potential carcinogenicity only became known in 1987, when most of the *in vitro* studies on coal fly ashes had already been carried out. Both *in vitro* and *in vivo* studies indicate slight differences between various types of coal fly ashes. The data suggest a moderately higher fibrogenicity of pulverized coal combustion compared to ash from fluidized bed combustion; however, the latter showed mutagenic activity *in vitro*, probably due to associated polycyclic hydrocarbons. Apart from the relevance of such a comparison, the poor description of fly ashes in many studies at least questions the reliability of such comparison.

Almost no *in vitro* or *in vivo* data are available on the effect of CFA on markers recently demonstrated to be crucial in dust toxicity, including pro-inflammatory cytokines (TNF, IL-8), growth factors (TGF β , fibronectin) or the generation of reactive oxygen species (Piguet *et al.*, 1991; Janssen *et al.*, 1993; Vanhée *et al.*, 1995; Schins and Borm, 1995). In contrast, these studies have been carried out with other fly ashes including residual oil fly ash (ROFA) and particles including coal mine dust, silica and others. It should be stated, however, that most studies using ROFA applied this as a model particle for PM₁₀, PM_{2.5} or total suspended particles in

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relation to environmental air pollution (Lindroos *et al.*, 1996; Meng *et al.*, 1996). Interestingly, these studies have shown that ROFA are able to induce growth factors (TGF β , PDGF), cytokines (IL-1) and reactive oxygen species *in vitro* and upper airway inflammation *in vivo* (Hauser *et al.*, 1995). Associated soluble transition metals such as vanadium, nickel and iron seem to play an important role in these effects (Dreher *et al.*, 1997). Factors investigated in the ROFA studies as well as other mineralogical factors that can affect the biological effects of silica (Guthrie, 1995) should be studied in fly ashes in order to better understand the toxicity and health risks. *In vivo* exposure of various animal species to coal fly ashes shows only very mild to moderate fibrosis, and in rats the 'no observed effect' levels are between 2 and 10 mg/kg (intratracheal dose) and 4 mg/m³ (inhalation). The observed pathology is similar to other 'nuisance' dusts in the same dose regimen. Unfortunately, no *in vivo* studies on CFA have used coal dust as a reference dust. Such studies would allow comparison of (crystalline) silica content in both types of dust. However, *in vivo* data suggest that silica is less fibrogenic in inhaled CFA than in coal mine dust (Martin *et al.*, 1972; Bice *et al.*, 1987). Extensive human epidemiological studies on fly ash exposed populations are lacking, but studies based on U.K. electricity workers fail to show any convincing evidence of pneumoconiosis other than in ex-coal miners or emphysema. However, these studies do show lung function impairment and respiratory symptoms in workers with prolonged, heavy (> 5 mg/m³) exposure to CFA. This is, however, an effect which is also caused by other inorganic dusts at prolonged, high exposure. Other small scale *in vivo* studies have indicated a possible genetic risk in workers exposed to fly ash or its products, based on *ex vivo* genotoxicity assays (Kleinjans *et al.*, 1989). However, these data are not confirmed by an increased specific cancer mortality among coal fly ash exposed workers.

In conclusion, although most studies have not been designed to test fly ash toxicity in relation to its content of crystalline silica, there are no available data that suggest that coal fly ash is merely an addition of (crystalline) silica and other components. There is minimal knowledge on the effect of the mineralogical properties of fly ash on the activity of (crystalline) silica. The lack of evidence for fibrosis in humans exposed to fly ash combined with the strong association between silicosis and lung cancer (McDonald, 1995) in silica-exposed cohorts also forwards a careful evaluation of other silica-containing materials. In the context of silica's recent denomination as class I carcinogen by the IARC and the consistently negative data for coal mine dust as a lung carcinogen, a closer investigation of 'matrix' effects, masking silica's toxicity in particles with complex composition, seems obligatory.

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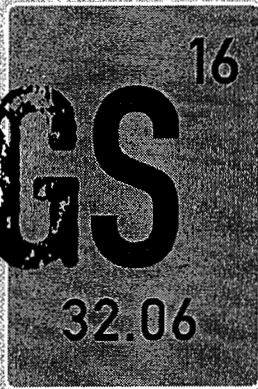
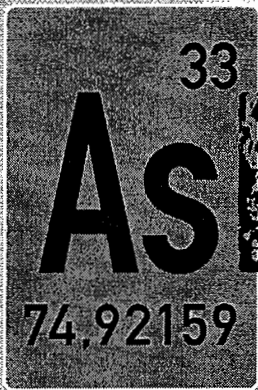
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HOW BREATHING COAL ASH IS HAZARDOUS TO YOUR HEALTH



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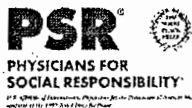
ALAN H. LOCKWOOD, MD, FAAN, FANA

Senior Scientist and Past President Physicians for Social Responsibility
and Emeritus Professor of Neurology, University at Buffalo

LISA EVANS, J.D.

Senior Administrative Counsel, Earthjustice

Special thanks to
Julie Weathering-Rice, PhD., Senior Scientist,
Bennett & Williams Environmental Consultants, Inc.,
and Karlana Lewis, Yale Law School
and Yale Environmental Protection Clinic.



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ALAN H. LOCKWOOD, MD, FAAN, FANA

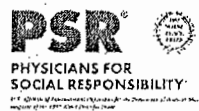
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INTRODUCTION

Take a deep breath. But if you live near a coal-burning power plant that dumps coal ash into a nearby landfill or lagoon, don't inhale too deeply because you're probably breathing fugitive dust made up of airborne coal ash filled with dangerous and toxic pollutants. Whether blown from an uncovered dump site or from the back of an open truck, toxic dust contaminates hundreds of fence line communities across the country. Acrid dust stings residents' eyes and throats, and asthmatics, young and old, are forced to reach for inhalers. Breathing this toxic dust can be deadly, and yet no federal standards exist to protect affected communities. This report describes the health impacts of the pollution found in coal ash dust. It also points to the imminent need for federal controls to limit exposure and protect the health of millions of Americans who live near coal ash dumps.

Coal combustion waste (or coal ash'), particularly fly ash, a major component of coal ash waste, poses significant health threats because of

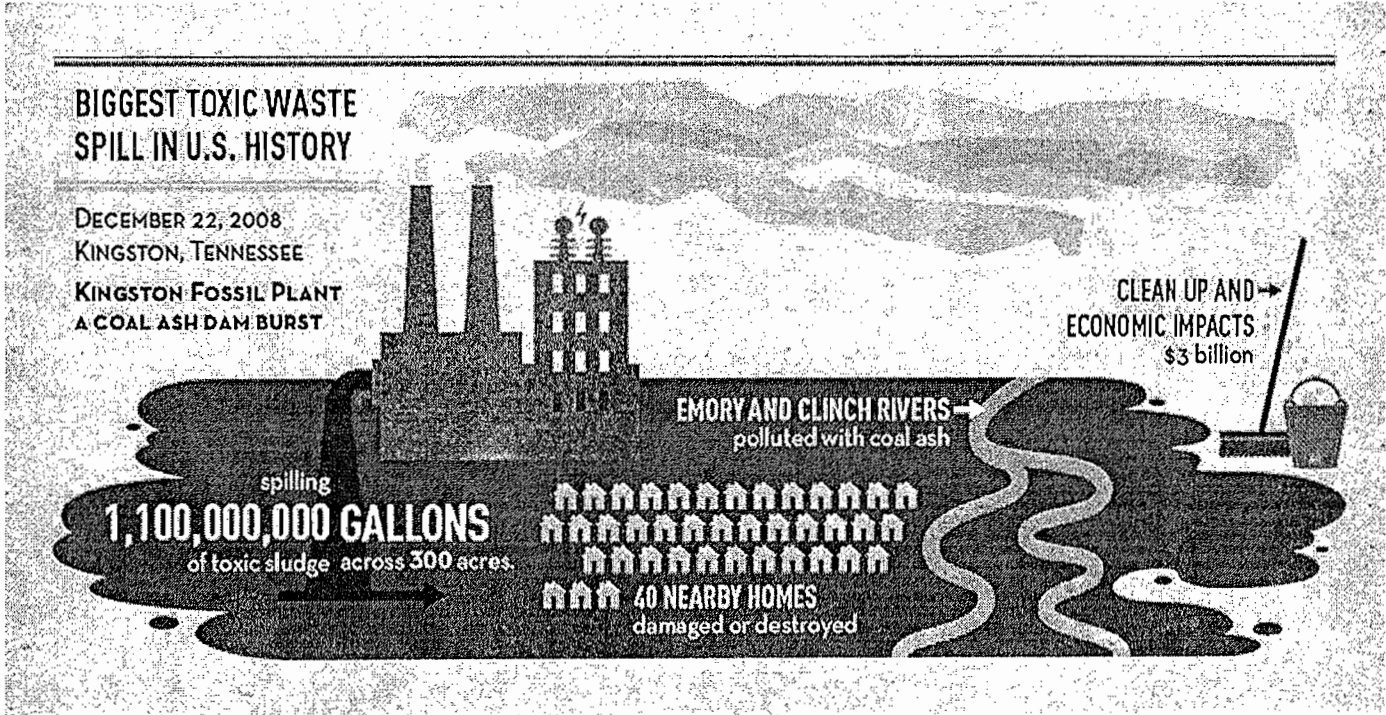
the toxic metals present in the ash, such as arsenic, mercury, chromium (including the highly toxic and carcinogenic chromium VI), lead, uranium, selenium, molybdenum, antimony, nickel, boron, cadmium, thallium, cobalt, copper, manganese, strontium, thorium, vanadium and others. Ironically, as coal plant pollution controls like electrostatic precipitators and baghouse filters become more effective at trapping fly ash and decreasing coal plant air pollution, the waste being dumped into coal ash waste streams is becoming more toxic.

Coal ash is best known for polluting our drinking water, lakes, rivers and streams, and the threat it poses when dumped into large earthen dams that can and do break, causing catastrophic spills and leaks. In February 2014, just days after the U.S. Environmental Protection Agency (EPA) announced a deadline for finalizing federal coal ash regulations, an underground pipe beneath a coal ash pond in North Carolina ruptured, sending 82,000 tons of coal ash into the Dan River. In December 2008, a massive coal ash pond at the Tennessee

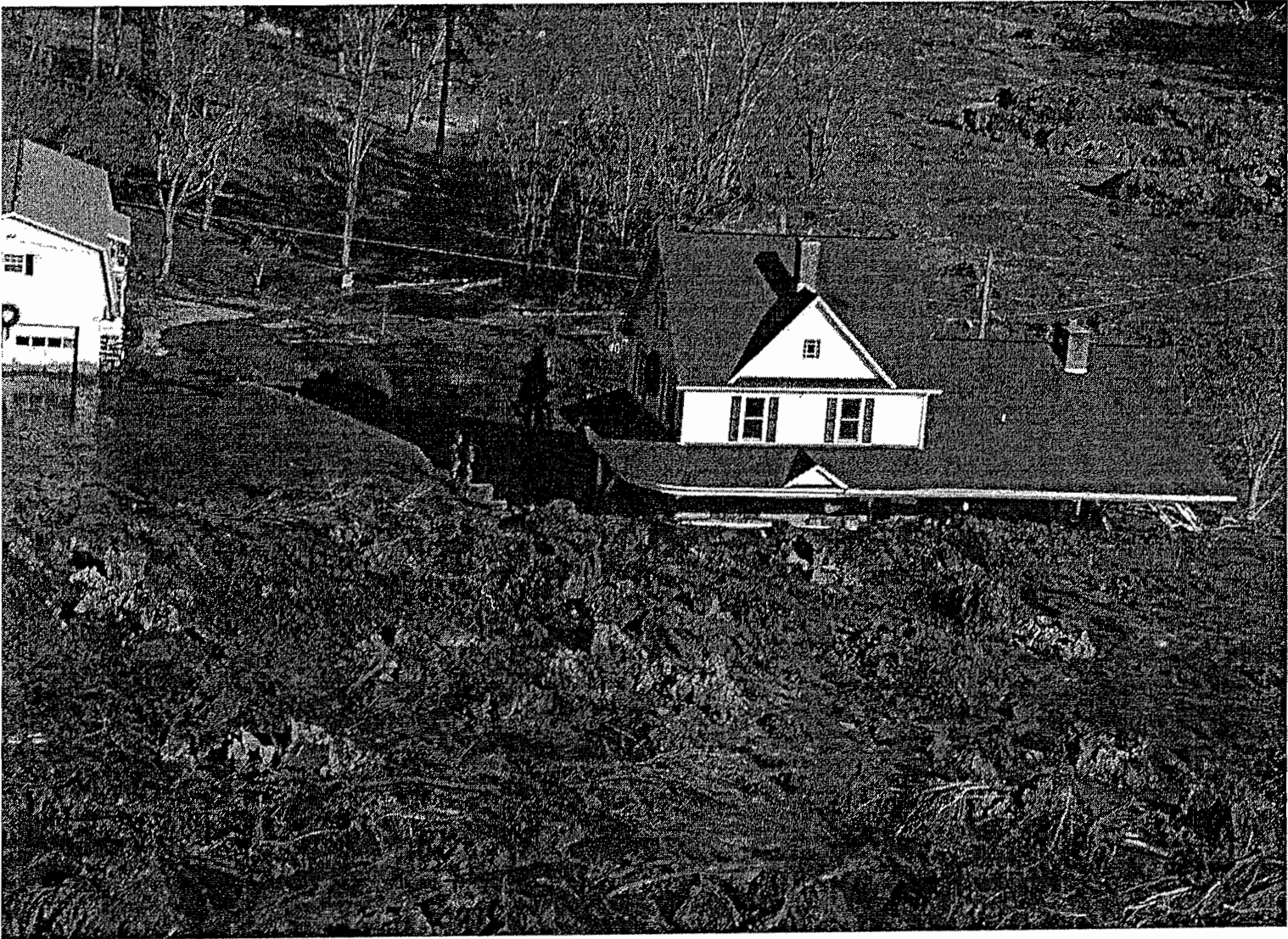
Toxic coal ash dust at the Making Money Having Fun Landfill in Bokoshe, OK.

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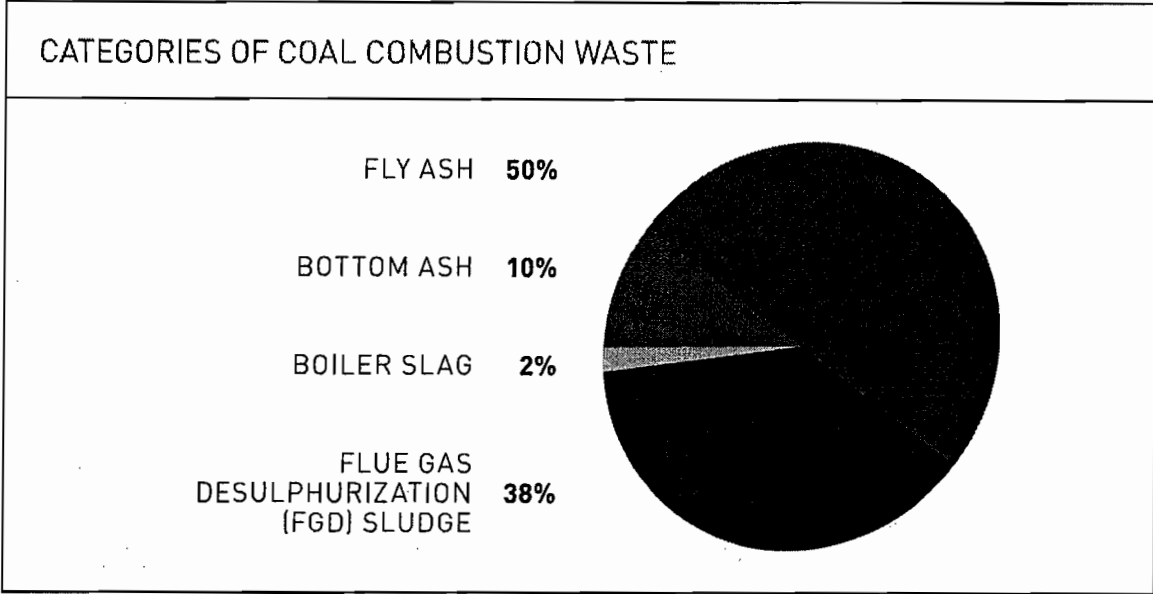


Coal ash spilled from the TVA Kingston Power Plant covered 300 acres and damaged 40 nearby homes.



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Coal ash is comprised of four categories of combustion waste. Fly ash makes up the largest percentage (about half) by weight. Fly ash is the lightest of the four wastes and the most likely to become airborne. It is carried up with hot flue gases and trapped by stack filters.

SOURCE: WWW.EPA.GOV/RADIATION/TENDRM/COALANDCOALASH.HTML

Valley Authority's Kingston Fossil Plant in Harriman, Tennessee, burst, sending more than 1 billion gallons of coal ash sludge across 300 acres, destroying and damaging 40 nearby homes and polluting miles of two nearby rivers. These are two examples of more than 200 documented instances of coal ash contaminating nearby waters across the country.² Large-scale catastrophes are dangerous, well documented and publicized; but less visible dangers of coal ash pose another threat. When suspended in the air as dust, coal ash is a serious health hazard. The inhalation of toxic dust from disposal, transport and plant operations can cause serious injuries to workers and communities residing near coal ash dumps.

The huge volume of ash produced by the nation's 495 coal-burning power plants amplifies the risk.³ In 2007, these plants together generated more than 140 million tons of coal ash, enough to fill train cars stretching from the North Pole to the South Pole.⁴ This ash was disposed of in approximately 1,070 wet impoundments (or ponds), 435 landfills, hundreds of mines and uncounted numbers of gravel pits, piles and other sites.⁵ When disposed, coal ash dust is emitted into the air by loading and unloading, transport and wind. Once in the air, it can migrate off-site as fugitive dust. As a result, workers and nearby residents could be exposed to significant amounts of coarse particulate matter (PM₁₀) and fine particulate matter (PM_{2.5}).

Protective practices to control toxic dust, such as moistening dry ash or covering it daily in a landfill, can minimize the dangers to public health. Yet there are currently *no* federal requirements to control fugitive toxic dust. At most coal ash dumps state regulations do not mandate daily cover, and adequate cover may only be required monthly or even yearly. The EPA found that such infrequent dust suppression has "the potential to lead to significant risks."⁶

WHY INHALING COAL ASH IS HARMFUL

EXPOSURE TO SMALL PARTICLE POLLUTION

Coal ash dust is small particles; the smaller the particle, the greater the health risks. The very smallest particles are inhaled into the deepest part of the lungs where they trigger inflammation and immunological reactions. Some particles gain access to the systemic circulation and travel to distant organs where they produce heart or lung disease, while others may enter the brain directly via the nerves in the nose. The disease-causing potential of small particles, particularly those less than 2.5 micrometers in their aerodynamic diameter (PM_{2.5}), has led the EPA to include them among the six criteria pollutants under the Clean Air Act, which requires national

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When suspended in the air
as dust, coal ash is a serious
health hazard.

air quality standards for certain pollutants that cause adverse health impacts, including $PM_{2.5}$.⁷

As epidemiological research becomes more sophisticated due to improved techniques for monitoring air quality and advances in statistical and population sampling methods, it seems likely that there is no level at which $PM_{2.5}$ is assuredly free from causing adverse health effects. This principle became clear in a study of 51 metropolitan areas published in the *New England Journal of Medicine*, the world's leading peer-reviewed medical journal. The investigators who wrote this paper retrieved $PM_{2.5}$ and mortality data from the late 1970s and early 1980s and compared it to data obtained about two decades later. Uniformly, these analyses showed important increases in health benefits as the $PM_{2.5}$ concentrations fell. For example, in the Buffalo, New York, metropolitan area, a reduction of 13 micrograms per cubic meter of air was associated with a three- to four-year increase in life expectancy.

Many other studies published in leading peer-reviewed medical journals have shown similar results—higher particulate concentrations are associated with higher mortality rates. These studies link coal-derived particulates, including those from fly ash, to the four leading causes of death in the U.S.: heart disease, cancer, respiratory diseases and stroke. In addition, preliminary data may lead to adding Alzheimer's disease and Type II diabetes mellitus to this list. One study from the Women's Health Initiative is particularly instructive and important for several reasons. For one, it is big: more than 64,000 post-menopausal women participated. It was also done prospectively, i.e., at the time the women entered the study they were judged to be free from cardiovascular disease and were then followed for an average of about seven years. Thus, the occurrence of endpoints,

including stroke, heart attack and the need for coronary artery bypass surgery, could be determined with great accuracy. The study showed that for a ten microgram per cubic meter increase in the concentration of $PM_{2.5}$, there was a 24 percent increase in the incidence of the aforementioned diseases.

Whereas initial studies examined long-term exposures to particulates, advances in statistical methods have made it possible to relate even brief increases in the concentration of $PM_{2.5}$ to transient increases in the risk for stroke, fatal heart rhythms and out-of-hospital cardiac arrest. This is made possible because increasing numbers of patients with heart disease have implanted cardiac defibrillators that can detect a potentially fatal heart rhythm and deliver a strong shock to the heart to restore a lifesaving normal rhythm. The painful shock causes patients to go to the hospital emergency room, where technicians are able to "talk" to the defibrillator using radio signals and retrieve the exact heart rhythm and the time at which the device went off. Investigators then compare this time and rhythm data to additional data from air pollution monitoring sites near the patient in order to relate the two seemingly separate data sets, joined by a common time. Times and pollutant levels chosen when the device did not fire off serve as controls.

Although burning coal is not the biggest source of $PM_{2.5}$, improvements in analytical techniques have made it possible to point the finger at coal with increasing confidence. Initially it was only possible to measure and identify the source of relatively large particulates. Subsequent improvements then made it possible to segregate particles in terms of size. Recently, investigators have applied statistical techniques coupled with advances in analytical chemistry to clearly identify the source of particles. Those with large amounts of silicon dioxide, the principle component of sand, arise from the earth's crust; particles with lead come from motor vehicles; and particles marked with selenium result from burning coal. Source-specific analytical techniques then showed that the selenium-containing particles were the most damaging to health—that is, the particles that arose from coal.

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While inhalation of coal ash fine particle pollution poses the greatest threat to human health from fugitive coal ash dust, the composition of the coal ash dust poses additional inhalation effects as well.

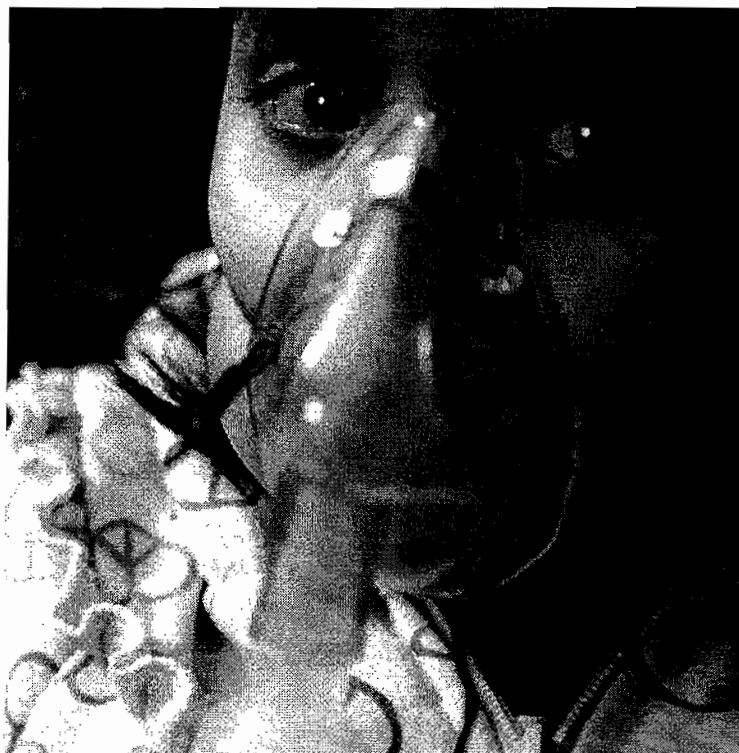
HARMFUL EFFECTS OF SILICA EXPOSURE VIA INHALATION OF COAL ASH

The composition of fly ash dust can vary considerably depending on the coal that was burned, but all fly ash contains significant amounts of silica, in both crystalline and amorphous form.⁸ Respirable crystalline silica in coal ash can lodge in the lungs and cause silicosis, or scarring of the lung tissue, which can result in a disabling and sometimes fatal lung disease. Chronic silicosis can occur after many years of mild overexposure to silica. While the damage may at first go undetected, irreversible damage can occur to the lungs from chronic exposure. Such exposure can result in fever, shortness of breath, loss of appetite and cyanosis (blue skin). In addition, the International Agency for Research on Cancer (IARC) has determined that silica causes lung cancer in humans, and the National Toxicology Program (NTP) and National Institute for Occupational Safety and Health (NIOSH) have also classified silica as a human carcinogen.

HARMFUL EXPOSURE TO EXCESSIVE RADIOACTIVITY

Fugitive coal ash dust also contains radioactive metals.⁹ While each coal seam will have different levels of radioactive metals attached to the carbon, all coals have at least some level of naturally occurring radioactive materials, including uranium, thorium, potassium and their radioactive decay products including radium.¹⁰ Burning coal concentrates the radionuclides approximately three to ten times the levels found in the initial coal seams. The radioactive metals stay with the coal ash when the carbon is burned off.¹¹

If these dusts are inhaled, they can transport radioactive metals into a person's lungs. The



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radioactive metals will undergo radioactive decay and the resulting water-soluble radium can be transported to a person's bones where it will replace calcium. It will also undergo further decay to radon gas, the second leading cause of lung cancer after tobacco smoke in the United States. Radon gas is generated from the decay of radium. Being heavier than air, it tends to lay in pockets in low-lying areas unless mixed with air and carried away by wind. In addition, the dust does not have to be inhaled to be dangerous. Dust can contaminate surface water supplies

While inhalation of coal ash fine particle pollution poses the greatest threat to human health from fugitive coal ash dust, the composition of the coal ash dust poses additional inhalation effects as well.

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where the soluble radium can contaminate drinking water and be ingested by humans or other species.

HARMFUL EXPOSURE TO MERCURY VIA COAL ASH

Mercury is of particular concern due to its high toxicity and its accumulation in fly ash and eventually into the coal ash waste stream. Implementation of the federal Clean Air Mercury Rule will significantly increase the mercury content in fly ash because the mercury capture required by the rule will result in more mercury ending up in the solid waste created by coal burning. According to EPA testing of fly ash at plants that had mercury controls, the mercury in ash increased by a median factor of 8.5, and in one case, by a factor of 70.¹² At the same time, other contaminants in fly ash such as arsenic and selenium also increased, concurrently elevating the risk to human health via inhalation of fugitive dust.

HARMFUL EXPOSURE TO HYDROGEN SULFIDE VIA COAL ASH

Hydrogen sulfide is a flammable, colorless gas with the characteristic odor of rotten eggs. Hydrogen sulfide is released primarily as a gas and spreads in the air. Because of the high sulfur level in coal ash, hydrogen sulfide is often released at coal ash landfills and impoundments. Communities near dumps or coal plants and workers at these facilities may be exposed to hydrogen sulfide by breathing contaminated air.

Exposure to low concentrations of hydrogen sulfide may cause nausea and irritation to the eyes, nose or throat.¹³ It may also cause difficulty in breathing for some asthmatics. Children are sometimes exposed to more hydrogen sulfide than adults because hydrogen sulfide is heavier than air and children are shorter than adults. The sulfurous stench from coal ash dumps can also significantly degrade the quality of life of communities near disposal sites.

DANGERS TO WORKERS FROM INHALATION OF COAL ASH

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The primary workplace health risks are associated with inhaling airborne fly ash. Depending on conditions in the plant, regulations may require employees to use respirators, wear disposable clothing or both when performing specific tasks. These employees may be the safest while performing those tasks since they are wearing protective gear. However, it is likely that many employees are exposed to and inhale substantial concentrations of fly ash in power plants while they are not wearing respirators or other protections. In a published study, the Electric Power Research Institute found that silica exposure in U.S. coal-fired power plants frequently exceeded NIOSH health standards in areas where fly ash was handled, particularly during activities involving the maintenance of air pollution devices (e.g., maintenance of baghouses or electrostatic precipitators).¹⁴

Landfill employees and workers handling coal ash in “beneficial use” operations (e.g., at structural fills and minefills) may also experience harmful exposure to airborne ash. Workers at the Arrowhead Landfill in Uniontown, Alabama,¹⁵ which received 4 million tons of coal ash from the cleanup of the TVA Kingston spill in 2009–2010, reported significant injuries to health.¹⁶ A construction manager overseeing the use of coal ash in the construction of a golf course has also claimed serious injury due to inhalation of fly ash.¹⁷

The primary workplace health risks are associated with inhaling airborne fly ash.

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Much like other residents of Uniontown, AL, William Gibbs started seeing the paint peeling off his truck a few months after coal ash from the spill in Tennessee arrived at a nearby landfill. "If that's what it's doing to my truck, imagine what it's doing to me," said Gibbs.

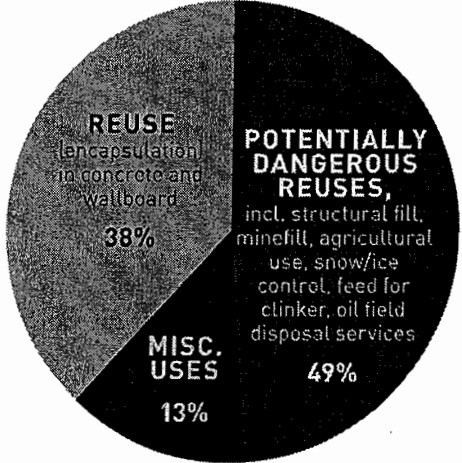
DANGER TO COMMUNITIES NEAR COAL-BURNING PLANTS

Utility companies have three ways to dispose of toxic coal ash. An estimated 36 percent of coal ash is disposed of in dry landfills, usually at the power plant site where it was generated. Approximately twenty-one percent of coal ash is stored in wet impoundments or "ponds"—some as large as 1,000 acres.¹⁸ The remaining 43–46 percent is reused in industrial applications, including many that involve large-scale disposal, such as large structural fill projects and filling mines with coal ash. More than 60 percent of all coal-burning plants have some type of onsite coal ash disposal, frequently consisting of at least one landfill, pond or silo.¹⁹ Most have multiple disposal areas. Thus communities near power plants are frequently at risk of exposure to toxic dust.

All forms of coal ash disposal can generate dangerous quantities of airborne ash due to mismanagement of ponds, landfills and reuse projects. Ponds in arid environments may be allowed to dry, resulting in wind dispersion of

dried ash. Landfills may not be covered daily or capped, also resulting in unsafe levels of ash blowing from dumps. Also, where coal ash is used for fill in construction or on agricultural fields as a "soil amendment," the ash can readily blow or erode. Windblown particulates called "fugitive dust" also arise when ash is loaded, unloaded and transported.

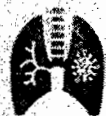
REUSE OF ASH
NOT ALWAYS BENEFICIAL
Reuse can cause harmful levels of toxic dust and water pollution



SOURCE: AMERICAN COAL ASH ASSOCIATION. 2012 COAL COMBUSTION PRODUCT (CCP) PRODUCTION & USE SURVEY REPORT.

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| COAL ASH POLLUTANT | HEALTH IMPACTS | | | | | |
|---|--|--|--|---|--|---|
| <div><div>33</div><div>As</div><div>74.92159</div></div> <div>ARSENIC</div> | INGESTION | | | INHALATION | ABSORPTION | |
| |  <div>nervous system damage</div> |  <div>cardiovascular issues</div> |  <div>urinary tract cancers</div> |  <div>lung cancer</div> |  <div>skin cancer</div> | |
| <div><div>80</div><div>Hg</div><div>200.59</div></div> <div>MERCURY</div> | EXPOSURE | | | | | |
| | POSES PARTICULAR RISK TO CHILDREN INFANTS, AND FETUSES | |  <div>nervous system damage</div> |  <div>developmental defects like reduced IQ and mental retardation</div> | | |
| <div><div>82</div><div>Pb</div><div>207.2</div></div> <div>LEAD</div> | EXPOSURE | | | | | |
| | THERE IS NO SAFE LEVEL OF LEAD EXPOSURE, PARTICULARLY FOR CHILDREN |  <div>brain swelling</div> |  <div>kidney disease</div> |  <div>cardiovascular problems</div> |  <div>nervous system damage</div> |  <div>death</div> |
| <div><div>24</div><div>Cr</div><div>51.996</div></div> <div>CHROMIUM</div> | INGESTION | | | FREQUENT INHALATION | | |
| |  <div>stomach ulcers</div> |  <div>intestinal ulcers</div> |  <div>stomach cancer</div> |  <div>anemia</div> |  <div>asthma</div> |  <div>wheezing</div> |

In 2009, the EPA documented the health threat from toxic dust near coal ash landfills in its draft screening risk assessment, *Inhalation of Fugitive Dust: A Screening Assessment of the Risks Posed by Coal Combustion Waste Landfills*.²⁰ The purpose of this screening assessment was to determine whether the National Ambient Air Quality Standards (NAAQS) could be violated through dry handling of coal ash, and if so, what management options might be needed to reduce the health risk. Indeed, the EPA found that “there is not only a possibility, but a strong likelihood that dry-handling would lead to the NAAQS being exceeded absent fugitive dust controls.”²¹ The EPA concluded that only daily controls

(daily cover) can definitively prevent unhealthy releases of particulates.

However, a critique of the EPA’s screening assessment found that it considerably underestimated the risk to human health from toxic dust. The EPA considered only one source of fugitive dust emissions from coal ash—wind erosion—and failed to assess the substantial emissions that occur during unloading and grading of the ash, as well as from trucks traveling on the deposited waste at the landfill.²² In addition to toxic dust from coal ash, communities near waste disposal operations are exposed to carcinogenic diesel particulate emissions from trucks, on-site landfill equipment and diesel-powered

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pumps and generators. To compound the problem, high background levels of particulate matter from nearby equipment may increase the potential for fugitive dust from coal ash to cause significant human health problems. If the EPA had taken all of these factors into account, it would have found even greater risks to communities living near coal ash dumps.

CHALLENGES TO CONTROLLING HUMAN EXPOSURE

Controlling respirable fugitive ash particles is a daunting task, principally because of two physical properties of coal ash. First, fly ash is inherently water repellant and tends to shed water droplets rather than absorb them. Thus simply wetting the material may not be effective in controlling the ash. Second, the small size of the particles (similar to talcum powder) adds to the difficulty of suppressing airborne dust. Unfortunately the most hazardous dust particles are the ones too small to see.²³

STATE AND FEDERAL REGULATIONS ARE INADEQUATE TO PROTECT COMMUNITIES

No federal standards exist for reducing toxic dust

There are currently no federal regulations addressing the threat of toxic dust from coal ash disposal or placement operations. In addition, most state laws do not protect communities from fugitive dust.

While coal ash is regulated as a solid waste under the Resource Conservation and Recovery Act (RCRA), the general standards applying to fugitive dust at industrial waste landfills do not address the risks to human health posed by coal ash.²⁴ Further, while coal ash is classified as a hazardous substance under the federal Superfund law, no regulations address its safe disposal.²⁵ In 2010, the EPA proposed regulations under RCRA to address the threat from toxic coal ash dust, but these regulations have not yet been finalized.²⁶

Protective practices to control toxic dust, such as moistening dry ash and covering it daily in a landfill, can minimize the dangers to public health. Yet at most coal ash dumps, state regulations do not mandate daily cover, and adequate cover may be required only monthly or annually. The EPA found such infrequent dust suppression has “the potential to lead to significant risks,” adding that “yearly management leads to a PM₁₀ concentration almost an order of magnitude above the [National Ambient Air Quality Standard].” The EPA concluded that most states do not require daily cover to control fugitive dust from landfills, and most states do not require caps on coal ash ponds to control dust.²⁷

In fact, our survey of 37 of the top coal ash generating states in the U.S. found that less than half of the states mandate dust (e.g. moistening) controls at coal ash landfills, and only a single state requires dust controls at coal ash ponds.²⁸ In addition, only seven of the 37 states require daily cover at coal ash landfills.²⁹ Of the states that require dust controls, none require specific measures for the control of dust on a daily basis; significant discretion is left in the hands of state permitting authorities and facility operators. No state currently requires the specific limit on toxic dust from landfills and ponds proposed by the EPA in its 2010 proposed coal ash rule (a level not to exceed 35 micrograms per cubic meter).

Table 1 indicates the controls currently applicable in 37 of the top coal ash-generating states.

Our survey of 37 of the top coal ash generating states in the U.S. found that less than half of the states mandate dust controls at coal ash landfills, and only a single state requires dust controls at coal ash ponds.

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TABLE 1: STATE COAL ASH FUGITIVE DUST CONTROLS

| STATES | MANDATORY
DUST CONTROLS AT
COAL ASH LANDFILLS | MANDATORY
DUST CONTROLS AT
COAL ASH PONDS | MANDATORY
DAILY COVER AT
COAL ASH LANDFILLS |
|--------|---|---|---|
| AL | NO | NO | NO |
| AZ | NO | NO | NO |
| CO | NO | NO | NO ³⁰ |
| FL | NO | NO | NO |
| GA | NO | NO | NO ³¹ |
| IL | YES | NO | YES |
| IN | YES | NO | NO |
| IA | YES | NO | NO |
| KS | NO | NO | NO |
| KY | NO | NO | NO |
| LA | NO | NO | YES |
| MD | NO | NO | NO |
| MI | YES | NO | NO |
| MN | NO ³² | NO | NO ³³ |
| MS | NO | NO | NO ³⁴ |
| MO | YES | NO | NO ³⁵ |
| MT | NO | NO | NO |
| NV | YES | NO | YES |
| NH | NO | NO | NO |
| NJ | YES | NO | YES |
| NM | NO | NO | NO |
| NY | NO ³⁶ | NO | NO ³⁷ |
| NC | YES | NO | YES |
| ND | NO ³⁸ | NO | NO ³⁹ |
| OH | NO | NO | NO |
| OK | NO ⁴⁰ | NO | NO ⁴¹ |
| PA | YES | YES | YES |
| SC | YES | NO | NO |
| SD | NO ⁴² | NO | NO ⁴³ |
| TN | NO ⁴⁴ | NO | NO ⁴⁵ |
| TX | NO | NO | NO |
| UT | NO | NO | NO |
| VA | NO ⁴⁶ | NO | NO |
| WA | NO ⁴⁷ | NO | NO |
| WI | YES | NO | NO ⁴⁸ |
| WV | YES | NO | YES |
| WY | NO ⁴⁹ | NO | NO ⁵⁰ |

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HOW COMMUNITIES ARE IMPACTED
BY TOXIC DUST FROM COAL ASH

The following six communities are among hundreds of American communities that are injured by toxic air emissions from coal ash.

1. Arrowhead Landfill: Toxic Dust and Odors Plague an Alabama Town

After the catastrophic collapse of the coal ash dam at TVA's Kingston plant in Harriman, Tennessee, in 2008, the nation's worst coal ash spill was dumped across state lines into the lives of residents in Uniontown, Alabama (population 1,775).⁵¹

With the approval of the Alabama Department of Environmental Management, the TVA chose to move the 4 million cubic yards of poisonous ash to the town's Arrowhead Landfill. But instead of using protective management techniques, the coal ash was dumped in uncovered mounds stacked six stories high, just 100 feet from nearby residents. Dust and odors from the landfill caused residents of Uniontown to experience health problems, including respiratory illness, headaches, dizziness, nausea and vomiting.

Dust blanketed their homes, cars and gardens, and choking wafts of the "rotten egg" stench of hydrogen sulfide permeated their houses making life nearly unbearable.

The dumping was a blatant act of environmental injustice.⁵² While the Harriman, Tennessee, community where the Kingston spill occurred is almost entirely white (91 percent) and middle class (median income \$36,031), Uniontown is 90 percent African American, and 45.2 percent of its citizens live below the poverty line (median income \$17,473). The transfer of the TVA coal ash to a community where the negative effects were disproportionately borne by African-Americans sparked residents to file a lawsuit in 2012 under Title VI of the Civil Rights Act of 1964.⁵³ Under Title VI, government agencies that receive federal funds must assess whether their permitting decisions result, even unintentionally, in racial inequality. In fall 2013, Earthjustice assumed representation of those impacted by the dumping.

The railcars loaded with toxic waste from Tennessee have ceased. But since the Arrowhead Landfill's permit allows the dump to continue to accept coal ash from more than two dozen states, there is no guarantee that the danger to the Uniontown residents has passed.



CHRIS JORDAN-BLOCH / EARTHJUSTICE

"I wanted to move away from the noise and the hardness of the city. So I came here for some peace and quiet in the country. I wanted to hunt and fish and enjoy the weather in this beautiful place and now they've pushed this thing right on top of us. Now, I'm too old to move and no one would want to buy this place anyways," said William Gibbs.

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2. An Ill Wind Blows Across a Native American Community

It starts with a warning. Next it is only a matter of which way the wind blows. In the evening, someone will go from house to house and tell the neighborhood that tomorrow will be a windy day and, perhaps, a bad air day. The next afternoon if the conditions are just wrong, coal ash dust blows from the nearby dump sites of

Nevada Energy's Reid Gardner Power Station and moves like a sandstorm across the dry desert of the Moapa River Indian Reservation. The reservation is the ancestral home to a band of Paiute Indians whose homes sit only 300 yards from the plant.⁵⁴ Living in the shadow of Reid Gardner, the tribe has paid dearly with its health, and reaped little economic benefit.

The Reid Gardner "sandstorm" is made up of coal ash, and members of the tribe tell of health



Toxic coal ash blows like a sandstorm straight at the homes on the Moapa River Reservation.

MOAPA BAND OF PAIUTES

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problems resulting from the blowing ash, including burning skin, sore throats, hyperthyroidism, heart problems and asthma. On bad days, residents stay inside. The toxic dust prevents use of the tribal lands for traditional activities, and members are concerned that their soil and water are poisoned with toxic pollutants from the ash.

3. Louisville Gas & Electric's Cane Run Generating Station: Years of Blowing Ash

The LG&E Cane Run Generating Station near Louisville, Kentucky, stores huge mountains of coal ash on site. For years, toxic dust clouds and odors have blown from the power plant's waste dumps onto the nearby community. Every day a continuous line of trucks haul ash from the power plant to the disposal site near a community of nearly 400 residents, many of whom live in rented trailers and mobile homes. A screen was erected between the ash pile and an adjacent cemetery in order to minimize the amount of wind-blown dust that escapes from the property. However, it seems to be purely cosmetic. In fact, videos of ash blowing over the top of the screen are regularly posted online.⁵⁵

The Louisville Metro Air Pollution Control District has repeatedly responded to the toxic dust with notices of violations and fines.⁵⁶ In 2013, LG&E agreed to pay \$113,250 and comply with a pollution control plan after ash and odors blowing from the plant's landfill affected residents living near the plant.⁵⁷ Two years earlier, LG&E paid \$22,500 for repeatedly disregarding city regulations and allowing coal ash to blow into residential neighborhoods.⁵⁸ Environmental samples obtained from three homes near the plant all showed clear evidence of deposits of fly ash and bottom ash, as confirmed by scanning electron microscopy and spectral analysis.⁵⁹

4. Battlefield Golf Course: "Beneficial Use" Gone Terribly Wrong

Between 2002 and 2007, Dominion Virginia Power opted for a cheap way to dispose of



SOUTHEASTCOALASH.ORG

1.5 million tons of coal ash. They built an 18-hole golf course with the toxic ash in Chesapeake, Virginia. Ever since, Battlefield Golf Course has been ground zero in the fight over harmful "beneficial uses" of coal ash.

During construction of the golf course, neighbors and workers reported clouds of black dust migrating from the construction site to the adjacent residential neighborhoods. Homeowners abutting the course reported that their homes, yards, cars, picnic tables and play equipment were covered with ash. They were told it was harmless.

According to a former construction manager of the golf course, Dominion directed the building of the course with fly ash to disguise the project's true purpose—a coal ash dump. In a sworn statement, Derrick Howell, a former employee of the builder of the golf course, said, "It was clear that a golf course wasn't being built," stated Howell. "It was a coal ash dump. All Dominion ever cared about was tonnage and how much more they could dump."⁶⁰

As a result of the toxic dust and water contamination, the golf course has been the subject of several lawsuits, including a \$2 billion lawsuit brought by nearby residents for damages. In addition, in 2012, a contractor filed a \$10 million lawsuit against Dominion alleging that his inhalation of fly ash while building the course over five years contributed to his kidney cancer.⁶¹

The "mountain" rising behind the fence is coal ash generated by the power plant. The screen at the Cane Run Generating Station cannot stop the toxic dust from reaching neighbors.

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5. Dust and Disease from Mine Dumping in La Belle, PA

In the small rural community of La Belle, Pennsylvania, an immense mine dump covers 500 acres and contains a mountain of 40 million tons of waste. Because of its conical shape and a pond at the top, resembling a crater, local residents refer to the dump as a “volcano” of mine waste and coal ash. First Energy—the operator of a power plant 75 miles north—plans to dump more than 3 million tons of additional coal ash here every year starting in 2016, when its 1,300-acre Little Blue Run coal ash impoundment in Beaver County closes.

This is very bad news for the residents of La Belle. In addition to water contamination, toxic dust blows from the dump and from uncovered trucks hauling coal ash. The waste blankets nearby homes, offices, yards and cars. Residents have documented large clouds of dust drifting from the dump. Analyses of the particles on residential properties reveal the presence of coal ash, including toxic metals such as antimony, arsenic, chromium, lead and fine particles.⁶²

The residents of La Belle have turned to the court for relief. Represented by attorneys from

Public Justice and the Environmental Integrity Project, a complaint alleging violations of numerous federal and state environmental statutes was filed against the dump operator in 2013.⁶³

6. Toxic Ash from Coal Ash Ponds Threatens the Navajo Nation

In the Four Corners region, the Navajo Nation hosts one of the biggest coal-fired power plants in the West—the Arizona Public Service (APS) Four Corners Power Plant in Fruitland, New Mexico. Despite the plant’s size, 25 percent of the reservation—an estimated 16,000 Navajo families—are without access to electricity.⁶⁴ The Navajo population is instead burdened by the enormous pollution created by the coal plant, including clouds of toxic dust from its half-dozen coal ash ponds and a landfill that rises 110 feet above the floor of the high desert.

Since 1962, APS has dumped approximately 30 million tons of coal ash in six immense wet dumpsites near the power plant. Fugitive dust from the coal ash ponds is a severe problem. Ash dries rapidly in the arid climate and is largely uncontained. Coal ash blown from the waste impoundments covers hundreds of acres

Coal ash ponds from APS’ Four Corner’s Power Plant rise more than 100 feet above the arid Navajo Reservation.



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of the surrounding desert. On windy days, the air is literally filled with ash. Health problems, including asthma, are common among members of the Navajo Nation.

Additionally, Navajo people use their local environment to gather medicines for ceremony and wellness. According to the group Dine' Citizens Against Ruining the Environment, contamination from coal ash jeopardizes the Navajo people's ability to practice traditional healings, which is embedded in their culture.

CONCLUSION

Despite the obvious health risks to communities living near coal ash dump sites, no federal regulation regarding the storage and disposal of this toxic waste exists. The EPA proposed coal ash regulations in 2010, but has not finalized the rules. Earthjustice, on behalf of Physicians for Social Responsibility, Appalachian Voices, Chesapeake Climate Action Network, Environmental Integrity Project, Kentuckians For The Commonwealth, Moapa Band of Paiutes, Montana Environmental Information Center, Prairie Rivers Network, Sierra Club, Southern Alliance for Clean Energy and Western North Carolina Alliance, sued the EPA in federal court for its failure to follow the law and propose coal ash regulations in a timely manner. As a result of that lawsuit, the EPA will finalize the nation's first federal coal ash regulation by December 19, 2014.

But federal regulations for coal ash cannot come soon enough. An increasingly large number of studies show clear links between

Communities across the nation are hurt by toxic dust because adequate controls are not in place to protect public health. Often those harmed are communities of color or low-income communities living along the fence lines of these coal ash dumps.

inhaled coal ash and adverse health outcomes. The huge volume of coal ash generated in the United States and the many dangerous ways it is dumped create a variety of pathways for harmful levels of human exposure. Communities across the nation are hurt by toxic dust because adequate controls are not in place to protect public health. Often those harmed are communities of color or low-income communities living along the fence lines of these coal ash dumps whose economic hardships make them even more vulnerable to injury. Requiring control of toxic dust through federally enforceable standards that protect all Americans nationwide, and switching from coal to cleaner, renewable energy sources, are well-documented and essential paths to better health.

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NOTES

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14. Edison Electric Institute, Silica Exposure at Electric Utilities, EEI Safety and Health Webinar, July 22, 2009, 8, [available at](http://www3.eei.org/meetings/Meeting%20Documents/2009-07-22-IHIssuesWeb-Silica_Hatcher.pdf) http://www3.eei.org/meetings/Meeting%20Documents/2009-07-22-IHIssuesWeb-Silica_Hatcher.pdf.
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25. See *Eagle-Picher Industries v U.S. EPA*, 759 F.2d 922 (D.C. Cir. 1985).

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30. Allows variance for daily cover requirement.

31. Allows variance for daily cover requirement.

32. Dust controls can be waived by variance.

33. Allows variance for daily cover requirement.

34. Cover requirement is not daily.

35. Cover requirement is not daily.

36. Dust controls can be waived by variance.

37. Allows variance for daily cover requirement.

38. Dust controls can be waived by variance.

39. Cover requirement is not daily.

40. Dust controls can be waived by variance.

41. Cover requirement is not daily.

42. Dust controls can be waived by variance.

43. Allows variance for daily cover requirement.

44. Dust controls can be waived by variance.

45. Cover requirement is not daily.

46. Dust controls can be waived by variance.

47. Dust controls can be waived by variance.

48. Cover requirement is not daily.

49. Dust controls can be waived by variance.

50. Cover requirement is not daily.

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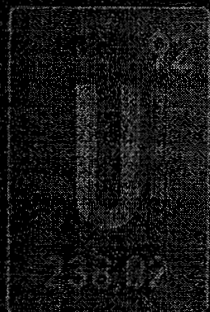
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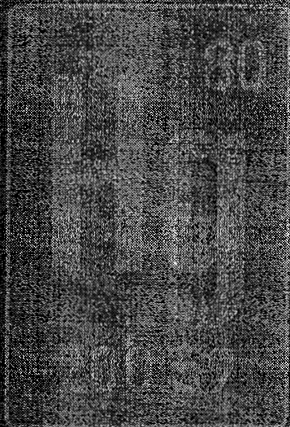
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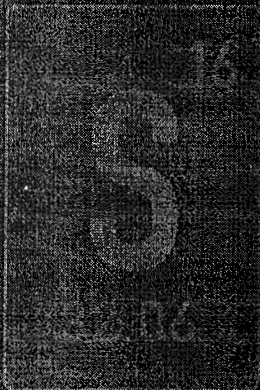
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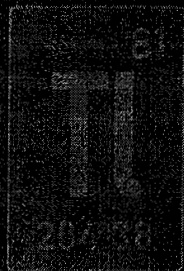
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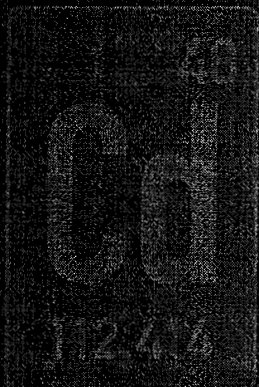
SULFUR



BORON



THALLIUM



CADMIUM



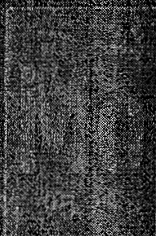
CHROMIUM



ARSENIC



SELENIUM



MOLYBDENUM



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Physical and Chemical Characterization of Pond Ash

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Abstract

Of the total Solid Waste generated in India, approximately 25% is residue from coal combustion. These residues include fly ash, bottom ash and pond ash. Pond ash is a mixture of dry fly ash and bottom ash. During the years 2010-12, about 408 Million tonnes/year of coal was used and over 130 Million tonnes/year of fly ash was generated by 88 thermal power plants all over India. Pond ash contributes to two major environmental problems: generation of respirable particulate matter (a major air pollutant) and pollution of soil and water due to leaching of heavy metals. The objective of this study was to determine the environmental impacts of open dumping of pond ash around a thermal power plant.

Physico-chemical characterization of three pond ash samples collected from Kolaghat Thermal Power Plant was done. Physical characterization of the samples included determination of Total Solids, Volatile Solids, Fixed Solids, specific gravity, specific surface area, hydraulic conductivity, dry densities, particle size distribution and performing Scanning Electron Microscopy for obtaining morphological characteristics. Surface reactivity and EDS analyses were done to assess different chemical characteristics of the same pond ash samples. Specific surface area gave fineness data and EDS gave elemental composition of the ash samples. Finally, the potential hazards of the samples were assessed depending upon these results.

Keywords: CCR; EDS; SEM; thermal power plant; pond ash; fineness.

1. Introduction

The amount of CCR (coal combustion residue) released by factories and thermal power plants has been increasing throughout the world, and their disposal has become

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a serious problem due to the large land requirement. The best way to reduce ever increasing land acquisition problem due to unabated CCR generation is to utilize CCR after converting it into a non-hazardous material. CCR can be used economically as construction materials, structural fill materials, etc. However, due to the presence of different toxic metals (depending on the sources of coal) it cannot be used without pre-treatment. The leachates of toxic metals emanating from ash ponds may contaminate ground water.

CCR characteristics depend on coal type, coal particle fineness, % of ash in coal, combustion technique applied, air/fuel ratio, number of burners used and type of burner. The non-sphericity of ash particles is correlated with coal combustion efficiency and probably with the black carbon to total particle mass ratio. According to Martins et al. (1998) higher coal combustion efficiencies produce high black carbon contents and the particles produced are mostly non-spherical. However, according to Tang et al. (2013) lower or incomplete coal combustion produces ash particles of irregular shapes.

Due to pozzolanic or self-hardening characteristics, CCR can be recycled as construction material (Ghosh and Subbarao, 1998). Pozzolanic characteristics depend on the availability of lime in CCR. If the lime content present in CCRs is very low, then there will be insufficient bonding between the CCR particles due to lack of pozzolanic reaction. So, it may create leaching problems as in that case it will be present in very loose condition during the use of the same as a structural fill material.

The objective of this study was to evaluate the physico-chemical characteristics of pond ash samples for conducting an environmental impact assessment of CCR dumping.

2. Materials and Methods

Three pond ash samples were collected from three different ash ponds situated around the Kolaghat Thermal Power Plant. They were collected in three plastic buckets and were immediately sealed with plastic covers to prevent exposure to sunlight.

TS, VS and FS were determined according to the methods specified in Standard Methods (APHA et al., 2005, page 2-78, method 2540 G.). Specific gravity of ash samples was determined by density bottle following the standard method prescribed in IS 2720 (Part III/Section 1).

Specific surface area of each of the three pond ash samples was determined by Air Permeability Apparatus of Blaine Type by Air Permeability Method (Blaine method; IS: 4031 (Part 3)). It is a measure of the fineness of a sample. Cement was used as the reference material for calibration of the Air Permeability Apparatus.

Hydraulic conductivity was determined by Falling Head Permeability Method for all the three pond ash samples. Particle size distribution curves of all the three pond ash samples were obtained after sieve analysis and hydrometer analysis on the same samples. Different values of % finer and grain size of all three samples were combined to plot particle size distribution graphs.

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SEM-EDS study was conducted with JEOL JSM5800 Scanning Electron Microscope with Oxford EDS detector. EDS analysis of the three pond ash samples was done to determine their elemental composition. Oxide components of the samples were determined during performing EDS experiment.

3. Results and Discussion

According to experimental results given in Table 1, water content was almost negligible in all pond ash samples and ash sample 3 had the highest content of volatile solids. Pond ash sample 3 had mostly coarse particles. Ash sample 3 had the highest specific gravity. Pond ash sample 2 had the maximum specific surface area comparable to that of Portland cement (300-500 m²/kg) and sample 3 had the lowest specific surface area. Pond ash sample 2 was also poorly permeable as compared to the other ash samples.

EDS results as shown in Figure 2, provide information about the presence of C, O, Al and Si in significant quantity in all the samples. K, Ca, Ti, Fe, Cu, Zn, As, Se, Cd and Rn were present in trace amounts in the samples and some of those elements were absent in one or more of them.

It is observed from oxide composition of three ash samples given in Table 2, that lime was present to a very small extent (<7%) in pond ash sample 2 only. However, in other samples it was absent. Oxides of Al, Si and Fe were predominantly present (except the absence of oxides of Al in sample 3 and Fe in sample 1).

If specific surface area increases, the sample may be a threat to the environment, as more elements or pollutants get adsorbed on its surface. Further, due to abundance or sequestration of those elements/pollutants, more leaching of the same will occur in aqueous environments.

After observing the SEM images of the pond ash samples (not shown here), it can be concluded that the ash particles were mainly made up of irregular spherical, semi-spherical and sometimes irregular grains and fibrous matrix.

EDS results show presence of toxic elements like As and Cd and radioactive element like Rn in trace amounts.

All the pond ash samples had lime content less than 7%. So the fly ash present in the pond ash samples can be classified as Class-F (Iyer R., 2002).

From Table 3 it can be concluded that pond ash sample 2 had the highest silt/clay component which may be the reason of its poor permeability.

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Table 1: TS, VS, FS, Specific gravity, Fineness, Hydraulic conductivity and Dry Density of Pond Ash Samples.

| Parameters | Sample 1 | Sample 2 | Sample 3 |
|---------------------------------|----------|----------|----------|
| TS (%) | 99.91 | 99.51 | 99 |
| VS (%) | 5.675 | 7.999 | 8.949 |
| FS (%) | 94.325 | 92.001 | 91.051 |
| Specific Gravity at 27 °C | 2.065 | 2.088 | 2.158 |
| Fineness (m ² /kg) | 73.78 | 254.41 | 56.62 |
| Hydraulic conductivity at 27 °C | 0.992 | 3.407 | 2.972 |
| Dry density, γ_d (g/cc) | 0.848 | 0.995 | 1.221 |
| Void ratio, e | 1.435 | 1.098 | 0.7674 |

Table 2: Different Oxide Components of Three Pond Ash Samples.

| Different Oxides | % Presence in Different Pond Ash Samples | | |
|--------------------------------|--|----------|----------|
| | Sample 1 | Sample 2 | Sample 3 |
| Al ₂ O ₃ | 37.27 | 19.67 | 0 |
| SiO ₂ | 54.77 | 59.09 | 66.17 |
| K ₂ O | 7.95 | 2.39 | 6.79 |
| CaO | 0 | 2.42 | 0 |
| TiO ₂ | 0 | 4.19 | 0 |
| FeO | 0 | 12.25 | 24.66 |
| As ₂ O ₃ | 0 | 0 | 2.38 |

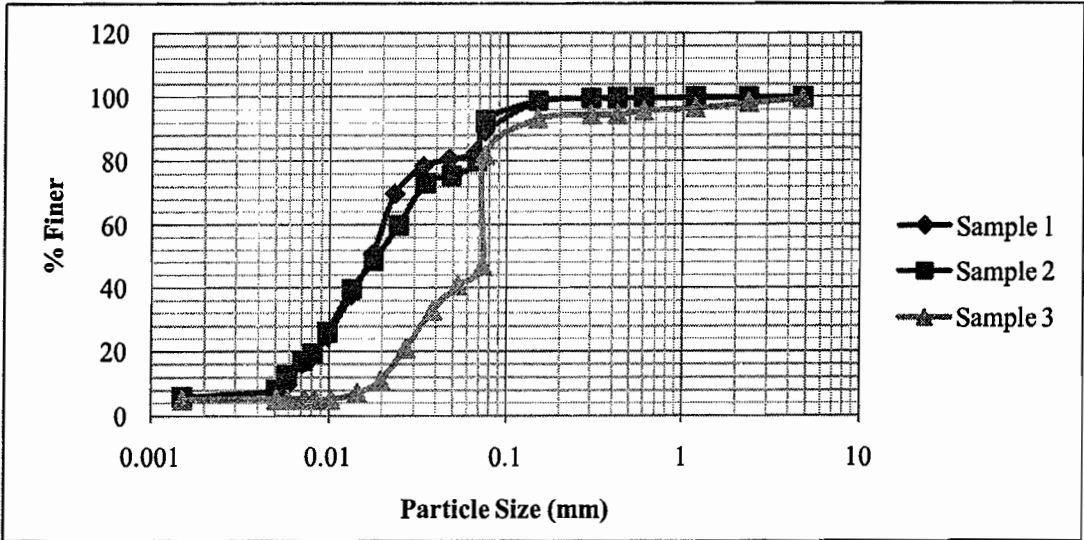


Figure 1: Particle Size distribution Graph of Three Different Pond Ash Samples.

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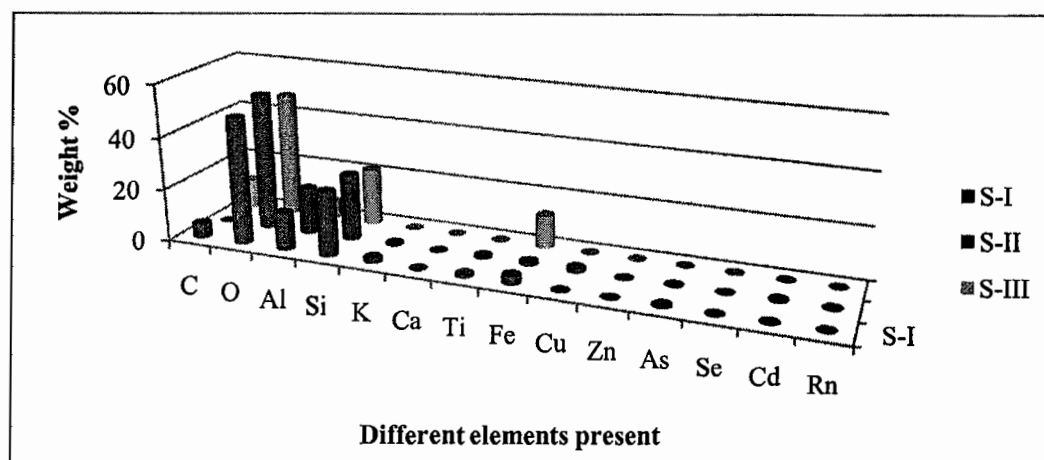



Fig. 2: EDS analysis results of three pond ash samples.

Table 3: Summarisation of Observations Made from Particle Size Distribution Graph.

| Parameters | Values of Different Parameters of Pond Ash Samples | | |
|--|--|----------|----------|
| | Sample 1 | Sample 2 | Sample 3 |
| Gravel % (>4.75 mm) | 0.03 | 0.024 | 0.436 |
| Sand % (4.75-0.075 mm) | 10.698 | 7.344 | 17.76 |
| Silt/Clay % (<0.075 mm) | 89.272 | 92.632 | 81.804 |
| D ₁₀ (mm) | 0.005 | 0.006 | 0.018 |
| D ₃₀ (mm) | 0.012 | 0.012 | 0.034 |
| D ₆₀ (mm) | 0.02 | 0.025 | 0.07 |
| Uniformity Coefficient (C _u) | 4 | 4.17 | 3.89 |
| Coefficient of Curvature (C _c) | 1.44 | 0.96 | 0.917 |

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