

Guidelines for Brick Manufacturing Industries



Pollution Control Board, Assam
Bamunimaidam, Guwahati-21

INTRODUCTION

Assam burnt clay bricks are mainly used as material for construction since it produces a superior and comfortable physical living environment than other materials.

Despite the initiation of other type building and walling materials such as earth block, concrete block, stone concrete, stone block, fly ash brick etc. Burnt clay bricks still occupy the dominant position in Assam.

The consumption or demand of burnt clay bricks in Assam is around **2,500 million** pieces which is going to be around 4000-5000 million piece in following year. Therefore there is urgent need for another **300-500 bricks kilns** in Assam to meet the demand supply gap.

Guidelines Regarding Location of Land:

- ▶ Brick kiln shall be established at least 300 m away from residential area having a minimum population of 100-150 people or 20 houses including both kachcha/thatched and pucca houses, 500 meters from a residential area having a population more than 150 or more than 20 houses including both kachcha/thatched and pucca houses. However the distance from notified municipal area/town committee shall be not less than 1.0 Km.
- ▶ The aerial distance of brick kilns shall be at least 500 mtrs. from the areas like registered hospital, school, public building, religious place or a place where flammable substances are stored.
- ▶ Brick kilns shall not be allowed within a radius of 1.0 km in notified sensitive areas like Zoo, wild life sanctuary, historic monuments, museum etc. The distance to be verified by an officer not below the rank of Forest range Officer/Revenue Circle Officer or the Board official not below the rank of Asstt. Executive Engineer.
- ▶ Brick kilns shall not be constructed within 200 m (aerial distance) from the sides of railway tracks.

LOCATION OF LAND:

- ▶ The clay collection/excavation area for the brick kiln shall not be an area falling within the restriction limits prescribed under Rule 7 of Assam Minor Mineral concession Rules, 2013 reproduced below:

“1. No mining lease/ contract/ permit shall be granted in respect of any land within a distance of :

- ▶ Fifty meters from the outer periphery of the defined limits of any village habitation, National Highway, State Highway and other roads where such excavation does not require use of explosives;
- ▶ Two hundred fifty meters from the outer periphery of the defined limits of any village habitation, National Highway, State Highway and other roads where use of explosives is required;
- ▶ Five hundred meters from major structures like R.C.C. Bridges Guide bund etc.;

Provided that the Government may relax the above distance parameters, wherever required in the interest of workings, mineral conservation or for any unforeseen reasons subject to such conditions as may be imposed under the said relaxation.

2. No mining lease/ contract/ permit or other mineral concession shall be granted in respect of any such minor mineral or in respect of any specific or general area which the Government may notify.”

Guidelines Regarding Location of Land

The distance between two brick kilns shall not be less than 500 m to avoid clustering of brick kilns in an area if a new brick kiln is being installed.

Brick kiln should be constructed at least 500 meters away from path of any natural water flow as well as from River bank water front of beels, lakes etc. More over no top soil from these areas (within the vicinity of 500 meters) be extracted for making the green bricks (kutcha bricks) which are necessary for ensuing stability of river bank.

No brick kilns shall be allowed within the co-ordinates of “No Development Zone” around the Numaligarh Refinery without the consent of MoEF.

After scrutinizing the application of the proponent of brick unit, the Regional Office of the Board shall arrange for Public Hearing in the concerned Gram Panchayat for assessing the acceptability of industry by local people.

CATION OF PLANT & MACHINERY:

The minimum area of land for establishing a brick kiln unit should be such that after establishing plant and machinery and leaving sufficient space for material stock and movement of vehicles, enough space is available all around for planting at least two rows of trees, shrubs or bamboo along the periphery.

TANDARDS TO BE ACHIEVED:

Stack height to be provided with different type of brick kilns and emission standards have been notified by Ministry of Environment & Forests (MoEF), Govt. of India under Schedule I at Sl. No. 74 of Environment (Protection) Rules, 1986 (as amended time to time) vide G.S.R. 543 (E) dated 22.07.2009

There are other activities in brick manufacturing process like mining / quarrying of clay, handling & transportation of raw material / bricks which contribute to ambient air pollution. MoEF has also Notified National Ambient Air Quality standards dated 16th November, 2009

POLLUTION CONTROL MEASURES REQUIRED:

Approach road within the premises of brick kiln area should be pucca/ stabilized with brick bats etc.

They should use crushed coal for better burning efficiency.

Bricks should be laid in such a staggered manner for baking to entrap maximum particulate matter at the source itself.

They should use a properly designed gravity chamber.

Permanent stack should be provided at the brick kiln and height of chimney / stack should be at least 30 meters. No moving chimney shall be allowed.

Water sprayers shall be installed and operated at strategic locations.

The approach road to site of brick kiln (including the storage site if it is at different place) from the nearest public road for the transportation of raw material/final products must be paved or hard surfaced

POLLUTION CONTROL MEASURES REQUIRED:

Active haul roads inside the works should be adequately wetted with water (preferably recycled and treated waste water)

Exhausts of trucks for transportation of materials within the site should be directed upward.

Wheel cleaning facilities should be provided, for delivery trucks leaving the works, for the removal of mud.

OPERATION AND MAINTENANCE:

Water storage facility (minimum 3000 liters) must be provided at the brick kiln site.

A high standard of housekeeping should be maintained.

Malfunctioning or breakdown of any equipment / machinery leading to abnormal emissions should be dealt with promptly.

GENERAL CONDITIONS:

A Sign Board showing the name, address and capacity of the brick kiln as well as validity of the consents should be displayed at the entrance of the site.

Brick kiln industry must have valid source for raw material either in self ownership or with proper legal arrangement. An affidavit to this effect shall be submitted by the Project proponent. Clay mining area should be reclaimed after utilization.

Local agro industrial wastes residue shall be encouraged for use as internal fuel to replace coal in a phased manner.

The use of local agricultural wastes residues as a substitute to coal fire shall be encouraged and non-hazardous industrial waste such as stone dust, rice husk ash, red mud etc. shall be encouraged to be mixed with top soil.

Fly ash shall be used in brick molding in compliance of the notification (as amended) issued under the provision of Environment (Protection) Act, 1986 to manufacture soil fly ash brick.

Pent organic solvent, oily residue, pet coke, filter press cake (hazardous waste) etc. and other wastes such as plastic, rubber, lather etc. shall not be allowed as fuel in brick kiln

GENERAL CONDITIONS:

Lighting arrestor as per the PWD norms or any other standard design shall be installed for brick kiln to avoid the damage to stacks/chimney caused due to lightning attack.

In Brick Kiln besides the above Good House Keeping practices including disposal of coal ash, provision of double wall around the kiln, proper layout, brick lining of passage, use of properly graded coal, proper firing practices, protection from noise pollution and other measures should be followed by all Brick Kiln Owners.

The above sitting criteria will be applicable to all Bulls Trench Kilns respective of their brick production capacity.



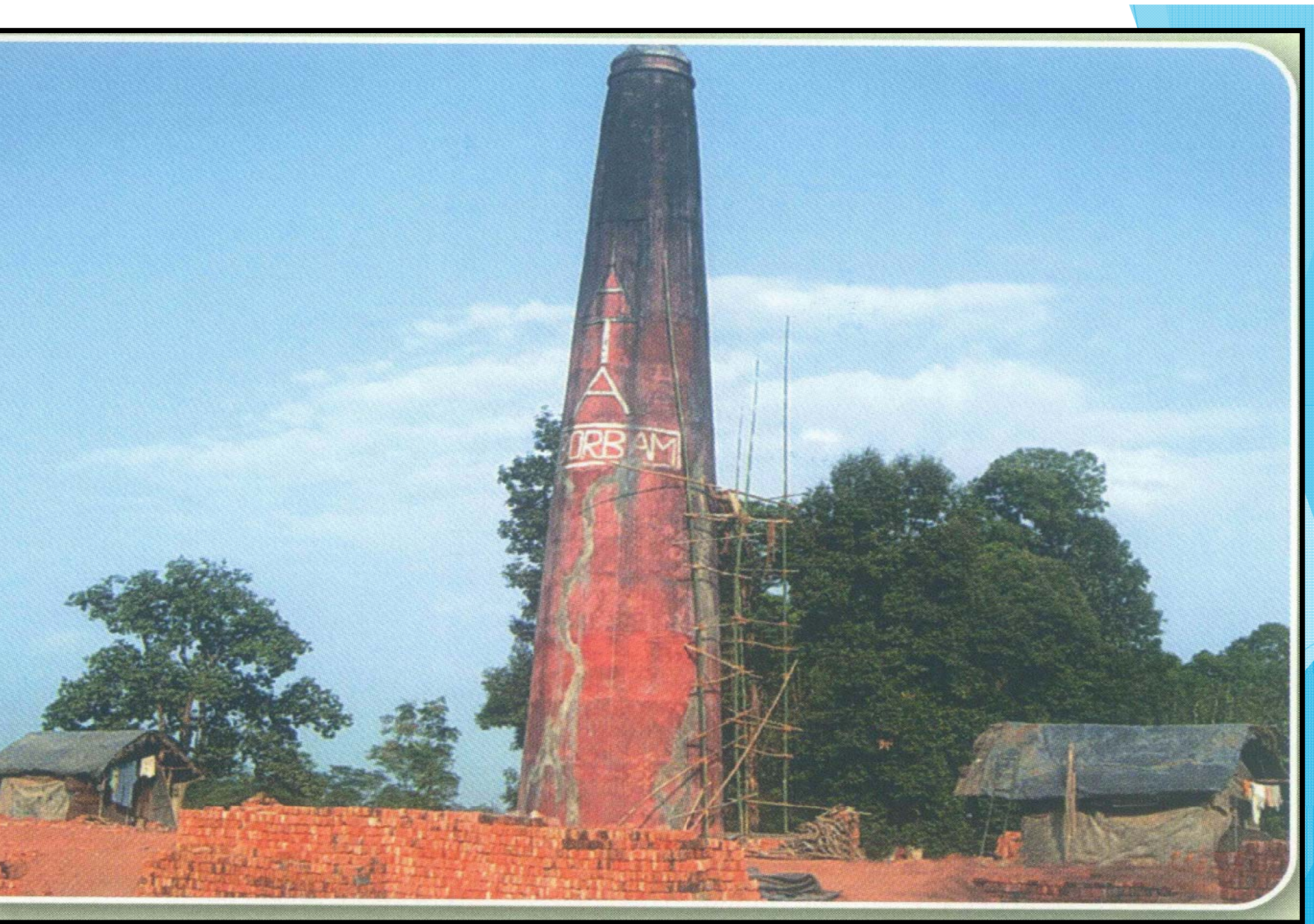
ENVIRONMENTAL CARE: GREEN BELT DEVELOPMENT:

For conserving environment from adverse effect of emissions, the industry must ensure that:

Minimum 33% of the land on which industry is established or proposed to be established is **covered by plantation**.

Multi layer and multi storey green belt of 10 m width or two rows of bamboo shall be developed along the periphery of brick kiln leaving two **10 m wide gaps** in the boundary for entry and exit of material and vehicles.

A wall of 3 m height shall be constructed on the sides where land is not available for green belt development to prevent fugitive dust emission. For installation of brick kiln with green belt development, the minimum area required is 5 bighas.



CONSEQUENCE OF DEFAULTING COMPLAINT OF GUIDELINES:

If any non compliance is observed during the operations , notice under Section 31(A) of the Air Act will be issued and proponent will be directed to rectify the non compliance within specified period.

If non compliances are found to be continuing even after show cause notice, the consent will be revoked/refused and closure directions will be issued under Section 31(A) of the Air Act, 1981 forthwith. The owner will also be liable criminal prosecution.

RECLAMATION OF BRICK FIELDS:

The top layer i.e. the HUMUS layer of the land used for earth mining as well as Kiln area must be preserved safely in a area inside Brick field to be used for the reclamation of the depleted/abandoned brick field or kiln area later on.

The thickness of this layer must not be less than 1.5 ft. This is to retain the fertility of the land used for brick manufacturing process after being abandoned



THANK YOU

