



भारतीय राष्ट्रीय राजमार्ग प्राधिकरण

(सड़क परिवहन और राजमार्ग मंत्रालय, भारत सरकार)

National Highways Authority of India

(Ministry of Road Transport and Highways, Government of India)

जी-5 एवं 6, सेक्टर-10, द्वारका, नई दिल्ली - 110 075 • G-5 & 6, Sector-10, Dwarka, New Delhi-110075

दूरभाष/Phone : 91-11-25074100 / 25074200



भाराराप्रा/ नीति दिशानिर्देश/प्रौद्योगिकी समावेश प्रकोष्ठ/2026

नीति परिपत्र सं. 13.27/ 2026 दिनांक 16th अगस्त, 2026

{(ई-ऑफिस फाइल सं. SRD-TI-11019/15/2026-SRD-TI (कम्प्यूटर सं. 320778 पर लिया गया निर्णय))}

NHAI/ Policy Guidelines/ Technology Induction Cell /2026

Policy Circular No. 13.27/ 2026 dated 16th August, 2026

{(Decision taken on E-Office File No. SRD-TI-11019/15/2026-SRD-TI (Comp No. 320778))}

विषय: एनएच निर्माण कार्यों में फ्लाई-ऐश ईटों/ब्लॉकों/टाइलों के उपयोग के संबंध में।

Sub: Use of Fly-Ash Bricks/Blocks/Tiles in NH Works -reg:-

सड़क परिवहन और राजमार्ग मंत्रालय (एमओआरटीएच) ने पत्र संख्या आरडबल्यू/एनएच-33044/01/2019-एसएंडआर (पीएंडबी)आरएससीई-पीटी,1 दिनांक 27.07.2021 के माध्यम से "एनएच निर्माण कार्यों में फ्लाई-ऐश ईटों/ब्लॉकों/टाइलों के उपयोग" के संबंध में एक परिपत्र जारी किया है। सूचना एवं आवश्यक कार्रवाई हेतु इसकी प्रतिलिपि संलग्न की जा रही है।

Ministry of Road Transport & Highways (MoRT&H) vide letter no. RW/NH-33044/01/2019-S&R (P&B) RSCE-pt,1 dated 27.07.2021 has issued a Circular on the "Use of Fly-Ash Bricks/Blocks/Tiles in NH Works". The Copy of the same is enclosed herewith for information and needful action.

2. अनुरोध है कि परिपत्र की विषयवस्तु को तत्काल आवश्यक अनुपालन हेतु सभी संबंधितों के संज्ञान में लाया जाए।

It is requested that the contents of the Circular may be brought to the notice of all concerned for immediate needful compliance.

3. यह सक्षम प्राधिकारी के अनुमोदन से जारी किया जाता है।

This issues with the approval of Competent Authority.

संलग्नक: यथोपरी।

Encl.: As stated above.

[Handwritten signature]
16/08/26

(सीएस. संजय कुमार पटेल/ CS. Sanjay Kumar Patel)
प्रभारी मुख्य महाप्रबंधक(समन्वय) (i/c) Chief General Manager (Coord.)

प्रति/ To:

भाराराप्रा मुख्यालय/आरओ/पीआईयू/सीएमयू/साइट कार्यालयों के सभी अधिकारी।

All Officers of NHAI HQ/ ROs/ PIUs/ CMUs/ Site Offices.

प्रतिलिपि/ Copy to:

1. पुस्तकालय की साइट पर प्रकाशन के लिए पुस्तकालय को।
Library for hosting the Circular on Library site.
2. परिचालन के लिए वेब एडमिन को।
Web Admin for Circulation.
3. सचिव, सड़क परिवहन और राजमार्ग मंत्रालय के प्रधान निजी सचिव को सूचनार्थ।
PPS to Secretary, MoRT&H for Kind Information.

Government of India
Ministry of Road Transport & Highways
Zone-S&R (P&B)
Transport Bhawan, 1, Parliament Street, New Delhi -110001.

Dated: July, 2021

To,

1. The Chief Secretaries of all the State Governments/ UTs.
2. The Principal Secretaries/ Secretaries of all States/ UTs Public Works Department/ Road Construction Department/ Highways Department (dealing with National Highways and other centrally sponsored schemes).
3. The Chairman, National Highways Authority of India, G-5 & 6, Sector-10, Dwarka, New Delhi-110 075.
4. The Managing Director, NHIDCL, PTI Building, New Delhi-110001.
5. The Director General (Border Roads), Seema Sadak Bhawan, Ring Road, New Delhi-110 010.
6. All Engineers-in-Chief and Chief Engineers of Public Works Department of States/ UTs/ Road Construction Department/ Highways Departments (dealing with National Highways and other centrally sponsored schemes).
7. All CE-ROs, ROs and ELOs of the Ministry.

Subject: Use of Fly-ash bricks/blocks/tiles in NH works - reg...

Reference:

- i. Ministry's Letter No- RW/NH-24028/14/2018-H dated 27.08.2018 (copy enclosed)
- ii. Ministry's Letter No- RW/NH-35014/20/2017-H dated 07.01.2019 (copy enclosed)
- iii. Ministry's Letter No. RW/NH-33044/0/2019-S&R dated 23.10.2020 (copy enclosed)

Madam/Sir,

Ministry of Environment, Forests and Climate Change (MoEF & CC) has issued various directives to all construction agencies to use fly-ash in the construction of road within a radius of 300 kilometer of any coal/lignite based thermal power plant vide its gazette notification dated 14.09.1999 and its amendments dated 27.08.2003, 03.11.2009 and 25.01.2016. Ministry has issued guidelines for using fly-ash in the embankments of roads/flyover etc. vide letters mentioned at reference above.

2. In view of the MOEFCC guidelines/directives, it is felt necessary to promote use of fly-ash bricks/blocks/tiles in the NH works. Physical requirements, general quality and dimensions of all such fly-ash bricks/blocks/tiles shall be governed by relevant Indian standard.

3. In view of the above, provision of mandatory use of fly ash bricks, blocks, tiles meeting relevant Indian Standards may be ensured in appropriate items of work such as masonry structures, flooring, footpath etc. in highway projects in pursuance to MoEF & CC guidelines and subject to availability.



4. This issues with the approval of Competent Authority.

Yours sincerely,

(Chhaya Rajput)
Assistant Executive Engineer (S&R)
for Director General (Road Development) &SS

Copy to:

1. All ADGs, CEs in the Ministry of Road Transport & Highways HQ
2. The Secretary General, Indian Roads Congress
3. Technical circular file of S&R (P&B) Section
4. NIC-for uploading on Ministry's website under "Circulars/Notifications"

Copy for kind information to:

1. Sr. PPS to Secretary (RT&H)
2. PPS to DG (RD) & SS
3. PPS to AS&FA



RW/NH-33044/01/2019-S&R (P&B)
Government of India
Ministry of Road Transport & Highways
Zone-S&R (P&B)
Transport Bhawan, 1, Parliament Street, New Delhi -110001.

Dated: 23rd October, 2020

To,

1. The Chief Secretaries of all the State Governments/ UTs.
2. The Chairman, National Highways Authority of India, G-5 & 6, Sector-10, Dwarka, New Delhi-110 075.
3. The Managing Director, NHIDCL, PTI Building, New Delhi-110001.
4. The Principal Secretaries/ Secretaries of all States/ UTs Public Works Department/ Road Construction Department/ Highways Department (dealing with National Highways and other centrally sponsored schemes).
5. All Engineers-in-Chief and Chief Engineers of Public Works Department of States/ UTs/ Road Construction Department/ Highways Departments (dealing with National Highways and other centrally sponsored schemes).
6. The Director General (Border Roads), Seema Sadak Bhawan, Ring Road, New Delhi-110 010.
7. All CE-ROs, ROs and ELOs of the Ministry.

Subject: Use of Fly-ash in road/flyover embankment construction on NH works - reg...

Reference:

- i. Ministry's Letter No- RW/NH-24028/14/2018-H dated 27.08.2018 (copy enclosed)
- ii. Ministry's Letter No- RW/NH-35014/20/2017-H dated 07.01.2019 (copy enclosed)

Fly-ash is causing environmental pollution, creating health hazards and requires large areas of precious land for disposal. Due to increasing concern for environmental protection and growing awareness of the ill effects of pollution, disposal of ash generated at thermal power plants has become an urgent and challenging task.

2. Ministry of Environment, Forests and Climate Change (MoEFCC) has issued various notifications for fly-ash utilization. As per the latest notification of MoEFCC, it is mandatory to use fly-ash in construction of roads or flyover embankments within a radius of 300 km of thermal power plants.

3. As per MORT&H 'Specifications for Road and Bridge Works' and IRC 'Manual of Specifications and Standards' (two, four and six laning of Highways etc.), use of fly-ash shall conform to the MoEFCC guidelines. As per the Ministry's Specifications for Road and Bridge Works use of fly ash is allowed under Section 305 for "Embankment Construction". The physical and chemical properties of fly-ash and the design methodology to be adopted for embankment construction has been specified in IRC: SP: 58-2001 "Guidelines for use of fly-ash in Road Embankments".





4. In view of the above, it is hereby once again requested to use fly-ash in the road construction, in line with the guidelines of MoEFCC, MORTH and IRC.

Yours sincerely,

Rajput
23/10/2020
(Chhaya Rajput)

Assistant Executive Engineer (S&R)
for Director General (Road Development)&SS

Copy to:

1. All CEs in the Ministry of Road Transport & Highways
2. The Secretary General, Indian Roads Congress
3. Technical circular file of S&R (P&B) Section
4. NIC-for uploading on Ministry's website under "What's new"

Copy for kind information to:

1. Sr. PPS to Secretary (RT&H)
2. PPS to DG (RD) & SS
3. PPS to AS&FA
4. PS to all ADGs
5. PS to JS (T)/ JS (H)/ JS (LA&C)/ JS (EIC)

[Signature]

No. RW/NH-35014/20/2017-H
Government of India
Ministry of Road Transport & Highways
S&R (P&B Section)
Transport Bhawan, 1, Parliament Street, New Delhi-110001

Dated: January 07, 2019

To

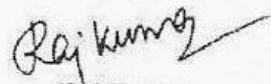
The Chairman,
National Highway Authority of India
Plot G-5& 6, Sector-10, Dwarka,
New Delhi-110075

Subject: MoU for off-take of Fly Ash from Private Power Stations.

Please find enclosed herewith a copy of letter No. APP/DG/2018-19/1148 dated 04.12.2018 regarding MoU with NHAI for off-take of Fly Ash from Private Power Stations received from Sh. Ashok Khurana, Director General of Association of Power Producers (copy enclosed).

2. As per the notification of MoEF, it is mandatory to use fly-ash in construction of roads or flyover embankments within a radius of 300 km of thermal power plants. The NHAI has signed an MoU with some NTPC stations for off-take of fly-ash in this regard. However, several of APP members are reportedly facing challenges in off-take of fly ash as no MoU has been entered into with the NHAI/PWD in line with NTPC.

3. Further, it is to mention that the Association of Power Producers has reported vide above mentioned letter that all Power stations are willing to enter the pro-forma MoU with NHAI as per the terms and conditions specified by the MoEF. Accordingly, it is requested that the NHAI and all other project executing agencies of MoRTH are mandated to use fly-ash generated from private thermal stations/ plants for construction of embankments as per the provisions of MoEF guidelines and, accordingly, a MoU may be signed with the Private Power Generating Stations as well and fly-ash used from these stations for the said purposes.



(Raj Kumar)
Assistant Executive Engineer-S&R (P&B) RS
For Director General (RD) & Special Secretary

Copy to the following with a request to take similar action:-

1. Director General, Border Roads Organisation
2. Managing Director, NHIDCL
3. All ROs, MoRTH
4. All Secretaries, State PWDs

Copy also for information to:

Sh. Ashok Khurana, Director General, Association of Power Producers, 501-502, 5th Floor, Mohan Dev Building, 13, Tolstoy Marg, New Delhi-110001, with reference to his letter dated 4th December 2018.



1519598/2021/O/o Coordinator(P&B,RS,IRC)

No. RW/NH-35014/20/2017-H

Government of India

Ministry of Road Transport & Highways

S&R (P&B Section)

Transport Bhawan, 1, Parliament Street, New Delhi-110001

Dated: January 07, 2019

To

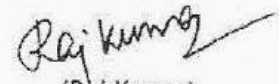
The Chairman,
National Highway Authority of India
Plot G-5& 6, Sector-10, Dwarka,
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3. Further, it is to mention that the Association of Power Producers has reported vide above mentioned letter that all Power stations are willing to enter the pro-forma MoU with NHAI as per the terms and conditions specified by the MoEF. Accordingly, it is requested that the NHAI and all other project executing agencies of MoRTH are mandated to use fly-ash generated from private thermal stations/ plants for construction of embankments as per the provisions of MoEF guidelines and, accordingly, a MoU may be signed with the Private Power Generating Stations as well and fly-ash used from these stations for the said purposes.



(Raj Kumar)

Assistant Executive Engineer-S&R (P&B) RS
For Director General (RD) & Special Secretary

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No. 24028/14/2018-H
Government of India
Ministry of Road Transport & Highways
S&R(P&B) Section

Transport Bhavan, No.1, Parliament Street, New Delhi-110001

Dated: August 27, 2018

To

1. The Chairman, National Highways Authority of India, G-5 & 6, Sector-10, Dwarka, New Delhi-110 075.
2. The Managing Director, NHIDCL, PTI Building, New Delhi-110001
3. All CE-ROs of the Ministry

Subject: Use of fly ash in road/ flyover embankments construction.

The use of fly-ash in road construction is permitted as per the Standards & Specifications evolved by the Indian Road Congress/ Ministry. The physical and chemical properties of fly ash and the design methodology to be adopted for embankment construction has been specified in IRC:SP:58:2001 "Guidelines for use of fly-ash in road construction". Section 305 i.e. "Embankment Construction" of MoRT&H Specifications for Road and Bridge works lays down the specifications for use of fly-ash in embankment construction.

2. There is a huge generation of fly ash in the country and substantial portion of it remains unutilized which is an environmental concern, creating health hazards apart from occupation of large areas of precious land for its storage/disposal. Disposal and utilization of ash generated at the thermal power plants has become a pressing and urgent task. Bulk utilization of the fly-ash is possible in the field of civil engineering applications, especially construction of road embankments.

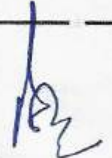
3. Ministry of Environment Forests and Climate Change (MoEF&CC) has issued various notifications for fly ash utilization. The principal notification was issued on 14-9-1999, which was subsequently amended vide notifications dated 27-8-2003, 3-11-2009 and 25-1-2016. As per the notification of MoEF&CC, it is mandatory to use fly-ash in the construction of road or flyover embankments within a radius of 300 km of a thermal power plant. Further, the relevant content of the notification dated 25-1-2016 of MoEF&CC regarding road/ flyover embankment construction are as under:-

Para 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.

Para 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 Yojana and asset creation programmes of the Government involving construction of

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No. 24028/14/2018-H
Government of India
Ministry of Road Transport & Highways
S&R(P&B) Section

Transport Bhavan, No.1, Parliament Street, New Delhi-110001

buildings, road, dams and embankments.

4. The issue of lesser off-take of fly-ash in road construction activities of the Ministry of Road Transport & Highways and its executing agencies (NHAI, State PWDs, NHIDCL) has been reviewed at the level of the Ministry. It was pointed out that the Thermal Power Plants have been found to be reluctant to bear the Transportation Costs in accordance with the latest Notification issued by the MoEF&CC on the subject. Accordingly, Secretary, MoRTH took up the matter with the Secretary, Ministry of Power and the CMD/ NTPC. The CMD, NTPC clarified that they had already issued instructions in this behalf to the officers-in-charge of all the NTPC Plants. The availability of fly ash at various stations of National Thermal Power Corporation (NTPC) is available at NTPC official web site www.ntpc.co.in under the Tab "Ash Availability". The names of responsible persons along with telephone number/ mobile number/ E-mail address to communicate for issues of Pond ash is mentioned herein. The same is also available in the App "ASHTRACK" launched by the Ministry of Power.

5. A list of Thermal Power Stations and the available quantity of fly ash as on 30-6-2018, as received from the Ministry of Urban Development is enclosed at Annexure-A.

6. The notification dated 25-1-2016 of the MoEF&CC further stipulates that an MoU or any other agreement for using fly ash is to be made between the Thermal Power Station and construction agency/ Contractor. A sample MoU finalized between the NTPC and officials of NHAI is enclosed as Annexure-B.

7. It is, therefore, requested to assess the quantity of fly ash that can be utilized in each on-going project within a radius of 300 km from the thermal power plant. The details of the assessed quantities of fly ash may be provided in the following proforma to the Ministry urgently:

A. On-going Projects (bid before 25-1-2016)

Sr. No.	Name of the nearby thermal power plant	Available quantity in plant in Tonne	Name of Project/ NH No.	Length of the Project	Quantity of fly ash that can be utilized in Tonne	Average lead of the project from plant
1.	2.	3.	4.	5.	6.	7.

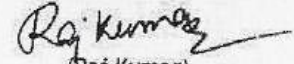
B. On-going Projects (bid after 25-1-2016)

Sr. No.	Name of the nearby thermal power plant	Available quantity in plant in Tonne	Name of Project/ NH No.	Length of the Project	Quantity of fly ash that can be utilized in Tonne	Average lead of the project from plant
1.	2.	3.	4.	5.	6.	7.

No. 24028/14/2018-H
Government of India
Ministry of Road Transport & Highways
S&R(P&B) Section
Transport Bhavan, No.1, Parliament Street, New Delhi-110001

8. It is requested to provide the details in the proforma prescribed under para 7 above within 10 days to the Ministry. It may be mentioned that a meeting shall be held by the Secretary (RT&H) on this issue in the first week of September, 2018.

Yours faithfully,


(Raj Kumar)

Assistant Executive Engineer (S&R) (P&B)
For Director General (Road Development) & SS

Copy to:

1. All ADGs in the Ministry of Road Transport & Highways
2. All CEs in the Ministry of Road Transport & Highways



Ash Availability

Stock of each type of ash available at NTPC Stations as on 30.06.2018

Sr. No.	Name of Coal based thermal power Station	State	Month	Year	Fly ash availability in Metric Ton	Stock of Bottom Ash in Metric Ton	Stock of Ash in ash Pond in Million Metric Ton	contact person & Designation	Contact No.	Download
1.	Singrauli	Uttar Pradesh	June	2018	600	-	70.20	Debasis Sen, GCM	05446 - 232441	
2.	Korba	Chhattisgarh	June	2018	700	-	48.52	Niraj Kumar Sinha, ED	07759-237234	
3.	Ramagundam	Telangana	June	2018	4969	0	70.84	Ravindra, GCM	08728 - 272125	
4.	Farakka	West Bengal	June	2018	2700	-	39.92	Kunal Gupta, GCM	05485-224241	
5.	Vindhyachal	Madhya Pradesh	June	2018	4000	-	64.86	A.K Tiwari, GCM	07805 - 247710	
6.	Rihand	Uttar Pradesh	June	2018	3000	-	32.88	Ashes Kumar Mukherjee, GCM	05446 - 242001	
7.	Kahalgau	Bihar	June	2018	3700	737000	65.93	K Sreedhar, GCM	06429 - 226333	
8.	Dadri	Uttar Pradesh	June	2018	18500	-	0.12	A.K Das, GCM	0120 - 2671300	
9.	Talcher Kaniha	Orissa	June	2018	1770	-	74.45	Ram Kuber, ED	06760 - 243252	
10.	Feroze Gandhi, Unchahar	Uttar Pradesh	June	2018	2000	-	8.58	R.K Sinha, GCM	05311 - 278010	
11.	Talcher Thermal	Orissa	June	2018	200	-	2.48	Mithlesh Singh, HOP	06760 - 249101	
12.	Simhadri	Andhra Pradesh	June	2018	5100	0	2.49	A Maithi, GCM	08924 - 243001	
13.	Tanda	Uttar Pradesh	June	2018	1450	-	6.14	K.S Rajiv, ED	05273 - 281198	

14.	Badarpur	Delhi	June	2018	3500	-	0.16	Chandan Chakraborty, GGM	011 - 26949523
15.	Sipat	Chhattisgarh	June	2018	5200	-	30.68	A K Samanta, GGM	07752 - 246501
16.	Mauda	Maharashtra	June	2018	4000	784157	0.83	Rajkumar, GGM	07115 - 281170
17.	Barh	Bihar	June	2018	875	-	5.04	Asit Kumar Mukherjee, GGM	06132 - 240001
18.	Bongaigaon	Assam	June	2018	-	-	0.58	Dipankar Bose, GGM	03661 - 282754
19.	Solapur	Maharashtra	June	2018	500	-	0.14	Nav Kumar Sinha, GGM	0217 - 2252578
20.	Kudgi	Karnataka	June	2018	1250	-	0.48	Sanjiv Kishore, ED	08426 - 280371

Remarks: ** Available on ash mound

Procedure for supply of ash from NTPC Thermal power plants [Click here...](#)

Draft MOU

MEMORANDUM OF UNDERSTANDING FOR BEARING TRANSPORTATION COST OF
POND ASH/BOTTOM ASH MOUND ASH FROM NTPC'S ----- (NAME OF THERMAL
POWER PLANT) TO ROAD PROJECT----- (NAME OF ROAD) OF----- NHAI

The Memorandum of Understanding (MOU in short) is made on ----- day of ----- (name of month)----- (year) by and between NTPC limited, a wholly owned Government of India Enterprise, incorporated under the company Act, 1956 and having its Registered Office at NTPC Bhawan, Core -7, Scope Complex, 7 Institutional area, Lodhi road, New Delhi- 110003 and having one of its coal based thermal power station namely ----- (name of power plant with full address) herein referred to "NTPC" (which expression shall unless repugnant to the context or meaning there of "NTPC" includes its successors and assigns) on first part.

And

National Highway Authority of India (NHAI) having its registered office at ----- (full address of registered office) referred as "-----" (short name) (which expression shall unless repugnant to the context or meaning of includes its successors and assigns) on second part.

WHEREAS ----- (short name of power plant) has amongst other, a thermal power station at ----- (name of place where power plant situated) known as NTPC-----.



2

AND WHEREAS in the operation of said----- (name of power plant) ----- tonne of ash per day is generated and ----- (name of power plant) intends to bear cost for loading, transportation and unloading pond ash/ bottom ash mound ash for use in construction of road embankment at ----- (location of site) for its utilization in compliance of MoEF&CC gazette notification dated 03-1-2009 and its amendment 25-01-2016.

AND WHEREAS ----- (name of power plant) had approached ----- NHAI for use of pond ash/bottom ash/ mound ash in construction of road embankment of the ----- road project as per the stipulation of said gazette notification and compliance of the same.

AND WHEREAS ----- NHAI has agreed to utilize pond ash/ bottom ash/ mound ash in said road construction projects as per the design/ specification approved by the government agency or their consultant or as per the guidelines or specifications issued by the Indian Road Congress (IRC) as contained in IRC specification No. SP: 58 of 2001 as amended from time to time.

AND WHEREAS----- (name of power plant) has agreed to permit for excavation and loading of pond/ash/bottom ash/ mound ash from identified Ash Pond/ mound ash of ----- (name of ash pond and location) to transport ash to road construction site as per the requirement given by the construction agencies of NHAI. ---- to take up the road project work in line with specification / drawings.

NOW THE MEMORANDUM OF UNDERSTANDING WITNESS AS FOLLOWS:

That in consideration of mutual agreement and with intent to achieve above objective of NTPC ----- and ----- NHAI mutually agreed as under:

1. NTPC shall allow excavation, loading and transportation of pond ash/ bottom ash/ mound ash in the covered trucks., dumpers as per the approved guidelines of CPCB to the construction site of road project (name of road site) to authorized transporter/ contractor of NHAI/ road construction department of Government/ Union Territory in compliance of MoEF&CC gazette notification on ash utilization dated 03-11-2009 and 25-01-2016.
2. NTPC shall issue pond ash/bottom ash/ mound ash on "as is where is basis and free of cost" to authorized transporter/contractor of NHAI for road construction projects.
3. The ----- NHAI shall inform to NTPC ----- for their (i) total requirement of pond ash/ bottom ash/bottom ash/ mound ash for the project (ii) schedule of construction plan along with location and (iii) monthly requirement of pond ash / bottom ash / mound ash at that site so that necessary arrangement will be made by NTPC----- at Ash pond/ mound for issue of ash.
4. The authorized representative of ----- NHAI shall certify the quantity of ash received from NTPC----- (name of station). In order to have better communication and management, number of trucks of ash received at construction site will be informed to NTPC ----- on daily basis. However, quantity will be reconciled with final measurement of the embankment/ fill site where ash has been used. For this, Project Director, NHAI ----- will coordinate this activity and take care of day to day issues and share with NTPC -----.
5. The Rate for transportation of Fly Ash will be as per the prevailing schedule of rates of the respective state and where such rates are not available, the same will be decided mutually by NHAI and NTPC.

6. The role of NTPC shall be limited to bear the cost of excavation, loading, transportation and unloading of pond ash/ bottom ash/ mound ash in line with MoEF&CC gazette notification dated 25-01-2016. The excavation, loading, transportation in an environment friendly manner to construction site, spreading, compaction etc. shall be the responsibility of authorized agency or contractor of NHAI.
7. "As per MoEF & CC gazette notification dated 03-11-2009 use of fly ash in road embankment construction within 100 km of any thermal power plant was mandatory. Accordingly, provision for use of ash was incorporated in DPR / tender document / award of work. In line with provision of latest gazette notification dated 25th January, 2016, NTPC shall bear the cost of transportation of ash within a radius of 100 km from thermal power plant and share equally with NHAI beyond the radius of 100 km and up to 300 km*. NHAI shall take necessary care in the contract awarded after 3rd Nov 2009 and before 25th January 2016 wherein provision for mandatory use of ash within 100 km of power plant already made and contractor has duly considered, no double benefit is passed on to the contractor due to bearing of transportation cost of ash by NTPC-----.
- With regard to the contract awarded by NHAI, the concessionaire / contractor will transport the fly ash from respective NTPC thermal power at their own resources. NHAI will submit the bill / invoice for reimbursement of transportation cost of fly ash based on the quantity of fly ash lifted and used in road embankment work and the rate agreed as per point no. 5 NTPC --- will reimburse the transportation cost of fly ash to NHAI after due verification within 6 weeks' time".

* The decision on bearing the cost of Transportation will have to be implemented based on the clarification to be received from MOEF &CC.

8. "In order to ensure compliance of environment / safety norms while excavating, loading transportation, unloading and placing of ash, suitable provisions will be made in the contract of authorized agency / contractor by NHAI for making him solely responsible for compliance".
9. NTPC ----- shall not be responsible for any violation of quality/ construction norms set by NHAI for embankment construction by the ----- (name of agency) due to use of pond ash/ bottom ash/ mound ash. ----- NHAI shall ensure that Govt. rules & regulation, local bye-laws, environment norms/ stipulations etc. for construction of road project are adhered to.
10. To ensure that pond ash/ bottom ash/ mound ash issued from by NTPC --- thermal power plant has been utilized for road embankment construction by the contractor of NHAI shall link the payment of ----- (name of contractor) for the construction work of ----- (name of road project for which pond ash/ bottom ash/ mound ash is supplied) with the certification of ash supply by NTPC-----.
11. NTPC shall not be responsible for any defects in the quality, construction/failure of road project, if any, due to use of ash and not liable to pay any compensation whatever reason may be.
12. NTPC - shall not be responsible for any accident or injury to person engaged or otherwise affected in the process of construction of road embankment due to use of ash.

- 13. NTPC shall not be responsible for ash dumped on construction site and not utilized by the contractor on default and NHAI shall take all precautions to prevent loss or damages or to minimize loss damages or to minimize loss or damage to the extent possible and shall be liable to make good any loss or damages incurred due to negligence on their part or work under MOU.

14. Dispute Resolution

In case of any dispute, confusion or difference between the NTPC ----- and NHAI hereto, the Head of the NHAI/ road construction department of Government/ Union Territory and the NTPC HQ shall confer together and arrive at a mutually agreeable solution amicably, which shall henceforth be binding upon both the parties.

15. Arbitration

In the event the dispute or difference or claim, as the case may be, is not resolved, as evidenced by the signing of the written terms of settlement by the Parties, within thirty (30) days of reference for amicable settlement and/or settlement with assistance of Expert, as the case may be, the same shall be finally settled by binding arbitration under the Arbitration and Conciliation Act, 1996 as amended from time to time. As the claims, if any, shall arise only for petty reasons and petty values not more than a few Lakh Rupees, the case may be referred for a local consulation at Regional Office level or a sole Arbitrator at Regional Office level.

16. Place of Arbitration

The place of arbitration shall be at the HQ of local Regional Office, NHAI. But by agreement of the Parties, the arbitration hearings, if required, can be held elsewhere from time to time.

17. Validity

This MOU shall come into force for all purpose and intent from the date of its signing and shall remain valid and operative for ----- months which may be extended or curtailed on mutual consent depending on the requirement.

18. Governing Law and Jurisdiction

This MOU shall be governed by Indian laws and the Courts of Delhi shall have exclusive jurisdiction in all matters under these Presents.

19. Severability

In the event that any clause or provision of this MOU or any part thereof shall be declared invalid, void, or unenforceable by any court having jurisdiction, such invalidity shall not affect the validity or enforceability of the remaining portions of this MOU unless the result would be manifestly inequitable or unconscionable.

20. Amendments & Scope of modification

The MOU terms can be reviewed on mutual agreement in writing between NTPC - and --
-- NHAI whenever required owing to new conditions.

21. Force Majeure

That notwithstanding anything contained herein the obligation of NTPC and NHAI under this agreement shall remain suspended and neither of them shall be entitled to claim any compensation from each other for any loss or damage caused by such suspension, whether total or partial during the force majeure events such as but not limited to flood, earthquake, strike, war, terrorist attack etc. It shall be obligatory on the part of all the two parties to communicate in writing to each other of the happening of force majeure events and its cessation within 10 (ten) days of its happening or on date of cessation as the case may be. All the parties shall mutually discuss and decide the future course of action on the happening of force majeure events if it continues for more than 30 days. (Force Majeure is hereby defined as any cause which is beyond the control of the NTPC - AND - NHAI as the case may be which they could not foresee or with a reasonable amount of diligence could not foresee and which substantially affect the performance of agreement such as (a). Natural Phenomena including but not limited to floods, draughts, earthquakes and epidemics and (b), Acts of any government, domestic or foreign including but not limited to war declared or undeclared, priorities, quarantines and embargoes.

22. Notices

Any notice that may be required under this agreement shall be given in writing by any of the party either by personal delivery against acknowledgement or Registered Ads, Mail or Facsimile and shall be deemed to have been duly served upon receipt thereon. The addresses for the notices or correspondence shall be as under.

NHAI

NTPC Station

In witness whereof the parties through their authorized representative put their respective signatures of the Memorandum of Understanding on the day, month and year first above written.

(Authorised Signatory of NTPC)

(Authorised Signatory of NHAI)

Witness

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MINISTRY OF ENVIRONMENT AND FORESTS
NOTIFICATION

New Delhi, the 3rd November, 2009

S.O. 2804(E).—WHEREAS, by notification of the Government of India in the Ministry of Environment and Forests number S.O. 763(E), dated the 14th September, 1999 (hereinafter referred to as the said notification) issued under sub-section (1), 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 utilisation of fly ash in the manufacture of building materials and in construction activity within a specified radius of one hundred kilometers from coal or lignite based thermal power plants;

AND WHEREAS, the term "fly ash" means and includes all categories or groups of coal or lignite ash generated at the thermal power plant and collected by Electrostatic Precipitator (ESP) or bag filters or other similar suitable equipments; bottom ash is the ash collected separately at the bottom of the boiler; pond ash is the mixture of ESP Fly ash and bottom ash, but, for the purpose of this notification, the term "fly ash" means and includes all ash generated such as Electrostatic Precipitator (ESP) ash, dry fly ash, bottom ash, pond ash and mound ash as the objective is to utilise all the ashes;

AND WHEREAS, there is a need for restricting the excavation of top soil for manufacture of bricks and for other works which involve use of top soil and promoting utilisation of fly ash produced by coal or lignite based thermal power plants including captive power plants and co-generation plants in the manufacture of building materials and construction activity;

AND WHEREAS, it was observed that there was a gradual increase in the use of fly ash in the manufacture of fly ash bricks or products from about 1.5 million tonne in 2002-2003 to 3.19 million tonne in 2006-2007 which needs to be further encouraged for achieving the ultimate objective of conservation of top soil and minimise environmental pollution caused due to fly ash;



AND WHEREAS, it is observed that construction agencies are yet to achieve their targets of utilization of fly ash based products even after the 31st August, 2007, the date prescribed for 100% utilisation of fly ash based products in the said notification of 1999 and it is also observed that many thermal power stations or plants are also yet to achieve the targets drawn up in their action plans;

AND WHEREAS, the representations of the brick kiln owners were considered with regard to transporting of fly ash over a long distance and also the logistics involved including the energy cost;

AND, WHEREAS, the issue has been examined by the Government of India in the Ministry of Environment and Forests;

AND WHEREAS, the Central Government is of the opinion that the said notification should 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 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;

AND WHEREAS, a draft of amendment to the Government of India, Ministry of Environment and Forests notification no. S.O. 763 (E), dated the 14th September, 1999 duly amended vide notification No. S.O. 979 (E), dated the 27th August, 2003 (hereinafter referred to as the said notification) which the Central Government proposes to make under subsection (1) 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, were published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (ii) dated the 6th November, 2008 vide S.O. 2623 (E), 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 the day of 6th November 2008;



AND WHEREAS, the objections and suggestions received from various persons or agencies likely to be affected thereby in respect of the said draft notification have been duly considered by the Central Government in the Ministry of Environment and Forests;

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:—

AMENDMENTS

1. Throughout the said notification, save as otherwise expressly provided and unless the context otherwise requires, for the word “ash” wherever it occurs, the words “fly ash” shall be substituted.

2. In the said notification, in paragraph 1,—

(a) for sub-paragraph (1), the following shall be substituted, namely:—

“(1) use of fly ash based products in construction activities”;

(b) for sub-paragraphs (1A) and (1B), the following sub-paragraphs shall respectively be substituted, namely:—

“(1A) Every construction agency engaged in the construction of buildings within a radius of hundred kilometers from a coal or lignite based thermal power plant shall use only fly ash based products for construction, such as: cement or concrete, fly ash bricks or blocks or tiles or clay fly ash bricks, blocks or tiles or cement fly ash bricks or bricks or blocks or similar products or a combination or aggregate of them, in every construction project.

(1B) The provisions of sub-paragraph (1A) shall be applicable to all construction agencies of Central or State or Local Government and private or public sector and it shall be the responsibility of the agencies either undertaking construction or approving the design or both to ensure compliance of the provisions of sub-paragraph (1A) and to submit annual returns to the concerned State Pollution Control Board or Pollution Control Committee, as applicable”;

(c) after sub-paragraph (1B), the following sub-paragraph shall be inserted, 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 cement is used as binder.	Usage of PPC (IS-1489: Part-1) or PSC (IS-455) or 15% of OPC (IS-269/8112/12269) content.
3.	Cement.	15% of total raw materials
4.	Clay based building materials such as bricks, blocks, tiles, etc.	25% of total raw materials.
5.	Concrete, mortar and plaster.	Usage of PPC (IS-1489: Part-1) or PSC (IS-455) or 15% of OPC (IS-269/8112/12269) content.

(d) in sub-paragraph (2), for the brackets and number “(1)”, the brackets, number and letter “(1C)” shall be substituted and the number of sub-paragraph (2) shall be substituted by 1(D);

(e) in paragraph (2A), the paragraph 1(A) shall be substituted by 1(A) and 1(B) and the amended paragraph 2(A) is to be numbered as 1(E);

(f) for sub-paragraphs (3) and (3A), the following sub-paragraphs shall respectively be substituted, namely:—

“(3) In case of non-availability of fly ash from thermal power plants in sufficient quantities as certified by the said power plants, within 100 km of the site, the stipulation under sub-paragraph (1A) shall be suitably modified (waived or relaxed) by the concerned State Government or Union territory Government level monitoring committee mentioned elsewhere in this notification.

(3A) A decision on the application for manufacture of fly ash bricks, blocks and tiles and similar other fly ash based products shall be taken within thirty days from the date of receipt of the application by the concerned State Pollution Control Board or Pollution Control Committee.”

(h) for sub-paragraphs (4) and (5), the following sub-paragraphs shall be substituted, namely:-

“(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 the relevant Construction and fly ash Brick Manufacturing Industry Association or Body, as the case may be and such a Committee shall ensure unhindered loading and transport of fly ash in an environmentally sound manner without any undue loss of time. Any unresolved dispute shall be dealt with by the concerned State or Union territory Government level monitoring committee mentioned elsewhere in this notification.

(5) No agency, person or organization shall, within a radius of hundred kilometers of a thermal power plant undertake construction or approve design for construction of roads or flyover embankments with top soil; the guidelines or specifications issued by the Indian Road Congress (IRC) as contained in IRC specification No. SP: 58 of 2001 as amended from time to time, regarding use of fly ash shall be followed and any deviation from this direction can only be agreed to on technical reasons if the same is approved by Chief Engineer (Design) or Engineer-in-Chief of the concerned agency or organisation or on production of a certificate of “fly ash not available” from the thermal power plant(s) (TPPs) located within hundred kilometers of the site of construction and this certificate shall be provided by the TPP within two working days from the date of receipt of a request for fly ash, if fly ash is not available”;

(i) in sub-paragraph (6), for the words “Voids created due to soil borrow area shall be filled up with ash with proper compaction and covered with topsoil kept separately as above and this would be done as an integral part of embankment project within the time schedule of the project”, the words “Voids created at soil borrow area shall be filled up with fly ash with proper compaction and covered with topsoil kept separately as above and this would be done as an integral part of embankment project” shall be substituted;

(j) for sub-paragraph (7), the following sub-paragraphs shall be substituted, namely:—

“(7) No agency, person or organisation shall within a radius of hundred kilometers of a coal or lignite based thermal power plant undertake or approve or allow reclamation and compaction of low-lying areas with soil; only fly ash shall be used for compaction and reclamation and they shall also ensure that such reclamation and compaction is done in accordance with the specifications

(8)(i) No person or agency shall within fifty kilometers (by road) from coal or lignite based thermal power plants, undertake or approve stowing of mine without using at least 25% of fly ash on weight to weight basis, of the total stowing materials used and this shall be done under the guidance of the Director General of Mines Safety (DGMS);

Provided that such thermal power stations shall facilitate the availability of required quality and quantity of fly ash as may be decided by the expert committee referred in subparagraph (10) for this purpose.

(ii) No person or agency shall within fifty kilometers (by road) from coal or lignite based thermal power plants, undertake or approve without using at least 25% of fly ash on volume to volume basis of the total materials used for external dump of overburden and same percentage in upper benches of back filling of opencast mines and this shall be done under the guidance of the Director General of Mines Safety (DGMS);

Provided that such thermal power stations shall facilitate the availability of required quality and quantity of fly ash as may be decided by the expert committee referred in subparagraph (10) for this purpose.

(9) The provisions contained in clauses (i) and (ii) of sub-paragraph (8) shall be applicable to all mine agencies under Government, public and private sector and to mines of all minerals or metals or items and it shall be the responsibility of agencies either undertaking or approving the external dump of overburden, backfilling or stowing of mine or all these activities to ensure compliance of provisions contained in clauses (i) and (ii) of sub-paragraph (8) and to submit annual returns to the concerned State Pollution Control Board or Pollution Control Committee as applicable.

(10) The Ministry of Coal for this purpose shall constitute an expert committee comprising of representatives from Fly Ash Unit, Department of Science and Technology, Ministry of Science and Technology, Director General of Mines Safety (DGMS), Central Mine Planning and Design Institute Limited (CMPDIL), Ministry of Environment and Forests, Ministry of Power, Ministry of Mines and the Central Institute of Mining and Fuel Research (CIMFR), Dhanbad; the Committee shall also guide and advise the back filling or stowing in accordance with the

(11) The concerned State Government or Union territory Government shall be the enforcing and monitoring authority for ensuring compliance of the provisions of sub-paragraphs (8) (i) and (8) (ii)";

3. in the said notification, ~~by~~ paragraph 2,—

(a) for sub-paragraphs (1), (2) and (3), the following sub-paragraphs shall be substituted, namely:—

"(1) All coal or lignite based thermal power stations would be free to sell fly ash to the user agencies subject to the following conditions, namely:—

(i) the pond ash should be made available free of any charge on "as is where is basis" to manufacturers of bricks, blocks or tiles including clay fly ash product manufacturing unit(s), farmers, the Central and the State road construction agencies, Public Works Department, and to agencies engaged in backfilling or stowing of mines.

(ii) at least 20% of dry ESP fly ash ~~shall~~ be made available free of charge to units manufacturing fly ash or clay-fly ash bricks, blocks and tiles on a priority basis over other users and if the demand from such agencies falls short of 20% of quantity, the balance quantity can be sold or disposed of by the power station as may be possible;

Provided that the fly ash obtained from the thermal power station should be utilized only for the purpose for which it was obtained from the thermal power station or plant failing which no fly ash shall be made available to the defaulting users.

(2) All coal and, or lignite based thermal power stations and, or expansion units in operation before the date of this notification are to achieve the target of fly ash utilization as per the Table II given below:

Table II

Serial Number	Percentage Utilization of Fly Ash	Target Date
(1)	(2)	(3)
1.	At least 50% of fly ash generation	One year from the date of issue of this notification.
2.	At least 60% of fly ash generation	Two years from the date of

4.	At least 90% of fly ash generation	Four years from the date of issue of this notification.
5.	100% fly ash generation	Five years from the date of issue of this notification.

The unutilised fly ash in relation to the target during a year, if any, shall be utilized within next two years in addition to the targets stipulated for those years and the balance unutilized fly ash accumulated during first five years (the difference between the generation and the utilization target) shall be utilized progressively over next five years in addition to 100% utilization of current generation of fly ash.

(3) New coal and, or lignite based thermal power stations and, or expansion units commissioned after this notification to achieve the target of fly ash utilization as per Table III given below:

Table III

Serial Number	Fly ash utilization level	Target date
(1)	(2)	(3)
1.	At least 50% of fly ash generation	One year from the date of commissioning.
2.	At least 70% of fly ash generation	Two years from the date of commissioning.
3.	90% of fly ash generation	Three years from the date of commissioning.
4.	100% of fly ash generation	Four years from the date of commissioning.

The unutilised fly ash in relation to the target during a year, if any, shall be utilized within next two years in addition to the targets stipulated for these years and the balance unutilized fly ash accumulated during first four years (the difference between the generation and utilization target) shall be utilized progressively over next five years in addition to 100% utilization of current generation of fly ash.”;

(b) in sub-paragraph (4), for the words “six months”, the words “four months” shall be substituted;

(c) for sub-paragraph (6), the following sub-paragraphs shall be substituted, namely:—

“(6) The amount collected from sale of fly ash and fly ash based products by coal and/or lignite based thermal power stations or their subsidiary or sister concern unit, as applicable

“(2B) All agencies undertaking construction of roads or fly over bridges and reclamation and compaction of low lying areas, including Department of Road Transport and Highways (DORTH), National Highways Authority of India (NHAI), Central Public Works Department (CPWD), State Public Works Departments and other State Government Agencies, shall within a period of four months from the publication of this notification:-

(a) make provisions in their tender documents, schedules of approved materials and rates as well as technical documents for implementation of this notification, including those relating to soil borrow area or pit as per sub-paragraph (6) of paragraph 1; and

(b) make necessary specifications or guidelines for road or fly over embankments that are not covered by the specifications laid down by the Indian Road Congress (IRC).

(3) All local authorities shall specify in their respective tender documents, building bye-laws and regulations, the use of fly ash and fly ash-based products and construction techniques in building materials, roads embankments or for any usage with immediate effect.

(4) The Central Electricity Authority and other approving agencies may permit the land area for emergency ash pond or fly ash storage area up to 50 hectares for a 500 MW unit, based on 45% ash content coal, or in the same proportion for units in other capacities taking into account the ash content in coal or lignite to be used.

(5) All Financial institutions and agencies which fund construction activities shall include a clause in their loan or grant document for compliance of the provisions of this notification.

(6) A Monitoring committee shall be constituted by the Central Government with Members from Ministry of Coal, Ministry of Mines, Ministry of Power, Central Pollution Control Board, Central Electricity Authority, Head Fly Ash Unit of Department of Science and Technology and Building Material Technology Promotion Council to monitor the implementation of the provisions of the notification and submit its recommendations or observations at least once in every six months to the Secretary, Ministry of Environment and Forests. Concerned Advisor or Joint Secretary in the Ministry of Environment and Forests will be the convener of this committee.

(7) For the purpose of monitoring the implementation of the provisions of this notification the State Governments or Union territory Government shall constitute a Monitoring Committee within three months from the date of issue of this notification under the Chairmanship of Secretary, Department of Environment with representatives from Department of Power, Department of Mining, Road and Building Construction Department and State Pollution Control Board and this Committee would deal with any unresolved issue by Dispute Settlement Committee as prescribed in sub-paragraph (4) of paragraph 1, in addition to monitoring and facilitating implementation of this notification at the respective State Government or Union territory level and this Committee would also be empowered to suitably modify (waive or relax) the stipulation under sub-paragraph (1) in case of non-availability of fly ash in sufficient quantities from thermal power plant as certified by the said power plants and the Committee will meet at least once in every quarter.

[F. No. 9-8/2005-HSMD]

G. V. SUBRAHMANYAM, Scientist 'G'

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