



क्षेत्रीय कार्यालय

उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड, मुजफ्फरनगर

U.P. POLLUTION CONTROL BOARD, MUZAFFARNAGAR

6-बी, नई मण्डी, मुजफ्फरनगर-251001 (उ०प्र०)

संदर्भ सं०
Ref. No.

1195/OA.No.141/Manish Jain/2024

दिनांक

Dated 23-02-2024

To,

The Registrar
National Green Tribunal
Principal Bench
New Delhi.
E-mail : judicial-ngt@gov.in

Sub.- Report in Compliance to the direction issued by Hon'ble National Green Tribunal on 18.12.2023 in O.A. No. 141/2022 (I.A. No. 45/2022) Manish Jain Vs Union of India & Anr.

Sir,

With reference to the subject mentioned above kindly find enclosed herewith the Report in compliance of the order issued on 18.12.2023 by Hon'ble National Green Tribunal in O.A. No. 141/2022 (I.A. No. 45/2022) Manish Jain Vs Union of India & Anr.

Encl. : As above.

Yours faithfully

(Ankit Singh)
Regional Officer

Copy to :

1. Member Secretary, U.P. Pollution Control Board, Lucknow for information.
2. District Magistrate, Muzaffarnagar for information.
3. Shri Pradeep Mishra, Advocate, Hon'ble Supreme Court/NGT, New Delhi for perusal and necessary action.
4. Chief Law Officer, U.P. Pollution Control Board, Lucknow for information.
5. Chief Environmental Officer (Circle-3), U.P. Pollution Control Board, Lucknow for information.

Regional Officer

STUDY REPORT IN COMPLIANCE TO HON'BLE NGT ORDER DATED 18.12.2023 IN THE MATTER OF MANISH JAIN Vs UNION OF INDIA & ANR. (ORIGINAL APPLICATION NO. 141/2022) (I.A. No. 45/2022)

1.0 BACKGROUND :

In reference to the grievance aroused by Mr. Manish Jain that Respondent No. 5 M/s Upper Doab Sugar Mills Ltd. Shamli and Respondent No. 6 M/s Shamli Distillery & Chemical Works Shamli are running Sugar & Distillery units in Shamli respectively in violation of Environmental Norms and causing Air & Water pollution adversely affecting the health of the residents of the locality and surrounding areas of District Shamli.

In the above matter of Manish Jain Vs Union of India & Anr. (O.A No. 141/2022), the Hon'ble NGT Vide order dated 28.02.2022 sought a factual and action taken report from the UPPCB and District Administration. In continuation joint committee visited M/s Upper Doab Sugar Mills Shamli and Shamli Distillery & Chemical Works Shamli on dated 31.03.2022 and submitted joint inspection report before Hon'ble Tribunal on dated 01.07.2022.

Hon'ble NGT vide order dated 05.08.2022 issued directions to the State PCB to look into the matter of compliance by both the industries with the consent conditions regarding disposal of Fly Ash as per CPCB guidelines, coverage of minimum 33% of the land on which industry is established with plantation of suitable species and compliance with recommendation made by the joint committee in its report. In compliance of said orders, UPPCB submitted the compliance report before Hon'ble NGT on dated 02.11.2022.

Further, Hon'ble NGT vide order dated 02.12.2022 directed Regional Officer, UPPCB to visit both the units and verify the factual position regarding averments made in the replies filed by respondents no. 5 & 6 as to compliance with consent conditions and environmental norms. Further, directed Regional Officer, UPPCB for allowing the applicant to join inspection of the industries at the time of visit.

Accordingly, UPPCB visited both units on 06.01.2023 and submitted report to Hon'ble NGT verifying the compliances/facts submitted by both units to Hon'ble NGT. Accordingly, Hon'ble NGT issued directions on 18.12.2023.

2.0 ORDERS PASSED BY THE HON'BLE NGT ON 18.12.2023

The Hon'ble NGT on 18.12.2023 issued directions, effective part of which, pertaining to UPCB is as below:

"UPPCB is also directed to get a study conducted regarding utilization of fly

ash generated by the sugar mill and similar other industries for manufacturing of beicks or other purposes besides the present practice of user thereof low lying areas and file study report....."

3.0 Report in compliance to Hon'ble NGT directions dated 18.12.2023

It is to bring to notice that there is another O.A 369 of 2022 Sachin Tomar Vs State of U.P &Ors pending in Hon'ble NGT where in Hon'ble tribunal vide order dated 06.10.2023 had already directed UPPCB to submit a report with a mechanism for proper disposal of fly ash by industries. The above O.A. is also concerned with Sugar Industry in Muzaffarnagar. Hon'ble Tribunal issued directions in above O.A on 06.10.2023 stating that

"..... The member Secretary, UPPCB is directed to file an affidavit regarding the amount of environmental compensation which has been imposed on the project proponents throughout the State of U.P, the amount of which is yet to be realized, the amount which has been realized and is lying deposited with the UPPCB, the action plan/proposals for utilization of the amount for restoration of environment, mechanism evolved for verifying the development of green belts and verifying disposal of fly ash by the project proponents in accordance with the EC/consent conditions, It may be added here that this Tribunal has observed in number of cases that the project proponents enter into agreements with the third parties for disposal of fly ash which are reporting compliances by submitted that the fly ash is being disposed of in low lying areas. Since Fly ash generated by coal based industries contains harmful heavy metals, it is appropriate that the same is not utilized for filling of any agricultural areas and is utilized by cement or brick making industry. These aspects have to be looked into and the monitoring mechanism needs to evolve to ensure proper disposal fly ash....."

In compliance to the above directions, Member Secretary, UPPCB, vide letter dated 15.01.2024 has already submitted an affidavit to Hon'ble Tribunal which includes a detailed mechanism for proper utilization of fly ash and the same is annexed as **Annexure 1**.

Apart from the above, in compliance to Hon'ble Tribunal directions, detailed study has also been conducted by I.I.T Roorkee submitting feasibility study dated 7.2.2024 for usage of bottom ash and water scrubbing ash for the manufacturing of bricks/blocks and feasibility study for installation of ESP in the stack of the boilers for the capture of particulate matter. The study report is annexed as **Annexure 2**.

The study report includes analysis of wet ash and dry ash samples generated from the industry (Sugar industry). Upon analysis of the dry and wet ash samples, it has been observed that the loss of ignition in Dry ash (bottom

ash) is around 18.4%. Loss of ignition in wet fly ash (after drying at 100°C) is 17.3% and is observed to be 60.6% of raw sample received. Loss of ignition values is a very important factor which indicates suitability of the fly ash for brick making. The IS-3812 1981 sets the upper limit of the loss on ignition as 5.0% which is a very strong parameter to decide the suitability of ash for the usage for brick/block making. Hence, based on the test conducted, study concluded that fly ash generated from the unit is not suitable for the production of fly ash bricks contributing to higher degree of Loss of Ignition values.

Feasibility study has also been carried out for installation of Electrostatic Precipitators (ESP) in the stack of all the boilers installed in the industry for more efficient capture of particulate matters. Based on the study, it has been concluded that the unit does not have sufficient area in the boiler sections for installation of ESP.

The above report is put up for perusal and necessary action please.

S.No.	Name of Officials & Details	Signature
1.	Ankit Singh Regional Officer, UPPCB, Muzaffarnagar	
2.	Imraan Ali Asstt. Environment Engineer, UPPCB, Muzaffarnagar	



उत्तर प्रदेश 629 षण नियंत्रण बोर्ड
UTTAR PRADESH POLLUTION CONTROL BOARD

Annexure - 1

संदर्भ संख्या: Ho 5780 / सी-3 / NGT-23 / 2024

दिनांक: 15/01/2024

To,

The Registrar,
The National Green Tribunal,
Principal Bench,
New Delhi
E-mail- judicial-ngt@gov.in

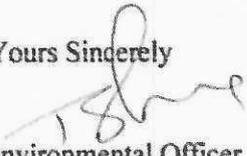
Sub: Affidavit Of Member Secretary, Uttar Pradesh Pollution Control Board in compliance of the order dated-06.10.2023 passed by Hon'ble National Green Tribunal, New Dellhi in Original Application No. 369 of 2022 Sachin Tomar Versus State of U.P.

Sir,

In compliance of the order dated- 06.10.2023 passed by the Hon'ble National Green Tribunal, New Delhi in Original Application No. 369 of 2022 Sachin Tomar Versus State of U.P. The Affidavit of Member Secretary, Uttar Pradesh Pollution Control Board is uploaded on U.P. Pollution Control Board website at URL http://www.uppcb.com/ngt_orders.htm and is annexed along with the enclosures herewith and forwarded to you with the request that the same may be placed before the Hon'ble Tribunal for consideration.

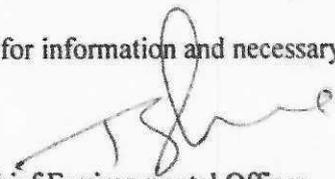
Enclosure- As above

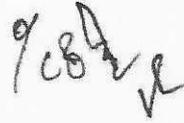
Yours Sincerely


Chief Environmental Officer,
Circle-3

Copy to:

1. Shri Pradeep Mishra, Advocate on Record, Hon'ble Supreme Court/ NGT, New Delhi for necessary action please.
2. Law Officer-1, U.P. Pollution Control Board, Lucknow for information and necessary action please.
3. Regional Officer, U.P. Pollution Control Board, MuzaffarNagar for information and necessary action.


Chief Environmental Officer,
Circle-3



टी.सी. - 12 वी, विभूति खण्ड, गोमती नगर,
लखनऊ - 226 010
दूरभाष : 0522-2720828, 2720831
ई-मेल : info@uppcb.com
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T.C.-12 V, Vibhuti Khand, Gomti Nagar,
Lucknow - 226 010
Phone : 0522-2720828, 2720831
E-mail : info@uppcb.com
Website : www.uppcb.com

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI

Original Application No. 369 of 2022

IN THE MATTER OF:

Sachin Tomar

.....Applicant

Versus

State of U.P. & Ors.

.....Respondent(s)

AFFIDAVIT OF MEMBER SECRETARY, UTTAR PRADESH POLLUTION CONTROL BOARD, IN COMPLIANCE TO THE ORDER DATED 06.10.2023 PASSED BY THE HON'BLE TRIBUNAL.

I, Sanjeev Kumar Singh aged about 37 years S/o Shri Lal Sahab Singh presently posted as Member Secretary, Uttar Pradesh Pollution Control Board, hereinafter referred as UPPCB, TC-12V, Vibhuti Khand, Gomti Nagar, Lucknow do hereby solemnly affirm and state on oath as under;

- 1- That the deponent, in its above noted capacity, is well conversant with the facts and circumstances of the case and as such competent to swear this affidavit.
- 2- That vide its order dated 06.10.2023 this Hon'ble Tribunal has passed the following directions;

.....
12. *The Member Secretary, UPPCB is directed to file an affidavit regarding the amount of environmental compensation which has been imposed on the project proponents throughout the State of U.P., the amount which is yet to be realized, the amount which has been realized and is lying deposited with the UPPCB, the action plan/proposal for utilization of the amount for restoration of environment, mechanism evolved for verifying the development of green belts and verifying disposal of fly-ash*

SWORN & VERIFIED BEFORE ME:

R. Arora Del

R. ARORA
Adv. & Notary
Lucknow (UP) India
Regd. No. 31(79)2001

18/1/24

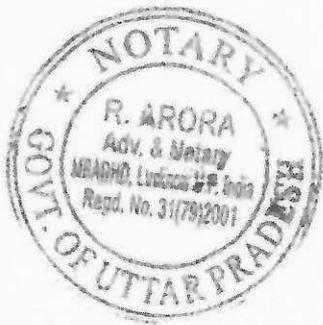
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by the project proponents in accordance with the EC/consent conditions. It may be added here that this Tribunal has observed in number of case that the project proponents enter into agreements with the third parties for disposal of fly-ash which are reporting compliance by submitting that the fly-ash is being disposed of in low lying areas. Since fly-ash generated by coal based industries contains harmful heavy metals, it is appropriate that the same is not utilized for filling of any agricultural areas and is utilized by cement or brick making industry. These aspects have to be looked into and the monitoring mechanism needs to evolved to ensure proper disposal of fly-ash.

.....

3- That, as per the compiled information provided by Waste Management Division (WMD), U.P. Pollution Control Board has imposed Environmental Compensation of total Rs. 978.32 Crore against various defaulter units out of which stay order have been obtained against Environmental Compensation of Rs. 99.11 crore by the project proponent from Hon'ble Supreme Court and Hon'ble High Court.

4- That, State Pollution Control Board has recovered Environmental Compensation total amount of Rs. 58.14 Crore, in which Environmental Compensation of Rs. 10.63 Crore was imposed in compliance with Hon'ble National Green Tribunal order, Environmental Compensation of Rs. 1.25 Crore was imposed in compliance with Commission for Air Quality Management in Capital Region and Adjoining Areas (CAQM) direction and Environmental Compensation of Rs. 46.26 Crore was imposed against the defaulter units by U.P. Pollution Control Board on the basis of guidelines issued by CPCB for assessing the Environmental Compensation.



WORN & VERIFIED BEFORE ME:

R. Arora Del.
R. ARORA
 Adv. & Notary
 Lucknow (UP) India
 Regd No. 31(79)2001

15/1/24

sk

5- That, a meeting was held under the Chairmanship of Additional Chief Secretary Department of Environment Forest and Climate Change on 04.01.2024 in compliance to the order dated-17.10.2023 passed by Hon'ble National Green Tribunal in O.A. No. 160/2022 for developing a mechanism for the utilization of the amount of Rs. 46.26 Crore received in U.P. Pollution Control Board by imposing Environmental Compensation against the defaulter units. The minutes of the meeting was submitted by the Department of Environment Forest & Climate Change in Hon'ble National Green Tribunal in O.A. No. 160/2022 for approval. The copy of the response filed in Hon'ble National Green Tribunal is enclosed as Annexure-I of this affidavit.



6- That the site verification of development of Green Belts and disposal of fly ash by the project proponent in accordance with EC/consent conditions are covered in the inspection done by Regional Offices U.P. Pollution Control Board.

7- That the matter related to disposal of fly ash in low lying area is also covered in Hon'ble National Green Tribunal in O.A. No. 744/2022 Moharram Ali Versus State of U.P. with O.A. No. 277/2021 Liyakat Ali Versus State of U.P. The draft mechanism for proper utilization of fly ash generated by coal based industry is enclosed as Annexure-II of this affidavit. It is also proposed to select a pioneer agency for study regarding eco friendly disposal of fly ash generated by coal based industry through Online Government of India GeM Portal.

SWORN & VERIFIED BEFORE ME

R. Arora Del.
R. ARORA
 Adv. & Notary
 Lucknow (U.P.) India
 Regd. No. 3179/2007
 13/1/24

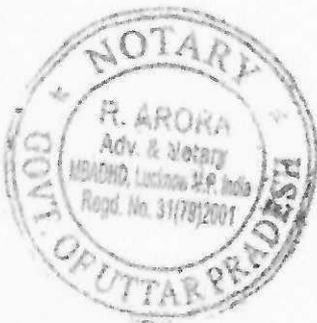
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 Deponent

VERIFICATION

I, the deponent, named above, do hereby verify that the contents of the above affidavit are true to my personal knowledge on the basis of the documents concerned. No part of this is false and nothing material has been concealed.

Verified this on the ^{15th} day of January, 2024 at Lucknow.

[Signature]
Deponent



SWORN & VERIFIED BEFORE ME:

R. Arora Del.

R. ARORA
Adv. & Notary
Lucknow (UP) India
Regd No. 31/79/2001

15/1/24

I know and identify the deponent who has signed/put T.I. before *[Signature]*
15/01/2024

मा0 एन0जी0टी0, नई दिल्ली द्वारा ओ0ए0 संख्या-160/2022 ओम पाल एवं अन्य बनाम उ0प्र0 राज्य व अन्य में पारित आदेश दिनांक 17.10.2023 के अनुपालन में अपर मुख्य सचिव, पर्यावरण, वन एवं जलवायु परिवर्तन विभाग, उ0प्र0 शासन की अध्यक्षता में दिनांक 04.01.2024 को मध्याह्न 12:00 बजे नरही स्थित वन मुख्यालय के पारिजात सभाकक्ष में सम्पन्न समीक्षा बैठक का कार्यवृत्त।

मा0 एन0जी0टी0, नई दिल्ली द्वारा ओ0ए0 संख्या-160/2022 ओम पाल एवं अन्य बनाम उ0प्र0 राज्य व अन्य में पारित आदेश दिनांक 17.10.2023 के अनुपालन में अपर मुख्य सचिव, पर्यावरण, वन एवं जलवायु परिवर्तन विभाग, उ0प्र0 शासन की अध्यक्षता में दिनांक 04.01.2024 को मध्याह्न 12:00 बजे नरही स्थित वन मुख्यालय के पारिजात सभाकक्ष में समीक्षा बैठक आयोजित की गयी। बैठक में उपस्थित अधिकारियों की सूची संलग्न है।

2- मा0 राष्ट्रीय हरित अधिकरण, नई दिल्ली द्वारा ओ0ए0 संख्या-160/2022 ओम पाल एवं अन्य बनाम उ0प्र0 राज्य व अन्य में पारित आदेश दिनांक 17.10.2023 के सुसंगत अंश निम्नवत् है :-

“.....6. In the present case we consider it appropriate to seek response from the State of Uttar Pradesh as to why amount of environmental compensation imposed remains unrealized for very long periods even after receipt of the reference from the UPPCB for realization of the same and as to why the amount for remediation of environmental damage caused by the violators be not incurred by the State of Uttar Pradesh immediately on receipt of such references for remediation of the damage caused to the environment before the same results in irreversible damage to the ecology and bio-diversity. The amount so spent by the Uttar Pradesh may be recovered from the violators as arrears of land revenue in accordance with law.

7. The State of Uttar Pradesh is accordingly directed to file its response within two months by email at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR supported PDF and not in the form of ImagePDF.....”

3- बैठक में डॉ0 रामकरन, मुख्य पर्यावरण अधिकारी, उ0प्र0 प्रदूषण नियंत्रण बोर्ड द्वारा अवगत कराया गया कि खनन प्रक्रियाओं/संक्रियाओं हेतु जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 की धारा-25 एवं वायु (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1981 की धारा-21 के अन्तर्गत पूर्व सहमति प्राप्त किया जाना आवश्यक है, जिसका अनुपालन न किये जाने के कारण प्रदेश में स्थित कुल 624 खनन प्रक्रियाओं/संक्रियाओं के विरुद्ध कुल ₹ 86,60,00,948.00/- की पर्यावरणीय क्षतिपूर्ति अधिरोपित की गई है, जिसके सापेक्ष कुल ₹ 76,90,000.00/- की पर्यावरणीय क्षतिपूर्ति वसूल की गई है। अग्रेतर ₹ 30,38,45,716/- की धनराशि की वसूली के विरुद्ध मा0 उच्चतम/उच्च न्यायालय द्वारा विभिन्न मामलों में स्थगन आदेश पारित हैं। अवशेष पर्यावरणीय क्षतिपूर्ति धनराशि ₹ 55,44,65,232/- की वसूली हेतु संबंधित जिलाधिकारियों को भू-राजस्व की भाँति प्राप्त करने के लिए उ0प्र0 प्रदूषण नियंत्रण बोर्ड द्वारा पत्र प्रेषित किया गया है।

अग्रेतर डॉ० रामकरण द्वारा अवगत कराया गया है कि खनन प्रक्रियाओं/सक्रियाओं सहित अन्य इकाईयों/परियोजनाओं के विरुद्ध उ०प्र० प्रदूषण नियंत्रण बोर्ड द्वारा अधिरोपित की गई पर्यावरणीय क्षतिपूर्ति में से ₹ 58.14 करोड़ धनराशि की वसूली हो चुकी है। उक्त ₹ 58.14 करोड़ में से ₹ 10.63 करोड़ मा० राष्ट्रीय अधिकरण में योजित वादों/आदेशों के अनुपालन में अधिरोपित की गई थी तथा ₹ 1.25 करोड़ सी०ए०क्यू०एम० के आदेशों के अनुपालन में अधिरोपित की गयी थी एवं ₹ 46.26 करोड़ बोर्ड द्वारा पर्यावरणीय विधियों का अनुपालन न किये जाने के दृष्टिगत अधिरोपित की गई थी। मा० एन०जी०टी० के आदेशों से आच्छादित ₹ 10.63 करोड़ की पर्यावरणीय क्षतिपूर्ति की धनराशि का उपयोग केन्द्रीय प्रदूषण नियंत्रण बोर्ड की गाइडलाइन के अनुसार खर्च किया जायेगा।

4- बैठक में सम्यक विचारोपरान्त निम्नलिखित निर्णय लिये गये-

- (i) उ०प्र० प्रदूषण नियंत्रण बोर्ड द्वारा अधिरोपित पर्यावरणीय क्षतिपूर्ति व उनकी भू-राजस्व की भांति वसूली हेतु जनपदवार मासिक प्रगति की सूचना निम्न प्रारूप पर शासन को उपलब्ध करायी जाय :-

क्र० सं०	जनपद का नाम	खनन परियोजनाओं में अधिरोपित पर्यावरणीय क्षतिपूर्ति की धनराशि (₹ लाख)	जिलाधिकारी के स्तर से जारी आर०सी० (₹ लाख)	आर०सी० निर्गत करने हेतु लम्बित धनराशि (₹ लाख)	आर०सी० के विरुद्ध वसूल की गयी धनराशि (₹ लाख)	आर०सी० के विरुद्ध स्थगनादेश से आच्छादित धनराशि (₹ लाख)	आर०सी० की लम्बित धनराशि (₹ लाख)
1	2	3	4	5	6	7	8

(कार्यवाही- उ०प्र० प्रदूषण नियंत्रण बोर्ड, लखनऊ)

- (ii) मा० न्यायालयों द्वारा ₹ 30.3845716 करोड़ की पर्यावरणीय क्षतिपूर्ति धनराशि की वसूली के विरुद्ध पारित स्थगन आदेश को वकैट कराने हेतु अधिवक्ताओं का पैनल बनाते हुए स्टे वकैट एप्लीकेशन तत्काल मा० उच्च न्यायालय/उच्चतम न्यायालय में दाखिल कराया जाना सुनिश्चित किया जाय।

(कार्यवाही- उ०प्र० प्रदूषण नियंत्रण बोर्ड, लखनऊ)

- (iii) जिलाधिकारी के स्तर से पर्यावरणीय क्षतिपूर्ति की धनराशि की वसूली त्वरित रूप से कराये जाने के दृष्टिगत पर्यावरणीय क्षतिपूर्ति की वसूली से सम्बन्धित एजेण्डा मुख्य सचिव, उ०प्र० शासन की अध्यक्षता में प्रत्येक माह जिलाधिकारियों/मण्डलायुक्तों के साथ होने वाली वीडियो कान्फ्रेंस में सम्मिलित कराया जाय। इस सम्बन्ध में सुसंगत सूचनाओं के साथ प्रस्ताव प्रस्तुत किया जाय।

(कार्यवाही- उ०प्र० प्रदूषण नियंत्रण बोर्ड, लखनऊ)

- (iv) उ०प्र० प्रदूषण नियंत्रण बोर्ड द्वारा पर्यावरणीय क्षतिपूर्ति की धनराशि, जो कि मा० राष्ट्रीय हरित अधिकरण एवं सी०ए०क्यू०एम० द्वारा अधिरोपित पर्यावरणीय क्षतिपूर्ति से आच्छादित नहीं है तथा उ०प्र० प्रदूषण नियंत्रण बोर्ड द्वारा पर्यावरणीय विधियों का अनुपालन न किये जाने के कारण अधिरोपित धनराशि में से वसूल की गयी है, का एक कार्पस फण्ड स्थापित किया जाना उचित होगा, जिसके माध्यम से पर्यावरणीय क्षतिपूर्ति को आकस्मिक रूप से रोके जाने हेतु परियोजना का वित्त पोषण किया जा सके तथा पर्यावरणीय क्षतिपूर्ति की धनराशि वसूल हो जाने के पश्चात् उससे कार्पस की प्रतिपूर्ति की जा सके।

(कार्यवाही—उ०प्र० प्रदूषण नियंत्रण बोर्ड, लखनऊ)

- (v) पर्यावरणीय क्षतिपूर्ति के कार्पस फण्ड का पर्यावरणीय जीर्णोधार संबंधी कार्यों में आकस्मिक रूप से उपयोग किये जाने हेतु आवश्यक निर्णय तथा केन्द्रीय प्रदूषण नियंत्रण बोर्ड एवं मा० एन०जी०टी० के आदेशानुसार निर्धारित गाइडलाइन के अनुसार जीर्णोधार की परियोजना स्वीकृत किये जाने हेतु निम्नानुसार एक समिति का गठन किये जाने का निर्णय लिया गया :-

1.	अपर मुख्य सचिव, पर्यावरण, वन एवं जलवायु परिवर्तन विभाग, उ०प्र० शासन द्वारा नामित सचिव से अनिम्न अधिकारी	- अध्यक्ष
2.	सदस्य सचिव, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली द्वारा नामित अधिकारी	- सदस्य
3.	सदस्य सचिव, उ०प्र० प्रदूषण नियंत्रण बोर्ड, लखनऊ	- सदस्य संयोजक

उक्त समिति पर्यावरणीय क्षति को तत्कालिक रूप से रोके जाने के सम्बन्ध में निर्णय लेकर जीर्णोधार कार्ययोजना को वित्त पोषित किये जाने हेतु अनुमोदन प्रदान करेगी। सम्पूर्ण जीर्णोधार कार्य केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा तैयार की गयी गाइडलाइन के अनुरूप किया जायेगा तथा उक्त मद में व्यय की गई धनराशि को उल्लंघनकारी इकाई/उद्योग से भू-राजस्व की भांति वसूल कर कार्पस की प्रतिपूर्ति की जायेगी।

(कार्यवाही— पर्यावरण, वन एवं जलवायु परिवर्तन विभाग, उ०प्र० शासन/उ०प्र० प्रदूषण नियंत्रण बोर्ड, लखनऊ)

- 5- उपरोक्त निर्णयों के सम्बन्ध में मा० एन०जी०टी० को अवगत कराते हुए उनका आदेश भी प्राप्त कर लिया जाय।

(कार्यवाही—उ०प्र० प्रदूषण नियंत्रण बोर्ड, लखनऊ)

अन्त में सभी उपस्थित अधिकारियों को धन्यवाद व्यक्त करते हुये बैठक समाप्त की गयी।

(मनोज सिंह)
अपर मुख्य सचिव

उत्तर प्रदेश शासन
पर्यावरण, वन एवं जलवायु परिवर्तन अनुभाग-7
संख्या-एन.जी.टी.-15/81-7-2024
लखनऊ : दिनांक : 10 जनवरी, 2024

प्रतिलिपि-निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित:-

- 1- प्रमुख सचिव, भूतत्व एवं खनिकर्म विभाग, उ०प्र० शासन।
- 2- निदेशक, भूतत्व एवं खनिकर्म निदेशालय, खनिज भवन, लखनऊ।
- 3- सदस्य सचिव, उ०प्र० प्रदूषण नियंत्रण बोर्ड, लखनऊ।
- 4- गार्डफाईल।

आज्ञा से,

Digitally Signed by मनोज

सिंह
(मनोज सिंह) 2024 14:32:48

अपर मुख्य सचिव

Draft Mechanism for proper utilization of fly ash generated by coal based industries in compliance to directions issues by Hon'ble NGT in OA No. 369/2022 Sachin Tomar Vs State of U.P.

Issues relating to disposal of fly ash from coal based industries in State of U.P.

- I. It has been a general practice by several industries using coal as fuel in boilers, to dispose the fly ash by filling in low lying areas. However, as a general practice adopted by the industries, collection and disposal of the fly ash from the industries is carried out through local contractors.
- II. Industries/Contractors some time execute an agreement with the owners of lands for disposal of the fly ash. However, instead of usage of fly ash for filling up the low lying areas, the land is used as an open storage/dumping site for fly ash.
- III. The lands, being an open area with no adequate cover at the boundaries and water sprinkling systems, the dispersion of fly ash causes air pollution in the nearby areas.
- IV. Further, there are possibilities of degradation of top soil by storage/dumping of coal based fly ash on lands.
- V. Hon'ble NGT has also considered the disposal of fly ash in low lying areas as an unscientific mechanism and have passed directions for proper disposal of the fly ash. In the matter of O.A. No. 744/2022 with OA No. 277/2021 Moharram Ali Vs State of UP and Liyakat Ali Vs State of UP, Hon'ble NGT has issued directions dated 22.03.2023 as below:

".....7. It is established that plastic waste and fly ash are being unscientifically stored and disposed of in violation of Rules and to the detriment of environment. Such storage and use of landfill through contractor is not legally permissible. Stand that waste is being used for cement plants does not appear to be factually correct as no name of cement plant has been given and needs to be verified by manifest system. Compensation determined does not take into account financial capacity of the units to determine the deterrent element nor the value of the extent of damage and the cost of restoration....."

Draft Mechanism for proper disposal of Fly ash by Large air polluting industries:-

Practice of disposal of fly ash through contractors at nearby low lying areas is not an effective and environmental friendly mechanism for disposal of fly ash because generally it is observed that the fly ash is usually being dumped on the agriculture land without having sprinklers and covering the agriculture land boundary by green covers for arresting the fly ash from traversing in nearby residential areas.

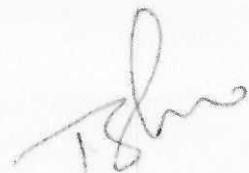
1. With respect to effective disposal of fly ash, MoEF&CC vide notification dated 31.12.2021 has issued guidelines for utilization of fly ash generated in coal based Thermal Plants. Similar directions/mechanisms can also be adopted by other coal based industries. Further, CPCB has Issued OM dated 06.03.2023 authorizing auditors from recognized institutions for regular auditing of disposal of fly ash as per the guidelines. Hence, taking in consideration the general on site mechanism adopted by coal based industries, the following mechanisms can be adopted by other industries in line with the notifications issued by MoEF&CC and OM issued by CPCB for coal based Thermal Plants, to ensure that industries are disposing all the fly ash generated by environmental friendly mechanism :
 - i) There should be no involvement of a third party/contractor for collection and disposal of fly ash generated by the industries to ensure proper disposal of the fly ash being done by industries as per the agreements. Instead of disposing/dumping the fly ash on land at several agriculture land/low lying areas on day to day basis, every coal based large units may install dedicated silos for storage of dry fly ash silos for at least sixteen hours of ash based on installed capacity and it shall be reported upon to the UPPCB from time to time.
 - ii) Proper agreements / MOU needs to be signed between industries directly with the Cement industry/brick kilns/fly ash manufacturing units etc. The industry shall also submit the total quantity of fly ash being sent to users which shall then be verified by U.P. Pollution Control Board cross verifying the quantity utilized by the users.
 - iii) As per CPCB OM date 6 March 2023, CPCB has authorized auditors from various technical and recognized institutions for carrying out fly ash



audits and submission of reports to CPCB and UPPCB. Industries may involve the authorized auditors for carrying out fly ash audit and submit the audit report to CPCB and UPPCB on regular basis (Quarterly/Half yearly/ Yearly)

Scope of Work to carry out the audit may contain the following important mechanism: -

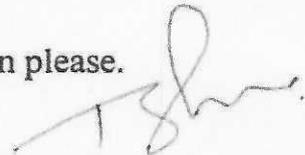
- a. Verification of ash generation data pertaining to the financial year based on inspection of records of coal receipt/consumption and average ash content in coal and comparison of this data with the information provided by the industries.
 - b. Verification of fly ash and bottom ash utilization data pertaining to the financial year based on inspection of records of ash supplied to the user agencies covered under permitted uses/avenues, and comparison of this data with the information provided by the industries
 - c. The compliance audit for ash disposal by the industry and the user agency shall be conducted by auditors, authorised by Central Pollution Control Board (CPCB) and audit report shall be submitted to Central Pollution Control Board (CPCB) and UPPCB on regular basis. UPPCB shall initiate action against non-compliant industries within fifteen days of receipt of audit report.
- iv) UPPCB after scrutiny of auditor's reports may, if required re-verify the quantity of fly ash being generated by the generators and quantity being utilized by the users under agreement with the generators.
- v) On the mechanism of filling of low lying areas with ash, shall be only be carried out only on the construction sites, Road Laying etc. (Govt, Semi Govt, Private) which have been approved by UPPCB, CPCB or other authorized departments.
- vi) Non-compliant industries shall be imposed with an environmental compensation on per ton basis on unutilized ash during the end of financial year based on the annual reports submitted
- vii) Major responsibilities of industries to dispose fly ash and bottom ash.—



The ash generated from coal shall be utilized only for the following eco-friendly purposes, namely:-

- a) Fly ash based products viz. bricks, blocks, tiles, fibre cement sheets, pipes, boards, panels;
 - b) Cement manufacturing, ready mix concrete;
 - c) Construction of road and fly over embankment, Ash and Geopolymer based construction material;
 - d) Construction of dam;
 - e) Filling up of low lying area on the construction sites, Road Laying etc (Govt, Semi Govt, Private) after the approval by UPPCB, CPCB or other authorized departments
 - f) Filling of mine voids;
 - g) Manufacturing of sintered or cold bonded ash aggregate;
 - h) Agriculture in a controlled manner based on soil testing;
 - i) Export of ash to other countries;
- viii) The compliance audit for ash disposal by industries and the user agency shall be conducted by auditors, authorized by Central Pollution Control Board (CPCB) and audit report shall be submitted to Central Pollution Control Board (CPCB) and UPPCB on regular intervals. Central Pollution Control Board (CPCB) and UPPCB shall initiate action against non-compliant industries within fifteen days of receipt of audit report.
- ix) The above mechanism shall be uploaded on the website of UPPCB seeking responses from the stakeholders, after which the mechanism shall be finalized and directions shall be issued to all coal based industries in the State of U.P/ Specific conditions shall be included in the CTO issued by UPPCB.

The above draft report is put up for perusal and necessary action please.



(Pradeep Sharma)
Chief Environmental Officer,
U.P. Pollution Control Board.



भारतीय प्रौद्योगिकी संस्थान रुड़की

रासायनिक अभियांत्रिकी विभाग

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डॉ० प्रकाश बिस्वास
प्राध्यापक एवं अध्यक्ष

Dr. Prakash Biswas

Professor & Head

No. ChED/SSLEL/1265

Dated: February 7, 2024

Mr Vinay Kumar Sharma

A.G.M (EHS)

UPPER DOAB SUGAR MILLS, SHAMLI

SHAMLI (UP)

Sub: Feasibility reports

Dear sir,

I am attaching herewith two reports as detailed below.

1. Feasibility study for usage of bottom ash and water scrubbing ash for the manufacture of bricks/blocks
2. Feasibility study for installation of electrostatic precipitators (ESP) in the stacks of the boilers for the capture of particulate matter

Hope you find them in order.

Thanking you,

Yours faithfully,


(Prakash Biswas)

REPORT ON

FEASIBILITY STUDY FOR USAGE OF BOTTOM ASH AND WATER SCRUBBING ASH FOR THE MANUFACTURE OF BRICKS/BLOCKS

The sugar mill was established in western U.P. in the year 1933 by Sir Shadi Lal who was the Chief Justice of Lahore High Court. Sir Shadi Lal established the Upper Doab Sugar Mills Ltd., Shamli for the production of white crystal sugar by the way of vacuum pan evaporation process. In the same year Upper Doab Sugar Mills, Shamli started producing white crystal sugar in the area using sugar cane. The farmers of the area started sowing the sugar cane and producing large quantity of sugar cane and got benefits in terms of monetary uplifting which resulted in development of the society due to the establishment of this sugar industry. The Company Upper Doab Sugar Mill did the CSR work in the society and established Government Hospital with the help of State Government and also established a number of schools in the area for education and modernized them by installing computers lab in the schools of area and also Dharamshala for the public welfare.

The initial crushing capacity of the sugar plant was 2500 TCD and at present crushing capacity has been enhanced to 6250 TCD and uses the sulphitation process. 10 tonnes per day bottom dry ash 35 tonnes per day wet fly ash is generated in this facility. The samples of the bottom ash (dry) and wet fly ash were taken in person from the premises.

The proximate analysis was carried out of these two types of the ash samples and is given below.

A. Wet ash sample (As received basis, wt %)

Moisture content	43.3
Volatile matter	17.3
Fixed carbon	4.6
Ash	34.8

B. Dry ash sample (As received basis, wt%)

Moisture content	7.9
Volatile matter	7.0
Fixed carbon	3.5
Ash	81.6

Similarly, the thermogravimetric analyses (TGA) of the ash samples were also carried out to see effect of heating rates in the oxidizing atmosphere to assess the loss of mass as a function of temperature and heating rates. Heating rates of 5 and 10 °C per mint were employed. These plots are given at Figures 1 to 3 respectively. The plot of Figure 1 shows the mass loss with temperature and the final ash which is left. It shows a maximum loss of mass as 61.4 %. It is also noteworthy that the moisture is getting lost up to a temperature of 100 °C and then the devitalization takes place. Finally, the ash is left as residue.

The loss on ignition was determined as per the procedure laid down in IS 1727-1967. First the wet ash samples were dried in an oven maintained at a temperature of 100 °C. After cooling the sample to room temperature about 1.00 g finely ground sample was taken in a platinum crucible of 20 to 25 ml capacity and kept in a muffle furnace at $1000 \pm 25^{\circ}\text{C}$ to constant weight. Air had free access to the sample to maintain oxidizing conditions. The loss on ignition was determined by the following relationship:

$$\text{Loss on ignition, percent} = A/B \times 100$$

where A = loss in weight, mg

B = weight of moisture free sample, mg

Loss of ignition

Dry ash (bottom ash)	: 18.4%
Wet fly ash	: 17.3% (after drying at 100 °C)
Wet fly ash	: 60.6% (43.3+17.3) on as received basis

IS-3812/1981 specifies the analysis of the fly ash obtained from the thermal power plants employing the fluidized bed combustion technology using coal as the fuel and given at Table 1. The fly ash should meet the requirements as mentioned Siliceous Pulverized fuel ash and Calcareous fuel ash. The bricks which are to be made should contain the ash as mentioned herein which will result in the desired compressive strength. The loss on ignition is very important factor which dictates the suitability of the fly ash for brick making. The IS-3812 1981 sets the upper limit of the loss on ignition as 5.0 % which is a very strong parameter to decide the suitability of ash for the usage for brick/block making. The boilers installed in the sugar factory are very old and are

employing the grate combustion technology which is very inefficient and a much higher percentage of carbon remains unburnt vis-a-vis fluidized bed combustion technology.

Table 1 Chemical Requirements
(Clause 6.1)

SI No.	Characteristic	Requirements		Method of Test, Ref to	
		Siliceous Pulverized Fuel Ash	Calcareous Pulverized Fuel Ash	Annex	IS No.
(1)	(2)	(3)	(4)	(5)	(6)
i)	Silicon dioxide (SiO ₂) plus aluminium oxide (Al ₂ O ₃) plus iron oxide (Fe ₂ O ₃) in percent by mass, <i>Min</i>	70	50	–	IS 1727
ii)	Silicon dioxide (SiO ₂) in percent by mass, <i>Min</i>	35	25	–	IS 1727
iii)	¹⁾ Reactive silica in percent by mass, <i>Min</i>	20	20	B	–
iv)	Magnesium oxide (MgO) in percent by mass, <i>Max</i>	5.0	5.0	–	IS 1727
v)	Total sulphur as sulphur trioxide (SO ₃) in percent by mass, <i>Max</i>	3.0	3.0	–	IS 1727
vi)	Available alkalis as sodium oxide (Na ₂ O) in percent by mass, <i>Max</i>	1.5	1.5	–	IS 4032
vii)	Total chlorides in percent by mass, <i>Max</i>	0.05	0.05	–	IS 12423 ²⁾
viii)	Loss on ignition in percent by mass, <i>Max</i>	5.0	5.0	–	IS 1727

¹⁾ Optional test.
²⁾ For the purpose of this test, wherever reference to cement has been made, it may be read as pulverized fuel ash.

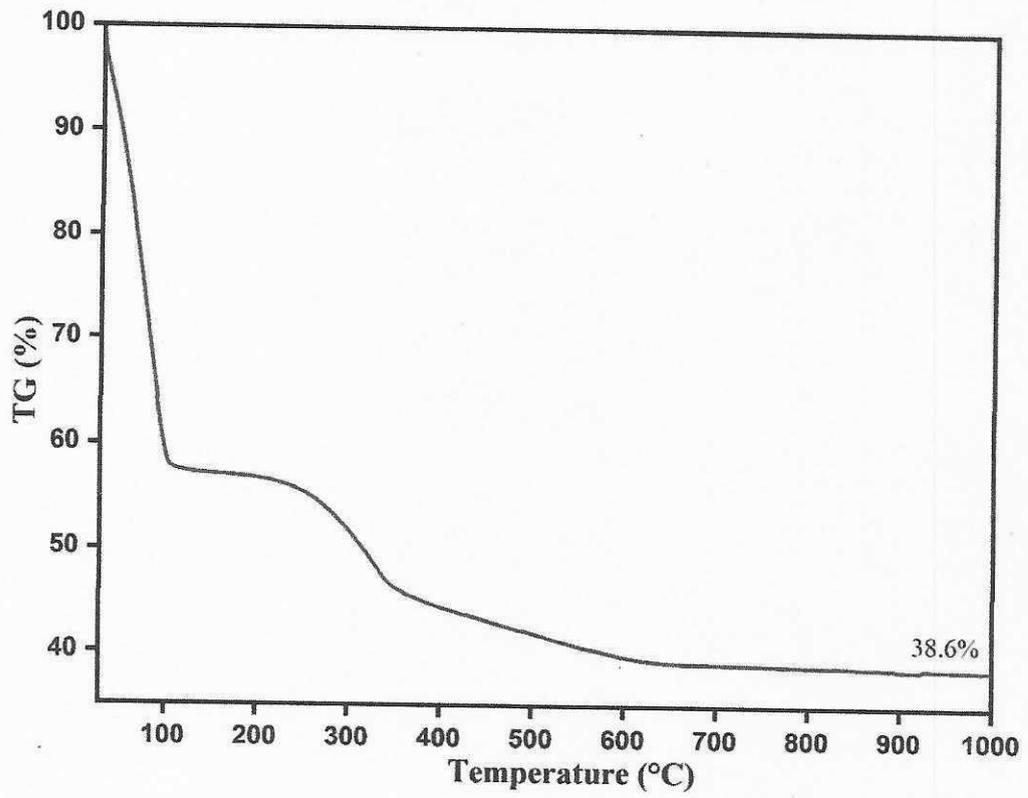


Figure 1. TGA of the wet fly ash at a heating rate of 5 °C/min in air

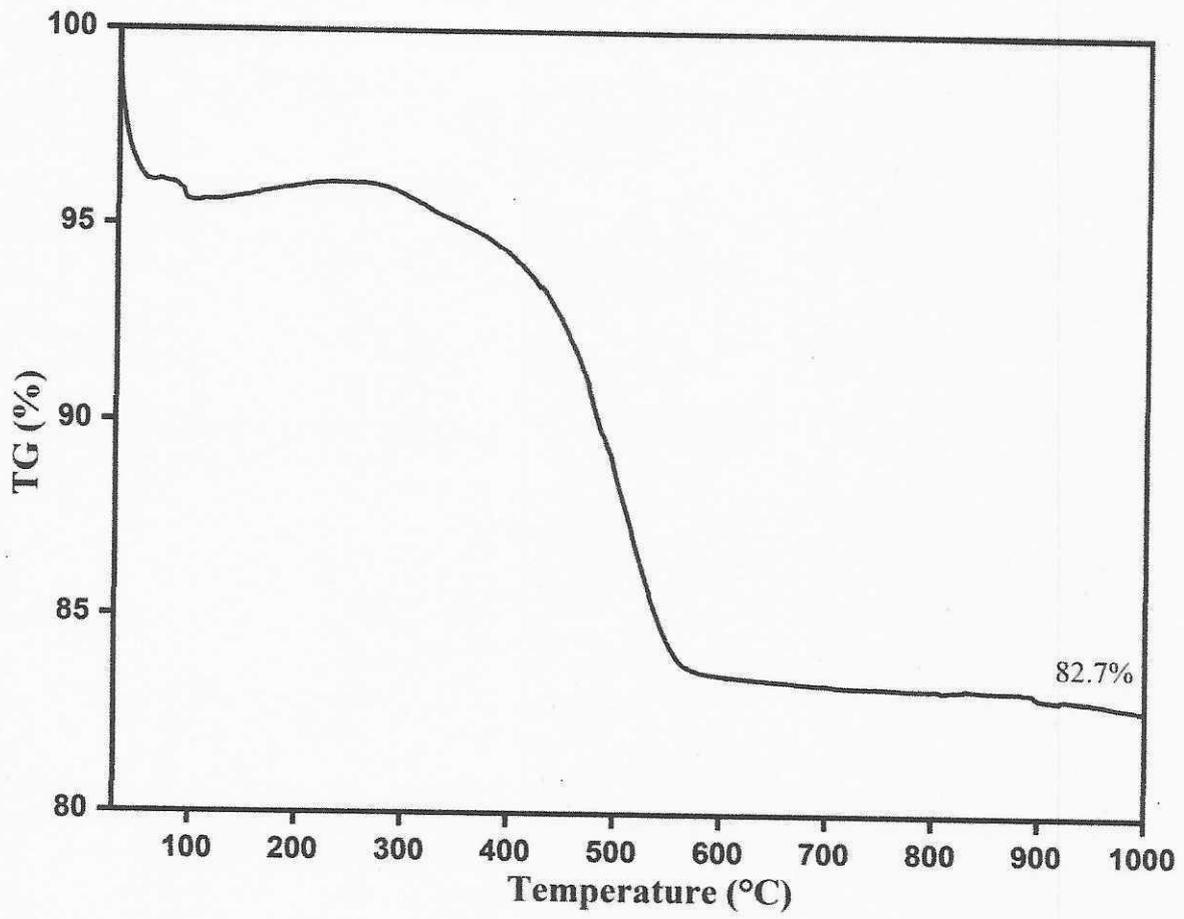


Figure 2. TGA of the dry fly ash at a heating rate of 10 °C/min in air

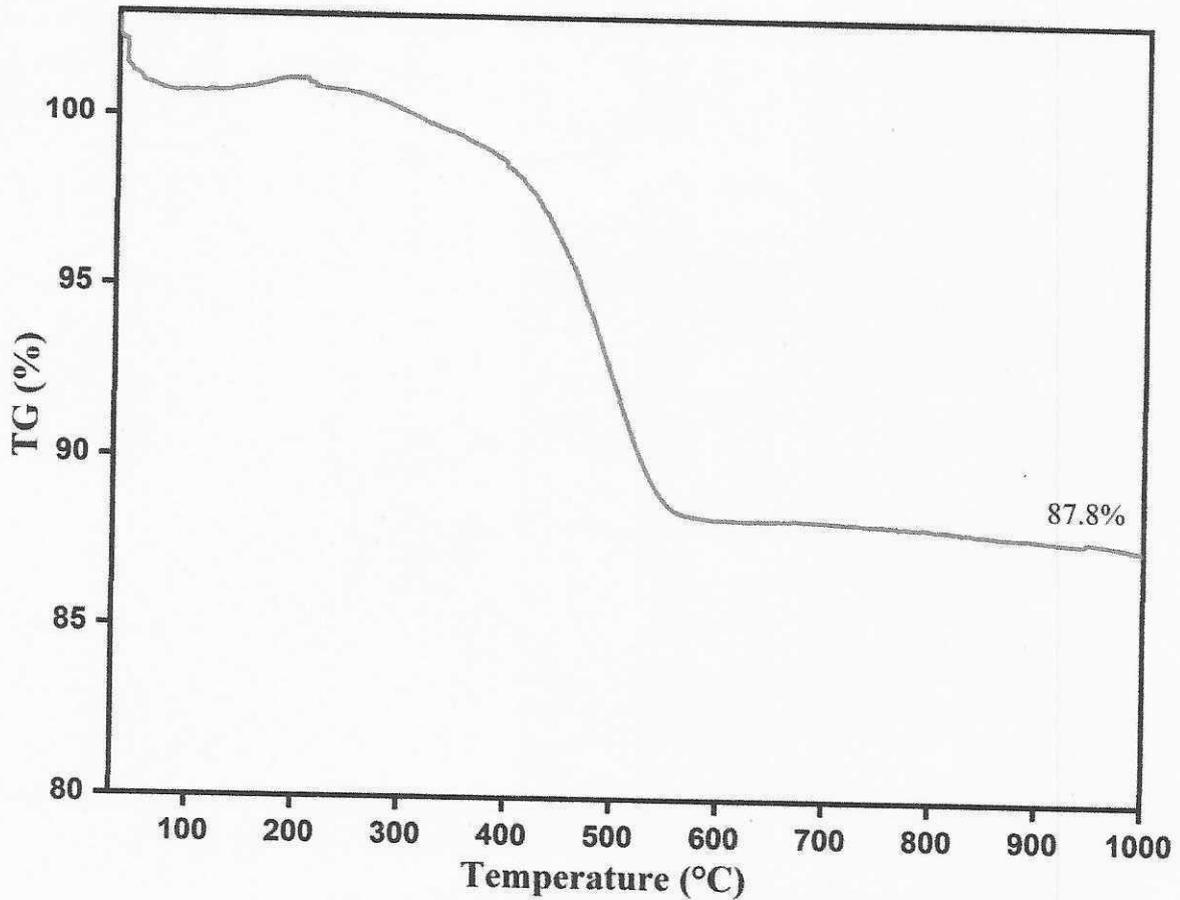


Figure 3. TGA of the fly ash at a heating rate of 5 °C/min in air

Recommendation

Based on the tests conducted on the wet fly ash and bottom fly ash it is concluded that these two types of the fly ash are not suitable for the production of fly ash bricks. The major cause being the high degree of LOI (18.4%, 17.3% and 60.6%). As per the IS-3812 1981, the upper limit of LOI is 5% for the suitability of the ash for brick /block making.

(Signature)

(Prakash Biswas)

**REPORT ON
FEASIBILITY STUDY FOR INSTALLATION OF
ELECTROSTATIC PRECIPITATORS (ESP) IN THE STACKS OF THE
BOILERS FOR THE CAPTURE OF PARTICULATE MATTER**

Introduction

The sugar mill was established in western U.P. in the year 1933 by Sir Shadi Lal who was the Chief Justice of Lahore High Court. Sir Shadi Lal established the Upper Doab Sugar Mills Ltd., Shamli for the production of white crystal sugar by the way of vacuum pan evaporation process. In the same year Upper Doab Sugar Mills, Shamli started producing white crystal sugar in the area using sugar cane. The farmers of the area started sowing the sugar cane and producing large quantity of sugar cane and got benefits in terms of monetary uplifting which resulted in development of the society due to the establishment of this sugar industry. The Company Upper Doab Sugar Mill did the CSR work in the society and established Government Hospital with the help of State Government and also established a number of schools in the area for education and modernized them by installing computers lab in the schools of area and also Dharamshala for the public welfare.

The initial crushing capacity of the sugar plant was 2500 TCD and at present crushing capacity has been enhanced to 6250 TCD and uses the sulphitation process. 10 tonnes per day bottom dry ash 35 tonnes per day wet fly ash is generated in this facility. This study has been conducted to evaluate the feasibility of installing the ESP in the boilers stacks for the capture of particulate matter.

2.0 Electrostatic Precipitators

An electrostatic precipitator (ESP) is a particle control device that uses electrical forces to move the particles out of the flowing gas stream and onto collector plates. The particles are given an electrical charge by forcing them to pass through a corona, a region in which gaseous ions flow. The electrical field that forces the charged particles to the walls comes from electrodes maintained at high voltage in the center of the flow lane. Once the particles are collected on the plates, they are removed from the plates without re-entraining them into the gas stream. This is usually accomplished by knocking them loose from the plates, allowing the collected layer of particles to

slide down into a hopper from which they are evacuated. Some precipitators remove the particles by intermittent or continuous washing with water.

3.0 Types of the ESP

The following are the different types of the ESP which have been developed over a period of times.

1. Plate-wire precipitator
2. Flat plate precipitator
3. Tubular precipitator
4. Wet precipitator
5. Two-stage precipitator

Depending upon the composition of the gas and the particle properties the type of electrostatic precipitator is decided. For the bagasse based boilers the generalized configuration of the ESP is shown in Figure 1. This figure shows that dust laden gas enters a chamber wherein electrodes are arranged as shown in Figure 2. First the particulate matter/dust particles are charged and then are collected on the grounding electrode. The particulate matter is then periodically removed from bottom hopper. The mechanism of particle charging and collection is shown in Figure 3. The moisture in the flue gas also plays a vital role since the resistivity varies very strongly with moisture content as shown in the Figure 4.

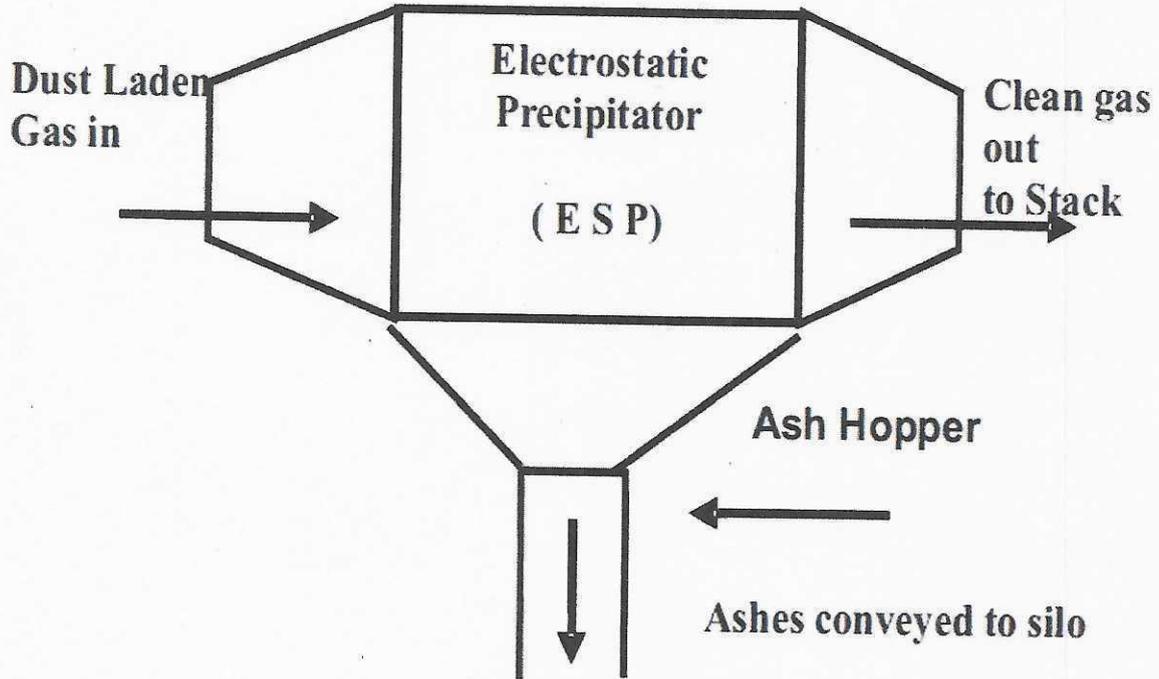


Figure 1. Generalized Configuration of Electrostatic Precipitator

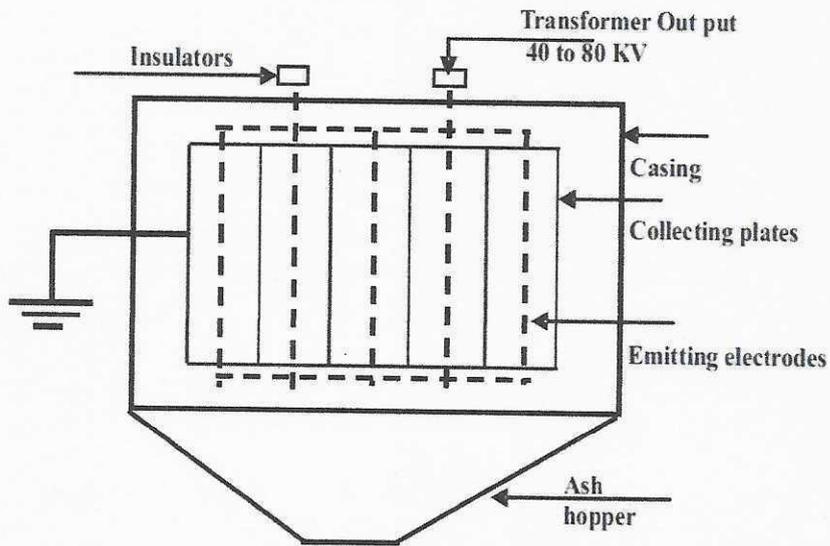


Figure 2. Electrode Orientation Inside ESP Housing

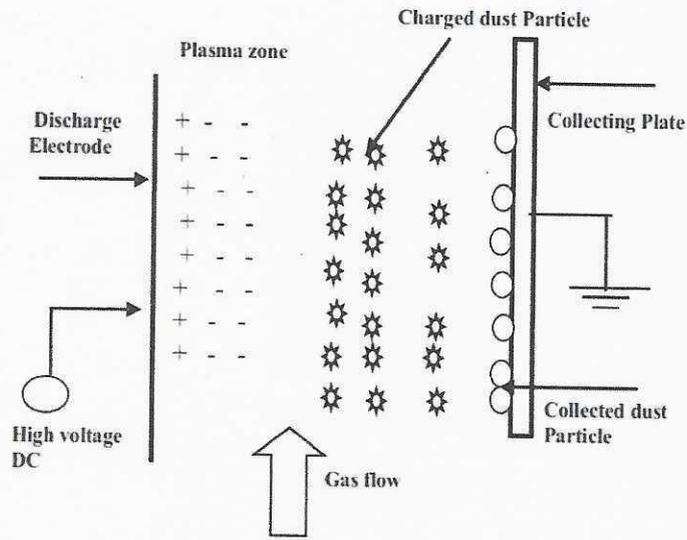


Figure 3. Mechanism of Particulate Charging and Discharging

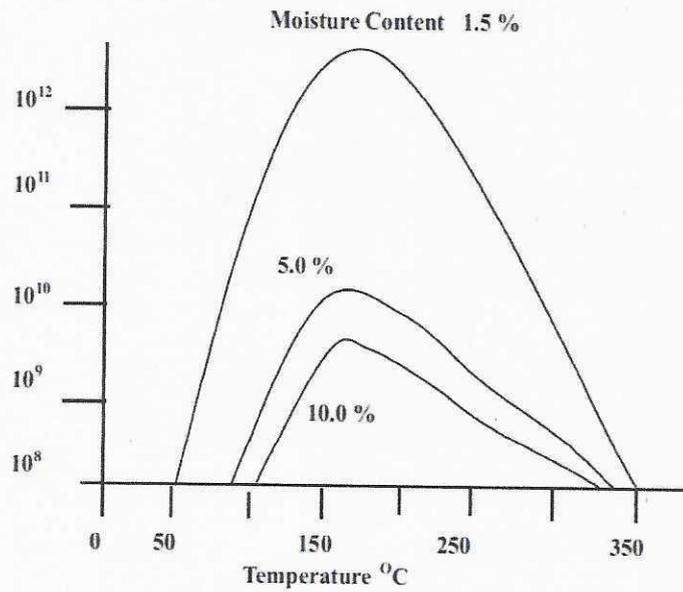


Figure 4. Effect of Moisture Content on Resistivity

This factory is having five number of boilers as given in the table 1 below.

Table 1 Boiler details

Particulars	V.K.W-1	V.K.W-2	Surya-1	Surya-2	Taxmaco.
Pressure (kg/cm ²)	13.9	13.9	21	21	21
Height of chimney (m)	35	35	35	35	35
Capacity (Tonnes/hr)	25	25	25	25	25
Steam temperature (°C)	320-340	320-340	320-340	320-340	320-340
Grate area (m ²)	6.92	6.92	15	15	19
Flue gas temperature (after wet scrubber in °C)	60-70	60-70	60-70	60-70	60-70
Furnace temperature (°C)	750-800	750-800	750-800	750-800	750-800
Provision of ash Separator	Wet Scrubber	Wet Scrubber	Wet Scrubber	Wet Scrubber	Ventury and Wet Scrubber

Based on the theoretical calculations and industry data for determining the total surface area for the ESP has been determined for the stacks of these boilers and is given below.

Boiler No. V.K.W.-1

Flue gas flow:	52,034 Nm ³ /hour
Flue gas temperature:	113 °C
Total collection area:	941 m ²
Gas velocity inside ESP:	0.92 m/sec
Gap between emitting and collecting electrode:	304 mm
Migration velocity of dust particles:	6.72 cm/sec
No. of fields:	2
Field characteristic:	1st Field 300 mA and 40 kV 2nd Field 500 mA and 40 kV
ESP Efficiency:	98.75 %

Boiler No. V.K.W.-2

Flue gas flow:	53,444 Nm ³ /hour
Flue gas temperature:	117 °C
Total collection area:	966 m ²
Gas velocity inside ESP:	0.92 m/sec
Gap between emitting and collecting electrode:	304 mm
Migration velocity of dust particles:	6.72 cm/sec
No. of fields:	2
Field characteristic:	1st Field 300 mA and 40 kV 2nd Field 500 mA and 40 kV
ESP Efficiency:	98.75 %

Boiler (Surya 1&2)

Flue gas flow:	1,21, 713 Nm ³ /hour
Flue gas temperature:	114 °C
Total collection area:	2201 m ²
Gas velocity inside ESP:	0.92 m/sec
Gap between emitting and collecting electrode:	304 mm
Migration velocity of dust particles:	6.72 cm/sec
No. of fields:	2
Field characteristic:	1st Field 300 mA and 40 kV 2nd Field 500 mA and 40 kV
ESP Efficiency:	98.75 %

Boiler (Taxmaco)

Flue gas flow:	82, 692 Nm ³ /hour
Flue gas temperature:	102 °C
Total collection area:	1495 m ²
Gas velocity inside ESP:	0.92 m/sec
Gap between emitting and collecting electrode:	304 mm
Migration velocity of dust particles:	6.72 cm/sec
No. of fields:	2
Field characteristic:	1st Field 300 mA and 40 kV 2nd Field 500 mA and 40 kV
ESP Efficiency:	98.75 %

The present lay out of the boilers is shown in Figure 5. The space available, as per the layout, is limited one for all the four ESPs as detailed above. The support structure, inlet and out let to the ESP also requires the space. Accordingly, it is envisaged that it will be difficult to get installed the ESPs at the existing layout.

Recommendation

Based on the electrode collection area required, inlet and outlet connections of the flue gases and support structure it is recommended that it may not be possible to get installed the electrostatic precipitators (ESPs) in the boilers stacks.



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