Item No. 04

BEFORE THE NATIONAL GREEN TRIBUNAL
CENTRAL ZONE BENCH, BHOPAL
(Through Video Conferencing)

Original Application No. 33/2022 (CZ)

Ram Awtar Agrawal Applicant(s)

Versus

State of Chhattisgarh & Ors. Respondent(s)

Date of completion of hearing and reserving of order: 12.09.2022
Date of uploading of order on website: 19.09.2022

CORAM: HON'BLE MR. JUSTICE SHEO KUMAR SINGH, JUDICIAL MEMBER
HON'BLE DR. ARUN KUMAR VERMA, EXPERT MEMBER

For Applicant (s): Mr. Satish Tripathi, Adv

For Respondent(s): Mr. Prashanto Sen, Sr. Adv
Mr. Shivanshu Singh, Adv
Mr. Yadvendra Yadav, Adv
Ms. Parul Bhadoria, Adv
Mr. Pawan Kawre, Adv
Mr. Rohit Sharma, Adv

ORDER

1. Grievance in this application is use of fly ash and throwing & dumping it here and there by BALCO Company Management based in District Korba, Chhattisgarh in violation of rules and regulation made therein and causing adverse effect on human health and agriculture field. It is alleged by the Applicant that due to continuous dumping of fly ash in drains, around small potholes and ponds, along the road, fly ash keeps flying with the wind all around. Due to this it mixes with the breathing air in the environment due to which normal human being has problems of breathing.
2. Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generation.
3. Contention of the Applicant is that there is resultant air water and land pollution due to not installing requisite air pollution control and monitoring devices (FGD's and CAAQMS) to mitigate air pollution during operation of TPPs, unscientific handling and storage of fly ash beyond capacity of flyash dykes/ponds resulting in devastating accidents due to their breach. Such breaches have resulted in contamination of water sources, damage to crops,

loss of human lives and flora and fauna. Accumulated fly ash has been found a source of continuing damage to public health and environment. Several industrial areas are categorized as polluted industrial clusters on the basis of Comprehensive Environment Pollution Index (CEPI) prepared by CPCB. Stone crushers, coal mining and transportation in the area are also associated issues causing pollution.

Brief facts

4. There are about 15 electricity generating plants of Central Government, State Government and private companies situated at Korba, Chhattisgarh. These plants generate 9000 megawatt electricity. These electricity companies are dependent on coal. About 20 metric ton coal is used for making per megawatt electricity, hence 1,80,000 metric ton coal is used for making electricity per day in Korba. Depends on the quality of coal 40 % fly ash, that means 72,000 metric ton fly ash generated per day from these electricity generating plants of Korba. A report said that 200 million ton fly ash per year generated in India in 2018-2019. Total 195 thermal power plants generates total 217.04 million ton fly ash. These plants required 40000 hectare land for disposing fly ash. Due to very heavy amount of fly ash generation environment can damaged. Therefore, central government has made so many rules, laws and guidelines for utilization and disposal of the fly ash generated by these plants. Due to very higher generation of fly ash Government of India made a guideline in 2019. This was expected by government that all the plants and organization that generate fly ash must be following these guidelines strictly.
5. In Korba district of Chhattisgarh, Bharat aluminium company limited (BALCO) is a big organization who make aluminium. Along with this aluminium making plant BALCO has been operating 1740 megawat electrical power plants. In the year 2012 Sterlite Vedanta has taken 51% of ownership from Government of India and takes operation in own hands. Now Government of India has 49% share in this plant. BALCO uses 35000 ton coal per day for making 1740 megawatt electricity. Therefore 14000 metric ton fly ash generated per day through this electrical generation plant. In the year

2019 BALCO uses 7.6094 million ton coal through which 2.8690 million ton fly ash was generated. Out of which 1.4110 million ton fly ash was used to deploy lower area filling of land in Korba district. In 2020-21, 7.9874 million 10 coal was used by BALCO. Due to which 3.1447 million ton fly ash was generated. 1.7678 million ton fly ash was used to deploy lower area land filling.

6. BALCO has made 540 megawatt electrical generation plant and for disposal of fly ash village Risdee is used for fly ash dumping. In the year 2006 BALCO made his three units of 400 megawatt generation plant. Total 1200 megawatt electricity generation plants made by the BALCO but they did not make any new specific area of dumping of fly ash. BALCO uses only Risdee village area for dumping and huge amount of fly ash deployed in the village Parsabhata redmud pond. This redumd pond was constructed for containing the waste from the process of making alumina form boxite.
7. Due to fly ash dumping, the situation was very critical in Korba district. BALCO has taken a mine in village Chotia district Korba for one million ton coal per year. The trucks which are used for coal transportation without any protection, open body truck by BALCO is again used for fly ash dumping in Chotiya mining place by BALCO. Due to unavailability of space of dumping fly ash, Chotia mine is closed now. Due to this action of BALCO air quality and water quality is also destroyed in Korba district. The dust particles are floated in the air. These dust particles are floated in the river water and in the natural drinking water too.
8. Due to continuous dumping of fly ash in drains around small potholes and ponds, along the road, fly ash keeps flying with the wind all around. Due to this it mixes with the breathing air in the environment due to which normal human being has problems of breathing.

9. On the grounds mentioned above, the Applicant has sought a relief for restraining from the fly ash illegal dumping activities in Korba district and to make necessary punitive orders against the authorities with directions to

CPCB to regulate the fly ash dumping in the area. The matter was taken up by this Tribunal on 05.05.2022 and notices were issued to the respondents in addition to constituting a Joint Committee consisting (i) District Collector, Korba, Chhattisgarh, (ii) one representative from Central Pollution Control Board, and (iii) one representative from Chhattisgarh Environment Conservation Board, Chhattisgarh with direction to submit the factual and action taken report.

10. In response thereof, Respondent no.4, Chhattisgarh Environment Conservation Board has submitted the reply with the facts that No Objection Certificate was issued to the authorized transporters who have applied for transportation and filing of ash in the low lying areas and the NOC is only valid upto the point in time where the filing of fly ash gets completed. It is further submitted that :

(i) The procedure to obtain NOC for disposal of fly ash in low lying areas of Korba district is that an individual or company submits the application for ash filling in low laying area to district administration and they in turn verify the application vis-a-vis ownership, land use and area. It is then forwarded to the answering respondent. CECB then issues the NOC with certain condition as per fly ash notifications and resend it to district administration. BALCO's Thermal Power Plant further applied to the answering respondent for NOC for disposing of fly ash in low lying area along with all requisite permissions and the answering respondent issued the final NOC with certain underlying conditions to Respondent no. 6. It is pertinent to note that after obtaining the NOC, Respondent no. 6 dumped fly ash on the permitted location through authorized transporter.

(ii) It was observed that out of the 23 locations, for which Respondent no. 6 has obtained NOC for dumping of fly ash from CECB, the work of dumping fly ash has been completed in 15 locations and the process of soil covering and plantation is under progress at these completed sites. The remaining 08 sites are still operational and are being closely

monitored and the precautionary measures like soil topping, stone pitching, plantation etc. are being adopted.

(iii) The answering respondent granted Respondent no. 6 NOC for raising height of the abandoned red mud pond no. – 2, 3, 4 and 7 to 5 meters for disposal of ash generated from 540 and 1200 MW Power Plant based on Coal. Respondent no. 6 has also obtained requisite permissions from MoEF&CC for the same and has converted its red mud ponds to ash dykes as per the approved design for disposal of ash through HCSD system.

(iv) As per Environmental Clearance issued by the MoEF & CC vide letter no. J-11011/123/2007-IA. II (I) dated 22.04.2022 wherein specific condition XIV states that:

> *"Legacy ash stocks of 18.2 Million tons shall be liquidated by December 2024. The vehicles carrying as from dyke shall use tarpaulin covers. No additional ash pond shall be developed for ash disposal."*

Joint Committee observed that the fly ash was transported to the nearby cement plant only through bulkers or closed cover trucks, however for disposal in low laying areas as per NOC condition of CECB ash can be transported through fully covered or tarpaulin-covered vehicle.

(v) The report states that the transportation through a mechanically covered truck is not viable for disposal in low lying area because for emptying of the mechanical covered truck, a truck tippler is needed and that can't be installed everywhere and presently such vehicles are not available for purchase in this region.

(vi) As per the Guidelines for disposal/utilization of fly ash for reclamation of Low Lying Areas and in stowing of Abandoned mines/Quarries passed by the Central Pollution Control Board in March, 2019, there is no specific requirement or obligation on the answering respondent to carry out an inspection of the site where the fly ash is supposed to be dumped. As per Para 5 of the above-mentioned guideline, prior permission from the land owner, regulatory authority and the State

Pollution Control Board shall be taken before dumping of Fly Ash in the low-lying area. The transporters of fly ash are only dumping fly ash after obtaining permission from the answering respondent, the SDO and the land owner.

(vii) The fly ash management committee for Korba region has been constituted under the Chairmanship of District Collector and an order also issued in this regard vide letter no 299 dated 07.06.2022. The committee will look after the fly ash disposal in low laying area, mine voids and other allied areas of the region.

11. Respondent No.5, CPCB has submitted that in light of the order passed by this Tribunal a Joint Committee has submitted the report with the conclusions and recommendations which are to be complied by the project proponent. It has further been submitted that CPCB has issued guidelines for disposal/utilization of fly ash for reclamation of low lying areas and in stowing of abandoned mines/quarries in March, 2019. The guidelines are mandatory and are to be implemented by the state authorities.

12. Reply of the Respondent No.6, Bharat Aluminum Company Ltd. are as follows:

(i) The answering Respondent is a disinvested company which is a 49% Government owned company. The answering respondent i.e., BALCO runs its Thermal Power Plant units of 540 MW and 1200 MW in District Korba which constantly produces Fly Ash. By virtue of the permissions, the said TPPs units have been in operation for over a period of 16 years. Apart from catering to the power needs of the smelter operations of BALCO, the said units are also serving public interest in as much as the power is also being supplied to the State Governments of Chhattisgarh, Tamil Nadu and Kerala under long-term PPAs respectively. BALCO is currently supplying approximately 55MW of electricity to the State of Chhattisgarh and is also supplying electricity to 5 other States in the country.

(ii) *BALCO is one of the largest Aluminium Producers in India – with 5.75 lakh tonne per annum production capacity, BALCO produces approximately 15% of the total aluminium produced in the country. BALCO is a highly valued and one of the largest stakeholders in the State of Chhattisgarh producing ingots, Alloy ingots, wire-rods, busbars and rolled products. The Smelter plants are being supported by uninterrupted power supply through the Captive Power Plant (CPP) Units of the 1200 MW unit and 540 MW Power Plant at the smelter site.*

(iii) *BALCO has been operating its Thermal Power Plants (TPP Units), which produces fly ash, strictly in consonance with the approvals granted by the MoEF & CC and the State Pollution Control Board (SPCB). BALCO was accorded with Environmental Clearances (EC) which were renewed from time to time. The latest CTO was renewed by CECB on 27.05.2022 for running the two power plant Units for a period of one year i.e., from 01/06/2022 to 31/05/2023. CECB has also directed compliance of additional condition which is as follows;*

> *Condition No. 4 of the Consent To Establish (CTE) "Industry shall ensure 100% utilization of fly ash, bottom ash and legacy ash (unutilized accumulated ash) as per provisions of notification dated 31/12/2021 issued by MoEF & CC regarding utilization of ash."*

(iv) *BALCO's manufacturing activities primarily focus on economic, environmental and social impact equally. One of the core principles followed by BALCO is to align its working with zero harm, zero waste and conservation of natural resources. In terms thereof, BALCO has planted approximate 6 lakhs saplings till date in the vicinity of its zone and endeavours to explore greener options while diversifying its operations. BALCO also holds the national benchmark for the highest energy efficiency in smelter operations and also been conferred with various awards in this regard. On*

21.03.2022 BALCO was awarded with the prestigious CSR Journal Excellence Award in the category of 'Agriculture and Rural Development' for the Project Mor Jal Mor Maati. This is BALCO's flagship program in the domain of sustainable livelihood. The said project is aimed at benefitting farmers by edifying them about modern agricultural techniques along with supporting them by providing resources. It is noteworthy that more than 1000 farmers are associated with the project, covering over 800 acres of land by enhancing their production and diversifying their source of income.

(v) All the approvals (including the ECs, the Consent to Establish (CTE) and the Consent to Operate (CTOs)) accorded to BALCO for establishing and operating the TPPs categorically provide for specific conditions to handle disposal-utilisation - dumping of Fly Ash. This is done in a manner following the due process of law, including but not limited to, adherence of the extant Fly Ash Regulations notified by the MoEF, the Central Pollution Control Board (the "Respondent No. 5"/ the "CPCB") guidelines for disposal/utilisation of fly ash for reclamation of Low-Lying Areas as well as the consistent regulatory oversight of the Chhattisgarh Environmental Conservation Board (the "Respondent No. 4"/the "CECB"). The disposal of fly ash is regulated under various regulations issued from time to time. The said regulations have been enacted under section 3(2)(v)(1) of the Environment (Protection) Act, 1986 r/w Rule 5(3)(d) Environment (Protection) Rules, 1986.

(vi) BALCO has been proceeding in accordance to the Fly Ash Notifications published by the Ministry of Environment Forest & Climate Change ("MoEF CC"), the Office Memorandum dated 28.08.2019 (Bearing Ref. No. F. No. 22-13/2019 – IA. – III) of MoEF regarding change in conditions stipulated in the Environmental Clearance of TPPs and Coal Mines in line with the Fly Ash Notification and subsequent amendments, and the Guidelines for

disposal/utilisation of Fly Ash for reclamation of Low-Lying Areas and in stowing of Abandoned mines/Quarries published by Central Pollution Control Board dated March, 2019 (the "Fly Ash Guidelines").

(vii) The Fly ash utilization is a constant and symbiotic process since the ash gets accumulated post generation of power; the utilization is to be undertaken as per the provisions of the EC, CTE and CTO. The utilization therein has to be conducted strictly in accordance with the terms of the Fly Ash Notification - a condition which is compulsorily incorporated in the approvals granted by the authorities which in the present case have also been done in the NOCs for undertaking ash dumping in low lying areas.

(viii) The Fly Ash Guidelines, 2019 inter alia mandate use of fly ash in mines filling as well as reclamation of Low-Lying Areas. Para 4 of the Fly Ash Guidelines provide the steps to be undertaken for Loading/unloading, storage and transportation of fly ash. Para 5 then provide for reclamation of Low-Lying area using Ash. Clause 5.1 (Precondition) under sub-clause 5.1.2. states that the "Power plant/land owner/agency shall obtain statutory permission from regulatory authorities such as SPCB as per the requirement." Para 6 spells the mechanism for carrying out disposal of fly ash in voids of abandoned mines – these ash fillings are required to be regularly monitored not only during the period of disposal of ash into the mine void but also after the reclamation of mine void is done. The detailed monitoring programme is given under Clause 6.3.1. In the event of deterioration of environmental quality, the same shall be reported to the CECB immediately and suitable preventive/corrective action will be undertaken.

(ix) Pertinently, with respect to processing the application for consideration of grant of permission for reclamation of Low-Lying

Areas/Abandoned Quarries, the Fly Ash Guidelines stipulate the following under Para 8:

"8.1 The activity of reclamation of Low-Lying Areas / Abandoned Quarries will be regulated under the provisions of Water (Prevention and Control of Pollution) Act, 1974 and Air Water (Prevention and Control of Pollution) Act, 1981. The stipulations specified in this guideline is consistent with the provisions of Fly Ash Notification, 1999 and amended thereafter which should be a special condition mentioned in consent order issued under the Water (Water (Prevention and Control of Pollution) Act,1974 and the Air Water (Prevention and Control of Pollution) Act, 1981. Thereafter any deviations from the guidelines shall be treated as violation of both Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 and action as deemed proper shall be taken under Consent Administration by the Board.

8.2 Necessary clearances shall be obtained from the concernedagencies such as DGMS, SPCB, IBM, MoC, etc."

(x) The Fly Ash Notification 2021 states under Para A (5) the following:

"The un-utilised accumulated ash i.e. legacy ash, which is stored before the publication of this notification, shall be utilised progressively by the thermal power plants in such a manner that the utilization of legacy ash shall be completed fully within ten years from the date of publication of this notification and this will be over and above the utilisation targets prescribed for ash generation through current operations of that particular year: Provided that the minimum quantity of legacy ash in percentages as mentioned below shall be utilised during the corresponding year and the minimum quantity of legacy ash is to be calculated based on the annual ash generation as per installed capacity of thermal power plant.

YEAR AND DATE OF PUBLICATION	***1ST***	***2ND***	***3RD – 10TH***
Utilisation of legacy	***At least***	***At least***	***At least 50***

ash (in percentage of Annual ash)	***20 percent***	***35 percent***	***percent***

Provided further that the legacy ash utilisation shall not be required where ash pond or dyke has stabilised and the reclamation has taken place with greenbelt or plantation and the concerned State Pollution Control Board shall certify in this regard. Stabilisation and reclamation of an ash pond or dyke including certification by the Central Pollution Control Board (CPCB) or State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall be carried out within a year from the date of publication of this notification. The ash remaining in all other ash ponds or dykes shall be utilised in progressive manner as per the above-mentioned timelines.

Note: The obligations under sub-paragraph (4) and (5) above for achieving the ash utilisation targets shall be applicable from 1st April, 2022."

(xi) The Fly Ash Notification 2021 entails various other compliances apart from utilisation which have been provided under Para A (2) viz. ways of utilisation of the fly ash so generated, formation of committee, installation of silos, compliance under Para B, etc. The validity of these compliances and ensuing obligations have crystallized and come into force from the date of publication i.e., 31.12.2021. It is only with respect to targets for utilisation of fly-ash which have been made applicable w.e.f. 01.04.2022. Thus, for all other compliances the date of 31.12.2021 is to be reckoned as the date of the notification being in force.

(xii) Solely for the purpose of targets of utilisation, the author of the Notification has given a window of three months of deferment as a transition period – with an umbrella deadline of 10 years to comply from the date of publication. It is provided for the thermal power plants to put their house in order so that they are able to comply

with the minimum requirements of disposal. This would be necessary since there are penal consequences for non-compliance.

(xiii) Under Para B(6), the Central Government has stipulated that "Filling of low-lying areas with ash shall be carried out with prior permission of the State Pollution Control Board or Pollution Control Committee (PCC) ***for approved projects, and in accordance with guidelines laid down by Central Pollution Control Board (PCB) and the SPCB or the PCC shall publish approved sites, location, area and permitted quantity annually on its websites."*** *Thus, any activity of fly ash disposal qua filling of low-lying areas is always carried out under the overall supervision and strict scrutiny of the State Pollution Control Board/Chhattisgarh Environment Conservation Board (CECB) (the Respondent Nos. 3 and 4). Part C of the Fly Ash Notification 2021 entails the Environmental compensation for noncompliance – the answering Respondent therefore shall be liable in case of breach of the provisions of the notification and if the utilisation is not undertaken as per the terms thereof.*

(xiv) The law in respect of the Fly Ash Notification 2021 and the compliance thereto has been laid down by the Hon'ble Supreme Court in the Aravali Power Case, which is being reproduced hereunder –

"12. In view of the above background, it would be necessary for the MoEF&CC to revisit whether the parameters which have been prescribed by the notification dated 31 December 2021 must be modified taking into account the provisions of the Rules of 2016, to the extent to which the applicability of the Rules is attracted to the utilization, transportation and disposal of fly ash. ***Besides conducting this exercise, MoEF&CC shall ensure that the enforcement, monitoring, audit and reporting mechanism which is envisaged in paragraphs E(3) and E(5) of the***

notification dated 31 December 2021 is duly put into place and enforced scrupulously. Unless steps have already been taken to enforce the precautionary steps envisaged in the notification, MoEF&CC shall do so within a period of three months from the date of this judgment*. In doing so the precautionary principle shall be followed. The MoEF&CC shall also determine upon due analysis whether any further modification of the notification is necessary to comply with the provisions of the Rules of 2016 noticed above and other cognate legislation, including subordinate legislation bearing on the utilization, transport and disposal of fly ash in an environmentally sustainable manner.*

...

15 ***We clarify that this judgment shall not be construed as a decision on merits upholding the validity of the notification dated 31 December 2021. Any party aggrieved by the terms of the notification would be at liberty to pursue the remedies which are available in law before the appropriate forum.***

(Emphasis Supplied)

(xv) That Fly Ash generated from BALCO's plant is sent to BALCO's Ash Dykes while some quantity is directly sent to Cement Plants and Brick Manufacturing Plants. The ash transportation from plant to dykes is done through High Concentration Slurry Disposal (HCDS) System. From the ash dykes, the fly ash is utilized of through various avenues such as mine void filling, infrastructure projects run by NHAI & CGPWD (CG Public Works Dept.) and reclamation of low-lying areas.

(xvi) That Land owners & various agencies approach BALCO for reclamation of low-lying areas. These owners/ agencies send letters to BALCO seeking fly ash for reclamation purposes. The onus of getting the approval from SDM Revenue lies with the land

owner/agency. BALCO takes the approval copy from them before proceeding with the project. The approvals taken by Land Owner/Agency are already on record at Annexure A/6 (Pg. 59/Application) i.e., request by Land Owner/Agency to BALCO for reclamation project. After this first level approval, BALCO also takes NOC from RO (CECB/SPCB) which constitutes the NOC documents attached by the applicant. Even in a case where some authorities require permissions for certain areas to be taken from the SDM, the answering Respondent has only sought all requisite permissions from CECB and no such other authority. The same shall be detailed further in the upcoming sections.

(xvii) BALCO generates approx. 1740MW of electricity daily by utilising approximately 28,000 tonnes of coal per day (at 100% Plant Load Factor). This is not a fixed figure and is dependent on the requirement, thus, the generation and coal utilisation are dependent on the plant operation. Contrary to the averments in the Application, BALCO generates less than 14,000 MT of fly ash every day and the average generation is around 8-8.5 KT of fly ash. Reference in this regard be made to the following details:

(a) In the year 2019, BALCO utilised 7.6094 million tonnes of coal through which 2.869 million tonnes of Fly ash was generated.

(b) In the year 2020 – 2021, approx. 1771744.76 tonnes of Fly Ash were generated by BALCO at the 1200 MW TPP, approx. 743917.5 tonnes of Fly Ash was generated by BALCO at its 540 MW CPP (4X135). A portion of the said fly ash was disposed of in the mined out Chotia Coal Mines and low-lying area at Tarda. The answering Respondent also received permission from CECB to dispose 1.6 MT of Fly Ash in abandoned Manikpur OCM of SECL. The details of these utilization have been duly furnished by BALCO before the MoEF& CC vide Letters (Bearing Ref. No. BALCO/POWER-1200MW/ENV/04/2021/93 &

CPPII/ENV/01(A)/2021/94) dated 15.04.2021 titled "Annual Implementation report for 2020-2021 on fly ash utilisation of BALCO 1200 MW Thermal Power Plant" and ""Annual Implementation report for 2020-2021 on fly ash utilisation of CPP-II (540 MW)" respectively.

(xviii) In the year 2021-2022, 2453210 tonnes of coal were consumed due to which 795840 tonnes of Fly Ash was generated by BALCO at its CPP-II (540MW) unit (4X135 MW) located in Korba. 1711484 tonnes of Fly Ash were generated at the 1200 MW TPP (4X300 MW). The details of these utilisation have been duly furnished by BALCO before the MoEF& CC vide Letters (Bearing Ref. No. CPPII/ENV/01(A)/2022/86 and BALCO/POWER1200MW/ENV/04/2022/85) dated 30.04.2022 titled "Annual Implementation report for 2021-2022 on fly ash utilisation of CPP-II (540 MW)" and "Annual Implementation report for 2021-2022 on fly ash utilisation of BALCO 1200 MW"

(xix) Ash generation in coal and lignite based TPPs in various forms such as dry ash, bottom ash, pond ash and mound ash are required to be managed in such a manner that it does not affect the environment. Utilisation of ash for reclamation of low-lying areas and abandoned quarries is recognised as an alternate option and therefore, the MoEF & CC has issued the aforementioned notifications, time and again, to address the utilisation of ash for various purposes.

(xx) In order to address the environmental concerns of fly ash produced, BALCO sought permission from CECB for disposal of Fly Ash through reclamation of low-lying areas of Korba, Chhattisgarh. The sites selected for undertaking reclamation was done based on scientific assessments carried out by an independent expert body i.e., M/s Blacksmith Corporation Mining and Allied (OPD) Private

Limited who assessed the suitable topography as per the Fly Ash Guidelines. That based on the requests, and after evaluating the land sites, CECB was pleased to grant No Objection Certificates to BALCO to undertake reclamation of the land sites. Some of these NOCs have been annexed to the present application – these NOCs along with the details of the land sites have been tabulated here in below:

A. Details of NOCs Granted to Balco by CECB for ash filling in low lying areas in Korba Dist. (C.G.)

S. No.	Date of NOC	NOC No. & Pg. No. in O.A. Documents	Area allocated for Ash Disposal
1.	05.10.2018	NOC No. 1230	Low-Lying Area at Vill. – Rogbahri, Tehsil – Korba (.030 acre, 0.298 acre, 0.429 acre and 0.429 acre)
2.	27.11.2018	NOC No. 1414	Low-Lying Area at Sangam Nagar Gram Panchayat – Dondro Distt – Korba (C.G.) (3.0 Acre)
3.	14.06.2019	NOC No. 524	Low-Lying Area near Water Treatment Plant Kohadiya, Dist. Korba (C.G.) (56.7 Acres)
4.	11.06.2020	NOC No.: 251 (Pg. 107)	Low Lying Area at Village: Barbuspur, Tehsil – Korba (C.G.) (1.46 Ha)
5.	15.07.2020	NOC No.: 421 (Pg. 120)	Low Lying Area at Ratakhar, Tehsil – Korba (C.G.) (0.729 Ha)
6.	02.09.2020	NOC No.: 655 (Pg. 85)	Low Lying Area situated at Village: Barbuspur, Tehsil – Korba (C.G.) (4.28 Ha)
7.	23.02.2021	NOC No.: 1517 (Pg. 93)	Low Lying Area situated at Village Barbuspur, Tehsil – Korba (C.G.) (11.617 Ha, 0.972 Ha)
8.	01.03.2021	NOC No. 1550 (Pg. 137)	Low Lying Area situated at Gram Panchayat – Jambahar, Janpad Panchayat, Korba (C.G.)
9.	18.03.2021	NOC No. 1682 (Pg. 144)	Low Lying Area situated at Dhelwadih, Tehsil and District Korba (C.G.) (0.101 Ha and 0.057 Ha)
10.	01.04.2021	NOC No.: 01 (Pg. 153)	Low Lying Area situated at Village Barbuspur Tehsil, Korba (C.G.) (0.291 Ha, 0.024 Ha and 0.441 Ha)
11.	21.05.2021	NOC No. 42 (Pg. 160)	Low Lying Areas situated at Village Barbuspur (Karranalia), Tehsil and District Korba (C.G.) (3.914 Ha)
12.	05.07.2021	NOC No. 189 (Pg. 164)	Low Lying Areas situated at Village Godhi (Karrumula) Tehsil and District: Korba (C.G.) (11.808 Ha)
13.	16.08.2021	NOC No.: 383 (Pg. 170)	Low Lying Area situated at Village – Dhongdarha Tehsil: Kartala, Dist.: Korba (C.G.) (4.569 ha)
14.	16.09.2021	NOC No.: 498 (Pg. 179)	Low Lying Areas situated at Village Naktikhar, Tehsil – Korba (C.G.) (4.569 Ha)
15.	21.10.2021	NOC No.: 622 (Pg. 64)	Private Land totalling 13.51 ½ Acre at Village – Urga, Tehsil – Korba (C.G.)

16.	16.11.2021	NOC No.: 712 (Pg. 55)	Low-lying areas situated at Village Dongdarha, Tehsil and District: Korba (C.G.)
17.	01.12.2021	NOC No.: 783 (Pg. 77)	Low-lying area situated at Gram Panchayat – Katbitla, Janpad Panchayat – Korba District (C.G.) (5.2 Ha)
18.	02.12.2021	NOC No.: 790 (Pg. 74)	Low Lying Area at Village: Dhongdarha, Tehsil: Kartala, Dist. Korba (C.G.) (4.569 Ha)
19.	24.12.2021	NoC No.: 540 (Pg. 47)	Low-Lying Areas situated at Gram: Satranga, District: Korba (C.G.)

B. NOCs not part of O.A.

S. No.	**Date of NOC**	**NOC No.**	**Area allocated for Ash Disposal**
1.	11.03.2022	NOC No. 1279	Low-Lying Area at Gram – Kurudih, Baraspur, Dist. – Korba (C.G.) (0.47 acre)
2.	11.03.2022	NOC No. 1281	Low-Lying Area at Gram – Kharmora – Naktikhar, Dist. – Korba (C.G.) (16.87 Acres)
3.	22.04.2022	NOC No. 62	Low-Lying Area at Vill. – Kukricholi (Bhaisma) (4.963 Ha.) & Village – Urga (2.630 Ha), Dist. – Korba (C.G.)
4.	28.04.2022	NOC No. 88	Low-Lying Area at Vill. – Nonbirra, Tehsil – Kartala, Dist. – Korba (C.G.) (2.122 Ha)

(xxi) During the whole process of land filling and reclamation, BALCO has consistently adhered to the terms and directives given under the extant Fly Ash Notifications, the reclamation has then been undertaken as per the Guidelines dated March, 2019 which in a piecemeal manner provide each and every step required to be followed by Thermal Power Plants in order to meet the objective of the Fly Ash Notifications. As stated in the Office Memorandum dated 28.08.2019 (Bearing Ref. No. F. No. 22-13/2019-IA.III) which is part of the Fly Ash Guidelines, under Para 7(i) the guidelines have been prepared "by CPCB for disposal of fly ash for reclamation of low-lying areas and in stowing/backfilling of abandoned mines/quarries shall be followed during disposal of ash in abandoned or working mines, as annexed."

(xxii) That there is not even a slightest avenue or room for aberration or violation; any anomaly whatsoever, while undertaking fly ash disposal, cannot pass unnoticed by the two authorities, namely,

CECB and CPCB, who along with BALCO maintain constant vigil on the environmental conditions effecting the District of Korba. In this respect, BALCO is submitting six-monthly Environmental Reports for utilising Fly Ash to CECB, with copy to MoEF &CC who thoroughly scrutinise the measures undertaken, both remedial and operational, and the technical levels of treatment of effluents so as not to cross the permissible thresholds.

(xxiii) That transportation of Fly Ash is done by independent transporters and agencies who are engaged by BALCO through contracts. While transporting the Fly Ash to the designated sites, these transporters are instructed to adhere to the regulations and no open trucks have been used as has been wrongly alleged by the Applicant. As per information with BALCO, all trucks transporting Fly Ash to the intended disposal sites are tarpaulin covered and disposal is done strictly in accordance with the Fly Ash Guidelines.

(xxiv) In order to address the environmental concerns of fly ash produced, BALCO sought permission from CECB for disposal of Fly Ash through reclamation of low-lying areas of Korba, Chhattisgarh. The sites selected for undertaking reclamation was done based on scientific assessments carried out by an independent expert body i.e., M/s Blacksmith Corporation Mining and Allied (OPD) Private Limited who assessed the suitable topography as per the Fly Ash Guidelines. That based on the requests, and after evaluating the land sites, CECB was pleased to grant No Objection Certificates to BALCO to undertake reclamation of the land sites.

13. The matter of fly ash generation and disposal to mitigate air pollution during operation of TPP's was considered in ***O.A. No. 164 of 2018 (Ashwani Kumar Dubey vs. Union of India & Ors)*** and the Principal Bench of this Tribunal found following facts which are enumerated as follows:

The Tribunal also considered the subject of parameters for determining environmental compensation. Apart from the said issues, there was specific consideration with regard to the breach

of fly ash dyke of ESSAR Thermal Power Plant and NTPC, Vindhya Nagar at Singruali, M.P. In O.A. No. 164/2019, with reference to breach of fly ash dyke of ESSAR Thermal Power Plant and NTPC, Vindhya Nagar at Singruali, M.P., the Committee appointed by this Tribunal headed by Justice Rajes Kumar, former Judge of Allahabad High Court, in its report dated 03.11.2019 observed:-

> ***"****(2) By persuasion and monitoring, the Fly Ash disposal by the Thermal Power Plants has been increased but 100% disposal could not be achieved. Disposal of stocked Fly Ash has not yet been started. An exclusive meeting of the Thermal Power Plants has been held on 22nd October, 2019. The meeting was very successful. Some positive suggestions have come out to deal with the Fly Ash. Copy of the Minutes has already been sent by email. It is stated that the Fly Ash is the main cause of the air pollution in the Singrauli-Sonbhadra area. Since the installation of the Thermal Power Plant(s) from the year 1981 onwards, no sincere effort was made by the Thermal Power Plants for the disposal of Fly Ash. It is only because of the sincere effort made by the Committee and regular monitoring, the Thermal Power Plants have started taking steps for disposal of Fly Ash.*
>
> *(3)* ***Construction of the Fly Ash Dyke and its maintenance was not found technically sound and proper. Recently, two Fly Ash Dykes – one of ESSAR Thermal Power Plant and another of NTPC, Vindhyanagar were breached, causing heavy environmental damages. The Committee has taken serious note about this happening and has given direction to all Thermal Power Plants to get the certificate of the third party expert about the construction and stability of the Fly Ash Dyeke. The Committee is seriously monitoring.***
>
> *(4) Since long, the industrial effluents have been drained in the Rihand Reservoir. The Fly the Fly Ash has also been drained by some of the Thermal Power Plants, Ash travelled to the Rihand Reservoir, polluting the water of the Rihand Reservoir, which is only source of water. The committee has taken a very serious note of this issue and directed the U.P. Pollution Control Board to prepare a DPR for de-silting of sludge in order to purify the water and to increase the capacity of the Rihand Reservoir which has been substantially reduced due to drainage of affluents and fly ash.*

*(8) Shri Ashwani Kumar Dubey has filed one Application seeking the various reliefs on account of the environmental damages being cause by the breach of Fly Ash Dyke of ESSAR Thermal Power Plant. The enquiry in pursuance thereof is going on. Shri Ashwani Kumar Dubey has also filed a second Application seeking various reliefs on account of the breach of the Fly Ash Dyke of NTPC Vindhyanagar causing environmental damages. The enquiry in this regard is going on and is pending.***"***

18. Finally, the Tribunal passed following operative order:-

"30. We have considered the written submissions filed by the individual TPPs. In view of earlier orders dealing with the contentions of the TPPs, there is no merit in the stand that the said plants are not liable for 100% fly ash disposal. Difficulties pointed out are of no relevance as the same are to be resolved by the administration and not by the victims of pollution whose rights are being affected. Environment cannot be violated against statutory norms. Violation of statutory notifications needs to be visited sternly in terms of enforcing the same, recovering compensation and prosecuting the violators. Whatever be the individual circumstances, it cannot be a ground to disobey law and to commit criminal offence under the Water Act, Air Act and EP Act. There is no discretion available with this Tribunal to dispense with the mandate of law. Statutory provisions are binding on every TPP without any exception. It is, thus, not necessary to go into the justification or otherwise of such impermissible defence of the TPPs.

31. In view of above, all TPPs must take prompt measures for disposal of both current and accumulated fly ash. In respect of non-compliant TPPs, Polluter Pays principle has to be applied from the cut-off date of 31.12.2017, apart from other statutory consequences for continued violations.

32. Thus, our directions are as follows:-

a. The TPPs may take prompt steps for scientific disposal of fly ash in accordance with the statutory notification issued by the MoEF&CC under the provisions of EP Act requiring 100% utilization and disposal of fly ash.

b. *For the non-compliant TPPs, environmental compensation needs to be determined w.e.f. the cut-off date of 31.12.2017 as stipulated in the Notification dated 27.01.2016.*

c. *CPCB may accordingly compute and levy Environmental Compensation in accordance with the formula referred to above w.r.t. individual TPPs in accordance with law and submit compliance report to this Tribunal before the next date.*

d. *CPCB Guidelines of May 2019 for Utilization/Disposal of Fly ash for Reclamation of Low Lying Areas and in Stowing/Back filling of Abandoned Mines/Quarries may be complied.*

e. *Task Force of Ministry of Power and Ministry of Coal may recommend list of abandoned mines/quarries for mine back filling purposes to the CPCB. CPCB may notify the same accordingly for use by the TPPs as per applicable guidelines and permission from State PCBs/PCCs.*

f. *A Committee comprising of CPCB and IIT Roorkee may assess the environmental damage with regard to the breach sites at Vidhyanchal TPP an Essar TPP in Singrauli area and submit its recommendation within three months. CPCB shall be at liberty to engage any other technical expert for this purpose.*

g. *The Committee comprising of Collector, CPCB and Member Secretary of MP State Pollution Control Board may assess the damage with regard to the breach sites at Vidhyanchal TPP and Essar TPP in Singrauli area to the crop and agricultural productivity and ensure effective restoration/remediation of affective sites within three months.*

h. *CPCB may ensure implementation of action plans approved by it in accordance with timeline as provided in the statute.*

i. *A joint Committee comprising of MoEF&CC, CPCB, IIT Roorkee and any other member considered necessary may submit quarterly progress report on recommendations of Expert Committee of Niti Aayog for*

enhanced utilization of fly ash in various sectors: mines, roads, cement, industries and bricks etc., along with its implementation status.

j. The present order is subject to proceedings pending before the Hon'ble Supreme Court and where stay is operative, this order will not operate till stay continues and thereafter abide by orders of Hon'ble Supreme Court."

……

The recommendations in the report are as follows:-

"i. Industrial units have engaged professional institute NEERI, Nagpur to assess the damage; the institute needs to assess the site specific long term direct or indirect impact on the flora fauna, human health and consumptive cost.

ii. Industrial units need to comply for 100 % fly ash utilization to avoid such incidence in future.

iii. To install monitoring stations on the affected sites, to continuously monitor the movement of plume underground or the leaching of toxic heavy metals from the sediment

iv. Industrial units need to take care for the health of worker s employed for spill clean-up working."

14. We also note that the Tribunal has been considering the issue of compliance of Notification dated 31.12.2018 issued by the MoEF&CC requiring 100% utilization of fly ash vide order dated 12.02.2020 in ***Original Application No.117/2014, Shantanu Sharma v. Union of India & Ors***. In the said order, following directions were issued:-

"32. Thus, our directions are as follows:-

a. The TPPs may take prompt steps for scientific disposal of fly ash in accordance with the statutory notification issued by the MoEF&CC under the provisions of EP Act requiring 100% utilization and disposal of fly ash.

b. For the non-compliant TPPs, environmental compensation needs to be determined w.e.f. the cut-off date of 31.12.2017 as stipulated in the Notification dated 27.01.2016.

c. CPCB may accordingly compute and levy Environmental Compensation in accordance with the formula referred to above w.r.t. individual TPPs in accordance with law and submit compliance report to this Tribunal before the next date.

d. CPCB Guidelines of May 2019 for Utilization/Disposal of Fly ash for Reclamation of Low Lying Areas and in Stowing/Back filling of Abandoned Mines/Quarries may be complied.

e. Task Force of Ministry of Power and Ministry of Coal may recommend list of abandoned mines/quarries for mine back filling purposes to the CPCB. CPCB may notify the same accordingly for use by the TPPs as per applicable guidelines and permission from State PCBs/PCCs.

f. A Committee comprising of CPCB and IIT Roorkee may assess the environmental damage with regard to the breach sites at Vidhyanchal TPP an Essar TPP in Singrauli area and submit its recommendation within three months. CPCB shall be at liberty to engage any other technical expert for this purpose.

g. The Committee comprising of Collector, CPCB and Member Secretary of MP State Pollution Control Board may assess the damage with regard to the breach sites at Vidhyanchal TPP and Essar TPP in Singrauli area to the crop and agricultural productivity and ensure effective restoration/remediation of affective sites within three months.

h. CPCB may ensure implementation of action plans approved by it in accordance with timeline as provided in the statute.

i. A joint Committee comprising of MoEF&CC, CPCB, IIT Roorkee and any other member considered necessary may submit quarterly progress report on recommendations of Expert Committee of Niti Aayog for enhanced utilization of fly ash in various sectors: mines, roads, cement, industries and bricks etc., along with its implementation status.

j. The present order is subject to proceedings pending before the Hon'ble Supreme Court and where stay is operative, this order will not operate till stay continues and thereafter abide by orders of Hon'ble Supreme Court.

Copy of this order may be conveyed to MoEF&CC, Ministry of Power, Ministry of Coal, CPCB, IIT Roorkee and MP State Pollution Control Board. CPCB may put the order on its website and communicate the same to all concerned TPPs."

10. In view of the above, we direct:

i. *Fly ash disposal may be undertaken as per the directions in the order of this Tribunal dated 12.02.2020 referred to above.*

ii. *Fly ash disposal in mounds and backfilling of ash in abandoned mines may be undertaken as per the CPCB guidelines If necessary, Indian Bureau of Mines, Dhanbad may also be consulted so that latest technology is utilized and all necessary safeguards are adopted.*

iii. *Report of the CPCB regarding Cost apportionment for de-silting/restoration of Rihand Reservoir is accepted and further steps, including further study be undertaken as recommended by the CPCB. The U.P Irrigation Department may coordinate such study.*

iv. *Anpara TPS and Lanco-Anpara power plants may stop ash pond overflow discharge into Rihand Reservoir to the extent the work remains unexecuted.*

v. *The NTPC, Vidhyachal may deposit amount of Rs. 10 Crores as recommended by the Oversight Committee with the State PCB towards interim compensation, deducting the mount already deposited. The plant may also develop RCC wall around the plant in the matter recommended.*

vi. *The liability for environmental compensation in respect of UPVUN, Anpara and NTPC Vidhyachal may be assessed by joint Committee of CPCB and the State PCB within two months. The nodal agency will be the State PCB for coordination and compliance.*

vii. *The transportation measures may be adopted as per suggestions of the Committee and directions of the Hon'ble Supreme Court.*

15. In O.A No. 117/2014, a report dated 23.08.2021, in pursuance of the order of the Tribunal dated 04.11.2020, which also includes the compliance status of earlier orders of the Tribunal dated 27.01.2020/12.02.2020 has been filed by the states which deals the status of utilization of fly ash by power plants in 2020-2021 as follows:

"Status of Utilization of Fly Ash by Thermal Power Plants during year 2020-2021

Sl. No.	Name of Thermal Power Plants	State	Capacity (MW)	Coal / Lignite Consumption (Million Tonnes)	Total Ash Gen. (T)	Total Ash Utilization (T)	% Ash Utilization in 2020-21	Unutilised ash up to 31.03.2020 (Mill. Ton)	Unutilised ash up to 31.03.2021 (Mill. Ton)
1	Hasdeo Thermal Power Station, Korba West	Chhattisgarh	1340	6.793113	2749477	1289482	46.90% (45.24%)	54.956	56.415995
2	Korba, NTPC	Chhattisgarh	2600	13.96	4792714	3462532	72.25% (34.76%)	52.26	53.590183
3	Korba, EAST CSPGCL	Chhattisgarh	240	0.915885	423074.97	138294.42	32.69% (16.74%)	33.442043	33.726824
4	Raigarh Energy Gen. (KWPCL), Adani Power	Chhattisgarh	600	2.230091	852208	305756	35.88%	0.985	1.531452
5	Marwa, CSPGCL Atal Bihari Vajpayee, TPS	Chhattisgarh	1000	3.512433	1470253	1000313.43	68.04% (38.87%)	3.663709	4.133647
6	Sipat, NTPC	Chhattisgarh	2980	15.026601	5247332	3025841.05	57.66% (48.17%)	35.05	37.271491
7	Lara STPP, NTPC	Chhattisgarh	1600	3.705321	1352233	1005608	74.37% (65.86%)	0.564535	0.911197
8	Jindal Power Tamnar, OP Jindal Power STPP Stage-1	Chhattisgarh	1000	3.498075	1582074	246699	15.59%	8.807	10.142376
9	Tamnar, OP Jindal Power STPP Stage-2	Chhattisgarh	2400	6.798548	3063582	556019	18.15%	2.849436	5.357
10	Lanco Amarkantak	Chhattisgarh	600	2.999343	1156533.06	515880.12	44.61% (42.88%)	5.563	6.473
11	Kasaipalli, ACB	Chhattisgarh	270	1.2151	596424	655563	109.92%	0.746294	0.687155

12	*D B Power*	*Chhattisgarh*	*1200*	*5.81823*	*2645733*	*2600861*	*98.30%*	*2.283984*	*2.328855*
13	*Akaltara, Mahanadi Power*	*Chhattisgarh*	*3600*	*6.695931*	*2356652*	*2907443*	*123.37%*	*1.0364*	*0.48561*
14	*Balco TPS*	*Chhattisgarh*	*1200*	*5.645516*	*2214680.95*	*2306719.89*	*104.16% (78.81%)*	*2.713787*	*2.621748*
15	*Uchpinda, RKM Power*	*Chhattisgarh*	*1440*	*3.27493*	*1406638*	*1406638*	*100.00% (99.60%)*	*0.526499*	*0.526499*
16	*Raipur Energen (GMR) Adani*	*Chhattisgarh*	*1370*	*4.803733*	*1601531*	*1665253*	*103.98%*	*0.191*	*0.1275*
17	*Maruti Clean Coal & Power Ltd*	*Chhattisgarh*	*300*	*1.400746*	*630330*	*649936*	*103.11%*	*0.348181*	*0.328574*
18	*SV Power Pvt Ltd, Hardibazar ACB*	*Chhattisgarh*	*60*	*0*	*0*	*0*	*-*	*-*	*-*
19	*SCPL Ratija, Spectrum Coal & Power*	*Chhattisgarh*	*100*	*0.602071*	*333186.06*	*333186.06*	*100.00%*	*0.411*	*0.411*
20	*Nawapara TPS, TRN Energy*	*Chhattisgarh*	*600*	*1.588552*	*681364*	*201332*	*29.55%*	*0.888972*	*1.369004*
21	*Dr. Shyama Prasad Mukherjee TPS, Korba*	*Chhattisgarh*	*500*	*2.305889*	*973085.16*	*426815.66*	*43.86% (24.10%)*	*17.652885*	*18.19478*
22	*Bhilai TPS, NTPC & SAIL*	*Chhattisgarh*	*500*	*2.43547*	*1048080*	*617616*	*58.93%*	*3.67*	*3.879716*
23	*SKS Ispat, Binjkote TPS*	*Chhattisgarh*	*1200*	*1.328831*	*582147.908*	*400675.98*	*68.83%*	*0.2*	*0.3814719*
24	*ACBIL Chakabura*	*Chhattisgarh*	*60*	*0.406934*	*229769*	*229769*	*100.00%*	*0*	*0*
25	*Amarkantak, MPPGCL*	*M.P*	*210*	*0.998828*	*336514.59*	*218111.15*	*64.81% (56.35%)*	*3.199148*	*3.3175514*
26	*Birsingpur, MPPGCL, Sanjay Gandhi TPS*	*M.P*	*1340*	*5.812747*	*2046282*	*2048429*	*100.10% (49.38%)*	*16.421123*	*15.64669*
27	*Satpura, MPPGCL*	*M.P*	*1330*	*3.178191*	*1289011*	*1214194*	*94.20% (51.98%)*	*84.970154*	*85.044971*
28	*Vindhyachal, NTPC*	*M.P*	*4760*	*25.009768*	*8713680*	*3285888*	*37.71%*	*74.7469*	*80.174691*
29	*Gadarwara STPP, NTPC*	*M.P*	*1600*	*2.73*	*943940*	*78085*	*8.27%*	*0.286925*	*1.154335*
30	*Khargone STPS, NTPC*	*M.P*	*1320*	*2.55337*	*900633*	*462158*	*51.31%*	*0.109392*	*0.547867*

31	*Sasan, RPL*	*M.P*	*3960*	*18.22*	*5027016*	*2217552*	*44.11% (2.38%)*	*19.349039*	*22.158503*
32	*Mahan, Essar Power MP*	*M.P*	*1200*	*2.056416*	*695545*	*284727*	*40.94% (33.77%)*	*0.11752*	*0.528338*
33	*Bina, J P Power*	*M.P*	*500*	*13.057736*	*431577.08*	*432778.43*	*100.28%*	*0.2*	*0.2*
34	*SHREE SINGAJI MPPGCL*	*M.P*	*2520*	*4.049333*	*1481555.993*	*645599.9*	*43.58%*	*6.882567*	*7.7185223*
35	*Nigrie, J P Associates*	*M.P*	*1320*	*4.589386*	*1439906*	*1440500.37*	*100.04%*	*0.219*	*0.218457*
36	*Jhabua Power Ltd., Seioni*	*M.P*	*600*	*2.583464*	*1033385*	*722001*	*69.87%*	*0.581104*	*0.892489*
37	*M. B Power Annupur*	*M.P*	*1200*	*4.626009*	*1540524*	*1751585.64*	*113.70%*	*1.63437724*	*1.4233066*
38	*Kota, STPS RRVUNL*	*Rajasthan*	*1240*	*3.67829*	*1376549.51*	*1766447.3*	*128.32%*	*0.336225*	*0.336225*
39	*Suratgarh, RRVUNL*	*Rajasthan*	*1500*	*0.656021*	*235960*	*1414288.8*	*599.38%*	*9.07*	*7.897*
40	*Chhabra TPS, RRVUNL*	*Rajasthan*	*1000*	*4.013017*	*1292030*	*1127284*	*87.25%*	*0.273854*	*0.43845*
41	*Chhabra STPS, RRVUNL*	*Rajasthan*	*1320*	*4.508651*	*1485205.2*	*741548.25*	*49.93%*	*0.815786*	*1.559443*
42	*Barsing Sagar Lignite, NLC*	*Rajasthan*	*250*	*1.258991*	*184309.35*	*184309.35*	*100.00%*	*0*	*0*
43	*Giral Lignite TPP, RRVUNL*	*Rajasthan*	*250*	*0*	*0*	*0*	*-*	*-*	*-*
44	*JSW Energy Barmer (Raj West Power) Jalippa-Kapurdi,*	*Rajasthan*	*1080*	*5.942559*	*889480.05*	*915367.4*	*102.91%*	*0.167*	*0.142*
45	*Kalisindh TPP, RRVUNL*	*Rajasthan*	*1200*	*3.539528*	*1113162.21*	*1324647*	*119.00%*	*0.277014*	*0.054445*
46	*Kawai, Adani Power*	*Rajasthan*	*1320*	*4.846916*	*1413446*	*1612183*	*114.06%*	*0.3512298*	*0.152114*

16. In O.A No. 164/2018 the Principal Bench of this Tribunal considered the compliance of the recommendations of the Committee and the road map for future guidance and held as follows:

18. *In the light of alarming situation found on verification of the ground situation, it is clear that serious violations are continuing in failure to prevent air and water pollution by the TPPs. Requisite air pollution control devices (FGD) are not being installed, CAQMS are not being installed at proper locations and connected to CPCB server, huge accumulated flyash is not being utilised nor scientifically stored, the ponds/dykes are not properly maintained resulting in polluting water sources, air and land, apart from adverse health effects and damage to the flora and fauna. Singrauli and Sonebhadra industrial areas prominently figure in the CEPI index prepared by CPCB in respect of polluted industrial areas. This Tribunal has already issued directions to take remedial measures in respect of such areas to achieve the laid down norms for air, water and soil in OA No. 1038/2018, News item published in "The Asian Age" Authored by Sanjay Kaw Titled "CPCB to rank industrial units on pollution levels". Though the appeals are pending before the Hon'ble Supreme Court against some of the directions, consistent with the interim orders of the Hon'ble Supreme Court, steps need to be taken to enforce environmental norms in the said areas. The said directions be complied and the statutory regulators may maintain constant vigil against any violations. Further, as responsible corporate organizations, the PPs need to discharge corporate social responsibility to honour dignity of human life and the environment. Bottlenecks in remedying the situation of not utilising accumulated flyash need to be tackled on war footing. Concerted and coordinated joint efforts by the PPs and the statutory regulators at highest levels are required. The process in which fly ash can be utilized include backfilling of mines, construction of roads, brick kilns and cement companies. It is stated during the hearing that the TPP may be*

prepared to provide fly ash to the brick kilns but the unresolved issue is of transportation. Such issue is not unsurmountable and can be resolved by coordination with brick kiln owners association and other stake holders. Suggested to permit brick making at or close to the site of storage of fly ash may need consideration. There is need to lay down siting, design and engineering standards for the location, disposal, maintenance and regulation of Ash Ponds as breach of a fly ash ponds result in great disaster. There is also need to undertake public health and risk impact assessment in the areas of operation of TPPs and generators of fly ash. Another obstacle pointed out is advisory issued by the Ministry of Power dated 22.9.2021 that instead of being given free, flyash should be sold which is not viable as there are no buyers perpetuating storage to the detriment of environment and public health and cost. Not only such advisory is unmindful of disastrous consequences, it is also against recent statutory notification of MoEF&CC dated 31.12.2021. We find it to be so and direct that being detrimental to environment, the same will not be enforced. In compelling circumstances, to protect environment, we find it necessary to constitute a high-level Coordination Committee in exercise of our powers under section 15 of the NGT Act to be called the 'Flyash Management and Utilization Mission'**.** Details follow in later part of the order.

Notification dated 31.12.2021 issued by the MoEF&CC extending time for utilisation of flyash:

19. *The TPPs have referred to notification dated 31.12.2021 extending timeline for utilisation of legacy flyash for 10 years, subject to scientific management and subject to 100% utilisation on average of three years and not less than 80% in any given year. We are not called upon to express any opinion about the validity of Notification dated 31.12.2021. It may appear to be a retrograde step in the face of quantity of fly ash noted earlier and continuing damage to the environment and public health unless the notification is properly understood and interpreted so*

as to remedy the situation. The object of the notification is not to nullify the mandate of the Air Act or standards of air quality or other norms but to provide further opportunity beyond the earlier timelines, consistent with the mandate of complying with laid down environmental norms which are part of right to life. Violation of laid down air quality and other norms cannot and is not sought to be condoned. Nor there is any bar against remedying deteriorated environment of polluted industrial areas, in the light of recommendations based on ground verification. Thus, issue of violation of norms due to unscientific management and handling of fly ash remains including action against persons responsible for pollution and accidents, apart from issue of compliance of specific conditions of notification dated 31.12.2021 remains.

20. *As noted earlier, situation caused by failure of the TPPs to manage fly ash scientifically and to utilize the same within reasonable time is highly detrimental to public health and emergency measures in Mission Mode are required. Even the Notification dated 31.12.2021 recognizes the alarming situations which is clear from the text of the Notification itself quoted below:*

> *"S.O. 5481(E).—Whereas by notification of the Government of India in the erstwhile Ministry of Environment and Forests vide S.O.763 (E), dated the 14th September, 1999, as amended from time to time, the Central Government, issued directions for restricting the excavation of top soil for manufacturing of bricks and promoting the utilisation of fly ash in the manufacturing of building materials and in construction activity within a specified radius of three hundred kilometres from the coal or lignite based thermal power plants;*
>
> *And whereas,* ***to implement the aforesaid notification more effectively based on the polluter pays principle (PPP) thereby ensuring 100 per cent utilisation of fly ash by the coal or lignite based thermal power plants and for the sustainability of the fly ash management system, the Central Government reviewed the existing notification;***

and whereas environmental compensation needs to be introduced based on the polluter pays principle;

And whereas, there is a ***need to conserve top soil by promoting manufacture and mandating use of ash based products and building materials in the construction sector****;*

And whereas, there is a ***need to conserve top soil and natural resources by promoting utilisation of ash in road laying, road and flyover embankments, shoreline protection measures, low lying areas of approved projects, backfilling of mines, as an alternative for filling of earthen materials****;*

And whereas, it is necessary ***to protect the environment and prevent the dumping and disposal of fly ash discharged from coal or lignite based thermal power plants on land****;*

And whereas, in the said notification the ***phrase 'ash', has been used which includes both fly ash as well as bottom ash generated from the Coal or Lignite based thermal power plants****;*

And whereas, the Central Government intends to bring out a comprehensive framework for ash utilisation including system of environmental compensation based on polluter pays principle;

And whereas, a draft notification on ash utilisation by coal or lignite thermal power plants in supersession of the notification of the Government of India, Ministry of Environment and Forests published in the Gazette of India, Extra Ordinary part II, section 3, sub-section (i) vide S.O.763 (E), dated the 14th September, 1999, by notification in exercise of the powers conferred under sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with clause (d) of sub-rule (3) of rule (5) of the Environment (Protection) Rules, 1986, was published in the Gazette of India, Extraordinary, Part II, section 3, sub-section (i), vide G.S.R. 285(E), dated the 22nd April, 2021 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 provisions were made available to the public;

And, whereas all the objections and suggestions received from all persons likely to be affected thereby in respect of the said draft notification have been duly considered by the Central Government;

Now, therefore, in exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with clause (d) of sub-rule (3) of rule (5) of the Environment (Protection) Rules, 1986, and in supersession of the Notification S.O.763 (E), dated the 14th September, 1999 except as respect things done or omitted to be done before such supersession, the Central Government hereby issues the following notification on ash utilisation from coal or lignite thermal power plants which shall come into force on the date of the publication of this notification, namely:-

A. Responsibilities of thermal power plants to dispose fly ash and bottom ash.-

(1) Every coal or lignite based thermal power plant (including captive or co-generating stations or both) shall be primarily responsible to ensure 100 per cent utilisation of ash (fly ash, and bottom ash) generated by it in an eco-friendly manner as given in sub-paragraph (2);

(2) The ash generated from coal or lignite based thermal power plants shall be utilised only for the following eco-friendly purposes, namely:-

(i) Fly ash based products viz. bricks, blocks, tiles, fibre cement sheets, pipes, boards, panels;
(ii) Cement manufacturing, ready mix concrete;
(iii) Construction of road and fly over embankment, Ash and Geo-polymer based construction material;
(iv) Construction of dam;
(v) Filling up of low lying area;
(vi) Filling of mine voids;

(vii) Manufacturing of sintered or cold bonded ash aggregate;
(viii) Agriculture in a controlled manner based on soil testing;
(ix) Construction of shoreline protection structures in coastal districts;

(x) Export of ash to other countries;
(xi) Any other eco-friendly purpose as notified from time to time.

(3) A committee shall be constituted under the chairmanship of Chairman, Central Pollution Control Board (CPCB) and having representatives from Ministry of Environment, Forest and Climate Change (MoEFCC), Ministry of Power, Ministry of Mines, Ministry of Coal, Ministry of Road Transport and Highways, Department of Agricultural Research and Education, Institute of Road Congress, National Council for Cement and Building Materials, to examine and review and recommend the eco-friendly ways of utilisation of ash and make inclusion or exclusion or modification in the list of such ways as mentioned in Subparagraph (2) based on technological developments and requests received from stakeholders. The committee may invite State Pollution Control Board or Pollution Control Committee, operators of thermal power plants and mines, cement plants and other stakeholders as and when required for this purpose. Based on the recommendations of the Committee, Ministry of Environment, Forest and Climate Change (MoEFCC) may publish such eco-friendly purpose.

(4) Every coal or lignite based thermal power plant shall be responsible to utilise 100 per cent ash (fly ash and bottom ash) generated during that year, however, in no case shall utilisation fall below 80 per cent in any year, and the thermal power plant shall achieve average ash utilisation of 100 per cent in a three years cycle:

Utilisation percentages of thermal power plants	First compliance Cycle to meet 100 per cent utilisation	Second compliance c onwards, to meet 100 per
>80 per cent	3 years	3 years
60-80 per cent	4 years	3 years
<60 per cent	5 years	3 years

Provided that the three years cycle applicable for the first time is extendable by one year for the thermal power plants where ash utilisation is in the range of 60-80 per cent, and two years where ash utilisation is below 60 per cent and for the purpose of calculation of percentage of ash utilisation, the percentage quantity of utilisation in the year 2021- 2022 shall be taken into account as per the table below:

Provided further that the minimum utilisation percentage of 80 per cent shall not be applicable to the first year and first two years of the first compliance cycle for the thermal power plants under the utilisation category of 60-80 per cent and

Provided also that 20per cent of ash generated in the final year of compliance cycle may be carried forward to the next cycle which shall be utilised in the next three years cycle along with the ash generated during that cycle.

(5) The unutilised accumulated ash i.e. legacy ash, which is stored before the publication of this notification, shall be utilised progressively by the thermal power plants in such a manner that the utilization of legacy ash shall be completed fully within ten years from the date of publication of this notification and this will be over and above the utilisation targets prescribed for ash generation through current operations of that particular year:

Provided that the minimum quantity of legacy ash in percentages as mentioned below shall be utilised during the corresponding year and the minimum quantity of legacy ash is to be calculated based on the annual ash generation as per installed capacity of thermal power plant.

Year from date of publication	1st	2nd	3rd - 10th
Utilisation of legacy ash	At least 20 per cent	At least 35 per cent	At least 50 per cent

Provided further that the legacy ash utilisation shall not be required where ash pond or dyke has stabilised and the reclamation has taken place with greenbelt or plantation and the concerned State Pollution Control Board shall certify in this regard. Stabilisation and reclamation of an ash pond or

dyke including certification by the Central Pollution Control Board (CPCB) or State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall be carried out within a year from the date of publication of this notification. The ash remaining in all other ash ponds or dykes shall be utilised in progressive manner as per the above mentioned timelines.

Note: The obligations under sub-paragraph (4) and (5) above for achieving the ash utilisation targets shall be applicable from 1st April, 2022.

(6) Any new as well as operational thermal power plant may be permitted an emergency or temporary ash pond with an area of 0.1 hectare per Mega Watt (MW). Technical specifications of ash ponds or dykes shall be as per the guidelines of Central Pollution Control Board (CPCB) made in consultation with Central Electricity Authority (CEA) and these guidelines shall also lay down a procedure for annual certification of the ash pond or dyke on its safety, environmental pollution, available volume, mode of disposal, water consumption or conservation in disposal, ash water recycling and greenbelt, etc., and shall be put in place within three months from the date of publication of this notification.

(7) Every coal or lignite based thermal power plant shall ensure that loading, unloading, transport, storage and disposal of ash is done in an environmentally sound manner and that all precautions to prevent air and water pollution are taken and status in this regard shall be reported to the concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) in Annexure attached to this notification.

(8) Every coal or lignite based thermal power plant shall 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 concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) in the Annexure and shall be inspected by Central Pollution

Control Board (CPCB) or State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) from time to time.

(9) Every coal or lignite based thermal power plant (including captive or co-generating stations or both) shall provide real time data on daily basis of availability of ash with Thermal Power Plant (TPP), by providing link to Central Pollution Control Board's web portal or mobile phone App for the benefit of actual user(s).

(10) Statutory obligation of 100 per cent utilisation of ash shall be treated as a change in law, wherever applicable.

B. For the purpose of utilisation of ash, the subsequent sub-paras shall apply.—

(1) All agencies (Government, Semi-government and Private) engaged in construction activities such as road laying, road and flyover embankments, shoreline protection structures in coastal districts and dams within 300 kms from the lignite or coal based thermal power plants shall mandatorily utilise ash in these activities:

Provided that it is delivered at the project site free of cost and transportation cost is borne by such coal or lignite based thermal power plants.

Provided further that thermal power plant may charge for ash cost and transportation as per mutually agreed terms, in case thermal power plant is able to dispose the ash through other means and those agencies makes a request for it and the provisions of ash free of cost and free transportation shall be applicable, if thermal power plant serves a notice on the construction agency for the same.

(2) The utilisation of ash in the said activities shall be carried out in accordance with specifications and guidelines laid down by the Bureau of Indian Standards, Indian Road Congress, Central Building Research Institute, Roorkee, Central Road Research Institute, Delhi, Central Public

Works Department, State Public Works Departments and other Central and State Government Agencies.

(3) It shall be obligatory on all mines located within 300 kilometres radius of thermal power plant, to undertake backfilling of ash in mine voids or mixing of ash with external Overburden dumps, under Extended Producer Responsibility (EPR). All mine owners or operators (Government, Public and Private Sector) within three hundred kilometres (by road) from coal or lignite based thermal power plants, shall undertake measures to mix at least 25 per cent of ash on weight to weight basis of the materials used for external dump of overburden, backfilling or stowing of mine (running or abandoned as the case may be) as per the guidelines of the Director General of Mines Safety (DGMS):

Provided that such thermal power stations shall facilitate the availability of required quantity of ash by delivering ash free of cost and bearing the cost of transportation or cost or transportation arrangement decided on mutually agreed terms and mixing of ash with overburden in mine voids and dumps shall be applicable for the overburden generated from the date of publication of this notification and the utilisation of ash in the said activities shall be carried out in accordance with guidelines laid down by the Central Pollution Control Board, Director General of Mines Safety and Indian Bureau of Mines.

Explanation.- For the purpose of this sub-paragraph, it is also clarified that the provisions of ash free of cost and free transportation shall be applicable, if thermal power plants serve a notice on the mine owner for the same and the mandate of using 25 per cent of ash for mixing with overburden dump and filling up of mine voids shall not be applicable unless a notice is served on the mine owner by thermal power plant.

(4) (i) All mine owners shall get mine closure plans (progressive and final) to accommodate ash in the mine voids and the concerned authority shall approve mine plans

for disposal of ash in mine voids and mixing of ash with overburden dumps. The Ministry of Environment, Forest and Climate Change (MoEFCC) has issued guidelines on 28th August, 2019 regarding exemption of requirement of Environmental Clearance of thermal power plants and coal mines along with the guidelines to be followed for such disposal.

(ii) The Ministry in consultation with Central Pollution Control Board (CPCB), Director General of Mine Safety (DGMS) and Indian Bureau of Mines (IBM) may issue further guidelines time to time to facilitate ash disposal in mine voids and mixing with overburden dumps and it shall be the responsibility of mine owners to get the necessary amendments or modifications in the permissions issued by various regulatory authorities within one year from the date of identification of such mines.

(5) (i) There shall be a committee headed by Chairperson, Central Pollution Control Board (CPCB) with representatives from Ministry of Environment, Forest and Climate Change, Ministry of Power, Ministry of Mines, Ministry of Coal, Director General of Mine Safety and Indian Bureau of Mines for identification of mines for backfilling of mine voids with ash or mixing of ash with overburden dump including examination of safety, feasibility (not economic feasibility) and aspects of environmental contamination and the committee shall get updated quarterly reports prepared regarding identified mines (both underground and opencast) for the stakeholder Ministries or Departments and the committee shall start identifying the suitable mines immediately after the publication of this notification.

(ii) Thermal power plants or mines shall not wait for disposal of ash till the identification is done by the above mentioned committee, to meet the utilisation targets mandated as above.

(6) Filling of low lying areas with ash shall be carried out with prior permission of the State Pollution Control Board or Pollution Control Committee for approved projects, and in

accordance with guidelines laid down by Central Pollution Control Board (CPCB) and the State Pollution Control Board or Pollution Control Committee (PCC) shall publish approved sites, location, area and permitted quantity annually on its website.

(7) Central Pollution Control Board after engaging relevant stakeholders, shall put in place the guidelines within one year for all types of activities envisaged under this notification including putting in place time bound online application process for the grant permission by State Pollution Control Boards (SPCBs) or Pollution Control Committees (PCCs).

(8) All building construction projects (Central, State and Local authorities, Govt. undertakings, other Govt. agencies and all private agencies) located within a radius of three hundred kilometres from a coal or lignite based thermal power plant shall use ash bricks, tiles, sintered ash aggregate or other ash based products, provided these are made available at prices not higher than the price of alternative products.

(9) Manufacturing of ash based products and use of ash in such products shall be in accordance with specifications and guidelines laid down by the Bureau of Indian Standards, Indian Road Congress, and Central Pollution Control Board.

C. Environmental compensation for non-compliance-

(1) In the first two years of a three years cycle, if the coal or lignite based thermal power plant (including captive or co-generating stations or both) has not achieved at least 80 per cent ash (fly ash and bottom ash) utilisation, then such non-compliant thermal power plants shall be imposed with an environmental compensation of Rs. 1000 per ton on unutilised ash during the end of financial year based on the annual reports submitted and if it is unable to utilise 100 per cent of ash in the third year of the three years cycle, it shall be liable to pay an environmental compensation of Rs.

1000 per ton on the unutilised quantity on which environmental compensation has not been imposed earlier:

Provided that the environmental compensation shall be estimated and imposed at the end of last year of the first compliance cycle as per the various utilisation categories as mentioned in sub-paragraph (4) of Para A.

(2) Environmental compensation collected by the authorities shall be deposited in the designated account of Central Pollution Control Board.

(3) In case of legacy ash, if the coal or lignite based thermal power plant (including captive or co-generating stations or both) has not achieved utilisation equivalent to at least 20 per cent (for the first year), 35 per cent (for the second year), 50 per cent (for third to tenth year) of ash generated based on installed capacity, an environmental compensation of Rs. 1000 per ton of unutilised legacy ash during that financial year shall be imposed and if the utilization of legacy ash is not completed at the end of 10 years, an environmental compensation of Rs.1000 per ton shall be imposed on the remaining unutilised quantity which has not been imposed earlier.

(4) It shall be the responsibility of the transporters or vehicle owner to deliver ash to authorised purchaser or user agency and if it is not complied, then an environmental compensation of Rs. 1500 per ton on such quantity as mis-delivered to unauthorised users or non- delivered to authorised users will be imposed besides prosecution of such non-compliant transporters by State Pollution Control Board (SPCB) or Pollution Control Committee (PCC).

(5) It is the responsibility of the purchasers or user agencies to utilise ash in an eco-friendly manner as laid down at para B of this notification and if it is not complied, then an environmental compensation of Rs. 1500 or per ton shall be imposed by State Pollution Control Board (SPCB) or Pollution Control Committee (PCC).

(6) If the user agencies do not utilise ash to the extent obligated under para B or the extent to which they have been intimated through Notice(s) served under sub-paragraph (1) of para D, whichever is lower, they shall be liable to pay Rs. 1500 per ton of ash for the quantity they fall short off:

Provided that the environmental compensation on building constructions shall be levied at Rs.75/- per square feet of built up area of construction.

(7) (i) The environmental compensation collected by Central Pollution Control Board from the thermal power plants and other defaulters shall be used towards the safe disposal of the unutilised ash and the fund may also be utilised for advancing research on use of ash including ash based products.

(ii) The liability of ash utilisation shall be with thermal power plants even after imposition of environmental compensation on unutilised quantities and in case thermal power plant achieves the ash utilisation of any particular cycle after imposition of environmental compensation in subsequent cycles, the said amount shall be returned to thermal power plant after deducting 10 per cent of the environmental compensation collected on the unutilised quantity during the next cycle and deduction of 20 per cent, 30 per cent, and so on, of the environmental compensation collected is to be made in case of utilisation of ash in subsequent cycles.

D. Procedure for supply of ash or ash based products.—

(1) The owner of thermal power plants or manufacturers of ash bricks or tiles or sintered ash aggregate shall serve written notice to persons or agencies who are liable to utilise ash or ash based products, offering for sale, or transport or both.

(2) Persons or user agencies who have been served notices by owner of thermal power plants or manufacturers of ash bricks or tiles or sintered ash aggregate, if they have already tied up with other agencies for the purpose of utilisation of ash or ash products, shall inform the thermal power plant accordingly, if they cannot use any ash or ash products or use reduced quantity.

E. Enforcement, Monitoring, Audit and Reporting.—

(1) The Central Pollution Control Board (CPCB) and the concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall be the enforcing and monitoring authority for ensuring compliance of the provisions and shall monitor the utilisation of ash on quarterly basis. Central Pollution Control Board shall develop a portal for the purpose within six months of date of publication of the notification. The concerned District Magistrate shall have concurrent jurisdiction for enforcement and monitoring of the provisions of this notification.

(2) (i) Thermal power plants shall upload monthly information regarding ash generation and utilisation by 5th of the next month on the web portal. Annual implementation report (for the period 1st April to 31st March) providing information about the compliance of provisions in this notification shall be submitted by the 30th day of April, every year to the Central Pollution Control Board, concerned State Pollution Control Board or Pollution Control Committee (PCC), Central Electricity Authority (CEA), and concerned Integrated Regional Office of Ministry of Environment, Forest and Climate Change by the coal or lignite based thermal power plants. Central Pollution Control Board and Central Electricity Authority shall compile the annual reports submitted by all the thermal power plants and submit to Ministry of Environment, Forest and Climate Change by 31st May.

(ii) All other user agencies shall submit consumption or utilisation or disposal of ash and use of ash based products

as mandated in this notification in the compliance report of Environmental Clearance (EC) issued by Ministry of Environment, Forest and Climate Change or State Level Environment Impact Assessment Authority (SEIAA) or Consent to Operate (CTO) issued by State Pollution Control Board (SPCB) or Pollution Control Committee (PCC), whichever is applicable. The Central Pollution Control Board (CPCB) or State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall publish annual report of ash utilisation of all other agencies except thermal power plants to review the effective implementation of the provisions of the notification.

(3) For the purpose of monitoring the implementation of the provisions of this notification, a committee shall be constituted under the Chairperson, Central Pollution Control Board (CPCB), with members from Ministry of Power, Ministry of Coal, Ministry of Mines, Ministry of Environment, Forest and Climate Change, Ministry Road Transportation and Highways, Department of Heavy Industry as well as any concerned stakeholder(s), to be nominated by the Chairman of the committee. The committee may make recommendations for effective and efficient implementation of the provisions of the notification. The committee shall meet at least once in six months and review annual implementation reports and the committee shall also hold stakeholder consultations for monitoring of ash utilisation as mandated by this notification by inviting relevant stakeholder(s) at least once in six months. The committee shall submit the six monthly report to Ministry of Environment, Forest and Climate Change (MoEFCC).

(4) For the purpose of resolving disputes between thermal power plants and users of ash or manufacturer of ash based products, the State Governments or Union territory administration constitute a Committee within three months from the date of publication of this notification under the Chairman, State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) with representatives from

Department of Power, and one representative from the Department which deals with the subject of concerned agency with which dispute is made.

(5) The compliance audit for ash disposal by the thermal power plants 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 concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) by 30th November every year. Central Pollution Control Board (CPCB) and concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall initiate action against non-compliant thermal power plants within fifteen days of receipt of audit report."

21. The Tribunal directed as follows:

i. *We direct constitution of a fly ash management and utilization Mission to be jointly headed by the Secretaries, MoEF&CC, Coal and Power, GoI and Chief Secretaries of UP and MP. The Secretary, MoEF&CC will be the nodal agency for coordination and compliance. The Mission will coordinate and monitor issues relating to handling and disposal of flyash as well as all associated issues in the light of above discussion. It may hold its first meeting within one month to take stock of the situation and to prepare action plan in the light of recommendations of Joint Committees quoted earlier in para 15 above in respect of individual plants as well as road map generally. Thereafter, it may meet atleast once in a month for one year to review the progress. The resolutions of the Mission and quarterly progress may be placed on the website of MoEF&CC for information of the stake holders and inhabitants in the area. The Mission will be free to interact with the concerned Government Departments/ Expert institutions/ individuals/other stakeholders. The Mission may in its first meeting require voluntary financial contribution by all the projects in proportion of the financial capacity of the projects*

out of CSR funds or otherwise. The contribution, alongwith compensation which may be collected may be credited to a separate environment restoration account for restoration of environment and relief to the victims of damage to the environment in such manner as may be found necessary by the Mission. Any victim or aggrieved party will be free to approach the Mission for providing such relief. The Mission may also consider the safeguards laid down in the Notification dated 31.12.2021, particularly for safety audits of the ash dykes which should be conducted particularly for structural stability, as far as possible within six months. Advisory issued by the Ministry of Power dated 22.9.2021 will not be enforced being against the spirit of notification dated 31.12.2021 and obstructing much needed speedy utilisation/disposal of legacy fly ash. The Mission may evolve mechanism for interaction with stake holders, including associations of brick kiln owners. Guidelines be also issued for siting, design and engineering standards for the location, disposal, maintenance and regulation of Ash Ponds as breach of a fly ash ponds result in great disaster. Public health and risk impact assessment in the areas of operation of TPPs and generators of fly ash may be got conducted. The Mission may also monitor scientific management and utilization of fly ash by power projects outside Singrauli and Sonebhadra, in coordination with Chief Secretaries of concerned States and adopting safety measures for ash dykes, installing devices to control air pollution, (including FGDs, OCEMS) in a time bound manner and restoration of environment and public health. The Mission may also consider use of beneficiated coal. It may in particular consider on-site and off-site crisis management plans with regard to fly ash ponds and dykes. As noted earlier, legacy fly ash is 1670.602 Million Tonnes as on 31.12.2021 and data of ash generation and utilization of legacy fly ash is as follows:

*"**Summary of Ash Generation and Utilization during year 2020-21***

No. of Thermal Power Stations : 191
Capacity (MW) : 2,13,030 MW

Coal consumed	*: 672.130 Million Tonnes*
Fly Ash Generation	*: 222.789 Million Tonnes*
Fly Ash Utilization	*: 205.098 Million Tonnes*
Percentage Utilization	*: 92.06%*
Legacy flyash	:1670.602 Million Tonnes

The Committee of Secretaries, in coordination with PPs and statutory regulators, may draw a roadmap for utilization and disposal of entire legacy fly ash for Sonebhadra and Singrauli areas as well as for all the Power Plants located in clusters or standalone with tagging the sources to utilize fly ash on voluntary and compulsion mode for which required mechanism be laid down.

ii. With regard to past violations, the PPs remain liable and the Joint Committee of CPCB, State PCB and jurisdictional District Magistrates may determine compensation following due process, on the principles laid down inter alia in M.C. Mehta, (1987) 1 SCC 395, Sterlite (2013) 4 SCC 575 and Goel Ganga (2018) 18 SCC 257, having regard to the period of violation and financial capacity of the unit. The PPs may take remedial measures as per recommendations of the Committee and as per law, failing with coercive measures for continuing or future violations be taken by concerned authorities.

iii. Statutory regulators may take action in terms of need for compliances in the light of recommendations with regard to individual Plants as well as generally so as to require the concerned PPs to comply, failing which coercive measures be taken by the statutory regulators in accordance with law.

22. Contentions of the learned counsel for the Applicant are that R-6 is not complying the guidelines issued by the CPCB and there are violations of conditions in disposal of fly ash. In reply thereof, the Respondent has contended that:

(i) That BALCO has been undertaking disposal of Fly Ash strictly in accordance with the law. All the directives of the Central and State Authorities are being diligently followed by the answering Respondent – there is not an iota of discrepancy in the functioning of BALCO which adheres to all the laws and endeavours to make

sure that environment is protected and safeguarded. That reference in this regard be made to the locus classicus case of ***Narmada Bachao Andolan v. Union of India (UoI) and Ors.*** *(2000) 10 SCC 664, it was held by the Hon'ble Apex Court that where effect on ecology or environment on account of setting up of an industry is known, what has to be seen is whether environment is likely to suffer and if so what mitigative steps have to be taken to efface the same. Pertinently, it was held that merely because there will be a change in the environment is no reason to presume that there will be ecological disaster. Once effect of project is known, then principle of sustainable development would come into play and that will ensure that mitigative steps are taken to preserve ecological balance. Sustainable development means what type or extent of development can take place which can be sustained by nature/ecology with or without mitigation and that certain principles were enunciated in the Stockholm Declaration giving broad parameters and guidelines for the purposes of sustaining humanity and its environment. Of these parameters, a few principles are extracted which are of relevance to the present issue. The need for economic development has been dealt with in Principle where it is said that "economic and social development is essential for ensuring a favourable living and working environment for man and for creating conditions on earth that are necessary for improvement of the quality of life". The importance of maintaining a balance between economic development on the one hand and environment protection on the other is again emphasized in Principle 11 which says "The environmental policies of all States should enhance and not adversely affect the present or future development potential of developing countries nor should they hamper the attainment of better living conditions for all;"*

This, therefore, is the aim - namely to balance economic and social needs on the one hand with environmental considerations on the other. But in a sense all development is an environmental threat.

In Essar Oil Ltd. vs. Halar Utkarsh Samiti and Ors. (2004) 2 SCC 392, the Hon'ble Supreme Court has held the following at Para 37:

> *"Once the State Government has taken all precautions to ensure that the impact on the environment is transient and minimal, a court will not substitute its own assessment in place of the opinion of persons who are specialists and who may have decided the question with objectivity and ability. [See: Shri Sachidanand Pandey v. The State of West Bengal and Ors.*

[1987]2SCR223]. Courts cannot be asked to assess the environmental impact of the pipelines on the wild life but can at least oversee that those with established credentials and who have the requisite expertise have been consulted and that their recommendations have been abided by, by the State Government. If it is found that the recommendations have not been so abided by, the mere fact that large economic costs are involved should not deter the Courts from barring and if necessary undoing the development."

23. In ***Bombay Dyeing & Mfg. Co. Ltd. vs. Bombay Environmental Action Group & Others***, **(2006) 3 SCC 434**, the apex court examined whether development or redevelopment of lands of sick and/or closed cotton textile mills is valid and permissible or should not be allowed on the ground of damage to environment. Upholding statutory regulations, i.e., Development Control Regulation 58, as amended from time to time, made under Maharashtra Regional and Town Planning Act, 1966, Court said that a balanced view has to be taken. Doctrine of 'sustainable development' indeed is a welcome feature but while emphasizing the need of ecological impact, a delicate balance between it and the necessity for development must be struck. The statute nowhere, per se, envisaged any degradation of environment. Before raising construction, if impact on ecology is examined by an expert Committee and it clears construction, unless there is anything ex-facie arbitrary, the view of experts has to be respected.

24. CECB vide its letter dated 27.05.2022 renewed the consent **under Section 25 of Water (Prevention and Control of Pollution) Act, 1974 and under Section 21 Air (Prevention and Control of Pollution), 1981** on the following conditions:

1. Industry shall operate and maintain the effluent treatment plant regularly and ensure the treated effluent quality within prescribed standards all the time. Industry shall not discharge effluent outside the premises in any circumstances. Zero discharge condition shall be maintained all the time.

2. Calibration and data validation shall be carried out of all EQMS with PTZ Camera and industry shall ensure availability of real time data in CECB/CPCB server.

3. Industry shall execute following works with in specified time limit:

(i) Transportation of coal in properly covered vehicles to avoid dust emission. Industry shall ensure transport the coal in mechanically covered vehicles on or before 12/07/2023.

(ii) Installation of fly ash brick manufacturing unit of capacity at-least 3,05,000 Nos/day on or before 31 March 2023.

(iii) Construct additional number of settling pits of adequate capacity before 31 October 2022.

(iv) Install PTZ Cameras in location suggested by Regional Officer, Chhattisgarh Environment Conservation Board, Korba before 31 October 2022.

(v) Ensure plantation in one third area of plant premises and shall ensure extension of tree plantation before 31 October 2022.

(vi) Enhance rain water harvesting capacity before 31 October 2022.

(vii) Installation of wheel washing system at entry and exist gate of the plant on or before 31 March 2023.

(vii)Upgrade pollution control equipments of coal handling plant, coal crusher, coal stock yard and wagon tipplers 31 March 2023.

In case the industry fails to implement above works in the stipulated time period, the bank guarantee submitted vide letter dated 15/05/2018 and 06/08/2018 may be forfeited.

4. *Industry shall ensure 100% utilization of fly ash, bottom ash and legacy ash (unutilized accumulated ash) as per provisions of notification dated 31/12/2021 issued by MoEF & CC regarding utilization of ash.*

5. Industry shall comply with guideline/notification issued by MoEF & CC/CPCB for DG Sets.

7. All the solid waste sludge, garbage, plastic etc shall be disposed of in environment friendly manner as per rule.

11. Industry shall comply with the provision of Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 (as amended upto date).

12. Extension in tree plantation shall be carried out in the open areas available within and around the plant premises during monsoon season. Fruit bearing species like mango, tamarind, guava etc. shall be given preference in this regard.

B. Air (Prevention and Control of Pollution) Act, 1981

1. Industry shall operate and maintain the existing air pollution control equipments regularly & effectively so as to ensure the particulate matter emission level below 50 mg/Nm3. Emission of air pollutants and ambient air quality shall be ensured within the limits prescribed by Board all the time. Chhattisgarh Environment Conservation Board may further stipulate stringent particulate matter emission limit depending upon environmental conditions.

***2. Industry shall execute following works with in specified time limit**:*

i. Transportation of coal in properly covered vehicles to avoid dust emission. Industry shall ensure transport the coal in mechanically covered vehicles on or before 12/07/2023.

ii. Installation of fly ash brick manufacturing unit of capacity at-least 3,05,000 Nos/day on or before 31 March 2023.

iii. Construct additional number of settling pits of adequate capacity before 31 October 2022.

iv. Install PTZ Cameras in location suggested by Regional Officer, Chhattisgarh Environment Conservation Board, Korba before 31 October 2022.

v. Ensure plantation in one third area of plant premises and shall ensure extension of tree plantation before 31 October 2022.

vii. Enhance rain water harvesting capacity before 31 October 2022.

vii. Installation of wheel washing system at entry and exist gate of the plant on or before 31 March 2023.

viii. Upgrade pollution control equipments of coal handling plant, coal crusher, coal stock yard and wagon tipplers 31 March 2023.

In case the industry fails to implement above works in the stipulated time period, the bank guarantee submitted vide letter dated 15/05/2018 and 06/08/2018 may be forfeited.

5. Industry shall comply with the emission norms for SO2 and NOx within time limit as prescribed by MoEF & CC Notification dated 31/03/2021.

6. Industry shall ensure 100% utilization of fly ash, bottom ash and legacy ash (unutilized accumulated ash) as per provisions of notification dated 31/12/2021 issued by MoEF & CC regarding utilization of ash.

25. In the guidelines for disposal / utilization of fly ash for reclamation of low lying areas and in stowing of abandoned mines / quarries issued by the CPCB in 2019, Guideline no. 4.1 provides as follows for current practice for handling and disposal of fly ash and bottom ash (within the power plant):

4.1 Current Practice for Handling & Disposal of Flyash & Bottomash (within the power plant)

Flyash is collected in dry form from ESP hopper and disposed either in dryform or through wet slurry form. While, bottom ash collected at the bottomof boiler and is disposed in wet slurry form into the ash ponds.

Following technologies are conventionally used for handling & disposal of flyash and bottom ash collected from ESPs hoppers and boiler bottom respectively within the plant or upto the ash pond area:

I. Dry Pneumatic conveying
II. Dry (moist) Conveying system through belt conveyor/tube beltconveyor
III. High concentration slurry disposal system
IV. Medium concentration slurry disposal system
V. Lean concentration slurry disposal system

Amongst the above technologies, Dry Pneumatic conveying, Medium concentration slurry disposal system, High concentration slurry disposal system, and Dry (moist) Conveying system through

belt conveyor/tube belt conveyor are preferable as compared to Lean concentration slurry disposal system.
The dry ash is typically conveyed pneumatically from the ESP or filter fabric hoppers to storage silos where it is kept dry, pending utilization or furtherprocessing, or to a system where the dry ash is mixed with water and conveyed (sluiced) to an on-site storage pond. Fly ash is stored in silos, domes and other bulk storage facilities. Fly ash can be transferred using air slides, bucket conveyors and screw conveyors, or it can be pneumatically conveyed through pipelines under positive or negative pressure conditions.

Dry fly ash collected is also be suitably moistened with water and wetting agents, as applicable, using specialized equipment (conditioned) and hauled in covered dump trucks for special applications such as structural fills. Water conditioned fly ash can also be suitably stockpiled at jobsites. Exposed stockpiled material must be kept moist or suitably covered to prevent fugitive emission.

The dry bottom ash removal and its transportation is certainly more environment friendly, compared to that of wet ash removal and transport system.

26. In **Civil No. 1692-1693 of 2020** vide order dated 10.05.2022, the matter of notification dated 31.12.2021 was discussed by the Hon'ble Supreme Court of India and it was held as follows:

5. *During the pendency of the proceedings before this Court, a notification was issued by the MoEF&CC on 31 December 2021 in exercise of powers conferred by Section 3 of the Environment (Protection) Act 1986. This notification was issued in supersession of Notification No 763(E) dated 14 September 1999. By the notification, the Union Government has formulated parameters for ash utilization from coal or lignite thermal power plants. Paragraph A(5) of the said notification provides a timeline for the utilization of 'legacy ash', that is unutilized*

accumulated ash which was stored beforethe publication of the notification:

> *"The unutilized accumulated ash i.e. legacy ash, which is stored before the publication of this notification, shall be utilized progressively by the thermal power plants in such manner that the utilization of legacy ash shall be completed fully within ten years from the date of publication of this notification and this will be over and above the utilization targets prescribed for ash generation through current operations of that particular year:*
>
> *Provided that the minimum quantity of legacy ash in percentages as mentioned below shall be utilized during the corresponding year and the minimum quantity of legacy ash is to be calculated based on the annual ash generation as per installed capacity of thermal power plant.*
>
> *Provided further that the legacy ash utilisation shall not be required where ash pond or dyke has stabilised and the reclamation has taken place with greenbelt or plantation and the concerned State Pollution Control Board shall certify in this regard. Stabilisation and reclamation of an ash pond or dyke including certification by the Central Pollution Control Board (CPCB) or State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall be carried out within a year from the date of publication of this notification. The ash remaining in all other ash ponds or dykes shall be utilised in progressive manner as per the above mentioned timelines.*
>
> *Note: The obligations under sub-paragraph (4) and (5) above for achieving the ash utilisation targets shall be applicable from 1st April, 2022.*
>
> […]"
>
> *6. The consequence of the notification dated 31 December 2021 is that the earlier notifications would get subsumed by the terms of the notification. The NGT in the impugned orders had found fault with the TPPs due to their failure to comply with the notification dated 25 January 2016 and the extended deadline which was fixed for the utilization of fly ash. In view of the subsequent development which has taken place, the basis of the order of the NGT would be fundamentally altered by the modalities and time-lines which are prescribed by the notification dated 31 December 2021. In view of the latest notification, the orders of the NGT would have to be set aside together with the imposition of the measure of compensation as directed in the impugned orders.*
>
> *7. During the course of the hearing, counsel appearing on behalf of some of the contesting parties have fairly alluded to certain deficiencies in the notification dated 31*

December 2021, particularly in the context of the loading, unloading, transport, storage and disposal of fly ash in an environmentally sound manner to ensure that it does not cause air and water pollution. Mr Tapesh Kumar Singh, learned AAG who appears for the State of Jharkand submitted a note of submissions to assist the court, in his personal capacity as an officer of the court. In this context, reliance has been placed on an order dated 24 September 2013 of a two-Judge Bench of this Court in SLP(C) No 30381 of 2011 when the Court was seized of a tender dispute relating to transportation of fly ash. While dealing with the dispute, the following directions were issued by the Court:

"Allotment of the contract and transportation work shall, however, be subject to the following further conditions:

1. *The contractor shall abide by the directions issued by the Government of India, if any, under Section 5 of the Act, or the requirement of any Rules that may be framed by the Government of India under Section 6 of the Act, or instructions/circulars, if any, issued by the Central Pollution Control Board as to nuisance free transportation of ash, including Pond Ash from the Thermal Power Stations to abandoned mines and to other destinations, as the case may be;*
2. *Pending issue of any directions or framing of any Rules by the Government of India or issuance of any instructions/circulars by the Central Pollution Control Board, the transportation work shall be undertaken by the contractors who emerge successful only by using mechanized steel covered container trucks which would ensure that after the Pond Ash is loaded into the truck, it has no opportunity to fly out of the container to cause any kind of environmental hazard. We leave the details of specifications, if any, of such trucks to the Corporation and its Engineers to be specified in the course of negotiations to be conducted with the bidders."*

9. Apart from the above proceedings, during the course of the hearing, this Court has been apprised of the regulatory provisions contained in the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 20166 including rules 3(17), 3(23), 3(33) and 3(34) of the Rules. In this context, it has been submitted that the Union Government is duty bound to formulate rules to guarantee that the loading, unloading, utilization and transportation of fly ash takes place in a manner to prevent environmental hazards.

10. At this stage, it would be material to note the

provisions of paragraph A(7) of the notification dated 31 December 2021 which reads as follows:

"(7) Every coal or lignite based thermal power plant shall ensure that loading, unloading, transport, storage and disposal of ash is done in an environmentally sound manner and that all precautions to prevent air and water pollution are taken and status in this regard shall be reported to the concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) in Annexure attached to this notification."

11. Paragraph E of the notification deals with enforcement, monitoring, audit and reporting. Paragraphs (3) and (5) of paragraph E are extracted below:

"(3) For the purpose of monitoring the implementation of the provisions of this notification, a committee shall be constituted under the Chairperson, Central Pollution Control Board (CPCB) with members from Ministry of Power, Ministry of Coal, Ministry of Mines, Ministry of Environment, Forest and Climate Change, Ministry of Road Transportation and Highways, Department of Heavy Industry as well as any concerned stakeholder(s), to be nominated by the Chairman of the committee. The committee may make recommendations for effective and efficient implementation of the provisions of the notification. The committee shall meet at least once in six months and review annual implementation reports and the committee shall also hold stakeholder consultations for monitoring of ash utilisation as mandated by this notification by inviting relevant stakeholder(s) at least once in six months. The committee shall submit the six monthly report to Ministry of Environment, Forest and Climate Change (MoEFCC).

(5) The compliance audit for ash disposal by the thermal power plants 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 (CBCB) and concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) by 30th November every year. Central Pollution Control Board (CPCB) and concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall initiate action against non- compliant thermal power plants within fifteen days of receipt of audit report."

12. In view of the above background, it would be necessary for the MoEF&CC to revisit whether the parameters which have been prescribed by the notification dated 31 December 2021 must be modified taking into account the provisions of the Rules of 2016, to the extent to which the applicability of the Rules is attracted to the utilization, transportation and disposal of fly ash. Besides conducting this exercise, MoEF&CC shall ensure that the enforcement, monitoring, audit and reporting mechanism which is envisaged in paragraphs E(3) and E(5) of the notification dated 31 December 2021 is duly put into place and enforced scrupulously. Unless steps have already been taken to enforce the precautionary steps envisaged in the notification, MoEF&CC shall do so within a period of three months from the date of this judgment. In doing so the precautionary principle shall be followed. The MoEF&CC shall also determine upon due analysis whether any further modification of the notification is necessary to comply with the provisions of the Rules of 2016 noticed above and other cognate legislation, including subordinate legislation bearing on the utilization, transport and disposal of fly ash in an environmentally sustainable manner.

27. Learned counsel for the Respondent had submitted that the notification 2021, provides the compliance report to be submitted periodically and in compliance thereof, the respondents is regularly submitting the statutory compliance

report. For the period 01st April, 2020 to 31st March, 2021, the compliance report was filed and it was used for cement industries, land fill and outside brick units other than brick kilns. The fly ash was supplied to the brick unit that was approximately 80054.657 tonnes to the local units from Sr. no.1 to Sr. no. 40 attached with the compliance report. Similarly the ash compliance report for the period 01st April, 2020 to 31st March, 2022 which is to be submitted on or before 31st May are reported as follows:

. ASH COMPLIANCE REPORT (for the period 1st Apr 2021-31st March 2022) to be submitted on or before 31st May

Sl. No.	Details	
1.	Name of Power Plant	Captive Power Plant -540MW, Balco, Korba, (C.G)
2.	Name of the company	Bharat Aluminium Company Ltd.
3.	District	Korba
4.	State	Chhattisgarh
5.	Postal address for communication:	Bharat Aluminium Company Ltd. Captive Power Plant -540MW BALCO, Korba (Chhattisgarh) Pin: 495684
6.	E-mail:	balco.environment@vedanta.co.in
7.	Power Plant installed capacity (MW):	540
8.	Plant Load Factor (PLF):	69%
9.	No. of units generated (MWh):	3248481
10.	Total area under power plant (ha): (including area under ash ponds)	176.22
11.	Quantity of coal consumption during reporting period (Metric Tons per Annum):	2453210
12	Average ash content in percentage (per cent):	40.55
13.	Quantity of current ash generation during reporting period (Metric Tons per Annum): Fly ash (Metric Tons per Annum): Bottom ash (Metric Tons per Annum):	994801 795840 198961
14.	Capacity of dry fly ash storage silo(s) (Metric Tons) :	4 X 1000
15.	Details of utilisation of current ash generated during reporting period a) Total quantity of current ash utilised (MTPA) during reporting period: b) Quantity of fly ash utilised (MTPA): i. Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels): ii. Cement manufacturing: iii. Ready mix concrete: iv. Ash and Geo-polymer based construction material: v. Manufacturing of sintered or cold bonded ash aggregate: vi. Construction of roads, road and fly over embankment: vii. Construction of dams: viii. Filling up of low lying area: ix. Filling of mine voids: x. Use in overburden dumps: xi. Agriculture: xii. Construction of shoreline protection structures in coastal districts; xiii. Export of ash to other countries: xiv. Others (please specify):	994801 795840 24646.92 30314.32 Nil Nil Nil 118389.05 Nil 548750.71 Nil Nil Nil Nil Nil 73739 (Dyke strengthening)

ASH COMPLIANCE REPORT (for the period 1st Apr 2021-31st March 2022) to be submitted on or before 31st May

	c) Quantity of bottom ash utilised (MTPA):	198961
	i. Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels):	Nil
	ii. Cement manufacturing:	Nil
	iii. Ready mix concrete:	Nil
	iv. Ash and Geo-polymer based construction material:	Nil
	v. Manufacturing of sintered or cold bonded ash aggregate:	Nil
	vi. Construction of roads, road and flyover embankment:	31470
	vii. Construction of dams:	Nil
	viii. Filling up of low lying area:	147890
	ix. Filling of mine voids:	Nil
	x. Use in overburden dumps:	Nil
	xi. Agriculture:	Nil
	xii. Construction of shoreline protection structures in coastal districts:	Nil
	xiii. Export of ash to other countries:	Nil
	xiv. Others (please specify):	19601 (Dyke strengthening)
	Total quantity of current ash unutilised (MTPA) during reporting period:	Nil
16.	Percentage utilisation of current ash generated during reporting period (per cent):	100
17.	Details of disposal of ash in ash ponds (a) Total quantity of ash disposed in ash pond(s) (Metric Tons) as on 31st March (excluding reporting period):	10038444
	(b) Quantity of ash disposed in ash pond(s) during reporting period (Metric Tons):	Nil
	(c) Total quantity of water consumption for slurry discharge into ash ponds during reporting period (m3):	687195
	(d) Total number of ash ponds:	4
	i. Active:	2
	ii. Exhausted (yet to be reclaimed):	2
	iii. Reclaimed:	-
	(e) total area under ash ponds (ha):	110.42
18.	Individual ash pond details Ash pond-1,2, etc (please provide below mentioned details separately, if number of ash ponds is more than one) (a) Status: Under construction or Active or Exhausted or Reclaimed (b) Date of start of ash disposal in ash pond (DD/MM/YYYY or MMYYYY): (c) Date of stoppage of ash disposal in ash pond after completing its capacity (DD/MM/YYYY or MM/YYYY): (Not applicable for active ash	Annexure-1

ASH COMPLIANCE REPORT (for the period 1st Apr 2021-31st March 2022) to be submitted on or before 31st May

	ponds) (d) area (hectares): (e) dyke height (m): (f) volume (m3): (g) quantity of ash disposed as on 31st March (Metric Tons): (h) available volume in percentage (per cent) and quantity of ash can be further disposed (Metric Tons): (i) expected life of ash pond (number of years and months): (j) co-ordinates (Lat and Long): (please specify minimum 4 co-ordinates) (k) type of lining carried in ash pond: HDPE lining or LDPE lining or clay lining or No lining (l) mode of disposal: Dry disposal or wet slurry (in case of wet slurry please specify whether HCSD or MCSD or LCSD) (m) Ratio of ash: water in slurry mix (1:): (n) Ash water recycling system (AWRS) installed and functioning: Yes or No (o) Quantity of wastewater from ash pond discharged into land or water body (m3): (p) Last date when the dyke stability study was conducted and name of the organisation who conducted the study: a) Last date when the audit was conducted and name of the organisation who conducted the audit:	
19.	Quantity of legacy ash utilised (MTPA): i. Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels): ii. Cement manufacturing: iii. Ready mix concrete: iv. Ash and Geo-polymer based construction material: v. Manufacturing of sintered or cold bonded ash aggregate: vi. Construction of roads, road and flyover embankment: vii. Construction of dams: viii. Filling up of lowlying area: ix. Filling of mine voids: x. Use in overburden dumps: xi. Agriculture: xii. Construction of shoreline protection structures in coastal districts; xiii. Export of ash to other countries: xiv. Others (please specify):	212911.88 Nil Nil Nil Nil Nil Nil Nil 212911.88 Nil Nil Nil Nil Nil Nil

ASH COMPLIANCE REPORT (for the period 1st Apr 2021-31st March 2022) to be submitted on or before 31st May

20.	Summary:			
	Details	Quantity generated (MTP)	Quantity utilised (MTP) and (per cent)	Balance quantity (MTP)
	Current ash during reporting period	994801	994801 (100%)	Nil
	Legacy ash	10038444	212911.88	9825532.12
	Total	11033245	1207712.88	9825532.12
21.	Any other information: Soft copy of the annual compliance report, and shape files of power plant and ash ponds may be e-mailed to:- moefcc- coalash@gov.in			
22.	Signature of Authorised Signatory			

28. Further an application was moved before the CECB and after considering the proposal the no objection for ash work in the low lying areas situated at gram Kurudih, Barbaspur, District- Korba was granted by the Conservation Board vide order dated 11.03.2022 on following conditions:

1. *M/s Bharat Aluminium Company Ltd, 540+1200 MW Power Plant, Balco Nagar, Korba, Dist- Korba(C.G.), shall have to abide by the CPCB Guidelines for disposal/utilization of fly ash for reclamation of Low Lying Areas and in stowing of Abandoned mines/Quarries. Industry shall ensure compliance gf MoEF & CC GOI O.M. No. 22-13/2019-IA.III Dated. 28.08.2019.*
2. *The Power Plant shall ensure that fly ash/bottom ash will be filled in areas Khasra No. 21, 23, 34/1, 34/3, 38, 42/4, 43/1, 43/2 Rakba- 4.963 Hect. Village- KukrichoIi (Bhaisma), and Khasra No.261/1 Rakba- 2.630 Hect. Village- Urga, District- Korba (C.G.).*
3. *Industry shall use Balco ring road — Lalghat- Risdi Chowk- Kharmora — Naktikhar- urga- Bhaisma road for transportation of Fly ash only. No other road shall be used for transportation for fly ash as per proposal. The transportation of Fly ash shall be done through fully covered vehicle or by tarpaulin covered vehicles only, during*

lifting of ash from the ash pond to low lying areas of the concerned village.

4. *Proper water sprinkling activities shall be done on haul road for dumping of fly ash in the aforesaid areas for mitigation of air pollution.*
5. *After filling fly ash the low-lying areas shall be covered by 500 mm.*
6. *After completion of fly ash filling work in low lying area, Industry shall submit Work-Completion Certificate to Chhattisgarh Environment Conservation Board, Korba.*
7. *Mls Bharat Aluminium Company Ltd, 540+1200 MW Power Plant, Balco Nagar, Korba, Dist- Korba(C.G.), shall have to abide by the guidelines of the Central Government/ State Government regarding fly ash utilization issued from time to time.*
8. *The issuance of this NOC does not convey and property rights in either real or personal propexy, or any exclusive privileges. nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Central / State laws or regulations.*
9. *The above NOC shall be revoke, if any conditions are violated by the Mls Bharat Aluminium Company Ltd, 540+1200 MW Power Plant, Balco Nagar, Korba, Dist- Korba (C.G.),with immediate effect.*

29. To assess the situation on the ground this Tribunal during the course of hearing vide order dated 05.05.2022 constituted a committee to submit the factual and action taken report in compliance thereof, the Committee has submitted the report which is as follows:

"In view of the above direction joint committee visited Korba area and M/s Balco, during 1st to 4th June, 2022 to assess the factual status of allegation made in petition and compliance status of stack emissions, ambient air quality, Ground water quality and waste water discharge if any. The joint committee comprised of the following officers:

1. Mrs. Ranu Sahu, Collector Korba, Distt-Korba, Chattisgarh

2. Sh. Ankur Sahu, Regional officer, CECB, Korba, Chattisgarh

3. Dr. Anoop Chaturvedi, Scientist 'B' Regional Directorate, CPCB, Bhopal

To better coordination in the investigation, the committee informed to applicant well in advance vide CECB letter dated 26/05/2022 regarding the proposed visit. The meeting was held at the conference hall of Collector's office Korba on 1.6.2022 all committee members and Shri Ram Awatar Agrawal along with his other colleagues were presented and discussed the issues mentioned in the petition. The relevant issue also discussed with Balco officials and other staff during visit. The other officials present during the inspection are Shri. Rajendra Prasad Vasudev, Scientist, CECB and Shri Manik Chandel, Jr. scientist CECB. After a preliminary inspection of Korba city committee members again interacted with the applicant on 3.6.2022 to provide further opportunities for providing any other information related to the petition. To find out facts as well as to know the extent of problem, the committee visited the Korba city and nearby main villages which are mentioned in petition. Air pollution and illegal dumping of fly ash are the major issues of this petition caused by M/s Balco Ltd (further referred as 'Unit'). Air pollutants include dust and gaseous pollutants. Dust is a bone of contention for the thermal power sector and Korba surrounded by major Thermal Power Plants (TPP) like NTPC, DSPM, CSEB, Balco etc. and total power generation in Korba is around 7630 MW and Balco individually generate 1740 MW. Small dust particles are probable and prominent source of the pollutants of Korba. Dust enters in the ambient air from fixed (stacks) or diffused (fugitive emissions) sources hence committee carried out the source emissions, ambient air quality monitoring and collected 5 water samples from representative locations for analysis. The main contention of the petition are dust pollution and illegal dumping of fly ash in Korba city.

BALCO was incorporated in year 1965. In 2001 Govt. of India disinvested 51% shares of Bharat Aluminium Company Limited (BALCO) to Sterlite Industries Limited a subsidiary of Vedanta Limited. M/s BALCO, Korba having two Aluminium smelter with the consented capacity of 2.70 and 3.25 LTPA. The Hall- Heroult process is an Aluminium melting process which is used by in M/s

BALCO, Korba plant both Smelters have adopted state of the art Prebaked technology. Further BALCO have 02 operational power plant with total power generation capacity of 1740 MW which includes 1200 MW and 540 MW. The consent of power plants are valid upto 31.05.2023 and consent of Aluminum metal production and its fabrication is valid upto 31.12.2022. The main issues raised in the petition by the applicant are as given below:

1. *Air and water pollution caused by the M/s Balco Ltd, Korba and deteriorates the environmental quality.*
2. *Insufficient capacity of fly ash management and old red mud ponds are being used for ash disposal.*
3. *Illegally disposal of Fly ash in Korba (14 locations) and nearby villages without following any procedures.*
4. *Due to fly ash health of the residents adversely affected and agriculture land is getting deteriorates.*
5. *Proper administrative procedures not adopted for fly ash disposal w.r.to permission, NOC, land use etc.*

The committee made the following observation during site visit on the above mentioned issues:-

Issue No. 01: Air and water pollution caused by the M/s Balco Ltd Korba and deteriorates the environmental quality.

(a) Air pollution:

There are several reasons of air pollution in thermal power plants and smelters it is mainly divided in two category point and non-point source. Point sources are stack emissions and non-point sources are fugitive emissions and both the type of emission cumulatively contribute to the ambient air quality.

To assess the air pollution in totality ambient air quality monitoring and stack emission monitoring conducted in the area and Unit respectively. The details of air monitoring as given below:

Ambient Air Quality monitoring

As mentioned in the petition, the air pollution is major issue in Korba area because of fly ash mishandling and industries emitting harmful gases. To

assess the ambient air quality total 04 monitoring stations were installed around the Balco area and monitoring carried out for 24-hour basis (2 pm to 2 pm) and assess the day and night air quality of the area. The results of Ambient Air quality as found in monitoring at various locations are as given below:

Date of monitoring: 02.06.2022 to 03.06.2022

S.No	Location	PM_{10} (µg/m3)	$PM_{2.5}$ (µg/m3)	SO_2 (µg/m3)	NO_2 (µg/m3)	Remarks
01.	Village-Rogbahari, Balco Korba	67.33	48.22	15.86	17.60	To assess the AAQ aroun dindustrial area these locations has been selected and all prominent air pollutant including $PM_{2.5}$, PM_{10} monitored. As the station operated on 24 Hr basis hence air quality in night time was also covered in it.
02.	Parsabhata, Balco Nagar Korba	88.15	43.10	18.00	19.40	
03.	GET Hostel, Balco Nagar Korba	93.66	47.15	17.65	18.50	
04.	Lalghat, Balco Nagar Korba	84.10	41.09	18.61	19.00	
NAAQS (Ambient air monitoring carried out for 24 Hr basis)		**100**	**60**	**80**	**80**	

On the basis of above Air quality monitoring data, the average concentration (24 Hr basis) of PM10 was found 67.33 µg/m3 near village Rogbahari, Balco Korba, 88.15 µg/m3 near Parsabhata, Balco Nagar Korba, 93.66 µg/m3 near GET Hostel, Balco nagar Korba and 84.10 µg/m3 near Lalghat Balco Nagar Korba. On the basis of above Air quality monitoring data, the average concentration (24 Hr basis) of PM2.5 was found 48.22 µg/m3 near village Rogbahari, Balco Korba, 43.10 µg/m3 near Parsabhata, Balco Nagar Korba, 47.15 µg/m3 near GET Hostel, Balco nagar Korba and 41.09 µg/m3 near Lalghat Balco Nagar, Korba.

From the above AAQ data it can be concluded that the air pollutant i.e. PM2.5and PM10 are the prominent pollutants in the Korba area. Slightly high concentration of the pollutants in ambient air was observed in evening time as compared to the morning time due to slow dispersion of pollutants, raw coal used as fuel in households and small snacks shops and heavy vehicle movement in night time. ***The concentration of primary gaseous pollutants i.e. NO2 and SO2 were found within the limit.***

From the above AAQ data it can be concluded that all the monitoring location the values were found within the NAAQS limit as prescribed by Central Pollution Control Board notification dated 18/11/2009. The unit has installed one CAAQMS at Balco Plant Parsabhata gate and it was operational during visit. *The CAAQMS data of the 01.06.2022 to 04.06.2022 were also collected. It was observed that the CAAQMS data showing that the air quality data within the NAAQM standards.*

Fugitive Emission Observations

Generally in the power sector industry source of fugitive emission is from the movement of heavy vehicles, inefficient dust control system, raw material transfer and handling points, material spillage and open storage of other material are major cause of localized fugitive emission which is ultimately contribute into ambient air pollution of that particular area.

However, continue operation of road sweeping machine and water sprinkling through tanker was observed inside and outside of the plant premises. These steps certainly reduce the air born dust. If all the units adopted such activities as a regular practice even after the visit, than it will certainly help to reduced dust pollution.

The unit has installed truck tippler for coal transfer. To control the fugitive emission, the unit has provided water spray nozzles (Dry fog) at truck tippler. To curb the fugitive emission, the unit has provided internal pucca road, and bag houses at material transfer points.

Stack and Balcok Emission monitoring

The stack emission is point source of air pollution, in power plant and smelters. The main stacks are FTP stack and power plant stack and at the time of visit all the operational stack has been monitored for consented parameters i.e. PM, NOx and SO2. The details of the monitored stack and emission values areas given below:

S. No	**Stack emission monitoring location**	**Control equipment**	**PM (mg/Nm³)**	NOx **(mg/Nm³)**	SO_2 **(mg/Nm³)**	**CEMS provided**
01	(4x135=540MW) Unit#3 outlet duct	• Hybride ESP withbag filter	22.19	215	1024	All the units have

02	(4x135=540MW) Unit#4 outlet duct	• Low Nox burners.	18.27	275	1124	installed the OCEMS and the data sheet during the monitoring shows that emission within the limit as given in consent.
03	(4x300=1200MW) Unit#1 outlet duct		16.18	170	980	
04	(4x300=1200MW) Unit#3 outlet duct		22.32	205	1040	
05	GAP-1, D-6	• Dust Extraction andcollection system. • Coke bed scrubbers to treat fumes from anode making.	20.19	-	-	
06	GAP-1, D-7		11.49	-	-	
07	GAP-1, D-8		5.14	-	-	
08	GAP-1, D-9		14.35	-	-	
09	GAP-2, D-6		7.64	-	-	
10	GAP-2, D-7		7.16	-	-	
11	GAP-2, D-8		16.86	-	-	
12	GAP-2, D-9		13.82	-	-	
Emission standards			**50**	**450**	**600**	

S. No	**Stack emission monitoring location**	**Control equipment**	**PM (mg/Nm^3)**	**CEMS provided**
01	Pot line-1, FTP-1	• Dense phase close circuit conveying system for conveying of raw material like Alumina. • Dust collection with bag filters at transport point of laumina conveying facility • FTP with dry scrubbing system	7.53	All the units have installed the OCEMSand the data sheet during the monitoring shows that emission within the limit as given in consent.
02	Pot line-1, FTP-2		8.86	
03	Pot line-2, FTP-1		6.93	
04	Pot line-2, FTP-2		6.80	
05	Pot line-1, FTP-3		6.64	
06	Pot line-1, FTP-4		7.56	
07	Bake Oven, FTP-1	FTP with dry screbbers and with condensing towers	11.22	
08	Bake Oven, FTP-2		30.04	
Emission standards			**50**	

In the unit, there are total 24 major process stacks out of that 20 have been found operational during visit and all are monitored. At the time of visit, 540 MW Power plant U#1, U#2 and 1200 MW Power plant U#2, U#4 were not in operation due to scheduled maintenance and operation issues. Therefore, it could not be monitored.

On the basis of above stack emission monitoring data, it was observed that the emission values complying the norms as given in consents. M/s BALCO has adopted the dry scrubbing technology in Fume

Treatment Plant (FTP) of smelter I & II. In FTP Gaseous fluoride reacts with alumina to form a stable compound that is fed to the electrolysis pots. One gram

of alumina can absorb in a stable form 0.3 mg of HF per m2 of specific area. The APCD installed seems adequate w.r.t. monitoring result received.

The unit has provided hybrid ESP in power plant section and Fume treatment plant in smelter sections. In smelter or pot room suction hoods are being provided and hooding efficiency is being tracked. All the emissions of pot room passes through bag house to arrest fine particles. The unit has also provided suction chutes and de-dusting at main material transfer points to curb the fugitive emission.

As per the guideline of CPCB, the unit has installed OCEMS in all the stacks of smelter to monitor PM and HF and in power plant to monitor PM, SO2 and NOx remotely round the clock. The CEMS data available at public portal of CECB/CPCB website and transmission was verified during visit.

(b) Water pollution

Power plant and smelters are relatively less water intensive and less waste water generated. At the time of visit it was observed that the unit does not discharge any effluents outside the premises.

Applicant complain about water pollution and claimed that the water in the nearby drains or ponds is covered with a thick layer of dust and highly polluted by the Unit. To assess the present status water samples of drains collected from verious locations and analyzed in CECB, laboratory at Korba. The results of ground water analysis as given below:

S.No.	Location	pH	TSS	COD	BOD	O&G
1.	Belgiri nallha up stream, Korba	7.16	40	24	2.2	ND
2.	Belgiri nallha down stream, Korba	7.20	45	32	2.6	ND
3.	Dengur nallha up stream, Korba	7.15	42	20	2.4	ND
4.	Dengur nallha down stream, Korba	7.18	48	40	3.0	ND
5.	Hesdeo river Down stream near Urga Village, Korba	7.24	37	16	1.4	ND
As per standard of EPA, 1986		6.5 to 8.5	100	250	30	10

The waste water generated from various section of the plant has been treated accordingly. Cooling tower blow down, boiler blow down and condenser water

are major source of waste water, for treatment of these water the unit has provided ETP. 4800 m3/day ETP in Aluminium Plant , 2400 m3/day ETP in 540 MW Power Plant and 2400 m3/day ETP in 1200 MW Power Plant has been provided. Most of the treated water of Aluminium and fabrication section is being recycled in process and remaining water is used for horticulture and dust suppression inside the plant. The ETP of Aluminium plant is equipped with neutralization pit, clarifier, RO and UV. The unit has maintained ZLD condition at the time of visit and 02 PTZ camera has been installed.

Issue no. 2: Insufficient capacity of fly ash management and old red mud ponds are being used for ash disposal.

As per the information sought from industry total coal consumption of unit is 28000 MTD for 1740 MW power plant on full load if we assumed that it contain 40% of ash then 11200 MTD ash will be generated for disposal. The unit has provided following systems for ash management. In order to Environment – friendly disposal of bottom ash up to ash pond the unit has installed High Concentration Slurry Disposal (HSCD) system. Installation resulting into reduction in water consumption and increasing the capacity utilization of as ponds. The unit has installed 04 no. of HCSD in 1200 MW and 02 no. of HCSD in 540 MW Power plant with the capacity of 315m3/Hr and 208m3/Hr respectively. HCSD System comprises of controlled and monitored feeding system for fly ash & bottom ash followed by a homogenous mixing in an adequately designed Agitator Retention Tank and further pumping to disposal area through the piston diaphragm / hydraulic piston pumps. The unit has provided Hybrid ESP and Hybrid bag filter for collection of fly ash and 08 No. of Silo's with the capacity of 1000 MT each has been provided for dry ash disposal through bulkers in cement plants. The Unit also signed MoU with SECL Manikpur for backfilling of ash in abandoned mines vooides and also providing the ash for infrastructure projects of NHAI and CGPWD as sustainable avenue of ash utilization. Total 42 brick manufacture associated with Unit for making fly ash bricks and unit providing ash on free of cost. The fly ash utilization of

the Unit for the last 3 year (FY 2019 to 2022) are constantly above the 100% details of the generation and utilization is enclosed as Annexure-02.

The Unit has obtained No Objection Certificate from CECB for 5 meter height raising of the abandoned red mud pond no. – 2, 3, 4 and 7 for disposal of ash generated from 540 and 1200 MW Power Plant based on Coal. The unit has also obtained clearance from MoEF&CC for the same. After obtaining required permissions the Unit has converted its red mud ponds to ash dykes as per the approved design prepared by dyke experts from IIT Kanpur and NIT Rourkela. Dykes are designed for disposal of ash through HCSD system. In view of the above requirement of additional ash pond construction are not arises. As per Environmental Clearance issued by the MoEF&CC vide letter no. J-11011/123/2007-IA. II (I) dated 22.04.2022 wherein specific condition xiv. states that "Legacy ash stocks of 18.2 Million tons shall be liquidated by December 2024. The vehicles carrying as from dyke shall use tarpaulin covers. No additional ash pond shall be developed for ash disposal." It was observed that the fly ash was transported to the nearby cement plant through bulkers or closed cover trucks only, however for disposal in low laying areas as per NOC condition of CECB ash can be transported through fully covered or tarpaulin-covered vehicle. As informed by the random local transporter the transportation of ash through a mechanically covered truck is not viable for disposal in low laying area because for emptying of the mechanical covered truck the requirement of truck tippler is a must and that can't be installed anywhere and presently vehicles are not available for it in this region.

Issue no. 03: Illegally disposal of Fly ash in Korba (14 locations) and nearby villages without following any procedures. As mentioned in the petition, fly ash illegally disposed in various locations in Korba city and surrounding village. To verify the fact all the 14 points mentioned in the petition and randomly selected villages have been visited and it was observed fly ash was dumped at various locations in small quantities but, a pinpoint source of ash dumping could not be traced out. The local persons informed that generally needy individuals

voluntarily put the fly ash on their own land for leveling purposes and then constructed the house or any other commercial establishment.

It was also found that a small quantity of fly ash is dumped in 2 to 5 square meter areas at various road side locations for leveling and encroachment purposes, however, such kind of encroachment has been removed by local administration from time to time. The tracing of the source (transporter/truck) of this kind of illegal dumping is slightly difficult because most of the dumping is being done on government land during night hours only and especially during Covid lockdowns. The details of the all 14 orphaned locations as mentioned in the petition and in complaint letter send by Municipal corporation, Korba to RO, CECB, Korba vide letter dated 26/03/2021 has been visited and details are given as below:

S.no.	Locations	Status during visit
01	In Korba zone near Barbaspur housing board colony	Permitted quantity of fly ash was dumped and presently building structure has been constructed on it, hence there is no possibility of fugitive ash emission.
02	In Korba zone near Barbaspur wasteland dumping yard.	Permitted fly ash quantity was dumped with soil covering this area is being developed as transport nagar.
03	In Korba Parivahan nagar zone Goptalab Ratakhar.	Permitted quantity of fly ash is dumped and soil covering was observed. This area is being used as transport area and used for vehicle parking.
04	Near Darri Baraj	It is also one of the orphan site and as per local information ash was dumped during last lockdown. The local authoritymay take action for its remediation and to contain the further spreading of ash.
05	Near Belgari Nala	
06	Near Kosabadi Zone Podibahar toKharmora basti road.	At this place small quantity of ash was observed which was dumped by unknown source however it is kept under boundary wall and no fugitive emission was observed.

07	In Balco zone upon Dhengur nalaroad	At this site ash founded dumped without permission by unknown source at the adjacent to cremation ground for encroachment point of view. The local authority may remediate the site as per guidelines.
08	In Balco zone near Ambika mandir	This site is covered from boundary wall and may be ash dumped for construction work however no fugitive emission was observed.
09	In Balco zone Satnam nagar	At this point house was constructed and no fly ash was observed during visit.
10	In Balco zone near air stirp Rumgara	Small quantity of fly ash found dumped by unknown source andit is partially covered by the soil hence no fugitive emission was observed as informed by the localresidents it may be dumped for further construction work.
11	Near Jassi home in at polytechniccollege road.	Un authorized dumping of fly ash was observed with soil covering. As informed by the local resident unknown vehicles dumped the ash during lockdown period. During visit a Panchanama was also made to record the statement of locals which is enclosed as **Annexure-03**
12	In Balco zone five other different places like Nandbag and other.	Residential building was found at this place.
13	In Darri zone Dhaulagiri H.T.P.P.colony	No permission obtained for dumping of ash however proper soil covering was found and thereis no water body in nearby area. Plantation is required on it for proper management.
14	In Darri zone police line, labourcolony , Pragati nagar	Fly ash found dumped on government land by unknown source, however proper soil covering was observed and plantation may be done by local administration for better management.

Subsequently Municipal Corporation, Korba also issued a letter to RO, CECB on 13.6.2022 and informed that the corporation received complaints of local residents regarding illegal dumping of ash and the same has been forwarded to

RO, Korba but responsible industry/transporter was not verified by Municipal Corporation Korba.

The details and status of the major locations of villages around Korba city as mentioned in the petition are as given below:

S.no.	Village name	Status during visit
01	Naktikhar	Permitted fly ash quantity is being dumped soil covering completed.
02	Risdi	Fly ash dumping was not found
03	Dhelwadih	Permitted Quantity is dumped & soil covering was found.
04	Katbitla	Permitted fly ash quantity is dumped soil covering is completed.
05	Urga	Permitted fly ash quantity is dumped soil covering is completed
06	Saliyabhata village	Small quantity of ash found dumped atroad side for construction work and semi constructed structure was also existed.
07	Rogbahri	The ash dyke of Balco is located in this village however no loose fly ash dump was observed local villagers also confirm the same. A Panchnama was prepared in this regard which is enclosed as **Annexure-05**
08	Jambahar	As such no fly ash dumping was observed.

The above villages were visited on a random basis and based on the information gathered from the local villagers at the time of visit related sites have been visited.

Issue no. 04: Due to fly ash health of the residents adversely affected and agriculture land is getting deteriorates.

As mentioned in the petition that the local population affected from respiratory related illness. To verify the fact, Regional Officer of CECB issued a letter to CMHO, Korba on 06/06/2022 to obtain any such type of information if available. The information received from CMHO, Korba is enclosed as Annexure-06.

As informed by the applicant the quality and quantity of the agricultural crops production has been affected due to pollution. To verify the fact, Regional Officer of Korba issued a letter to Deputy Director, agriculture department, Korba on 06/06/2022 to obtain any such type of information. The agriculture department has informed that due to no compliant about soil degradation, the department

has not carried out any such study.The information received from agriculture department Korba is enclosed as Annexure-07.

Issue no.05 : Proper administrative procedures not adopted for fly ash disposal w.r.to permission, NOC, land use etc.

It was observed and as per record of CECB, M/s Balco has been permitted for filling of fly ash in low lying area at 23 locations in Korba city and nearby areas. Out of 23 locations 15 locations has been completed and M/s Balco has stopped the further filling of fly ash and as on date process of soil covering and plantation is under progress and remaining 08 sites are still operational. It was observed that M/s Balco have permission for all the sites for ash filling, the details of the locations and permission as given below:

S. No.	Name of Low Lying Area	Khasra No. (in Acre/ Hect.)	Permission Letter No. and Date	Permitted Quantity in MT	Present Status
1	Village Tarda, Tehsil Kartala, dist korba	Khasra 1093/1, Total Rakba-4.10 Hect.	Ltr.No.-131 dated – 27/05/2020	20,00,000MT	Permitted Quantity is dumped & soil covering was found .
2	Village- Rogbahari, Tehsil-Korba Dist-Korba(C.G.)	Khasra – 296/1, 296/2, 297/1 and 297/3 Total Rakba – 1.456 Acre	Ltr.No.-1200 dated – 05/10/2018	43540 MT	Permitted Quantity is dumped & soil covering was found .
3	Village - Kohadiya, Tehsil- Korba, Dist-Korba	Khasra -491/1 Total Rakba – 56.7 Acre	Ltr.No.-524 dated – 18/06/2019	99665 MT	Permitted Quantity is dumped & soil covering was found .
4	Village – Barbuspur, Tehsil-Korba, Dist-Korba	Khasra - 118/3, Rakba- 1.10 Acre, Kh.No.-225/3, Rakba-320/3, 320/5, 320/8, 322/7 , Rakba-1.46 Acre Total RakbaArea – 2.56 Acre	Ltr.No.-251 dated – 11/06/2020	82680 MT	Permitted quantity of fly ash was dumped and presently building structure has been constructed on it, hence there is no possibility of fugitive ash emission
5	Village – Barbuspur, Tehsil-Korba, Dist-Korba	Khasra – 241/1 , Total Area – 4.28 Acre	Ltr.No.-655 dated – 02/09/2020	42000 MT	Permitted Quantity is dumped & soil covering was found .
6	Village – Ratakhar,	Khasra No.- 58/1/k, Rakba- 0.182 hect.,	Ltr.No.-421	108400 M^3	Permitted Quantity
	Tehsil-Korba, Dist-Korba	Khasra No. 71/1, 75/1, 75/2, 77/1, 78 Rakba- 1.257 hect. and Khasra No. 58/2, 58/3, 58/4 Rakba- 0.729 hect. Total Area – 2.168 Hect.	dated – 23/07/2020		is dumped & soil covering was found .
7	Village – Barbuspur, Tehsil- Korba, Dist-Korba	Khasra No.-69/1, 69/2, 69/3, 81/1, 81/6, 84/1, 84/5,	Ltr.No.- 1517 dated – 23/02/2021	115000 M3	Permitted Quantity is dumped & soil covering was found

		98/5, 111/1, 111/4, 111/6, 111/7, 115/2, 115/7, 118/7, 124/8, 128, 141, 177, 185/2, 185/5, 185/8, 187/4, 224/2/1, 260/1, 265/2, 265/3, 276/1, 276/4, 319/4, 282/2, 282/3 having Rakba – 11.617 Hect. and Rakba- 244/1, 244/2, 319/3 Rakba- 0.972 Hect. Total Rakba- 12.589 Hect..			.
8	Village– Dhelwadih, Tehsil-Korba, Dist-Korba	Khasra No.- 1/2, 18/2, 22, Rakba- 1.700 hect., 0.101 hect. and 0.057 hect. Total Rakba- 1.858 Hect.	Ltr.No.- 1682 dated – 18/03/2021	150000 M3	Permitted Quantity is dumped & soil covering was found .
9	Village – Barbuspur, Tehsil- Korba, Dist-Korba	Khasra No.-. 184/2, 220/7and 184/10, Rakba- 0.991 hect, 0.024 hect, 0.441 hect. Total Rakba- 0.756 Hect.	Ltr.No.-01 dated – 01/04/2021	30000 MT	Permitted Quantity is dumped & soil covering was found .
10	Village – Barbuspur, Tehsil- Korba, Dist-Korba	Khasra No.-. 74/8, 114/3/2, 114/6, 117/8, 169/4, 184/7, 202/3, 314/4, 342/2, 344/6 Total Rakba- 3.914 Hect.	Ltr.No.-42 dated – 21/05/2021	150000 MT	Permitted Quantity is dumped & soil covering was found .
11	Village – Dhongdarha, Tehsil-Kartala Dist-Korba	Khasra No.-. 416/1, 417, 419/3, 636/4, Total rakba - 4.569 hect.	Letter.No.- 383 dated – 16/08/2021 and Letter No. 790 dated 02/12/2021	500000 MT	Work on going however proper precaution like stone pitching, soil topping and plantation may be taken.
12	Village – Naktikhar Tehsil- Korba, Dist-Korba	Khasra No.-. 235, 237/2, 246, 252/2, 245/2, 286, 797/31, 952, 955, 957, 958, 959/2, Total Rakba- 4.596 hect.,	Ltr.No.-498 dated – 16/09/2021	90000 MT	Permitted Quantity is dumped & soil covering was found .
13	Village – Urga Tehsil-Korba, Dist-Korba	Khasra No.1194/6, 1194/3, 1112/2, 1112/4, 1194/6, 1193, 1203/1, 1203/2, 1194/7, 1202/2, 1202/3, 1120/2, 1120/3, 1191/1[k, 1191/3, 1206, 1194/2, 1195/1, 1112/3, 1070/17 Total Rakba – 8.87 Acre and Khasra No. 1031, 1102/6 1158/4, 1162/1k, 1159/4, 1161/1/d2, 1162/1B, 1162/1k, 1121, 1190/1, 1190/2, 1191/4,	Ltr.No.-622 dated – 21/10/2021	300000 MT	Permitted Quantity is dumped & soil covering was found, however more plantation is required.

		1194/1, 1196/4, 1162/1=, 1119/2, 1119/5, 116/7/1, 1167/2, 1070/19,1070/20,10 70/21,1070/23, 1070/27,1070/28, 1029/29 Total Rakba- 13.51 ½ Acre. Total Rakba- 22.38 Hect.,			
14	Village – Dhongdarha Tehsil-Kartala, Dist-Korba	Khasra No.-. 219/1, 222/1, 222/2, 226/1, 219/3, 226/1gh, Total rakba- 2.52 Acre	Ltr.No.-712 dated – 16/11/2021 and Ltr.No.-1052 dated – 13/01/2022	100000 MT	Permitted Quantity is dumped & soil covering was found .
15	Gram Panchyat – Katbitla, Tehsil-Korba, Dist-Korba	Khasra No.-. 6/1, 38//1 Total rakba- 5.2 Hect.	Ltr.No.-783 dated – 01/12/2021	300000 MT	Permitted Quantity is dumped & soil covering was found .
16	Village – Kurudih (Barbuspur) Tehsil-Korba, Dist-Korba	Khasra No. 6/4, 6/5, 6/6, 6/7 Total Rakba- 0.47 Acre	Ltr.No.- 1279 dated – 11/03/2022	25000 MT	Permitted Quantity is dumped & soil covering was found .
17	Village – Kharmora, Naktikhar Tehsil-Korba, Dist-Korba	Khasra No. 467, 698, 1131, 699/24, 379/1, 448, 456/1, 500, 646, 916, 919, 929/1, 956/1, 984/1, 1006, 1045, 1185 Total Rakba- 16.87 Acre	Ltr.No.- 1281 dated – 11/03/2022	100000 MT	Work on going.
18	Village – Kukricholi (Bhaisma), Naktikhar Tehsil-Korba, Dist-Korba	Khasra No. 21, 23, 34/1, 34/3, 38,42/4, 43/1,43/2 Rakba 4.963 Hect. And Khasra No. 261/1	Ltr.No.-62 dated – 22/04/2022	500000 MT	Work on going with proper precaution as informed by land owner Rice mill is
		Rakba- 2.630 Hect Total Rakba- 7.593 Hect.			proposed at this site.
19	Village – Nonbirra Tehsil-Kartala, Dist-Korba	Khasra No. 667/3 and 680/2d Total Rakba- 2.122 Hect	Ltr.No.-88 dated – 11/03/2022	100000 MT	Work on going.

It was also observed and also mentioned in the previous paragraph of this report, small potholes and illegal dumping of fly ash along the road side is the common phenomena of Korba city and small quantity of ash has been dumped or poured down intentionally with consent of land owner but without obtaining permission from the local authority.

In Korba city there is four major units for power generation i.e. NTPC, CSEB, Lanco and Balco. In most of the cases same ash transporters work for the different units and trucks are commonly used for all units, in this type of situation a common man cannot trace out the source of the illegal dumping of

ash in night time. For tracing and tracking point of view this system requires improvement.

Presently for disposal of fly ash in low lying area the following procedure has been adopted by local authority:

Any individual or company submitted the application for ash filling in low laying area to district administration, district administration verify the application w.r.to ownership, land use and area if all found in order same is forwarded to CECB for further processing. On the basis of the same CECB issue the NOC with certain condition as per fly ash notifications and resend to district administration. Now applicant submitted the same permission to any TPPs for filling of ash at their own land. The TPPs further applied to CECB along with all previous permissions then CECB issued final NOC to Applicant TPP for disposing of fly ash in low laying area with certain conditions and quantity. After obtaining the NOC the TPP dumped the fly ash on the permitted location through authorized transporter.

Now the activities related to ash management will be looked after by the committee under the chairmanship of the District Collector.

Action Taken:

The fly ash management committee for korba region has been constituted under the Chairmanship of Collector and an order also issued in this regard vide letter no 299 dated 07/06/2022. The committee will be looked after the work related to fly ash disposal in low laying area and mine voids and other allied works which is enclosed as Annexure-08

Soil toping and the reclamation of land for orphanage site has been initiated and this work will be completed through CSR fund of all major units of the area and through public and institutional participation. A meeting has been organized at Regional Office, CECB, Korba office on 13/06/2022 with authorized fly ash transporters to aware those regarding proper disposal of fly ash in accordance with CPCB guidelines and permission condition which is enclosed as Annexure-09

Conclusion and recommendation

On the basis of the above facts and the visit of the committee to the Korba area the following recommendations are given for further betterment:

1. *Awareness programme shall be organized for common peoples regarding utilization of fly ash for its own use and make easier the process for obtaining the permission/NOC from regulatory authority.*
2. *Any complaint regarding illegal disposal received at authorities then strict action according to rules including penal action on transporters may be taken. The state authority may instruct to all transporters for compliance of the guidelines issued by Central government and State government for safe transportation of fly ash and bottom ash.*
3. *Every fly ash transporter must write on their vehicles 'If seen any illegal dumping of fly ash by this vehicle please inform to ……..'. The contact number of transporter should be visible clearly. In this regard official letter may be issued to all industries.*
4. *There is an urgent need to augment the utilization and disposal of fly ash in the State of Chhatisgarh. The State Government must fix responsibility and may ask to all power plants of the area as to ho they would address this issue.*
5. *To promote off take of dry fly ash, the concerned Thermal Powe Plants (TPPs) of Korba should address the problem of transportation o fly ash in bulk quantity to potential users in economical and environment friendly manner.*
6. *It is also recommended that supply of pond ash for road construction projects and brick making should be promoted. All TPPs should take necessary action for supply of fly ash to brick manufacturers located within 300 kms radius from Korba. Further, in order to establish a new avenue of ash utilization, there is need for transportation of wet fly ash in railway wagons.*

7. *As per the Provisions of Notification of MoEF&CC regarding fly ash, all TPPs should take action for filling of low-lying areas on own land as well as private land using pond ash. Therefore, in order to enhance fly ash utilization levels, General Manager of TPPs and District Administration be directed to provide the list of wastelands available within 100 kms of Korba.*
8. *District fly ash disposal committee and representative of SECL, Korba should prepare list of abandoned mines/quarries for mine back filling purpose and the same for use by the TPPs as per applicable guidelines and permission from CECB.*
9. *The district fly ash management committee may seek information from the user about the purpose of ash filling and what may be the probable use after ash filling.*
10. *The district fly ash management committee may take action on reclamation/remediation of major orphanage sites of ash dumping through CSR fund of all major units of the area and through public and institutional participation.*
11. *There is need to develop infrastructure and establishment of cement grinding units in Korba region or any new cement grinding unit may be permit in Korba area only. Initiation of road infrastructure projects such as ring road/ bypass road shall facilitate both connectivity of the region as well as it will create avenues for utilization of fly ash/ fly ash-based products.*
12. *The TPPs may take prompt steps for scientific disposal of fly ash in accordance with the statutory notification issued by the MoEF&CC under the provisions of EP Act requiring 100% utilization and disposal of fly ash.*
13. *In view of above, all TPPs must take prompt measures for disposal of both current and accumulated fly ash as per new fly ash notification issued by MoEF&CC vide notification dated 31.12.2021.*

30. Learned counsel for the Respondent has submitted that the grievances as raised by the applicant was previously raised in appeal no. 06/2015 which was finally heard and decided vide order dated 08.09.2016 by this Tribunal and the review application filed against the order was also dismissed. It is further submitted that the Civil Appeal filed against the judgment / order dated 20.03.2017 passed in review application and the above order was taken up by the Hon'ble Supreme Court and that was dismissed. Thus the similar matter cannot be re-agitated again and again. The contention of the learned counsel for the Applicant is that in case of non-compliance of the conditions the Applicant is at liberty to file application before the competent forum for remedial measures.

31. On the basis of the above the Committee has concluded:

(i) *From the above AAQ data it can be concluded that the air pollutant i.e. PM2.5and PM10 are the prominent pollutants in the Korba area. Slightly high concentration of the pollutants in ambient air was observed in evening time as compared to the morning time due to slow dispersion of pollutants, raw coal used as fuel in households and small snacks shops and heavy vehicle movement in night time. The concentration of primary gaseous pollutants i.e. NO2 and SO2 were found within the limit. From the above AAQ data it can be concluded that all the monitoring location the values were found within the NAAQS limit as prescribed by Central Pollution Control Board notification dated 18/11/2009.*

(ii) *As per the guideline of CPCB, the unit has installed OCEMS in all the stacks of smelter to monitor PM and HF and in power plant to monitor PM, SO2 and NOx remotely round the clock. The CEMS data available at public portal of CECB/CPCB website and transmission was verified during visit.*

(iii) The waste water generated from various section of the plant has been treated accordingly. Cooling tower blow down, boiler blow down and condenser water are major source of waste water, for

treatment of these water the unit has provided ETP. 4800 m3/day ETP in Aluminium Plant , 2400 m3/day ETP in 540 MW Power Plant and 2400 m3/day ETP in 1200 MW Power Plant has been provided. Most of the treated water of Aluminium and fabrication section is being recycled in process and remaining water is used for horticulture and dust suppression inside the plant. The ETP of Aluminium plant is equipped with neutralization pit, clarifier, RO and UV. The unit has maintained ZLD condition at the time of visit and 02 PTZ camera has been installed.

(iv) The fly ash was transported to the nearby cement plant through bulkers or closed cover trucks, through a mechanically covered trucks. The status of major locations of fly ash dumping as reported by Committee is within permissible quality or places no fly ash dumping was observed.

(v) The agriculture department has informed that due to no complaint about soil degradation, the department has not carried out any such study.

32. In view of the facts and discussion made above, we accept the conclusions and recommendations of the Joint Committee and direct as follows:

1. Awareness programme shall be organized for common peoples regarding utilization of fly ash for its own use and make easier the process for obtaining the permission/NOC from regulatory authority. Any complaint regarding illegal disposal received at authorities then strict action according to rules including penal action on transporters may be taken. The state authority may instruct to all transporters for compliance of the guidelines issued by Central government and State government for safe transportation of fly ash and bottom ash. Every fly ash transporter must write on their vehicles 'If seen any illegal dumping of fly ash by this vehicle please inform to Collector'. The contact number of transporter should be visible clearly. In this regard official letter may be issued to all industries.

2. There is an urgent need to augment the utilization and disposal of fly ash in the State of Chhatisgarh. The State Government must fix responsibility and may ask to all power plants of the area as to how they would address this issue. To promote off take of dry fly ash, the concerned Thermal Power Plants (TPPs) of Korba should address the problem of transportation of fly ash in bulk quantity to potential users in economical and environment friendly manner. It is also suggested that supply of pond ash for road construction projects and brick making should be promoted. All TPPs should take necessary action for supply of fly ash to brick manufacturers located within 300 kms radius from Korba. Further, in order to establish a new avenue of ash utilization, there is need for transportation of wet fly ash in railway wagons.

3. As per the Provisions of Notification of MoEF&CC regarding fly ash, all TPPs should take action for filling of low-lying areas on own land as well as private land using pond ash. Therefore, in order to enhance fly ash utilization levels, General Manager of TPPs and District Administration is directed to provide the list of wastelands available within 100 kms of Korba. District fly ash disposal committee and representative of SECL, Korba should prepare list of abandoned mines/quarries for mine back filling purpose and the same for use by the TPPs as per applicable guidelines and permission from CECB. The district fly ash management committee may seek information from the user about the purpose of ash filling and what may be the probable use after ash filling.

4. The district fly ash management committee may take action on reclamation/remediation of major orphanage sites of ash dumping through CSR fund of all major units of the area and through public and institutional participation. There is need to develop infrastructure and establishment of cement grinding units in Korba region or any

new cement grinding unit in Korba area only. Initiation of road infrastructure projects such as ring road/ bypass road shall facilitate both connectivity of the region as well as it will create avenues for utilization of fly ash/ fly ash-based products. The TPPs may take prompt steps for scientific disposal of fly ash in accordance with the statutory notification issued by the MoEF & CC under the provisions of EP Act requiring 100% utilization and disposal of fly ash. In view of above, all TPPs must take prompt measures for disposal of both current and accumulated fly ash as per new fly ash notification issued by MoEF & CC vide notification dated 31.12.2021.

33. CECB is directed to periodically monitor the compliance of the recommendation submitted by the Joint Committee and in case of any non compliance, to ensure the compliance of the conditions and take necessary remedial measures according to law.

With above observations and directions, the Original application stands disposed of.

Sheo Kumar Singh, JM

Dr. Arun Kumar Verma, EM

19th September, 2022
O.A. No. 33/2022 (CZ)
PU