

# Coal Ministry Takes Proactive Measures for Disposal and Repurposing of Fly Ash

## 19 Coal Mines Allocated to Thermal Power Plants for Fly Ash Disposal

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In a significant move towards environmental protection and resource utilization, the Ministry of Coal (MoC) is actively working to ensure the proper disposal and repurposing of fly ash generated by thermal power plants. By disposing this byproduct of coal-based power generation, the Ministry is leading the charge towards a sustainable future, prioritizing environmental well-being and fostering a circular economy.



(Fly Ash filling at old Abandoned Quarry of Manikpur OC, Korba Area)

To minimize the environmental impact of coal combustion, the Ministry of Coal (MoC) promotes the proper disposal of fly ash. Extensive research and development have enabled the effective use of fly ash for filling voids and as a component in construction materials. This not only reduces its environmental footprint but also supports sustainable development practices.

The Ministry of Coal has undertaken a significant initiative to ensure the proper disposal of fly ash by allocating mine voids for this purpose. A Central level Working Group (CLWG) under the chairmanship of Additional Secretary, Ministry of Coal was formed in 2023 for the same. The interested Thermal Power Plants (TPPs) apply for the allocation of mine voids to the Central Electricity Authority (CEA), which is eventually discussed in the CLWG meeting. In this proactive move, a total of 19 mines have been allocated to 13 TPPs. This allocation addresses environmental concerns associated with fly ash disposal and promotes sustainable practices within the coal mining sector. Additionally, approximately 20.39 lakh tonnes of fly ash have been repurposed to date at Gorbicoal mine pit-1.

As per Ministry of Environment, Forest and Climate Change notification dated 3rd November 2009, the term "fly ash" means and includes, all ash generated such as Electrostatic Precipitator (ESP) ash, dry fly ash, bottom ash, pond ash and mound ash. Its composition, rich in silicon dioxide ( $\text{SiO}_2$ ), calcium oxide ( $\text{CaO}$ ), and aluminum oxide ( $\text{Al}_2\text{O}_3$ ), makes it valuable for various applications, transforming potential waste into useful material. Effective management promotes its use in construction activities, thereby minimizing waste, conserving natural resources, and reducing the carbon footprint.

The Ministry of Coal, in collaboration with the Central Mine Planning and Design Institute (CMPDI), is in the process of creating a centralized portal to manage the application process for the allocation of mine voids to Thermal Power Plants (TPPs) for fly ash backfilling activities. This portal aims to streamline operations and ensure transparency and efficiency.

Comprehensive feasibility studies are being conducted to explore the optimal methods for mixing fly ash with overburden in operational mines. Standard Operating Procedures (SoPs) have been established to guide the safe and efficient use of fly ash, addressing both safety and administrative considerations. A significant feasibility study is underway at the Nigahi operational mine in collaboration with the Central Institute of Mining and Fuel Research (CIMFR). This study aims to determine the optimal percentage of fly ash to be mixed with overburden, with results expected soon.

Ministry of Coal ensures the safe handling and management of fly ash, mitigating potential environmental concerns associated with the leaching of heavy metals and fine particle emissions and will continue to innovate and implement sustainable practices, ensuring a cleaner and greener future for India.



Fly Ash filling in Gorbi Mine (Pit-1), NCL

Fostering collaboration with power plants, industries, and regulatory bodies, Coal Ministry aims to achieve optimal fly ash management. This collective effort paves the way for a cleaner environment, a healthier future, and a more sustainable approach to energy generation.

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