

<p><b>Project title:</b> Advice on fly ash filling in Gare Pelma sector III opencast coal mine using ash from CSPGCL</p> <p><b>Project No -</b> CNP/4811/2019-20</p>	<p><b>Executive Summary:</b></p> <p>As per MoEF notification of 2009 and its subsequent notification, coal based thermal power plants must utilize their fly ash 100% ash. With due consideration of the MoEF notification, and volume of voids to be generated in near future in their captive opencast mines of Gare Pelma Sector III, the CSPGCL authorities were interested in the prospect of backfilling opencast voids with fly ash/overburden admixtures and approached CSIR – CIMFR for advice on utilization of fly ash overburden admixture for backfilling. Accordingly, samples were collected from field and laboratory studies were carried out to determine the physico-mechanical properties of ash, overburden and its admixture. Literature on the planned dumps profile, seam details and properties, hydrogeology was collected from the mine site. Two-dimensional numerical modelling for different dump geometry (internal and external) was carried out at with different ash – overburden configuration to determine its (Factor of Safety) FOS. From the modelling results it was found out that both with the increase in ash% in overburden and the bench angle the FOS reduces. On the basis of the above studies final dump configuration with ash – overburden mix was suggested.</p>
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