

Northwich Salt Mines, Cheshire, United Kingdom Grouting using 1,000,000 tonnes of conditioned PFA from Drax Power Station

Peter Brennan

Hargreaves Coal Combustion Products Limited, Drax Power Station, The Learning Centre, P O Box 3, Selby, North Yorkshire, YO8 8PQ.

KEYWORDS: Conditioned PFA, Grouting, Rail Transport.

ABSTRACT

This paper reports on the use of Pulverised Fuel Ash (PFA) in the infilling of former salt mines in Northwich, Cheshire in the UK.

PFA has been used for a number of years within the UK for filling old mine workings. The former salt mines located beneath the town of Northwich in Cheshire had long been identified as a major problem in terms of risk of subsidence. As a result, a comprehensive government backed study was initiated to identify the full scale of the problem and consider a way forward. In view of the large volumes involved, the use of either natural virgin aggregates or traditional concrete mixes would have been inordinately expensive. It was therefore decided to utilise a PFA/cement grout based upon extensive experience of successful use of this technique over several years for a number of large-scale mine infill projects mainly in the West Midlands area of the UK.

The project commenced during early 2005 with PFA being supplied from Drax Power Station. The material is supplied in conditioned form with an average moisture content of around 12%. PFA is transported to Northwich by rail with each train carrying some 1,100 tonnes of material. On average around ten trains per week are utilised with total PFA usage being estimated at 1,100,000 tonnes for the project which is expected to be completed during 2007.

Submitted for consideration in the 2007 World of Coal Ash Conference, May 7-10, 2007.