

INVESTIGATION OF J.P. MADGETT FLY ASH DAIRYLAND POWER COOPERATIVE

By: Tarun R. Naik and Henry J. Kolbeck

Report No. CBU-1991-15

ABSTRACT

Dairyland Power Cooperative (DPC) produces approximately 40,000 tons of Class C fly ash at its J.P. Madgett (JPM) Power Plant located in Alma, Wisconsin. Since about 1987 the fly ash is being disposed of in a landfill because the broker responsible for marketing the fly ash was unable to sell it due to problems with its use for ready mixed concrete. The problem consists of loss of entrained air in concrete mixes containing JPM fly ash. The broker, National Minerals Corporation (NMC) has not been able to identify or solve the problem as of this date.

Several other organizations were requested to review the problem. However, they have also been unsuccessful in finding a solution. Prior to sometime in 1987, no problems were experienced with loss of entrained air when JPM fly ash was used in concrete. The start of the problem apparently coincides with a change in the coal supplied to JPM. The "new" coal comes from a different part of the same mining region as the "old" coal. However, it is entirely possible that a resulting change in chemical or physical properties could change the behavior of fly ash in air entrained concrete. There may also have been some changes in plant operation which might contribute to the problem. It is also possible that this fly ash is getting blended with other source of fly ash. Further investigations are therefore necessary to find a solution to the loss of entrained air problem.