Question 94: To reduce the risk of igniting the gas mixture in the electrostatic precipitator (ESP), we are considering safety interlocks for de-energizing the ESP when carbon monoxide content gets too high. Please share your experience regarding (a) setting an appropriate trip point, (b) other interlocks to consider, and (c) advantages over operating procedures.

Jim Norton and **Chris Steves** (Norton Engineering)

Automatic trip points should be set so that the CO gas concentration is well below the Lower Explosive Limit (LEL). Consideration should also be given to adding interlocks to trip the ESP based on high concentrations of methane, especially if the ESP is downstream of a CO Boiler or if there are other potential sources of fuel gas/natural gas to the ESP (even during upset conditions). An automatic shutdown will provide a higher safety factor than relying on operating procedures.

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