

Accident Investigations and Expert Witnessing

AMCS' Engineered Services Group (ESG) is frequently asked to participate as an expert witness' or be a part of accident investigations. The experience of the ESG in the gases, specialty gases, and process industry have enabled this in depth support of our clients.

Chemical Plant Explosion:

A multimillion dollar loss from an explosion due to a runaway chemical reaction in a chemical plant which produces sensitive compounds, was the basis for contention between the plant owner and the control system provider-represented by AMCS.

The system consisted of batch steps programmed by the control system provider for operator decisions, and was equipped with visual screens, safety interlocks, alarms, and process data displays.

The central issue revolved around choices made by the operators and neglect of available information vs. the adequacy of control and safety system information and interlocks.

This interconnected system was dissected piece-by-piece in order to show that the ultimate responsibility for the accident did not lie with the control system, its programmer, or the hardware provider.

Oxygen Fire and Personal Injury

An oxygen fire occurred in a high-pressure automatic valve and pipeline during the startup of a process unit. One operator was severely injured. AMCS represented the valve manufacturer, which was accused of providing a valve not appropriate for the service.

In conducting the investigation, AMCS showed that a combination of external conditions, startup procedure, and an inadequate understanding of the system itself, in combination, were the main causes of the accident and injury.

Oxygen Valve and Pipe Combustion:

Initial pressurization of an oxygen pipeline and subsequent opening of a manual oxygen valve led to combustion and damage to valve and pipeline. AMCS showed that the procedure for opening the valve was not in keeping with safe procedures.