A large agribusiness corporation with multiple sites had a need for a process risk assessment for combustible dust hazards. Key areas included facility dust accumulation and equipment such as dryers, bins, and packaging systems. The challenge was to develop a fit for purpose Dust Hazard Analysis (DHA) to meet industry and corporate requirements.

RISK Inc. applied industry standards and corporate requirements to develop a fit for purpose DHA methodology. We collaborated with corporate subject matters experts to make sure it aligned with internal resources resulting in a methodology that improved existing hazard approaches. The execution of the DHA involved operations, engineering, site management and corporate combustible dust subject matter expertise.

Areas of analysis included housekeeping, process equipment, dust combustibility parameters, facility siting, human factors, ignition control, and safety management system effectiveness. Subsequent DHAs within the company were improved by incorporating lessons learned from initial studies, resulting in a more robust methodology.

Through the course of applying the detailed DHA it was identified that many other sites may still have combustible dust hazards but may not need the level of scrutiny used in the detailed analysis. Therefore, a secondary effort developed a coarse screening tool to identify fundamental gaps in combustible dust hazard management.

The use of the DHA methodology led to identification of undiscovered hazards and unrecognized near misses, as well as practical recommendations to improve site safety. Additionally, development of the screening tool led to a practical and easy to use resource for sites where a detailed DHA was not the appropriate entry approach to evaluate combustible dust hazards.