Case Study: A Risk-Based Approach for Combustible Dust Hazard Mitigation

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Abstract

The National Fire Protection Association (NFPA) issues codes to provide guidance for fire and explosion protection. Guidelines for combustible dust in wood pellet manufacturing facilities are covered by NPFA 664, Standard for the Prevention of Fires and Explosions in Wood Processing and Woodworking Facilities. In this case study, the first step was to review the process and determine which materials in the process posed a combustible dust hazard. The next step was to evaluate the existing equipment according to the prescriptive requirements of NFPA 664. In some cases, the prescriptive requirements of NFPA 664 would lead to significant and expensive changes to the process. By performing a PHA on the wood pellet manufacturing process at this facility, a risk-based approach was applied to achieve an acceptable level of risk by implementing protective systems and safeguards.