PELLET FUELS INSTITUTE

Harold E. Lawson

Vertical Market Manager

Manufacturing and Industrial

One united company.
Advancing fire protection.

Kidde Fire Systems

FIRE PROTECTION BACKGROUND

Thirty four years working for installing distributors of all types of special hazards fire protection systems.

Six years with Kidde Fire Systems as a Regional Manager and Vertical Market Manager.

Kidde Fire Systems

KIDDE FIRE SYSTEMS

We are a manufacturer of both engineered and pre-engineered fire protection systems. Our engineered systems offer the widest variety of gaseous fire suppression and fire extinguishing agents in the industry. We also manufacture commercial, industrial and off road systems using wet chemical, dry chemical and liquid systems to protect a wide variety of fire protection applications.

We manufacture Fire Detection and Control panels using a wide variety of detection products. Our detection device's vary from heat detection, smoke detection and multi-spectrum infrared for our engineered systems.

Our off road systems utilize their own control panel with linear heat detection cable as well as infrared devices.

SUPPRESSION AND EXTINGUISHING AGENTS

Engineered Suppression Systems

The following systems are typically used to suppress fire in rooms containing high value electronics such as Computer rooms, MCC rooms or Control Rooms.

Kidde ECS Clean Agent systems with HFC227ea

Kidde ADS Clean Agent systems with Novec 1230 Fluid

Kidde Fire Suppression systems with Argonite

Kidde Fire Suppression systems with Nitrogen

Kidde Fire Suppression systems with FE-13

Kidde Fire Systems

ENGINEERED AND PRE-ENGINEERED FIRE EXTINGUISHING SYSTEMS

Engineered Fire Extinguishing Systems

These types of systems are typically designed to protect rooms or equipment where a fire of greater magnitude is expected.

Kidde High Pressure Carbon Dioxide Fire Extinguishing Systems

Cardox Low Pressure Carbon Dioxide Fire Extinguishing Systems

PRE-ENGINEERED FIRE EXTINGUISHING SYSTEMS

These types of systems are designed to protect equipment of a given size and specific design such as commercial cooking equipment or small painting or industrial hazards. Additionally our off road pre-engineered extinguishing systems are designed to protect engine and hydraulic spaces for off road equipment used for logging, mining, or slag haulers in steel mills.

Kidde WHDR Wet Chemical Fire Suppression System to protect commercial cooking operations.

Kidde IND Dry Chemical Fire Suppression System to protect industrial machinery and equipment.

Kidde Sentinel LS Aqua Green Wet Chemical Fire Suppression System to protect the engine and hydraulic areas of off road equipment. In addition the Kidde Aqua Green System has been used to protect the drivers compartment of Hot Slag Haulers.

FIRE PROTECTION PROBLEMS

Conveyance of combustible material.

- Belt conveyors
- Chain link conveyors
- Auger or screw conveyance
- Pneumatic conveyance

Pellet Manufacturing

- Pellet Mills or Presses
- Dryers
- Coolers

Pellet and Material Storage

- Raw material silo’s
- Pellet storage silo’s

Kidde Fire Systems

PROBLEMS RELATED TO FRICTION

- Loss of bearings on long runs of belt.
- Head and tail pulleys for belts.
- Loss of electric motors or gear boxes.
- Augers and screw conveyance at change of direction or in metering bins

EXPLOSIVE HAZARDS RELATED TO DUST AND FINES

The small particle sizes add surface area and increases volatility of combustible materials when airborne.

In all areas of conveyance and chipping dust and fines should be kept to a minimum.

Dust collection systems and bag houses can be very hazardous and should be protected.

APPLICABLE NFPA FIRE PROTECTION STANDARDS

NFPA 850

The Standard for Recommended Practices for Fire Protection for Electric Generating Plants addresses Biomass Fuels in section 9.5.

NFPA 654

Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids

NFPA 652

A new code NFPA 652 is currently in development and will be overarching for managing combustible dust. To meet this new standard the following minimum requirements must be met.

Test data for the materials being processed.

A Process Hazard Analysis (PHA) must be conducted.

A dust management program needs to be developed and instituted.

AREAS WEAR KIDDE FIRE SYSTEMS CAN HELP PROTECT YOUR FACILITY

Raw Material Silos

Surge Tanks or Batch Silos

Pellet Mills or Presses

Finished Product or Pellet Silos

Cardox LPCo2 and HPCo2 have been used for many years in total flooding and local application fire systems to protect areas and equipment where water or other extinguishing agents will cause damage or additional downtime of the process equipment due to extensive clean up of water damaged product. The size or volume of the area being protected generally dictates the use of low or high pressure carbon dioxide systems.

Low pressure Co2 systems are used extensively in Coal Fired Power Generation to protect Coal Pulverizer's or Mills as well as Coal Bunkers and Silos. Co2 Liquid is discharged at the top of the silo to add an inerting blanket. We then inject Co2 vapor at multiple points, depending on the size of the vessel being protected. The inerting process can take place over an extended period of time to extinguish the burning material.

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