

Fire Prevention

The Risk

When processing wood materials to produce pellets there is a high exposure for wood material fires, dust fires, and or chemical/process fires. To initiate a good housekeeping program: be selective where you store your flammable materials (Hazard Communications Program), communicate, and share procedures for controlling workplace ignition sources such as smoking, welding, cutting, and burning material (Hot Work Plan).

Controls

Fire Prevention Plan

Although not every employer is required by OSHA to document and train on a plan, it is in the best interest of employers' to setup a plan to mitigate the potential risk. If you are an employer that has exposure to Ethylene Oxide, Methylenedianiline, or 1,3 Butadiene then you are required by OSHA to initiate a plan under (standards 1910.1047, 1910.1050, and 1910.1051). See also OSHA standard 1910.39 for Fire Prevention Plans.

Housekeeping Procedures & Training

Under OSHA standard 1910.22(a)(2) All places of employment, passageways, storerooms, and service rooms shall be kept clean and orderly and in a sanitary condition. Processing pellets has a high exposure for off dusting and fine material throughout the process. Not only is it critical to implement a dust control and training program for all new hires and employees to reduce the likelihood of wood dust fires and explosions, it is also critical to understand the proper cleaning techniques for removing dust/material accumulation in elevated areas in the plant. The National Fire Protection Association (NFPA) standard 654 focuses on the Prevention of Fires and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids and defines mitigation strategies to protect employee life and plant property.

Material Storage

It is the employer's responsibility to know what chemicals are onsite at all times. A best practice is training with all personnel on the importance of not bringing unauthorized and unapproved chemicals onsite. Procedures must be in place that require plant management approval for bringing chemicals into the plant. There should be a Safety Data Sheet (SDS) for each chemical used/stored onsite.

Chemicals that are highly flammable need to be stored in the proper "Flammable Cabinets" when not in use. Review OSHA standard 1910.1200 for more detail on Hazard Communication Plan, training, and requirement for employers and standard 1910.106 for storage of flammable liquids.

Hot Work General Requirements

OSHA standard 1910.252, 1910.6, and NFPA standard 51B,1962 references general safety requirements when performing hot work in areas with combustible particulate solids and other flammable materials/hazards. It is always a best practice to set up specific hot work area if possible.

However, there are times when moving equipment to the hot work area is not practicable. When performing hot work in areas with potential for flammable hazards such as wood material, pellets, dust, etc., a hot work procedure and program needs to be initiated.

Industry Learnings

It is not uncommon for critical work permitting to be used simultaneously. When multiple permits are in place (i.e., Hot Work, Confined Space, or Energized Work) it is a best practice to consider how these activities will interact. As an example, hot work being performed in a confined space can introduce additional levels of hazards such as fumes, creating an atmosphere that is Immediately Dangerous to Life and Health (IDLH). This interaction would prompt the need for additional controls and on-site rescue and response. It is best to review and consider how multiple permits will interact.

Disclaimer

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