ash trays, which may contain smoldering material, are not emptied into combustible bags or cartons or into containers of combustibles

Accumulations of all types of dust should be cleaned at regular intervals from overhead pipes, beams, and machines, particularly from bearings and other heated surfaces It must be understood that all organic as well as many inorganic materials, if ground finely enough will burn and propagate flame Roofs should be kept free from sawdust, shavings, and other combustible refuse Such cleaning preferably should be done by vacuum removal, because blowing down with air may disperse dusts into dangerous clouds

No such material should be stored or allowed to accumulate in air, elevator, or stair shafts, tunnels, in out-of-the-way corners, near electric motors or machinery, against steam pipes, or within 10 ft of any stove, furnace, or boiler

Rubbish disposal. Federal, state, and local laws forbid certain methods of waste disposal such as open burning, evaporation, flushing to sewers, etc In addition, fires are often caused by burning rubbish in yards near combustible buildings, sheds, lumber piles, fences, and grass, or other combustible materials Smaller firms that cannot justify an approved method of waste disposal on site should have the rubbish and waste materials collected If it must be burned, the best and safest way is with a well designed incinerator which meets the requirements of the environmental pollution control laws

Flushing and dumping waste materials into sewers may also be prohibited In many cases preplanning would include trap tanks which can be pumped out and the waste material disposed of properly Chemically altering a waste material may be considered before disposal

In any event, the requirements of federal, state, and local laws should be investigated when planning a process or a plant Investigation should include plans for emergency conditions, such as spills, release of vapors, and fire

Locker rooms. Lockers in which oil-soaked clothing, waste, or newspapers are kept are always a serious fire hazard Every precaution should be taken to provide fire-safe lockers and to prevent such combustible accumulations Lockers should be made of metal and have solid, fire-resistant sides and backs, but doors should have some open-work for ventilation Lockers should be large enough so that air can circulate freely around clothing hung in them Employees should not be permitted to leave clothing saturated with oils or paints in lockers

Where automatic sprinklers are used, locker tops may be covered with screening or be made of perforated metal so that water can reach burning contents if a locker fire occurs Heavy paper pasted over the tops will serve to keep out dust Lockers which have sloping tops and stand flat on the floor will prevent the accumulation of rubbish both above and below

Explosive atmosphere

Dusts. A dust explosion hazard exists wherever material that will burn or oxidize



FIG 43–10 —Demonstration of explosives properties of flour dust Sifting flour through a cloth into the flame produces fiery bursts that illustrate what happens in grain elevators and other dust-laden atmospheres when dust clouds are ignited