

BUILDING CONSTRUCTION AND MAINTENANCE

tions if at all possible. Barricades, fences, and guard rails should be set up. One type of horse barricade is shown in Fig 15-2.

When a construction job is being done in a part of the plant that must be kept in operation, a sheeted bulkhead can be erected to keep out dust and dirt and to isolate the operation as much as possible. Studs are put up from floor to ceiling or to the underside of the roof, then sheeted with plain lumber, wallboard panels, tarpaulins, or other material to make the bulkhead dust-tight. Flame-retardant materials may be required in some cases.

When construction operations are to be done where flammable vapors and liquids may be present or in other hazardous areas, the contractor's men should be subjected to the same rigid requirements that apply to the plant employees. Before cutting, burning, or welding is done by men employed by the contractor, a clearance should be obtained from the plant engineer or safety department to assure that the necessary fire and safety precautions have been taken. The usual requirements for ventilation and health protection also should be observed.*

In an area where no flame is permitted, either the manufacturing process will have to be shut down while welding and cutting are done, or screwed or bolted fittings will have to be used instead of welded connections.

Night lighting should be provided where necessary, especially in plant areas where open trenches or ditches create hazards in aisles and roadways.

The contractor and plant management should cooperate closely at all times in order to determine what precautions are necessary to prevent accidents. Particularly close liaison should be maintained during tie-in of new piping or equipment to existing lines and equipment to ensure the safety of subsequent operation. The contractor should maintain all his work in an orderly, well-kept manner.

Trucking

Contractors working either inside or outside the industrial plant should take great care to prevent trucks from colliding with pipelines, power lines, and equipment, to avoid interruption of plant processes.

The method for handling trucks within

the plant area should be agreed upon and protective measures taken. Here again, the importance of proper placement of barricades, fences, and guard rails cannot be minimized.

When trucks, bulldozers, powered wheelbarrows, and other mechanized construction equipment are to be operated within a plant, it is a good idea for the contractor and the plant management to agree upon the lines of traffic flow so that the areas in which the construction equipment will be operated will be known. When such agreement is reached, drawings of the areas can be made available to both the contractor's key personnel and the plant personnel affected.

It may be necessary to haul men in trucks from one location to another within the work area, and, unless controlled, this operation can become a major source of serious injuries. Men should not be allowed to stand on the running board or bed of a truck. They should not be permitted to sit at the side or end of a truck because they may be struck by passing vehicles or caught between the truck and a building, platform, tree, or other object.

Men should not be permitted to ride on a loaded truck because a load shift may injure them or they may be brushed off by overhangs.

Removable plank seats can be installed in pickup trucks, in stake body trucks, and even in dump trucks. However, if men are hauled in dump trucks, a body lock should be installed to prevent the dump body from being raised accidentally.**

Miscellaneous machinery and equipment

Modern construction requires a variety of machines: tractors and bulldozers for site preparation, power shovels and draglines for excavating, cranes and derricks for placing structural members, concrete mixers, com-

*See National Safety Council, 425 North Michigan Ave., Chicago. *Hot Work Permits (Flame or Spark)*. Data Sheet 522. And Chapters 28 and 29 in this Manual, "Local Exhaust Systems, General and Comfort Ventilation," and "Welding and Cutting."

***Ibid*. *Motor Trucks for Mines, Quarries, and Construction*. Data Sheet 330.