(Text continued from page 33-17)

In addition to fire equipment, electrical equipment, machinery and processing equipment, housekeeping conditions, and other fire causes should be checked at regular intervals

In some high-hazard occupancies, daily inspections are required, otherwise, thorough weekly or monthly inspections are satisfactory, especially if the plant safety committee inspects for simple fire causes

Special inspections may be required following alterations in the plant A complete check, early enough in the season for replacement or repair, should be made of equipment which will be exposed to freezing temperatures

For greatest benefit a written record is essential (see Fig 33-13) It should be a form that is specifically drawn up to fit the conditions of the individual plant in order to facilitate the inspection and complete enough to help make sure that no part of the system is overlooked It will also assist the inspector in making comments and bringing recommendations to the attention of those responsible

Matches and smoking

Carelessly discarded cigarettes, pipe embers, and cigars are a major source of fire

Although it might be desirable to eliminate smoking completely in a plant, such a rule is difficult to enforce It is better to allow smoking at specified times and in a safe place where supervisors can be maintained than to have it done surreptitiously in out-of-the-way places

Smoking should be prohibited in woodworking shops, textile mills, flour mills, grain elevators, and places where flammable liquids or other flammable products are manufactured, stored, or used Even in these operations, enclosed or removed areas can be set aside to allow workmen to satisfy their smoking needs in a safe manner

"No smoking" areas should be marked with conspicuous signs and their exclusive use rigidly enforced everyone, including supervisors and visitors, should adhere to the regulation It may be necessary to use more than signs to draw attention to the "no smoking" areas Lines drawn on the floor or illuminated barriers placed around areas or processes have been effective.

In many high-hazard occupancies, smoking is permitted in special fire-safe rooms or during periods when there is no exposure In such cases, instructions or warning signs to that effect should be posted Where the exposure is severe, employees should even be prohibited from carrying matches, lighters, and sometimes smoking material of any kind into the danger areas

In any case, the use of "safety" matches should be encouraged, and smoking should be allowed only in fire-safe areas Where carrying matches into the plant is prohibited, special lighters are often provided in smoking rooms

Even in plants where there is little fire hazard, employees should be encouraged to deposit matches and smoking materials in a safe container rather than on the floor This practice will discourage employees from throwing matches and cigarettes into places which may not be fire safe

Spontaneous ignition

Spontaneous ignition results from a chemical reaction in which there is a slow generation of heat from oxidation of organic compounds that, under certain conditions, is accelerated until the ignition temperature of the fuel is reached This condition is reached only where there is sufficient air for oxidation but not enough ventilation to carry away the heat as fast as it is generated

It is a condition usually found only in quantities of bulk material packed loosely enough for a large amount of surface to be exposed to oxidation, yet without adequate air circulation to dissipate heat Exposure to high temperatures increases the tendency toward spontaneous ignition

The presence of moisture also can advance spontaneous heating unless the material is wet beyond a certain point Materials like unslaked lime and sodium chlorate promote spontaneous ignition, particularly when wet Such chemicals should be stored in a cool, dry place away from combustible material

It is generally agreed that at ordinary temperatures some combustible substances oxidize slowly and under certain conditions can reach their ignition point These include vegetable and animal oil and fats, coal, charcoal, and some finely divided metals Rags or waste saturated with linseed