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ARE LEASE TANK BATTERY FIRE-WALLS NECESSARY IN PRESENT DAY OPERATIONS?

The maintenance of fire-walls or dikes around lease stock tanks is a practice that is an out-growth of the experience of operators in the very earliest day of the American petroleum production industry. The practice of maintaining fire-walls under modern producing conditions and with the use of modern equipment is a thoughtless carry-over from those early days and is supported only by a false sense of hazards involved. The practice of maintaining fire-walls was adopted in the early days due to the topography and generally wooded areas in the Eastern States, wherein the first crude storage tanks subject to leakage and overflow created fire or stream pollution hazards. Because of that condition, state regulations were adopted making it illegal to operate any lease without constructing a wall or ditch around the tank battery. Those state regulations were carried forward as the industry spread to other areas in the United States and were not altered even in the face of improved equipment or greatly improved operating practices.

Generally, present state regulations call for a retaining wall of such heighth enclosing an area sufficient to create a capacity equal to or greater than the capacity of the enclosed tanks.

The intended functions of fire-walls are usually considered to be as follows:

1. Control fire which has started within the limits of the battery from spreading to outside areas and also of fire which has started outside the tanks from approaching the proximity of the tankage.

2. Keep oil which has been accidentally overflowed from tankage from spreading over the surrounding land.

In many regions where oil is produced in the United States, the terrain is such that damage to farm lands from accidental oil overflow or from spreading fire would be negligible. The chances of an outside conflagration attacking the tankage would also be slight.

The main problem then seems to be the one of comparing the cost of constructing and maintaining fire-walls to the actual tangible and/or intangible benefits and insurance derived from their usage. In some areas the over-all cost of constructing and maintaining walls throughout the life of the battery runs into a considerable money, whereas the maximum damage which might occur from any type of run-over or fire would be small. In most of the producing areas of the Mid-Continent this is certainly the case, particularly so in those portions where the plains and desert pervail.

In addition to the unnecessary expense involved, there are several distinct operating disadvantages in having fire-walls around lease tank batteries. These disadvantages may be summarized as follows:

1. Fire-walls prevent proper drainage conditions around the battery, with resultant exterior corrosion of tank bottoms.

2. They provide a trap for wind-blown trash and weeds.

3. They form a collecting basin for spilled oil and poisonous gases.

4. They are a definite hindrance to "good housekeeping" in that normal maintenance and repair work around the tank battery is made more difficult.

5. They necessitate stairways over the wall, thus creating an additional safety hazard to employees.

It should be stressed that under modern day operations the use of lease tank battery fire-walls in most areas is absolutely useless and in many cases quite harmful. Oil field equipment is greatly better and more efficient in operation than it was during the time when existing state regulations were formulated. A majority of the operators are currently using steel welded tanks of heavy gauge material and pressure relief equipment thereby reducing the hazards of leaking or rupture to a minimum. Modern pressure-tight connections and fittings are of a type which promote safe operations. Furthermore, the use of burning pits for disposal of waste oil and water is now a common practice which itself is a safety precaution. There are few if any wood tankage in use today in the more recently developed fields.

There are, of course, some instances where it is desirable that fire-walls and dikes be used. This is particularly true in areas where there is grave danger of drinking water pollution or where valuable crops and timber might be damaged by fire or oil. Also in densely populated communities fire-wall protection might be of unestimated value both for physical and physological reasons. In such cases, it would surely be to the advantage of the producer to have adequate fire-walls around tank batteries.

Some states (Kansas and Oklahoma) have recognized this situation and have as a result removed all fire-wall regulations from their general conservation rules. This was done on the theory that special field rules, if needed, could take care of local conditions.

We believe that the existing New Mexico State regulations in regard to the blanket requirement for fire-walls are outmoded and should be either repealed or amended.