Table 8.9.: Design, Installation and Spacing of Flame Detection Systems

ITEMS	REQUIREMENTS
2. SPACING	i. Radiant energy–sensing fire detectors shall be employed consistent with the listing or approval and the inverse square law, which defines the fire size versus distance curve for the detector. ii. Detector quantity shall be based on the detectors being positioned so that no point requiring detection in the hazard area is obstructed or outside the field of view of at least one detector. iii. The location and spacing of detectors shall be the result of an engineering evaluation that includes the following: a. Size of the fire that is to be detected b. Fuel involved c. Sensitivity of the detector d. Field of view of the detector e. Distance between the fire and the detector f. Radiant energy absorption of the atmosphere g. Presence of extraneous sources of radiant emissions h. Purpose of the detection system i. Response time required. iv. In applications where the fire to be detected could occur in an area not on the optical axis of the detector, the distance shall be reduced or detectors shall be added to compensate for the angular displacement of the fire in accordance with the manufacturer's published instructions. v. Because flame detectors are line-of-sight devices, their ability to respond to the required area of fire in the zone that is to be protected shall not be compromised by the presence of intervening structural members or other opaque objects or materials. vi. Provisions shall be made to sustain detector window clarity in applications where airborne particulates and aerosols coat the detector window between maintenance intervals and affect sensitivity. vii. Radiant energy–sensing detectors shall not be placed in protective housings (e.g., behind glass) to keep them clean, unless such housings are listed for the purpose.

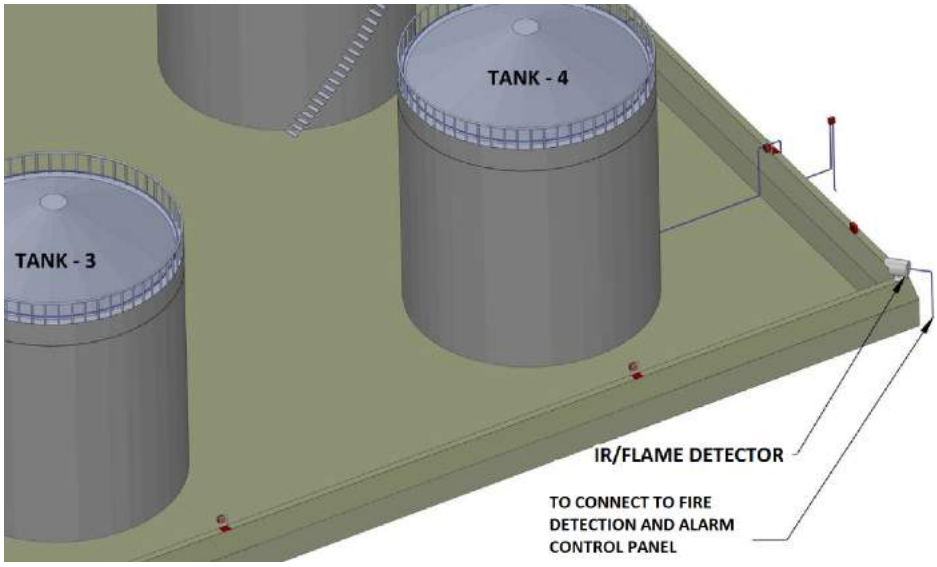

Figure 8.24.: Radiant Energy Detectors installed at Fuel Tank Yard