
Cadburys Monkhill Confectionery, UK



Client: Monkhill Confectionery Limited

Monkhill Confectionery Limited, Pontefract manufactures and markets sugar confectionery products and popcorn under the brand name Butterkist.

In 2007 the new 95,000sqft popcorn manufacturing factory was completed. The new factory was built to replace the existing factory which was destroyed by fire in 2005. The factory contains the popcorn manufacturing facilities at ground level and a high bay racking storage facility for the incoming ingredients and product dispatch loading bays.

As part of the factory construction a sprinkler system designed to European Standards was installed to cover the manufacturing and high hazard storage areas. The sprinkler system was supplied by a dedicated 411m³ water storage tank and two diesel fire pumps located in a pumphouse and connected to the system via an underground trunk main. The pumps also supplied the external fire hydrants in the lorry loading bay.

Incendia Consulting carried out a full hydraulic analysis review of the fire protection system following an insurer's inspection which had found that the sprinkler protection within the high hazard storage areas was operating at a level greater than the ability of the stored water capacity of the fire water tank, therefore reducing the operational duration of the system. This greatly increased the risk of fire losses for the Client and Insurers and the risk of business interruption in the event of a fire.

The hydraulic analysis of the system carried out by Incendia Consulting required the interigation of a hydraulic model of the system to determine the optimum piping configuration and sizing to reduce the systems operational flow to achieve both the correct density coverage of the high hazard storage areas and the stored water volume of the fire water tank.

The resultant piping modifications recommended by Incendia Consulting resulted in the operational duration of the system being increased to the satisfaction of the insurers, and a reduction in the risk of fire losses and business interruption in the event of a fire.