

## CASE STUDY: Farmfoods, Solihull

## PROJECT: Refrigeration plant longevity

### STAR REFRIGERATION HELPS LEADING FROZEN FOOD SPECIALISTS DELIVER STOCK TO MORE THAN 300 SHOPS

Star Refrigeration has the reputation for installing and maintaining long-lived quality refrigeration solutions able to meet the needs of some of the biggest and most respected names in the UK. Farmfoods is one of the companies we work closely with.

Farmfoods is dedicated to bringing superior frozen food to its customers. A Scottish-run family business, it relies on quality equipment to ensure its range remains in perfect condition. For the past three decades, the Star installation at Solihull has ensured that every product is maintained and despatched to stores at the optimum temperature.

“Originally built for Birds Eye, the depot was purchased by Farmfoods in 2000”, said Julian Hill, Engineering Manager at Farmfoods. “Since Farmfoods took over the system there has been just a six month period where it wasn’t in use. When Birdseye left and Farmfoods took over, it was closed down. Our engineer came in every day just to make sure everything was okay, but once we bought it, we turned it all back on and Star has ensured it runs smoothly ever since”.

Andy O’Brien, Senior Engineer at Star Refrigeration, further highlighting the reputation for

reliability Star has in the cold storage industry, said, “The plant is 33 years old. Built to Lloyd’s requirements in 1984, the two stage surge ammonia refrigeration plant includes four reciprocating compressors, a low temperature surge drum, intercooler, receiver, hot gas defrost valve stations and waste heat recovery for the glycol underfloor heater mat. Provision was made for future expansion of the store and in 2003, three further evaporators were added to the system, increasing cooling capacity by 225kW”.



Farmfoods warehouse

The warehouse has 13,000 pallet spaces across three different chambers - a cold store, a chill store and an ambient area.

The system uses environmentally-friendly ammonia, which is a natural occurring gas with zero ozone depleting and global warming potential. It is one of the most efficient refrigerants for this type of application. According to Farmfoods Engineering Manager, “the use of future proof ammonia, the robust industrial build quality of the system, and regular pro-active maintenance are the reasons the system has survived the test of time”.

Since it was first installed, Star Refrigeration has provided full maintenance including a major overhaul of compressors and liquid pumps or any other works required by Lloyd’s insurance as well as cover for out of hours service calls. Hill said, “Maintenance work on the plant includes review of operating performance, inspection of equipment including compressors, evaporators and condensers and oil recovery”.



Star’s Andy O’Brien and Mr Hill of Farmfoods with the original plans

Despite the system’s age, Farmfoods has experienced uninterrupted operation. Hill said, “There have been no major problems, no forced shutdown of the plant”.

Modifications have also been made to improve plant reliability and efficiency. The original evaporative condenser was still in use and according to the manufacturer, the condenser was their oldest in operation in Europe. To safeguard the future operation of the facility, it was decided to replace the condenser. Andy O’Brien described

the process, “it involved a carefully planned programme including a short shut down of the system to enable the addition of new connections and extended pipework. Prior to the shutdown, the store temperature was lowered, to ensure product remained at the desired temperature”.

Farmfoods confirmed that “the replacement works were completed to plan and with no disruption to our operation”.

To enhance operational efficiency, the new condenser was fitted with Star’s Aether control system. Aether varies fan speed based on heat rejection load and ambient conditions, saving motor power and ensuring optimum condensing conditions throughout the year.

Star’s focus on efficiency and extended working life, as well as reducing carbon emissions, has helped Farmfoods keep running costs down over the years.

Farmfoods and Star Refrigeration have enjoyed a successful and longstanding relationship for decades. In addition to the condenser works at Solihull, Star has also recently installed two Azanefreezers and an Azanechiller at Farmfoods new facility in Bristol in 2014 and will continue to support the frozen specialists in the years to come.

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