

Technical Report For Tangerine, Cleckheaton Site –

Sugar Silo Planning Application - rev0

Report Date: 2nd February 2018

INTRODUCTION

As with most competent, manufacturing sites and businesses, British Sugar has a duty of care to its own employees, its Contractors, Customers as well as general members of the public to ensure that their operations comply with the strictest of safety rules and control measures. It is within the culture of British Sugar to risk-assess all of its operations and activities and to reduce the risks to acceptable levels to safe-guard against incidents and accidents and this extends to the environment as well. Often they work closely with their Customers like Cleckheaton to bring about change so that these good practises can be promoted and to reduce safety risks to acceptable levels. This contributes to the positive sustainability of all concerned.

Brief Description.

Tangerine Confectionery have been a loyal Customer of British Sugar for many years now and they work together collaboratively on a number of initiatives. Both Companies have a Safety Management system that includes a near-miss reporting system that gets used as a fore-warning to the potential incidents that could result from poor practices or poor design. A safety audit of bulk sugar deliveries took place on the Cleckheaton site a number of years ago that considered all of the activities and hazards that our arrival to this destination had on the environment around us. From that risk assessment it was decided that the driver operating his hydraulic controls whilst standing in the public road was too high a safety risk and the decision was made to change the routing to the factory to accommodate the driver standing on the layby-side of the delivery and therefore out of the path of 'boy-racers' in South Parade road. Generally speaking the Cleckheaton site uses approximately 3,500 of sugar per annum. They have an internal bin sugar silo that has a holding capacity of 16T. Their consumption rate of sugar combined with the small silo capacity means that they have two sugar deliveries per day; one early in the morning – generally around 08:00 with the other happening early afternoon – around 15:00. They generally have daily sugar deliveries and the amount of sugar that actually gets delivered could be anything between 12T – 16T per day. It has been found that although this is the most inefficient site to serve, the most cost effective way of servicing it is to use one tanker and one driver for both deliveries. The driver has significant 'deadtime' in between the morning and afternoon deliveries. The discussion below will explain the need to install the new sugar silo and the reason for having it located as close to the delivery point as possible. Clearly, installing the sugar silo needs to take into account and be sensitive to the needs and concerns of the neighbours and other stakeholders.

Risk Assessment Report (Barriers, constraints and positives):

1. Silo Installation Motivation: It is understood that the silo installation has been granted planning permission by the Authorities but that the request to relocate the silo was rejected by a committee panel. This report is intended to explain the reasons for the re-application of the silo re-siting and to explain the consequences of the silo remaining in the pre-selected location. The silo installation project will increase the sugar storage holding capacity on site four-fold. This means that bulk sugar deliveries will only happen every 3 days as opposed to happening every day. The environmental impact of this is significantly reduced. Fewer vehicle movements in the area, lower noise durations, less diesel fumes removing the general hazards of industrial activities in the public right of way etc.

2. **Sugar Silo Location:** Moving the sugar off-loading activities to the yard has a number of safety advantages: The tanker and tanker driver are not exposed to the passing traffic in the very narrow South Parade side street. With British Sugar re-evaluating the risk assessment for the site deliveries and re-routing the tanker approach has meant that the tanker passes three schools before entering the top end of South Parade Road. This road is highly congested with resident's cars parked in a haphazard pattern to the extent that the Police have had to be called out on numerous occasions to get the public to move their cars in order that the articulated 44T tanker can access the site delivery point. Clearly, these actions do not gender good relations with residents in the area and discussions generally become heated on these occasions. To move the tanker operations to the yard, Cleckheaton site will have to sacrifice articulated lorry vehicle movements in the yard for the duration of tanker off-loading operations - due to congestion. Hence timed-sugar deliveries will be arranged. The sugar deliveries can be timed in such a way as to minimise the noise impact on the neighbours. Clearly, the shorter the delivery times the less noise exposure to the environment. Also, if noise remains an issue a sound-enclosed land based blower could be employed to reduce noise levels. However, there will always be some residual noise as the tractor unit has to be started to operate the hydraulics. The engine noise emitted from modern, tractor units is well controlled and totally acceptable. British Sugar recommends that the sugar silo should be sited as close to the yard as possible to minimise the deliveries time. If the original siting is maintained it is estimated that a 30T delivery will take approx 180 – 200 minutes whereas if the silo could be located within 10 – 12m of the back yard door the delivery will take an estimated duration of between 120 – 140 minutes. These times are associated with 0.86barg pressure (12 PSI) deliveries. The pneumatic conveying of sugar down the pipes themselves is virtually silent.
3. **Crystal Attrition:** Since the sugar is pneumatically conveyed along the piping to the sugar storage silo, it is exposed to the walls of the piping and gets damaged as a result. The longer the pipework and the higher number of bends etc will adversely affect the sugar condition once it arrives in the silo. The additional sugar dust generated during this conveying makes it more difficult for the site to handle sugar and blockages and lumping can be predicted if the dust content is too high. The piping should be kept as short as possible to maintain the integrity of the sugar crystal.
4. **Spills and Emergency Procedures:** Generally speaking the consequences of dealing with emergency situations is always better managed if they occur within the confines of the yard, rather than in the public street. The typical substances involved with spills could be: granulated sugar, food-grade oil, hydraulic oil, Ad-blue additive, diesel fuel and engine water coolant. Most of these substances can be well managed using the spill kits that are available but this could be more serious situation if a road traffic collision was to rupture a tank (uncontrolled release).
5. **Site constraints:** The proposed site for the silo installation will be at a lower elevation than if it was to remain at the original siting. There are sets of neighbours at the rear of the factory that will have sight of the silo – however the silo does not have to be intrusive. A fence or barrier (max 2m tall) could be erected to limit the visible impact for neighbours, if required.
6. **Yard Management, Traffic and Safety Rules:** The proposed new location for the silo would mean that the tankers will no longer need to proceed down South Parade Road and the Police will no longer have to be disturbed, neither will be school need to be encountered along the route. It does man however that Banksman will have to stop the traffic temporarily to allow the driver to reverse up into the yard, through the gates. There is sufficient off-road space to park the length of the vehicle, even if the gates are locked, before accessing the yard.

Recommendations

- 1.0 Based on the above barriers and constraints on the Cleckheaton site, it is recommended that the Committee seriously consider the implications for extended delivery durations and the noise impact, without mentioning the damaged sugar crystal for production purposes and therefore they should approve the re-siting of the silo to be closer to the delivery point to minimise the environmental impact of sugar deliveries.
- 2.0 The re-siting of the silo location also reduces the residual risks of performing industrial operations to a controlled environment – the yard, as opposed to the street.

Conclusions.

1. Cleckheaton is a major employer in the Bradford area and as such steps are being taken to improve the sustainability of the Business and to reduce the environmental impact of their industrial activities. Also, they wish to be responsible neighbours by limiting exposures to a level that is acceptable. Installing the sugar storage facility in the new location will meet all of these requirements.
2. The introduction of the bulk sugar silo storage facility will have a positive effect on the operations and will also lower the health and safety risks to acceptable levels. At the moment, performing industrial activities in the public road is considered intolerable due to there being pressurised tanks. Should a road traffic collision take place with a discharging, pressurised tanker, the consequences could be severe.
3. The closer sugar silo storage facility would reduce the amount of crystal attrition (dust generation) and would assist with the sugar meeting the particle size specification of the sustainable production requirements.

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