A. Air

- **Combustion gases and volatile compounds**

  It has been considered that the risk of fugitive emissions to air is minimal. There have been no reportable incidents during 2017 of refrigerant released to air.

  The gas boilers undergo an annual scheduled maintenance test to identify faults that could lead to abnormal releases.

  The majority of the chemicals used at the site are of low volatility, so if a spillage occurred there would be no significant releases to air.

  The status of the refrigeration system is monitored continuously via the RDM refrigeration management system and any leaks will be detected quickly. The software was installed in early 2010, with the implementation of a procedure to assist advanced warning of potential leaks of refrigerant. On a weekly basis, the outlet valve of the liquid receivers will be closed, “pumping down” the system. The liquid level will be recorded.

- **Odours**

  There were a number of unsubstantiated odour complaints received during 2017 in relation to odour complaints that had been received by Natural resources Wales (NRW). Following discussions during a series of site visits from NRW and Welsh Water it was suspected that these complaints are in reference to Welsh Water’s sewage system downstream of the 2SFG Merthyr site. Welsh Water are continuing to investigate and map their network within the Dowlais Top area and 2SFG will assist with their ongoing investigation.

  There was one permit non-compliance issued in relation to odours in 2017, caused by a Lairage/Farmyard smell that had been detected from the evening of the 30/8/2017

until midday on 1/9/2017. Following this, 2SFG have reviewed the onsite odour investigation procedures and been placed on an automatic email notification system by NRW. These steps should enable 2SFG to undertake any future investigations as soon as any complaint are received by NRW.

- **Odour abatement**

Some of the operations carried out on site are odorous by nature. The plant was designed taking this into consideration and these operations are confined in buildings where possible, and located in the North or West end of the site, away from nearby receptors.

The main operations that could lead to odour releases are:

a) Waste disposal /Animal By-Product Transfers

The main control measure to avoid the generation of odour is frequent collections and adequate storage. Table 1 below summarises the site arrangements for the different types of potentially odorous waste or animal by products.

Table 1: Waste disposal arrangements

Contractor	Description of Waste	Service/Disposal Route	Transport
Waste Contractor / Transport			
GP Services	Gut content / lairage waste/ DAF sludge/ Ovine blood	Transport/AD	Bulk/Tanker
Agnail Ltd	Mixed Waste, Hazardous Waste, WEEE Waste, Waste Oil, Recycled Cardboard, Plastic	Transport/ Sorting, Recycling and Landfill	Various

Abba Scrap	Metal	Transport Recycling	Lorries
Disposal			
APC	Bovine Blood	Transport/Further processing	Tanker
NCT Leather	Hides/Skins	Tanning	Lorries
Sarval	Lambs Heads/Feet	Transport/Rendering	Bulker
Omega Proteins	Bones/SRM Incineration	Transport/Rendering/Incineration	Bulker
Griffiths Pallet Service Ltd,	Wood	Transfer	Skip

Blood Storage and disposal

The site procedures are:-

- The new refrigerated bovine blood storage system has run well during its third year of use. Collection occurs daily and the nature of the system has eliminated all odours.
- Blood tankers collections are supervised by Engineering, Security, or a Yardman.
- Blood tanker driver training records are supplied by contractors.
- Copies of relevant procedures are available inside the blood storage room for reference.
- The active carbon filters are inspected every 2 months and changed every 6 months.
- Hygiene and house keeping standards have been maintained and the blood storage room and associated areas are cleaned daily.

b) Lairage

The build up of odours in this area is minimised by the constant movement of air by means of air fans, air extraction and adherence to Cleaning Schedules and Company procedures:

- The lairage works on a clean-as-you-go basis and as soon as the pens are emptied the dung is removed and the pen cleaned. Further to this, the

lairage is cleaned on a daily basis. Deep cleaning of the Lairage is controlled by a site policy, whereby NRW will be informed in advance, in order to be aware of potential odour issues.

- We work a clean livestock policy and suppliers are requested to present clean animals for slaughter. Additionally, we recommend suppliers not to feed the animals from the night prior to delivery.

The above procedures are independently monitored by the FSA as they are to ensure the hygiene of the operation and hence safe products.

c) Effluent Treatment Plant

The Effluent Treatment Plant (ETP) is located in a self-contained building and maintained to work at its optimum performance. The house keeping and maintenance measures in place also help to limit to the installation boundary potential odour emissions, among these measures:

- Effluent sludge is removed daily, or every other day, depending on levels of production.
- Doors are kept closed when not in use.
- The ETP is cleaned daily and 'deep cleaned' once a week.
- Dedicated staff monitor the functioning of the plant continuously to ensure optimum performance and tackle any problems that may arise.
- Both effluent holding tanks are sealed and are fitted with active carbon filters.

An odour neutraliser system is fitted to the coarse screen pit and the compactor room in order to neutralise any odours generated. Site procedures will continue to be monitored and reviewed, in order to minimise the potential for odour generation prior to this.

d) Drainage system

The drainage system is served by a series of pumping pits fitted with dual pumps, failure alarms, high and low level controls and high and low level alarms. ETP staff will

immediately be alerted of any failure that could lead to effluent build up, and hence potential spillages and bad odours, so that immediate action can be taken.
This system is undergoing a gradual update by bypassing the pumping pits to discharge direct to sewer. This in order to give a more controlled and constant flow and to prevent build up of deposits and the associated costs of cleaning of the pumping pits.

e) Livestock transport cleaning

Livestock delivery vehicles are cleaned in a dedicated area before leaving site. All the waste collected during cleaning is stored in dolav bins and disposed of with dung and straw from the lairage. Waste liquid generated by the cleaning process enters the coarse screen pit and is treated by the ETP. Interceptors are regularly cleaned and the screened material disposed of as above.

f) Slaughter hall and meat processing operations

Adherence to hygiene cleaning schedules prevents the generation of odours in these areas. All operations areas undergo a deep clean after production, using foam and sanitiser. The operations in these areas are independently supervised by the FSA. The generation of odours due to poor hygiene conditions would imply an obvious food safety and quality risk and the site would not be allowed to operate.

g) Incinerator

The Incinerator has been removed from site.

Water

The risk of emissions from other points than those specified in the environmental permit is considered to be very low and there are no new activities on site that will increase the risk.

The drainage system, diesel tank and associated pipe work are the only underground structures.

The integrity of the drainage system sumps is inspected regularly and no faults have been found that could lead to fugitive emissions.

All areas where potential contaminants are handled and stored are hard surfaced and preventive measures, like spill containment kerbs, have been built in where necessary.

Surface water from dirty areas is collected by the foul drainage system so that it can be treated before releasing it to the sewer.

A dip test of the diesel storage tank followed by a reconciliation exercise is carried out every week to monitor their integrity.

The dosing system has been installed on a permanent basis at PP11, which pumps Hydrogen Peroxide into effluent leaving site, in order to neutralise Hydrogen Sulphide gas, and therefore reduce odour issues from Welsh Water's sewers downstream of the 2SFG Merthyr site. Pumping pits have also been bypassed or filled in, in an attempt to reduce odours by smoothing out effluent flow.

- **Spillages**

  A fuel spillage occurred in September 2017 caused by a waste haulier's vehicle being involved in a collision with a barrier that resulted in a ruptured fuel tank. The spill was managed effectively by the site team and a spill response contractor and resulted in no pollution to the environment being caused.

B. Land

All factory waste is stored in appropriate containers on hard surfaced areas and collected and disposed off site by licensed contractors. We believe that the risk of fugitive emissions to land is minimal.