FREIGHTLINER - IPSWICH FUEL POINT

Summary

- Use of sidings at Ipswich Fuel Point for locomotive stabling is an essential and critical part of Freightliner's operation.
- There is no realistic scope for locating this function elsewhere – the site is Freightliner's only facility of this type for a very considerable distance.
- Operation of the locomotives is directly in accordance with good practice and manufacturers recommendations.
- There is no reasonable or practicable modification to the operation which can be put forward to reduce exhaust emissions into the immediate environment

Freightliner owns a long lease on the site known as Ipswich Fuel Point. A site plan has been provided separately. In total the site extends to about 1.5 acres. Adjacent land is predominantly owned by Network Rail, who own the freehold of this site.

The site includes rail sidings, fuel point and ancillary facilities. It is used directly in conjunction with the adjacent train crew building which has benefit of a car park accessed off Ancaster Road.

Ipswich Fuel Point began life sometime between 1867 and 1884 as a steam locomotive servicing point for the Great Eastern Railway's adjacent station. It has remained as a locomotive servicing point ever since. Steam locomotives were replaced by diesels from about 1958 with the dieselisation of East Anglia following introduction of the 1955 British Railways Modernisation Scheme.

When the railways were privatised from 1995, the land holdings were divided primarily between Railtrack (now Network Rail) and the freight companies. The main lines and most sidings and stabling yards went to Railtrack, who then leased the sidings and yards to the freight companies, based on their traffic requirements and customer base. All surplus land remained with the former British Railway Board to be sold for redevelopment. The railways were seen as a declining industry and little provision for expansion was allowed for. Useable railway land is therefore in very short supply.

Freightliner has one other limited area of sidings known as Top Yard (off Ranelagh Road). This provides three sidings and no other facilities. The capacity of that site is entirely committed to container train wagons. Freightliner has no other operational facilities in the area. It would therefore not be practicable simply to move the operation away from its current location next to Ipswich Station.

The railway line from London to Norwich was electrified in the late 1980's. However the branch line between Ipswich and Felixstowe remained as a diesel only operation and all docks traffic and passenger services require diesel traction. In addition certain trains travel across East Anglia to Peterborough etc in order to reach Midland and northern destinations and these remain a requirement for diesel traction. The whole *raison d'etre* for the location of the Ipswich Fuel Point is therefore to enable Freightliner and others to serve the extensive dock complex at the Port of Felixstowe, which cannot be reached by electric traction.

The site provides for locomotive stabling and fuelling, in conjunction with train drivers' facilities where drivers can sign on, obtain critical safety and operational updates and join their locomotives. Services from Felixstowe are of critical importance as this is the largest container port in the UK.

Technological developments over the years have improved the performance and environmental impact of various traction units. Not only do the latest designs meet all the required standards for emissions, but further improvements are being incorporated as each generation of new unit enters traffic.
The oldest diesel units in use in the Ipswich area, which date from the mid 1960's and amount to only three or four in number, are expected to be eliminated from regular traffic during 2004.

TECHNICAL ASPECTS

Freightliner operates five different types of mainline locomotives, three of these are diesel fleets which regularly visit Ipswich. The oldest fleet is that of the Class 47s, which were built around 1965, only three remain in operation, and are due to be withdrawn from mainline service at the end of this year (2003). The second type is that of the Class 57s, which were converted from 47s a few years ago by fitting a General Motors 645 2-stroke power unit. There are 12 of these locos in traffic. Finally, our newest fleet is that of the Class 66 locos, of which we currently operate 25 locos. These are the most modern diesel loco in the UK, and have become the industry standard for all UK based freight operators. They again have a General Motors 710 power unit fitted and meet all the relevant emission legislation when delivered. The two electric loco fleets are not for consideration in this matter.

A mixture of both Diesel and Electric locomotives are used on Freightliner services in the Ipswich area. The high-utilisation of the diesel locos means that they usually require fuelling and for a service check to be undertaken between every diagram whilst at Ipswich (typically this is the end of each daily shift). They are used on long-distance high-speed (75mph) container freight services to other Freightliner Terminals such as Cleveland and Leeds.

Freightliner services operate predominantly between Monday morning and Saturday lunchtime, which means that at its busiest (weekends) there can be around 6 Class 66 locos and 4 Class 57 locos stabled awaiting next duties. During this time, locomotives are shut down. At other times, locos are usually present on the fuel point for around 1-2 hours, at which time the locos are left running, for a number of reasons which are detailed below. If however the weather forecast shows that temperatures around freezing are expected, Freightliner works to the Winterisation Procedure (MIE0718) which dictates that locos are to be left running at all times, to prevent pipework from freezing. Extracts from this procedure are as follows;

At or below 0°C:
All diesel locomotives, which are stabled/ stored either in the open air or in an unheated building, shall have their engines started and idled on the basis of 1 hour in every 4 hours. Idling for longer periods is not necessary and can lead to damage.

Every 4 hours make 5 complete brake applications and the last application ensure that the brake blocks are applied to the wheels, and that the cab gauges record the correct air pressure.
If, when carrying out checks it reveal that the pipes of the air system are becoming frozen, idle the engine of these locomotives on the basis of 1 hour every 4 hours.
Every 4 hours operate the manual blow-down valves of the air system. Refer to Appendices N to R for details.

Between 0°C and 7°C:
All diesel locomotives, which are stabled/stored either in the open air or in an unheated building, shall have their engines run continuously.
Every 4 hours make 5 complete brake applications and on the last application ensure that the brake blocks are applied to the wheels and that the cab gauges record the correct air pressure.
Every 4 hours operate the manual blow-down valves of the air system. Refer to appendices N to R for details.

There are also similar procedures to carry out if freezing fog or snow is forecast.

Outside the defined winter period when the above procedures are adhered to, there are also a number of technical reasons why locomotives are left idling at Fuel Points;

- Battery charging

All locomotives are fitted with underslung battery cells which provide power to the locomotives auxiliaries, as well as power to the starter motors to enable the engines to start. A large current is required from the batteries when the locomotives diesel engines are started, and if for any reason the engine does not fire up, it is very easy to drain the batteries. Locomotive batteries, although of modern design, are notorious for loosing their charge when locos are stabled, as the drainage from the auxiliary systems when something as simple as a marker light is left on, will prevent the loco from starting. If this occurs the loco has to be dragged to a suitable battery charging point, and put on charge for a number of hours. Whilst engines are running, there is a battery charging circuit which ensures the locos batteries are constantly topped up and in optimum condition.

- Reduced Exhaust Emissions

Large diesel locomotives take some time (say 45 minutes) to get the engine up to the normal operating temperature. Exhaust emissions on a loco are at their lowest (cleanest burning) when the engine is running at its optimised temperature. Whenever any engine is started from cold, high emissions are discharged from the exhaust system. Therefore to ensure minimum emissions are experienced manufacturers recommend to leave locomotives idling, maintaining the engine temperature.

- Leaking Pipework

Within a diesel locomotive, there is a mass of pipework, carrying oil, fuel, coolant and air around the system. Inevitably, there are a number of joints in this pipework, which are designed not to leak. The nature of a locomotive means that the engine vibrates in relation to the alternator and in relation to the auxiliaries and the loco bodywork. Pipework joints are designed to provide the optimum sealing

characteristics when hot. Therefore shutting locos down between diagrams would allow the pipework to cool down, and therefore increase the opportunity for leaks to occur.

- Pre-Lube

General Motors engines (as fitted to the 57s and 66s) have a requirement to be pre-lubed if shut down for more than 48 hours. This is an involved process, which ensures that oil is present in all the key areas around the engine, before it is started. This is to prevent undue wear on the engine's components. This is another reason why locomotives are started at least once every 48 hours, to prevent the need of carrying out Pre-Lubing.

The possibility of building a covered building over the Fuel Point facility at Ipswich has been considered. We do not consider that this could reasonably be concluded to be practicable. Obvious problems are as follows. The shed would need to be large enough to allow up to 10 locos to be held. It would need a large extraction system, which would then pass gases through some sort of filtering/scrubbing unit before releasing to atmosphere. I am unaware of any similar application within the UK. It is extremely difficult to move material into the Ipswich Fuel Point site due to limited road access. In order to assemble a large building of this size would require a total possession of the station area, and as the lines around it have 25kV AC overhead lines, a total isolation would be necessary. In order to construct such a building there would be a need to provide substantial foundations, drilling deep into the ground around this area, which we know from previous experiences, is a maze of underground services and pipework. The cost for such a building, without the access problems, has been estimated as £3m.

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