PE1522/C

Our Ref: EXT05-A-F0184706
Your Ref:

If telephoning ask for:
Calum MacDonald

Ned Sharratt
Assistant Clerk
Public Petitions Committee

25 June 2014

Dear Mr Sharratt

PETITION PE 1522 RELATING TO BULK FUEL OIL STORAGE FACILITIES

Thank you for your letter of 22nd May regarding the above petition lodged by Mr Simon Brogan. As Mr Brogan confirms, we have been in communication with him for some time on this subject.

Mr Brogan describes the situation relating to the two separate oil storage facilities correctly insofar as the tank storing oil for Kirkwall Power Station falls within the scope of The Water Environment (Oil Storage) (Scotland) Regulations 2006 (the 2006 Regulations), whereas the oil tank at Cromwell Road, Kirkwall falls within the scope of regulation 6(1) of the 2006 Regulations which exempts this facility from having to meet the requirements (set out in regulation 6(2)) by virtue of the facility being used for the onward distribution of the oil.

The nub of the matter is that storage tanks falling within the scope of the 2006 Regulations must be provided with adequate secondary containment (bund walls and impermeable floor) in the event that the primary containment (the integrity of the tanks themselves) fails. The regulations provide legal penalties for not complying with their requirements.

Guidance issued by the Scottish Government at the time the 2006 Regulations were enacted confirmed that, instead, the standards expected of exempt installations such as that at Cromwell Road, Kirkwall are contained in The Energy Institute's publication "Environmental Guidelines for Petroleum Distribution Installations: Model Code of Practice Pt 2, Design, Construction and Operation of Petroleum Distribution Installations." This Code of Practice is based on a risk assessment approach, with a focus on primary containment, although it does discuss the provision of secondary containment. However, crucially, there are no legal penalties for failing to meet the terms of this Code of Practice.

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SEPA has for some time been concerned about the apparent 2-tiers of environmental protection performance provided for by the exemption from the 2006 Regulations, but had very limited data with which to assess the risk posed by exempt installations, or indeed their compliance with the voluntary Code of Practice.

Following a very serious loss of oil, and widespread pollution of a very sensitive and pristine water environment at Loch Carnan, Isle of Uist, from a tank of similar size to those exempt structures, SEPA, in 2012, set out to take stock of a sample of the tank installations which qualified for the exemption from the 2006 Regulations. A Pilot Study was instigated by SEPA's North Operational Region which identified 7 small scale storage sites in the Highlands and Islands which are all located in close proximity to very high quality surface water environments, at Stornoway, Loch Carnan, Kirkwall, Portree, Fort William, Oban and Ardvenish in Barra. The sites in Ardvenish and Oban were removed from the Pilot Study as they have been found to fall within the scope of the 2006 regulations. The remaining five sites happen to be operated by Certas Energy UK Ltd, (formerly GB Oils) under the name of Scottish Fuels, (although the identity of the operator had absolutely no relevance to the choice of site to be studied).

I have appended a copy of the Pilot Study Report which details our findings.

It is clear from the findings in our study that none of the 5 exempted oil storage sites investigated would currently meet the secondary containment requirements of the 2006 Regulations, and that some of the tanks are of a considerable age. Taking account of this and their location close to sensitive aquatic environments SEPA is of the opinion that they pose a risk of causing significant harm to the environment in the event that they suffer a loss of containment. SEPA can see no justification, on environmental protection grounds, to have this disparity in legally required performance objectives; the onward use of the oil has no bearing whatsoever on the environmental risk posed during its storage.

Based on the evidence of the risk to the environment highlighted by our Pilot Study, SEPA would support a review of the legislation as it relates to the storage of oil at sites that are exempt from the 2006 Regulations to ensure that this adequately addresses storage requirements at all oil storage installations.

However, it is clear to SEPA that any improvement work required to those sites around Scotland presently exempted from regulation would be challenging and costly for the various operators concerned. It is possible that trying to retro-fit secondary containment to some of those installations may in fact temporarily increase the risk of loss of containment, replacement by provision of a new installation perhaps being the only realistic viable option in some cases. Any review of legislation would therefore have to take into account the risk posed by individual installations, the likely costs and risks associated with any improvements that may be required and the timescales within which any capital works could realistically be required.

SEPA would be keen to participate in discussions with relevant partners to assist with any transitional issues, and also with oil storage depot operators on appropriate

precautions that might be taken until facilities can be brought into the scope of the amended regulations and the required pollution prevention objectives.

Finally, SEPA is happy for this submission to be available to the public, and we have copied in both Mr Brogan, and Certas Energy UK Ltd.

Yours sincerely

Calum MacDonald
Executive Director Operation

Enc. Pilot Study into the Condition of some Oil Storage Facilities used for Onward Distribution within SEPA's Operational North Region, SEPA, May 2014.

cc Mr Simon Brogan

cc Brian Worrall, Director of Corporate Affairs, Certas Energy UK Limited

Pilot Study into the Condition of some Oil Storage Facilities used for Onward Distribution within SEPA's Operational North Region

Introduction

1. SEPA's North Region Operations have been involved with a regional problem-solving project which focuses on the risk to the water environment associated with stationary oil storage facilities that do not fall within the scope of the Water Environment (Oil Storage) (Scotland) Regulations 2006, referred to from this point as "The Oil Storage Regulations".

2. The Oil Storage Regulations impose detailed requirements on the storage of oil on premises with exceptions such as oil distribution depots (regulation 6(1)). Instead, at these depots the operators are supposed to take account of The Energy Institute publication "Environmental Guidelines for Petroleum Distribution Installations: Model Code of Practice Pt 2, Design, Construction and Operation of Petroleum Distribution Installations", referred to from this point as the "Energy Institute's Code". These guidelines promote the control philosophy "prevention is better than cure" focusing on the integrity of primary containment and the management measures that can be taken to prevent spillages occurring. SEPA was consulted in the early development of this guidance.

3. To date SEPA has had limited dealings with small distribution depots and has not been fully aware of the risk posed by these sites (many of which fall below the threshold for the Control of Major Accidents and Hazards (CoMAH) regime) or how successfully Operators were following the guidance in the Energy Institute's Code. Any site which stored petrol would be subject to the Pollution Prevention and Control (Scotland) regulations 2012 and the petrol vapour recovery regime but these permits contain limited conditions and do not contain any pollution control measures relating to the risk to the water environment.

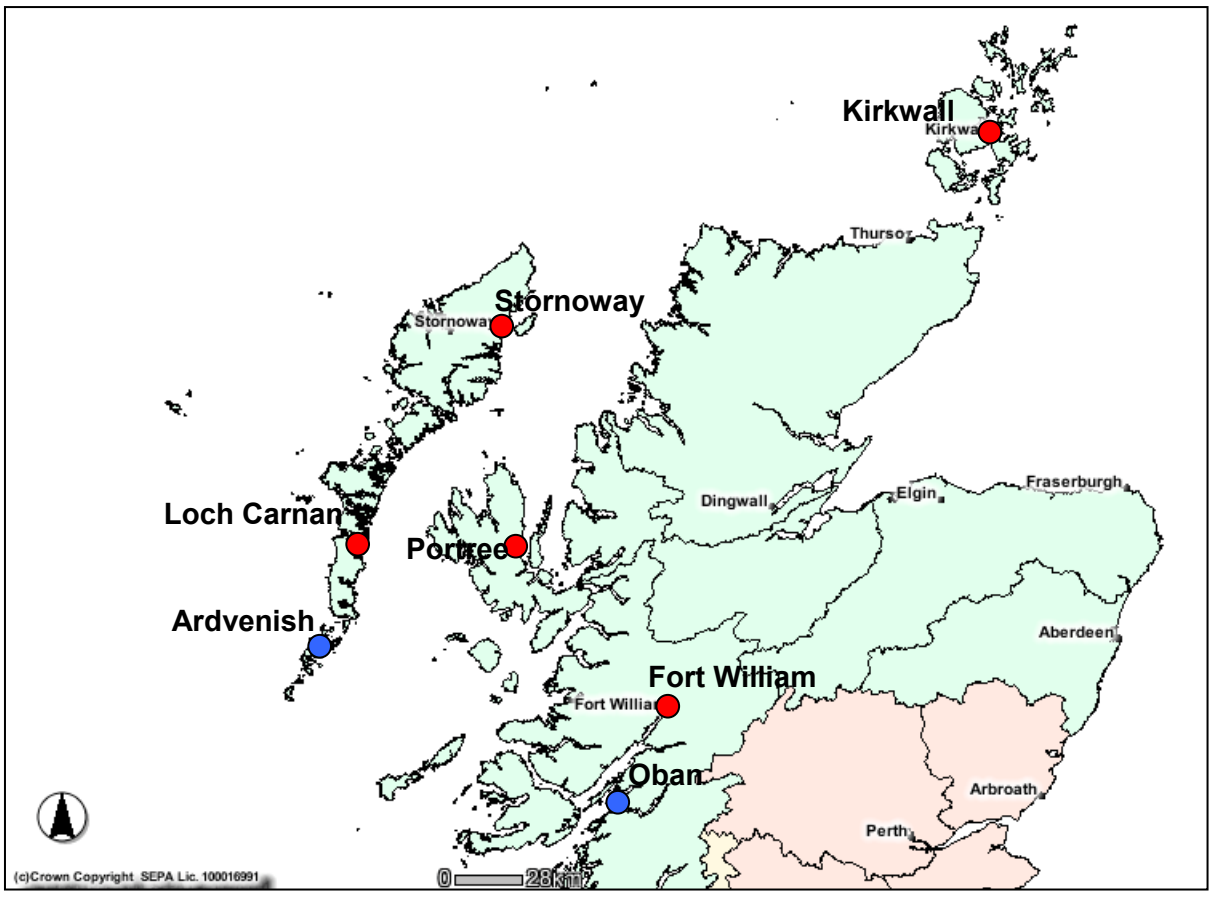
4. There has been ongoing discussion within North Region Operations regarding small scale distribution depots. There have also been public concerns raised regarding the Kirkwall depot given its location close to Kirkwall Harbour and Bay and the proximity to residential properties. The Hebrides and Central Highland team raised concerns following the spillage of oil from a small power station in Loch Carnan, Isle of South Uist. The incident occurred in 2008 and resulted in a spill of approximately 45000 litres of red diesel. This site had been subject to the Oil Storage Regulations and the incident resulted in the submission of a report to the Procurator Fiscal and subsequent fine of £20,000 in 2009. This incident served to highlight the potential risk of a neighbouring site which is a small distribution depot and is therefore not covered by the Oil Storage Regulations.

5. It was agreed regionally that the most appropriate way to address SEPA's concerns regarding small distribution depots was to undertake a "pilot" study looking a small number of sites to gain a better understanding of the activities of these sites and the risks posed to the environment; this would provide us with a wider understanding of the issues relating to oil storage in exempt tanks that might prevail across the country.

A co-ordinated approach was taken to identify, inspect, risk assess at the sites across the North and West of the Region. The pilot study has been carried out by the local operations teams with support from North Operations Technical Support Unit colleagues.

6. Operations Unit managers were asked to suggest sites within their team areas which are oil distribution depots and by virtue of their location are considered to pose a significant potential to cause harm to the water environment if oil were to escape from them. The sites selected for inclusion within the pilot study were as follows:

- Shell Street Depot, Stornoway, Isle of Lewis
- Loch Carnan Depot, Isle of South Uist
- Portree Depot, Isle of Skye
- Fort William Depot
- Oban Depot
- Shore Street Depot, Kirkwall, Orkney Islands
- Ardvenish, Isle of Barra



Location plan – Figure 1

7. Following initial enquiries, Ardvenish, Isle of Barra was discounted from the pilot study as the oil tank was used for supplying oil to premises and not as a distribution

depot. As such it is subject to the Oil Storage Regulations. No further work was undertaken on this site in relation to this pilot study.

8. Oban depot has also been removed from the pilot study as it is understood that this site is not solely used as a distribution depot and it is SEPA's opinion that this site should, in due course, be subject to the Oil Storage Regulations. SEPA has entered into direct discussion with Certas Energy regarding this site and no further consideration will be given to it in this report.

9. All sites remaining within the pilot study are operated by Certas Energy formerly known as GB Oils, which is operating the sites as Scottish Fuels. Certas Energy was not specifically targeted by the study but as the largest oil supplier in the Highlands and Islands, happen to own all of the sites included. The company was notified in writing of the pilot study and provided with the projects aims and objectives. Following a discussion of the pilot study Certas Energy raised concerns about the conclusions which may result from SEPA's investigations, of particular concern was the possibility that the findings may require them to undertake extensive improvement works and the associated timescales and costs. Certas Energy has provided SEPA with every assistance when required, albeit they have sometimes been slow to respond to our communications which has led to delays in completion of the pilot study project. They have also been reluctant to provide SEPA with detailed risk assessment information relating to their sites due to the commercial sensitivity of the information it contains. SEPA has however, had access to risk assessment information which has helped our understanding of the approach taken.

Environmental Setting

10. All sites chosen for inclusion in the pilot study are located close to the water environment and therefore could potentially represent a risk of causing significant impacts such as that which occurred in Loch Carnan in 2008.

11. Stornoway depot is located within the centre of the town and very close to the harbour and ferry terminal. The surrounding buildings are generally commercial properties, with a Tesco supermarket as the largest adjacent site. However there are also residential properties nearby.

12. Kirkwall depot is located in a similar situation as Stornoway, being situated within the town area near to commercial businesses, and very close to the harbour area and ferry terminal. There are also a number of residential properties in very close proximity to the depot.

13. Portree depot is located on the quay of Portree Harbour. This is located below the main town of Portree but there are commercial and residential properties close by. Portree harbour is a busy area and there a number of water based activities operating within it. There are also fish farms located out of the harbour within the wider bay area.

14. Fort William depot is located within the town, and also located close to commercial and residential properties. The closest watercourse is the River Nevis

which flows through the town and directly into Loch Linnhe. There is a drain which runs near the depot and discharges directly into the river. Loch Linnhe has a high amenity value with a number of water based recreational activities. Fish farming is also present further down the loch.

15. The Loch Carnan Depot is the most rural of the sites considered and is located on the shore of a sea loch on a pier open to third party users. It is also close to the Loch Carnan Power Station. Loch Carnan is on the West coast of the Isle of South Uist and a number of fish farms are located nearby.

Summary of Inspections

16. Inspections of all sites were carried out by officers from the local teams. An inspection form was prepared, based on the requirements of the oil storage regulations to ensure officers were able to follow a common approach. The findings of the report are based on the situation at the time of inspection or as established or updated at a later date and as such it is possible that in some cases the situation may have since changed.

17. The inspections identified that across all sites there are a varying range of different oil tanks and layouts. All of the sites have been in place for many years and are generally constrained due to neighbouring development around them. Ageing tanks were found at all sites, with what is believed to be the oldest at Loch Carnan and Kirkwall and thought to date back to before World War Two. In addition to bulk storage, oil drums and smaller plastic tanks were found to be used for some oil storage.

18. The major concern across all sites relates to secondary containment facilities. Bunds were provided at all sites but were found in varying states of composition and repair. The bunds were all likely to be of 110% capacity as required by the Oil Storage Regulations had they fully impermeable. Permeable floors were widely found and walls were generally concrete rendered but with visible cracks. The issues which result in permeable floors and walls ranged from cracked concrete to floors of compacted earth and gravel and in some cases walls of adjacent buildings formed part of the bund wall.

19. Pipe work was found to penetrate bund walls and floors at all sites, many of which had not been sealed and as such could provide a preferential pathway for leaks. At Portree and at Tank 10, Loch Carnan, new bunding was visible but it is thought that this does not extend below the tanks. The inspections have been unable to determine whether there is adequate bunding below the tanks to provide protection from bottom leaks. It is likely that given the age of the tanks that there is little protection.

20. SEPA officers are unable to undertake engineering assessments of the bunds but the inspections have raised concerns over static loading, and whether the walls would retain sufficient strength should they need to contain a significant spill.

21. All sites followed strict procedures for filling and removal of product. Depot managers are responsible for carrying out a range of daily, weekly and monthly checks which are standard across Certas Energy sites. Most of the tanks had automatic overfill

alarms and SEPA has been advised that all sites were to have these installed by the end of 2013. None of the tanks are fitted with automatic leak detection but there are stock control procedures in place which require daily level checks to be carried out, as a result checks are not carried out when the station is unmanned.

22. Ship to shore bunkering is carried out at Stornoway, Loch Carnan and Kirkwall, while deliveries to Portree are by road and by rail to Fort William. There are robust procedures for ship to shore deliveries, and regular pressure testing of the associated pipework. Pipes are also flushed after every delivery to prevent oil remaining in the system.

23. Oil Spill kits are available on site to deal with small spillages, and surface water drains from across the sites directed to oil interceptors which are inspected and emptied regularly. There is an ongoing program of work to install automatic shut off devices within all oil interceptors.

24. All sites have oil spill contingency plans in place which are subject to regular review, including consultation with SEPA. Exercises are also carried out ensuring staff at the depots are trained in being able to deal with incidents, including those resulting from loss of containment or spillages.

Drawing Conclusions from the Inspections

25. The inspections carried out have increased SEPA's knowledge of the individual sites and identified a number of key issues which are common across all of the sites. The sites were found to store a variety of hydrocarbons in varying quantities in ageing bulk storage facilities (details are summarised in Annex 1).

26. From the inspections it is clear that, in their present state, none of the sites would meet the secondary containment requirements of the Oil Storage Regulations in full. Of most concern is the basic requirement of the Oil Storage Regulations that the base and walls of the bund must be impermeable to water and oil. While all sites have elements of secondary containment, they are of varying quality and condition and it is likely that none of the bunds would be able to fully contain anything other than a small spill or leak of oil. Should there be a significant spillage, and loss of containment at any of the sites, it is possible that oil could rapidly enter the water environment.

27. The depots studied are all located in sensitive areas which would be significantly impacted if there was a catastrophic failure of containment. It is likely that at all of the sites groundwater would be a receptor to the oil but given the proximity of harbours at Stornoway, Kirkwall, Portree and Loch Carnan the oil could potentially enter the surface water very quickly. While Fort William Depot is not located on a harbour, oil could very quickly enter a river should it escape from the site and, from there, enter Loch Linnhe.

28. Groundwater is the most likely significant receptor for a leak from Fort William Depot. The bedrock aquifers at Stornoway and Kirkwall are all of low permeability and given the coastal location will be directly linked to the sea. Loch Carnan depot is located directly on to rock and the main tanks are on an outcrop, elevated above the loading

area. Any spill or leak would flow directly into the sea. Portree is similar but located on the quay rather than on bedrock.

29. At all sites the sea can be considered as the main receptor and the intertidal zone would be most at risk of pollution from a significant spill. Tidal waters can provide a degree of dilution and oil would disperse over time however, should large volumes enter then there could be significant environmental harm. At all sites there would be impact upon third party commercial activities and considerable impact upon amenity use.

Risk Assessment, Inspections, and Maintenance Procedures

30. Following the inspections SEPA met with Certas Energy and their Engineering Consultants Trident Engineering to review their inspection and maintenance procedures. Trident Engineering manages the maintenance program on behalf of Certas Energy. The maintenance and inspection program is managed through a web based database which all sites have direct access to. All sites have a regular program of visual checks which must be carried out; more detailed checks are carried out by specialist contractors, while tank inspections are carried out by Trident Engineering's qualified engineer. All storage tanks are subject to regular modern integrity testing.

31. The database contains all historical information along with site infrastructure plans. All sites are subject to inspections every 6 months and regular audits are carried out by the HSE Team. Inspections are programmed and reported through the database, and faults are recorded and flagged where necessary with progress tracked. The use of a comprehensive database allows Certas Energy to interrogate the data and identify fault trends. A Technical Assessment Unit within the company meets regularly to discuss repeated faults or areas of specific concern. Key targets are also set for safety critical equipment.

32. Certas Energy has taken over sites from different operators and as such has taken on a range of infrastructure in different states of repair. One of the long term aims of the company is to reduce the risk of spillage, and to provide standardisation of equipment across all of their sites. The company works within a five year capital expenditure program where prioritisation of expenditure is undertaken. The yearly expenditure will focus on any work which has been flagged as red priority, and will only move on to those marked as amber once all red priorities have been addressed. The focus of the company is on critical equipment and primary containment. Their aim is to prevent any loss of product, (clearly, as well as resulting in clean-up costs and possible damage to 3rd party interests, this would also result in a loss of revenue). As such there are strict stock control procedures in place which are tracked through their management system. Any stock differences require justification to be provided within the database and any greater than 150 litres requires managerial sign off.

33. Prioritisation for capital expenditure takes into account risk of the sites and Certas Energy has undertaken risk assessments for their sites.

34. As a national company they operate across the UK with a range of depots from small distribution depots to large oil supply depots which fall within the COMAH regime. The risk assessment approach and ranking is carried out for all sites.

35. The Energy Institute's Code refers to the Environmental Risk Assessment of bulk storage facilities as a method for carrying out site specific risk assessments. This is not a regulatory requirement and Certas Energy has followed their own risk assessment protocol; as with the recommended tool their risk assessment results in an overall risk classification for the sites.

36. The risk assessment scores a range of criteria under two categories of site setting and contamination vulnerability. The total scores for each category are multiplied together to provide the overall site score. Site setting looks at location of the site and takes into consideration details such as the distance to watercourses, surrounding land use and groundwater vulnerability whilst contamination vulnerability considers site specific details including the volumes of product stored on site, condition of secondary containment and any evidence of previous contamination.

37. All of the sites considered by this project have been identified as at risk following Certas Energy's risk assessment process reflecting the vulnerable locations close to the sea and the issues with secondary containment on site. The risk assessments identify improvements required at the sites and also include a summary of improvement works which have already been undertaken based on the previous risk assessment process. No timescales are provided for the improvement works but as detailed above the risk assessments are considered during capital expenditure prioritisation work.

38. It is clear from the information gathered during this pilot study that Certas Energy is fully aware of their ageing assets and operate a rigorous management system. All sites are regularly inspected and subject to modern integrity testing. There are strict procedures in place which all depots are required to follow. SEPA understands that the company's priority is to prevent the loss of product and any associated loss of revenue with a focus on primary containment in accordance with the Energy Institute's Code.

39. The quality of secondary containment at the sites inspected is of concern and would not meet the full requirements of the Oil Storage Regulations. Should there be a catastrophic loss of containment at any of the sites it is highly probable that large volumes of oil could enter the water environment and given the location of these sites it is likely that this could happen very quickly. At all the sites there would be widespread impact on third parties from such an incident as all of the depots are located in areas where there is high amenity and commercial use of the water environment. Harbour areas such as Kirkwall and Stornoway may be at less risk than the high amenity impact area of Loch Linnhe. Given that Loch Carnan has already experienced one significant oil spill, albeit from a different site, there would also be significant reputational issues for SEPA to consider should a spill happen again. The fish farms in Loch Carnan were required to cull approximately 850 tonnes of salmon following the 2008 spill as the salmon were no longer fit for human consumption due to contamination from hydrocarbons.

Conclusions

40. This results of this pilot study lead SEPA to conclude that there is a risk to the water environment from these small-scale oil distribution depots. The operator of the sites inspected Certas Energy has implemented widespread mitigation measures to prevent the loss of oil. While their primary business driver here is to prevent loss of product, and therefore revenue, they are also keen to avoid damage to the environment by not allowing oil to escape in the first place.

41. However, the Oil Storage Regulations highlight the importance of secondary containment. At all five sites visited as part of the pilot study, any significant spillage of oil would be likely to enter the water environment and depending upon volumes released could have a significant impact. There would almost certainly be a significant impact upon the ecology of the local marine environment, with consequent damage to the amenity use of the area and impact upon the commercial activities of third parties.

42. Any work to improve secondary containment facilities at these five depots would require significant investment from Certas Energy. The sites considered as part of this pilot study are only a proportion of distribution depots across Scotland. It is important to note that there may be a larger number of other sites of similar age and condition to those found as part of this pilot study which are operated by competitors of Certas Energy. SEPA will therefore consider the results of this pilot study carefully before determining a course of action. Whatever the conclusions, any action taken to secure improvements to present arrangements will require to be carefully assessed, and to apply to all companies involved in oil storage and onward distribution.

SEPA, Operations North, 9th June 2014

Annex 1

Depot	Product	Capacity (litres)	Age in years (if known)
Fort William			
Tank1	Gas Oil	55 000	unknown
Tank 2	diesel	55000	unknown
Tank 3	diesel	55000	unknown
Tank 4	diesel	55000	unknown
Tank 9	Gas Oil	382000	unknown
Tanks 10	Kerosene	260000	unknown
Tanks 11	Kerosene	230000	unknown
Tanks 5,6,7,8, 12	Out of use		
Portree			
Tanks 1	Low sulphur gas oil	54000	16
Tanks 2	Diesel	149000	51
Tank 3	diesel	171000	26
Tank 4	Gas Oil	359000	26
Tank 5	Unleaded petrol	348000	52
Tank 6	Kerosene	381000	52
Tank 7	Kerosene	389000	25
Kirkwall			
Tank 1	Diesel	371,407	76
Tank 2	Jet A1	161,859	76
Tank 3	Kerosene	162000	76
Tank 4	Gas Oil	376803	76
Tank 5	Gas Oil	590788	57
Tank 6	Kerosene	408495	57
Loch Carnan			
Tank 1	Gas Oil	194230	Approx 45
Tank 2	Gas Oil	316001	Approx 45
Tank 3	Unleaded petrol	321438	Approx 45
Tank 4	Diesel	320811	Approx 45
Tank 10	Kerosene	744741	(dates to WW2)
Tanks 5,6,7,8,9	Out of use		
Stornoway			
Tank 1	Gas Oil	1028388	unknown
Tank 2	Unleaded petrol	486073	unknown
Tank 3	Kerosene	192829	unknown
Tank 4	Kerosene	192291	unknown

Tank 5	Kerosene	192564	unknown
Tank 6	Jet A1	192841	unknown
Tank 7	Diesel	577202	unknown
Tank 8	Kerosene	256642	unknown
Tank 9	Jet A1	192510	unknown
Tanks 10, 11	Out of use		