

A consultation on the future use and carriage of Heavy Fuel Oil by vessels operating within the South Georgia and South Sandwich Islands (SGSSI) Territorial Waters

1. BACKGROUND

In March 2010 the International Maritime Organisation (IMO) Marine Environmental Protection Committee (MEPC) adopted the amendments to MARPOL Annex 1 on the use and carriage of heavy grade oil on ships in the Antarctic Area (hereafter also referred to as Regulation 43). The amendment will apply to ships operating in Antarctic area waters from 1 August 2011.

The main characteristics of the new regulation are to:

1. Establish a ban of carriage in bulk as cargo or carriage and use as fuel in the Antarctic area defined in MARPOL Annex I regulation 1.11.7;
2. make an exception for SAR and salvage vessels; and
3. determine that cleaning of tanks/piping if heavy grade oil has been previously carried is not required.

The text of the new regulation is detailed below:

AMENDMENTS TO MARPOL ANNEX I TO ADD CHAPTER 9 – SPECIAL REQUIREMENTS FOR THE USE OR CARRIAGE OF OILS IN THE ANTARCTIC AREA

CHAPTER 9 – SPECIAL REQUIREMENTS FOR THE USE OR CARRIAGE OF OILS IN THE ANTARCTIC AREA

Regulation 43

Special requirements for the use or carriage of oils in the Antarctic area

1 With the exception of vessels engaged in securing the safety of ships or in a search and rescue operation, the carriage in bulk as cargo or carriage and use as fuel of the following:

- .1 crude oils having a density at 15°C higher than 900 kg/m³;
- .2 oils, other than crude oils, having a density at 15°C higher than 900 kg/m³ or a kinematic viscosity at 50°C higher than 180 mm²/s; or
- .3 bitumen, tar and their emulsions,

shall be prohibited in the Antarctic area, as defined in Annex I, regulation 1.11.7.

2 When prior operations have included the carriage or use of oils listed in paragraphs 1.1 to 1.3 of this regulation, the cleaning or flushing of tanks or pipelines is not required.

It is in the context of this amendment that the following document is intended to review the management options facing the Government of South Georgia and the South Sandwich Islands (GSGSSI) with regard to the future carriage of Heavy Fuel Oil (hereafter referred to as HFO and as defined by oils detailed in Regulation 43) within SGSSI Territorial Waters.

GSGSSI recognises that the IMO Amendment was borne out of a recognition that, as a result of accidents, including the sinking of ships in the Antarctic area, there was concern that heavy oil spills would have an adverse impact on the marine environment and that due to the prevailing climatic conditions and the remoteness of the area, an oil spill clean up operation would be extremely difficult. As a result a proposal was made to introduce regulations to ban the use and carriage of “heavy” oils in the Antarctic area, this proposal was agreed and the amendments to the regulations were finally adopted. *Lloyd’s Register report on the 60th session of the IMO MEPC 2010.*

HFO poses a risk of longer-term environmental impact due to its persistence in the environment (particularly at cold temperatures). In this respect it is different to lighter distillate fuels, such as Marine Gas Oil (MGO), which evaporates relatively quickly and can be rapidly and efficiently dispersed by wave action. HFO fuels that are banned from use or carriage are listed in Annex 1 of MARPOL Chapter 9 regulation 43.1.

The risk posed by HFO spills to the SGSSI environment is heightened further by the remote location of the islands. South Georgia is approximately 750 miles from the Falkland Islands and unlike the Antarctic Peninsula, there is no airstrip into which incident response equipment can be transported relatively quickly. At present any significant oil spill response for South Georgia would require the mobilisation of equipment in the Falkland Islands, or more likely Chile. This is expected to take a minimum of 7-10 days to achieve.

In terms of environmental protection, SGSSI is arguably even more sensitive than parts of the Antarctic Peninsula. The islands support globally significant populations of sea-birds and marine mammals. This includes 7 breeding species of albatross and petrels protected under the Agreement on the Conservation of Albatrosses and Petrels (ACAP). The breeding populations of all 7 species on South Georgia are globally significant and for 4 of the species the breeding populations are the largest single global populations. All 7 species are red listed by the IUCN to varying degrees as being at risk of extinction.

Prior to the publication of the 2007 National Audit Office report, *Foreign and Commonwealth Office, Managing risk in the Overseas Territories*, the issue of environmental impact resulting from a maritime incident was discussed during the course of the auditing process. The report highlighted the importance of protecting the natural environment and the UK’s international obligations to do so under a range of international treaties.

Recognising the extremely sensitive nature of the SGSSI environment, and taking into account the amendment to MARPOL Annex 1 for the adjacent maritime

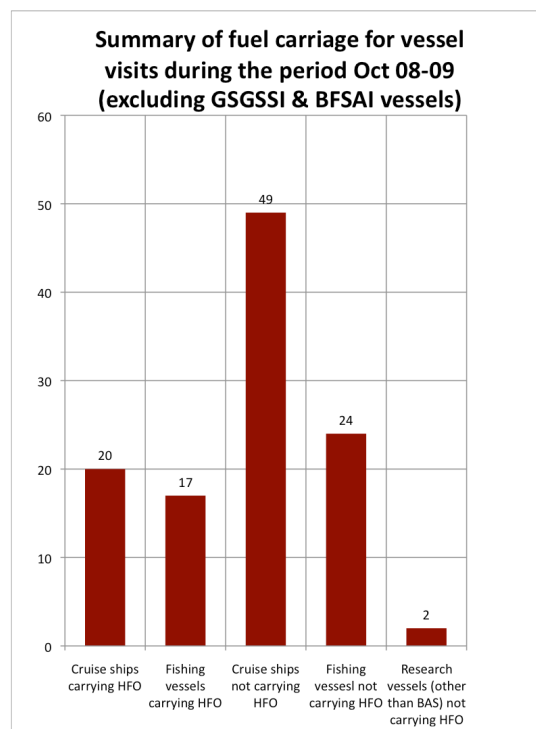
Antarctic Treaty Area, as a matter of good governance, GSGSSI is bound to consider the options for the future management of visiting vessels carrying HFO within the confines of the SGSSI Territorial Waters. This is a timely exercise given that some vessels currently operating in the Antarctic may consider transferring their displaced operations to SGSSI waters following the implementation of the MARPOL Annex 1 Amendment on 1 August 2011.

2. CURRENT SITUATION

There are currently no specific measures to restrict the carriage of HFO by vessels within the SGSSI Territorial Waters.

Records of fuel carriage for vessels visiting Cumberland East Bay were kept for one year from the start of the 2008/9 tourist season in October 2008. (These did not include the regular visits made by the GSGSSI Fishery Patrol Vessel, BAS ships and BFSAI vessels, all of which carry only MGO or a similar distillate fuel).

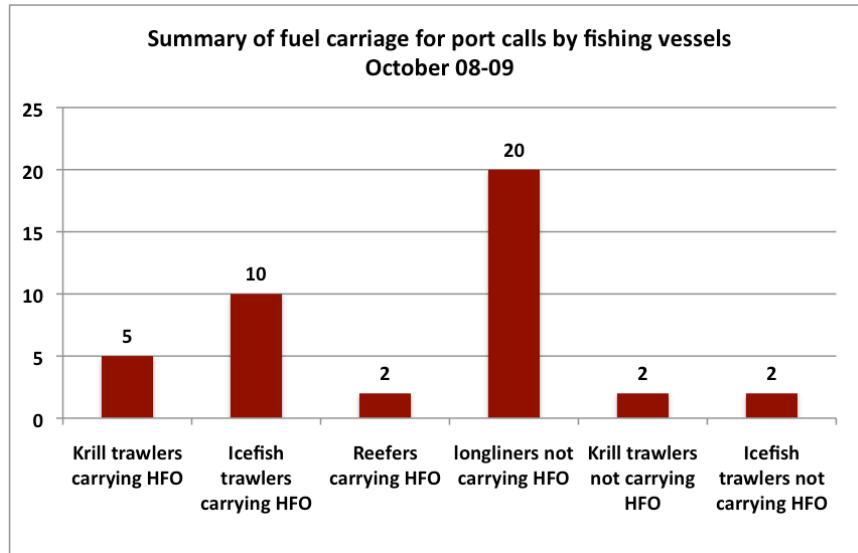
The chart below illustrates the general findings of the study.



Of the vessel visits recorded for the 12 month period 33% were found to be carrying HFO. The type of fuel carried varied from lighter Intermediate Fuel Oils (IFO 30) through to Bunker C. The quantity carried varied from 41 tonnes of IFO 40 on one cruise ship through to 1314 tonnes of IFO 180 on one reefer (refrigerated cargo ship).

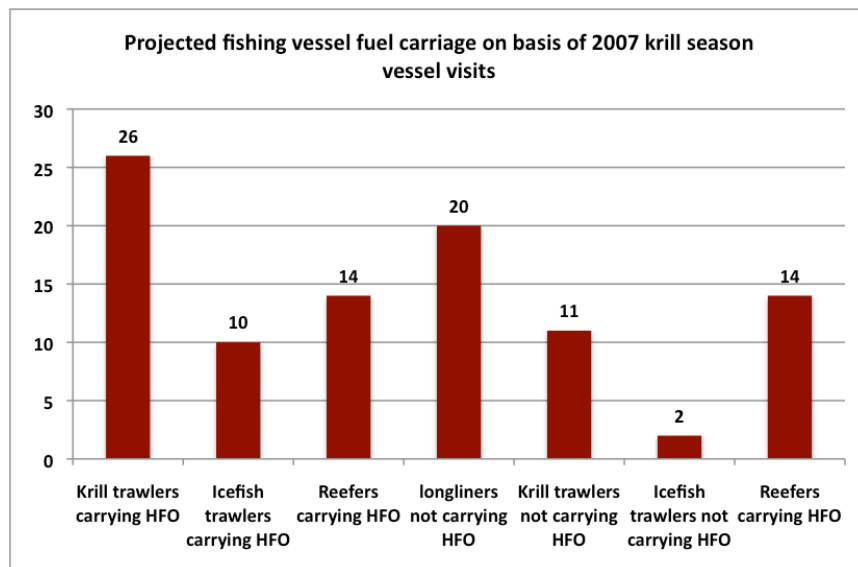
2.1 FISHING VESSELS

Of the 41 fishing vessel movements recorded (including reefers), 17 movements involved vessels carrying HFO. These did not include any longliners, but instead were restricted to icefish and krill trawlers and reefers, (80% of icefish trawler movements (10 visits), 70% of krill trawler movements (5 visits) and 100% of reefer movements (2 visits).



It should be noted however, that the 2008 winter was a particularly poor season for krill and consequently there were relatively few vessel movements involving krill trawlers and reefers. In previous seasons a greater proportion of fishing vessel movements involved krill trawlers and reefers carrying HFO.

To put this into context, in the previous year there were 30 additional visits by krill trawlers and an additional 12 reefer movements. If these figures are integrated into the 2008-9 records then it is possible to produce a projected disposition of vessels in a more successful krill year.



In August and September 2008 (during the course of the krill season) a number of oiled penguins were reported at colonies along the northcoast of South Georgia from Bird Island as far as the Barff Peninsula. GSGSSI sent feather samples for analysis in the UK and established that the oil was a Heavy Fuel Oil.

The Government raised the issue with the fishing industry and fuel samples were taken for analysis from visiting fishing vessels. One vessel, on inspection, exhibited hull markings indicating possible signs of HFO contaminated discharges. The samples were analysed in the UK, however, none of the sample results indicated a positive link to the samples obtained from the oiled birds. The source of the oil was never identified. Since then, however, all visiting fishing vessels have been required to provide a fuel sample at the start of the season. This ensures fuel samples are readily available for analysis, whilst also heightening industry awareness that vessel activity is being monitored and any negligent discharges may be traceable.

Despite the relatively high numbers of port visits by fishing vessels carrying HFO, the nature of their activity means that for the most part they do not operate close to any particularly sensitive areas of coastline. In the South Georgia fishery, vessels are not permitted to operate within 12nm of the shore (3nm in the case of the SSI). In addition, all transshipment, bunkering and vessel licensing activity is restricted to the confines of Cumberland East Bay (CEB), which at least minimises the risk of an incident occurring elsewhere along a sensitive stretch of coast. It is accepted that CEB is likely to be more tainted by hydrocarbons than other areas (following 6 decades of whaling operations out of Grytviken and over a century of harbour movements in general).

A high proportion of icefish trawlers burn HFO and in recent seasons, icefish trawlers carrying HFO have been advised not to seek shelter along the north coast, particularly at Rosita Harbour. Instead, vessels seeking shelter have been advised to use Cumberland Bay except in cases of *force majeure*.

Following the implementation of the HFO ban in the Antarctic Treaty Area, some reefers, supporting krill trawlers in the region, may elect to undertake transshipment operations in Cumberland East Bay rather than on the high seas north of 60° South.

In the last decade there have been 2 major incidents involving reefers within CEB (1 fire and 1 grounding) and 4 involving longliners, two of which sank.

2.2 CRUISE SHIPS

Of the 69 cruise ship movements recorded during the 2008-9 season, 20 of the visits involved vessels carrying HFO. However, since then a number of these vessels have been re-positioned to other areas of operation in advance of the HFO ban in the Antarctic. As a result this figure has dropped this season and is projected to decrease further in the 2010/11 season.

One key difference between cruise ships and fishing vessels is that rather than restricting their inshore operations to Cumberland East Bay, cruise ships, by the very nature of their operations, visit many of the most environmentally sensitive parts of the coastline. They also visit exclusively during the summer months when the breeding populations of birds and marine mammals are at their most vulnerable (though some species such as king penguins and wandering albatross remain vulnerable throughout the year).

The most recent incident involving a cruise ship in South Georgia was in 2004 when a vessel ran aground on a rock in King Haakon Bay and the vessel was required to proceed to dry dock for repairs. However, GSGSSI has also noted that in the Antarctic there has been a succession incidents in recent years involving vessel groundings (and one sinking).

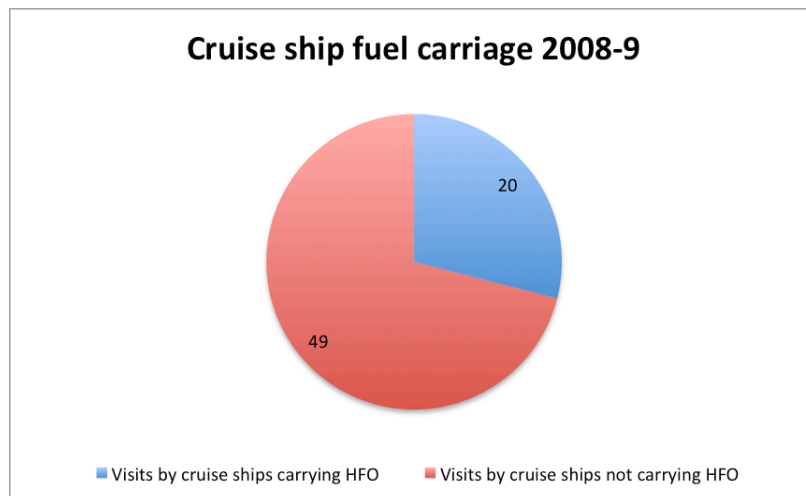
During the course of the 2008/9 and 2009/10 tourism seasons GSGSSI took the following decisions:

1. not permit any further visits by vessels carrying more than 500 pax (vessels larger than IAATO Category 2 vessels).
2. only to permit International Association of Antarctica Tour Operators (IAATO) member vessels to visit sites outside Grytviken (applies only to commercial passenger vessels).

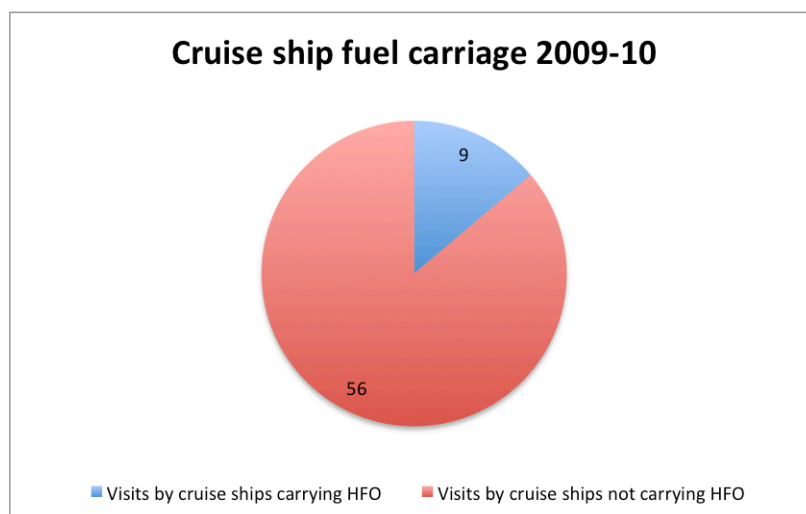
These decisions were taken for a number of reasons including mitigation against the risk of a major environmental incident, particularly involving HFO. The measures are intended to address the following concerns and policy issues:

- mitigation against the risk of environmental impact that a major incident involving a large cruise ship would cause, particularly if this involved the carriage of HFO.
- alignment with IAATO policy, that only IAATO Category 2 vessels should land passengers (at selected sites), recognising the high standards expected of IAATO vessels, and the GSGSSI policy of dispensation afforded to IAATO vessels when visiting sites beyond Grytviken (where Government staff are less able to monitor landings). It is also accepted that IAATO vessels should have high standards of on board oil spill response plans (SOPEP) under MARPOL Annex 1 regulation 37.1 & 2.
- Recognition that in the context of mobilising for a major incident response, SGSSI is even more remote and inaccessible in the summer than the Peninsula.
- The resources and infrastructure at KEP are assessed not to be capable of supporting survivors of a major incident from vessels carrying in excess of 500 pax (+ crew).

Notwithstanding all of the above, there has been a steady reduction in the number of visiting cruise ships carrying HFO and this looks set to continue.

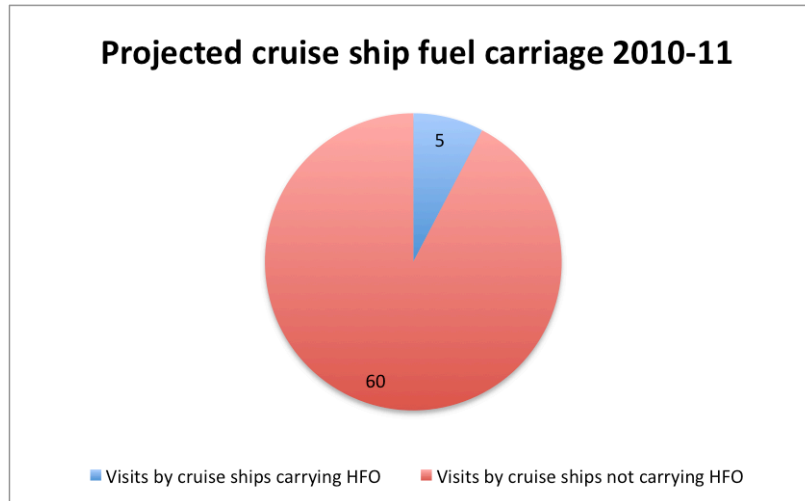


During the 2008-9 season, of the 69 cruise ship visits, 10 individual vessels carrying HFO undertook 20 visits. By the start of 2009-10 season, 5 of these vessels had ceased to operate in SGSSI waters.



Visit data from the 2009-10 season suggests that this figure decreased further last season to 9 visits by vessels carrying HFO.

This only involved 3 vessels, one of which will not be returning next season. Of the remaining two vessels, it is noted that whilst under another charter, one of the vessels operated with MGO for a separate visit.



Looking ahead to the 2010-11 season, if the current level of visits is maintained and the current trend in the rate of decline in carriage if HFO continues, then there will only be 2 remaining cruise ships carrying (and burning) HFO during the 2010-11 season. On the basis of recent schedules, this would equate to 5 visits.

Given the current management policy and the response of the cruise ship industry to the 2011 ban on the carriage of HFO in the Antarctic, there are not anticipated to be many visit applications from cruise ships carrying HFO in future years. The only exceptions would be vessels not arriving from or proceeding to the Antarctic Peninsula, which might include vessels on Southern Ocean cruises to South America at the start of the season.

It is possible, however, that following the implementation of the HFO ban in the Antarctic Area in 2011, some IAATO Category 2 vessels, which currently do not visit SGSSI, may consider doing so in response to the ban.

In March 2010, GSGSSI engaged IAATO to consult with its members on this point. Any IAATO members who believed that their operations may be affected by a future ban on the use and carriage of HFO within all or part of the SGSSI Territorial Waters (or Maritime Zone) were invited to contact and advise GSGSSI by 15 May 2010. No feedback was received.

3. MANAGEMENT OPTIONS

3.1. MAINTAIN THE CURRENT SITUATION.

Recognising the projected decline in HFO carriage under existing policies (particularly with cruise ships), there continues to be a marked reduction in the contingent liability and financial risk associated with a clean up operations.

However, the ban in the Antarctic could make CEB an attractive anchorage for reefers and larger cruise ships carrying HFO. Having an enhanced capability at KEP to deal with any HFO spill could mitigate for oil spill response but not reduce the increased risk of incident.

Given the risk of any environmental incident involving HFO in South Georgia, particularly in light of the measures being implemented in the neighbouring Antarctic Treaty Area, a lack of action by GSGSSI would fail to address the Government's environmental and contingent liability concerns.

3.2. FULLY APPLY AN HFO BAN WITHIN SGSSI TERRITORIAL WATERS.

GSGSSI could adopt the Amendment to MARPOL Annex 1 under national legislation within SGSSI Territorial Waters. This would provide a comprehensive mitigation strategy against an HFO spill within coastal waters, except in circumstances of *force majeure*. Given the international effort to reduce the risk of an HFO spill in the Antarctic, a similar initiative in SGSSI should be well received by the international maritime community, whilst also addressing the UK's contingent liability concerns.

However, an outright ban, in the short term, would not be without its difficulties. Implementation of such a policy should, if possible, include measures to facilitate a period of transition to enable vessel operators to modify their operations to some degree.

A bold measure to protect the environment could indirectly lead to reduced ability to address environmental and resource protection in other spheres of government operations as a result of a loss in revenue.

3.3. APPLY AN HFO BAN WITHIN SGSSI TERRITORIAL WATERS INCORPORATING MEASURES TO FACILITATE THE TRANSITION FOR VESSEL OPERATORS

An alternative option would be for GSGSSI to adopt the Amendment to MARPOL Annex 1 under national legislation within SGSSI Territorial Waters, whilst facilitating a temporary relaxation in the policy to allow time for existing vessel operators (both fishing vessels and cruise ships) to modify their working practices.

In March 2010 a meeting was held with the UK Maritime and Coastguard Agency (MCA) staff and GSGSSI to discuss the options open to the Government in order to minimise the risk of marine fuel pollution, taking into account the likelihood that the IMO MEPC would adopt imminently the Amendment to Annex 1 of MARPOL.

Recognising that the adoption of Amendment would be approved by the IMO on the basis of best practice for the carriage of fuel within sub-Antarctic waters, the

view of the MCA was that GSGSSI would be acting responsibly if it were to implement the same policy within Territorial Waters under the national legislation of the Territory.

However, it was also accepted that a number of the existing vessels, which regularly visit South Georgia, (mainly reefers, some fishing vessels and a few cruise ships) do carry and burn HFO. Therefore in order to accommodate the operational changes that would be required of these vessels, allowing a time for operators to adapt to the new policy, it was suggested that some form of relaxation period in the policy could be considered, in order to facilitate this process.

Transshipment and bunkering operations are already restricted to CEB, which historically is probably the bay most exposed to fuel pollution in South Georgia. It is also the one bay where GSGSSI Government Officers can oversee vessel activity. Therefore, in order for GSGSSI to apply best practice, whilst still offering a temporary solution to existing operators, one option to be considered is that GSGSSI continues to permit access to CEB for vessels carrying HFO (specified grades) for a fixed period of time (possibly 5 years from 1 August 2011).

This access would need to be managed by means of a navigation regulation detailing a prescribed channel into CEB, the entrance of which would be bound by fixed positions 12nm offshore. For vessels carrying HFO, this channel would be the only means of approaching within 12nm of South Georgia.

If this option is to be considered, then under MARPOL Reg 37, serious consideration should be given to the requirement for the Government to have in place an enhanced capability *in situ* to respond to a fuel spill within CEB. This could take the form of additional oil spill response equipment being held at King Edward Point, for deployment by Government vessels (or oil spill response contractors) in the event of an HFO spill within CEB.

During the course of the discussions with the MCA, the third option (3.3) was deemed to be the most pragmatic method of instituting a management regime which would mitigate against the risk of a major environmental incident resulting from an HFO spill, whilst shielding affected vessel operators from an immediate outright ban, facilitating a relaxation in the legislation to enable operations to be modified to adapt to the changes. If this policy is adopted, then a follow up consultation exercise will be required to confirm a date for the ban on the carriage of HFO to be extended to the Territorial Waters in their entirety, including Cumberland Bay East.

The Merchant Shipping (oil pollution) (SGSSI) Order 1997 currently provides liability protection for GSGSSI. Broader liability issues affecting GSGSSI, such as those for example covered by Salvage and Bunker Conventions, will need to be addressed and reviewed in future draft GSGSSI maritime legislation, which will be made available for stakeholder consultation as part of the legislative review process.

GSGSSI welcomes comments from IAATO members, fishing vessel operators and other South Georgia stakeholders on this review, including the principles involved and the timeframe. Stakeholders are requested to send responses to the Executive Officer, Richard McKee exo@gov.gs . Please could all responses reach GSGSSI by 31 August 2010.

Government of South Georgia and the South Sandwich Islands
June 2010

Glossary

<i>ACAP</i>	<i>Agreement on the Conservation of Albatrosses and Petrels</i>
<i>BAS</i>	<i>British Antarctic Survey</i>
<i>BFSAI</i>	<i>British Forces South Atlantic Islands</i>
<i>CEB</i>	<i>Cumberland East Bay</i>
<i>GSGSSI</i>	<i>Government of South Georgia and the South Sandwich Islands</i>
<i>HFO</i>	<i>Heavy Fuel Oil</i>
<i>IAATO</i>	<i>International Association of Antarctica Tour Operators</i>
<i>IFO</i>	<i>Intermediate Fuel Oil</i>
<i>IMO</i>	<i>International Maritime Organisation</i>
<i>IUCN</i>	<i>International Union for Conservation of Nature</i>
<i>KEP</i>	<i>King Edward Point</i>
<i>MARPOL</i>	<i>International Convention for the Prevention of Pollution From Ships</i>
<i>MCA</i>	<i>Maritime Coastguard Agency</i>
<i>MDO</i>	<i>Marine Diesel Oil</i>
<i>MEPC</i>	<i>Marine Environmental Protection Committee</i>
<i>MGO</i>	<i>Marine Gas Oil</i>
<i>MZ</i>	<i>Maritime Zone</i>
<i>SAR</i>	<i>Search and Rescue</i>
<i>SGSSI</i>	<i>South Georgia and the South Sandwich Islands</i>
<i>SSI</i>	<i>South Sandwich Islands</i>