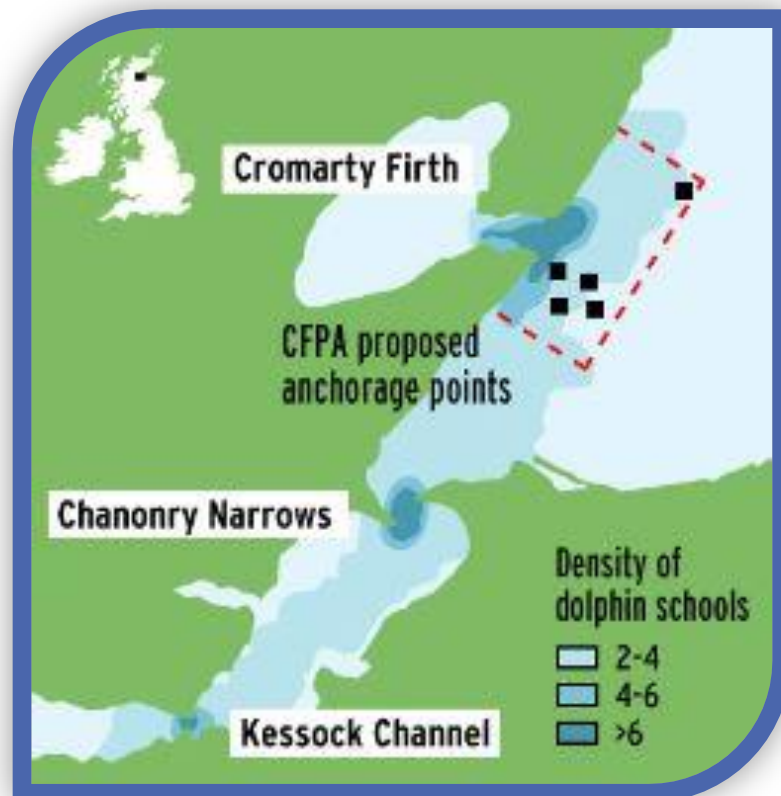


# Cromarty and District Community Council Objection to proposed Ship to Ship Oil Transfer By the Cromarty Firth Port Authority



## Executive Summary

The proposed licence is for an operation transferring up to 8.6 million tonnes of crude oil per year, at up to 180,000 tonnes per transfer at 5 selected open water anchorage sites. As such it is a significant development change to previous operations which have averaged 1.0 million tonnes per year at relatively sheltered waters of the Nigg jetty. A project boundary maximum spill volume of 1000 kg (1 tonne) is not a credible worst-case scenario for the Regulatory stipulated risks of fire, collision or grounding incidents, anchor failure with tidal drift (Sutor cliffs), mooring failure, the release of 300t Heavy Fuel Oil or equipment failure during transfer operations with dynamic pumping rates of 7500 tonnes per hour (over 2 tonnes per second).



The change will mean that top quartile ballast treatment facilities at Nigg Jetty will no longer be used and instead untreated ballast will be discharged straight into the sea. Highland Council does not have a ballast water policy and this loophole is being exploited.

Portable Volatile Organic Compound (VOC) recovery facilities available at the Nigg jetty are not available at the proposed anchorages. The application is a blank cheque for any medium crude oil in the world, including those with hydrogen sulphide which can be released as VOC emissions. VOC's emission will be discharged at anchorages exactly where the highest population of bottlenose dolphins are located.

Compliance with oil pollution regulation requirements has not been demonstrated. Oil pollution plans are incomplete, measures to limit oil pollution are tenuous. Recovery and response equipment is not shown to be forward located at immediate readiness to deal with 300t heavy fuel oil as regulations require. The oil spill response volume of 1 tonne submitted is **grossly disproportionate** to regulatory requirements and appears to be even less than the contents of loading hoses. The oil spill boom manufacturer indicates that the listed equipment would not be recommended as marine and weather conditions in recovery areas are out with the manufacturer's recommended operating envelope.

All oil spill fate and trajectory modelling has been conducted with an accidental release occurring at high tide. This is not believed to be worst-case scenario criteria. An accidental release during an incoming tide bringing spilled oil to designated sites within the Moray Firth and the Cromarty Firth has not been examined. Advection based on incoming tides, together with prevailing winds, is required to ensure worst-case predictive modelling, and subsequently oil spill response planning, is in place for the protection of designated European sites.

Information received from the UK Department of Transport Marine Accident Investigation Branch (MAIB) shows a 92% increase in incidents during cargo transfer operations which occur outside of port. This is when compared to the number of incidents within the safety of port infrastructure. Data recorded in UK 12 mile water limits also shows that 93% of these incidents involve vessels which are non-UK registered. Crude oil movements from Russian or Baltic States for example could involve transferring any medium

crude oil to vessels sailing under any global flag. If CFPA facilitates transfers by this licence in UK waters and we follow the polluter pays principle, then how will the cost of any incident damages be recovered in such internationally complex circumstances?

A similar proposal for Ship to Ship transfer of oil in the Firth of Forth was withdrawn amongst objections from the Local Authority of major spills being possible of the entire tanker capacity - in this case a maximum of 180,000 tonnes.

The application has not demonstrated it contain measures to protect one of the most environmentally sensitive sites in the UK as required by regulation. The Inner Moray Firth has a major concentration of bottlenose dolphins *Tursiops truncatus*. The bottlenose dolphin population is the only known resident population in the North Sea - one of only 2 within the UK both of which are considered to be of importance at European level. It is also the most northerly population and the Moray Firth SAC is the only area in Scotland which is designated for bottlenose dolphins. The anchorage sites are within an area that is highly used by the dolphin population and no consideration of this has been given by the applicant. Should this application be allowed to go ahead, it is considered there is potential to impact on the integrity of the dolphin population, both through operational transfer activities and in the event of oil spill. This will create economic hardship to people and businesses of the town of Cromarty and the wider Black Isle which benefits significantly from growing levels of ecotourism associated with the bottlenose dolphin population. Ecotourism is considered a sustainable and beneficial use of the natural resources of the Cromarty Firth, ship to ship oil transfers bring no benefits except to the Cromarty Firth Port Authority. The Scottish Government initiative "Awakening the Giant" seems not to be considered in this regard.

This application is opposed.



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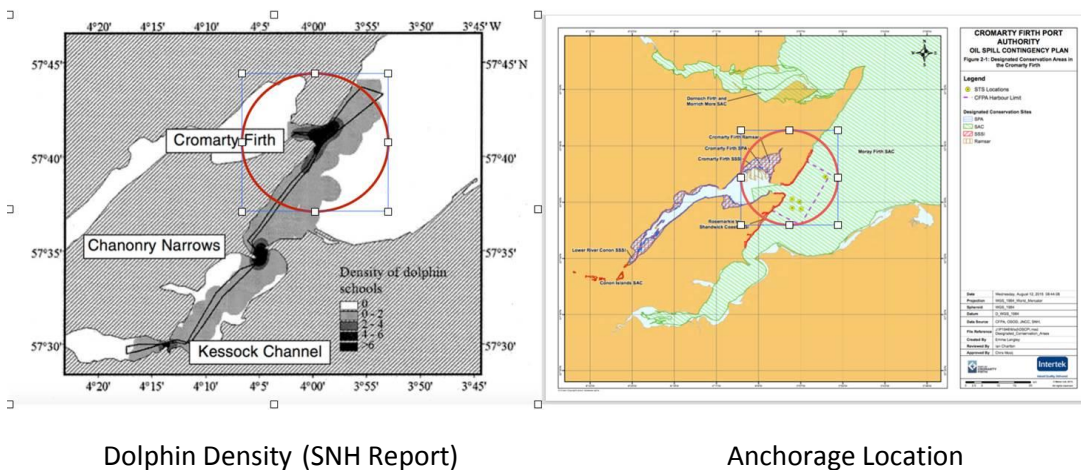
## Key Concerns

### Welfare of Moray Firth Dolphin Population

#### Chosen Location for Anchorage Points

*“Effects of disturbance of marine mammals and seabirds due to the proposed transfer are considered to be insignificant.”*

The chosen location for anchorage points for Ship to ship transfer of oil has not been fully researched. These anchorage points are located in an area that sees the highest concentration of dolphin use. There is no evidence in the application of any research into the impact of STS transfers on the behaviour of the Moray Firth dolphin population. This dolphin population is of international importance and the complete disregard for their welfare is unacceptable.



#### Noise

Tankers will be manoeuvred into position by multiple vessels and will then pump oil for 24 hours continuously in an area of high dolphin density – what will the short and long term impact of this be? Not enough is known about the impact of such noise to allow CFPA to state in their application that the impact of the activity will be ‘insignificant’. They have not engaged with any experts in this field. What noise mapping has been made?

#### Other activities

Other activities carried out during a STS transfer may also have an impact on dolphin behaviour and further research must be carried out before CFPA can state that impact of activity is insignificant. Will the following have no impact on dolphin behaviour and if so, how can CFPA safely state this without the appropriate research?

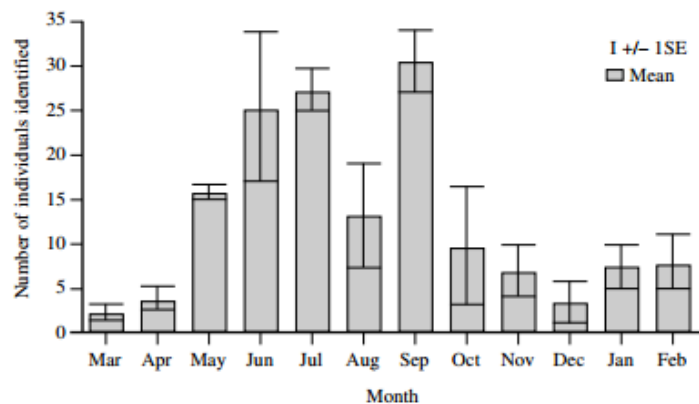
- Release of non-treated ballast water into the area
- Release of VOC into the air

*“Operators should.... consider the use of VOC recovery systems where available.”*

This statement from the report is very vague – there is an acknowledgement that VOC recovery systems should be used but no concern if they are not available. Do dolphins leave their home during transferring, or does natural curiosity means they remain to be impacted by VOC's? Have CFPA researched the behaviour and potential impact of VOC's on dolphins?

### Breeding Activity

CFPA have, during a meeting with Cromarty and District Community Council, admitted that the STS transfer process is weather dependent and that there may be more transfers during the summer months. The number of individuals present in the area in the over the course of a year can be seen in the following diagram:



CFPA have not researched the potential impact of these transfers on the breeding patterns of the Moray Firth dolphins and the proposal takes no account of the seasonal use of the proposed anchorages by dolphins..

The increase in vessels in this location could increase the number of propeller strikes – this is not only restricted to dolphins but also may affect porpoises, whales and basking sharks. This has not been assessed and there is no long term monitoring plan proposed.

CFPA state in their Annual Review:-

*The Cromarty Firth is an internationally important wetland site, classified as a SPA, with a national nature reserve and RSPB reserves at Nigg Bay and Udale Bay. Ecological awareness is key ...with many different types of species living around the Firth, including a colony of bottlenose dolphins."*

It is neither appropriate nor professional to recognise the existence of this dolphin population in one report and then ignore them completely in another to suit business development.

## Public Opinion

The people of Cromarty and District consider themselves as stakeholders in the Port of Cromarty Firth. This is backed up by the following comment from the Annual Review of the CFPA:-

*"Mission - The Port of Cromarty Firth exists to improve, safeguard and develop the Cromarty Firth as a Port, **for the benefit of all its stakeholders.**"*

This application will not benefit the communities that surround the Cromarty Firth. CFPA have stated that there will be no new jobs generated by this application.

CFPA have made no attempt to gather the views of their stakeholders nor have they been willing to engage with their stakeholders to discuss this proposal in full.

On 27<sup>th</sup> of January there was a Public Meeting was held in Cromarty to discuss this proposal – the CFPA repeatedly declined to attend. After the meeting all residents were asked to vote on the proposal. The response was 100% against –the CFPA and the Marine and Coastguard Agency (MCA) must consider the views of **all** stakeholders in this application.

## Legislative Compliance

The Cromarty Firth Port Authority "Oil Spill Contingency Plan Revision 7 (P1946B\_R3823\_Rev 3) has been approved by The Office of the Secretary of State in line with regulations. It contains a calculation that a maximum credible size of spill during tanker loading is 75 tonnes. We note this document was approved on 5<sup>th</sup> November 2015 and is valid for all CFPA operations until 12<sup>th</sup> December 2020.

Legislation for ship to ship transfers indicates contingency plans for 300t of heavy marine fuel oil to be forward located for immediate readiness. We also note that the UK Government external Regulatory Policy Committee has expressed concerns over impacts.



The European Habitat Directives has the ability to levy substantial fines on the UK Government. We would expect that CFPA are confident that planning one tonne, given as a maximum spill volume in the licence application pollution plans, would not attract incremental fines should damage to European sites occur from a different volume.



### Potential Impact on integrity of European designated Nature Conservation Sites

It is considered that this application has not proved beyond all reasonable scientific doubt that there will be no impact on the integrity of the European designated nature conservation sites. This proposal is within the Inner Moray Firth SAC which is in designated for its bottlenose dolphin population and sub-tidal sandbanks. The applicant hasn't considered the distribution of either of these features within the proposed development area and it is considered that proposal could cause disturbance to both these features and thus have the potential to adversely affect the integrity of the SAC through normal operation. In the event of an oil spill, there will almost certainly be an adverse effect on the integrity of the SAC through impact on individuals within the population and impact on long-term breeding success. This will be exacerbated by certain types of crude oil and by overall quantity and therefore the likely effects should be fully quantified for the complete range of crude oil types likely to be involved in the transfer process and the full spectrum of quantities involved from a small leak to a catastrophic event involving total loss. The assessment should be fully backed up either through research or peer-reviewed scientific literature and each scenario assigned a probability of occurrence.

## Detailed Discussion

**Merchant Shipping (Ship-to-Ship Transfers) Regulations 2010 and Merchant Shipping (Ship to Ship Transfers) (Amendment) 2012 amendments. Regulation 5.4 (o) A contingency plan setting out the steps to be taken in the event of:-**



1. Deteriorating weather;
2. Mooring rope failure;
3. Pollution following damage, such as collision: and
4. Fire.

**The Cromarty Firth Port Authority OSRP - submission appendix D - quotes marine industry data from International Tanker Owners Pollution Federation Ltd (ITOPF)**

- Most spills of up to 7 tonnes or 7,000 kg occur from routine transfer operations.
- Collisions and grounding have produced spills in excess of 700 tonnes, or 700,000 kg

**Merchant Shipping (Ship-to-Ship Transfers) Regulations 2010 and Merchant Shipping (Ship to Ship Transfers) (Amendment) 2012 amendments** requires compliance with:

**Regulation 4 of The Merchant Shipping (Oil Pollution Preparedness, Response and Co-operation) Regulations 1998(a);** which requires compliance with:

**Regulation 4 (b) In preparing an oil pollution emergency plan a harbour authority or operator shall take into account any guidance issued by the MCA.**

### **MSN 1829 (M) Regulation 7.1 Oil Spill Response and Recovery**

*“Adequate Oil Pollution response equipment shall be provided by the STS operator and forward located at immediate readiness to provide sufficient response resource to deal with an estimated worst case scenario 300t spill of Heavy Fuel Oil”*

In light of The Governments external Regulatory Policy Committee concerns over specific critical points relating to impact assessment in consultation (**Explanatory Memorandum 2010, No 1228**), regulations and supporting guidance do not support 1,000kg (1 tonne) to be used for contingency planning for ship-to-ship transfer operations.

### **Licence Application Appendix – B Oil and Ballast Water Discharge Modelling. B 4.2 Oil Spill Mass. –**

Indication is given of a previous OTL meeting between CFPA and SNH concluding that a 1,000 kg (1 tonne) spill is a reasonable worst-case scenario. This is grossly disproportionate to the Regulatory requirements as above. This notwithstanding, two 20 inch loading hoses for example, each 20 meters long has a capacity approaching 4 or 5 tonnes. SNH Policy of applying the Precautionary Principle surely requires regulatory compliance requirement levels to be observed as a minimum. There is considerable public interest in how a 1,000 kg (1 tonne) maximum spill boundary was agreed for this licence application. It is

incomprehensible that 1 tonnes can be justified. The CFPA Safety Management system OSRP (P1946B\_R3823\_REV3) – version 7. A.1.1 Risk Assessment- states in regard to Nigg Terminal pumping operations that spills of 75,000 kg are possible during the similar pumping operations. The Oil Spill Response Plan (OSRP) has been approved by Stephen Henning on behalf of the Secretary of State on 12<sup>th</sup> November 2015 and is valid for CFPA operations, including pumping crude oil, until 12<sup>th</sup> November 2020.

### International Safety Guide for Oil Tankers & Terminals (ISGOTT)

#### **7.3 OPERATION OF PUMPS AND VALVES 7.3.1 Pressure Surges**

*“The incorrect operation of pumps and valves can produce pressure surges in a pipeline system. These surges may be sufficiently severe to damage the pipeline, hoses or metal arms. One of the most vulnerable parts of the system is the ship to shore connection. Pressure surges are produced upstream of a closing valve and may become excessive if the valve is closed too quickly. They are more likely to be severe where long pipelines and high flow rates are involved. Where the risk of pressure surges exists, information should be exchanged and written agreement reached between the tanker and the terminal concerning the control of flow rates, the rate of valve closure, and pump speeds. This should include the closure period of remote controlled and automatic shutdown valves. These arrangements should be included in the operational plan (see Sections 5.3 and 5.4)”*

Three types of safety devices generally exist for spill protection with temporary pipework such as loading hoses.

1. Dry-break devices installed at each end of hose connections, such as TODO dry break, which preserve hose contents before and after pumping operations. By design, dry-break devices do not provide shut-off protection for hose failure during pumping operations.
2. During pumping operations, emergency shut-down (ESD), or automated shutdown systems, may be designed to be activated in cases of hose or equipment failure by detection of pressure changes or flow rate changes. In this Licence Application pump rates of 7500 tonnes per hour, or 2 tonnes per second there are significant process safety design considerations when shutting down too quickly. Hydraulic shock (**ISG : Oil Tankers and Terminals** - describes severe damage risks) is an important consideration; systems must be designed for safe shut-down while maintaining process safety asset integrity. The Applicant must demonstrate that a safe ESD shutdown system is used. Such a system may first remove power from pumps, to remove dynamic energy, and then activate a closing device while maintaining the process safety and asset integrity of the system. The total system ESD time will define the volume released from dynamic consideration's + hose content volume.
3. Stopping operations by manual operation of a shut-down alarm. This type of method requires manual observation and an act of intervention. Response times have an element of dependency on human factors.

The criterion to establish spills during pumping of 75,000 kg is given by CFPA as 30 seconds Emergency Shutdown (ESD) activation by a person and 10 seconds for actual valve closing. It appears that CFPA have

not used their existing safety management system criteria for spills to sea during actual pumping operations during ship-to-ship pumping operations. Instead 1,000 kg (1 tonne) is used. This has been overlooked. Initial volumes released are important to verify response plans, in some cases more oil spill response equipment may be needed on-board attending vessels.

Historical Nigg Jetty data (**Main Report, P1946\_RN3783\_Rev1. Table 5.1**) with data from 2009 to 2014 indicates an annual average operational level of 1,091,666 tonnes per year for the period given. The proposed licence for 8,640,000 tonnes per year represents a 700% increase in annual crude oil transfer volumes. As such it is a major development change to previous operations.

## Public comment 1

The Licence Applicant has failed to demonstrate the maximum spill volume of 1,000kg meets the regulatory requirement for ship-to-ship transfers of **MSN 1829 (M)**. 1000kg does not comply with CFPA OSRP for pumping operations, as approved by the appointed agent of the Secretary of State. 1,000kg is not even the contents of the transfer hoses. The applicant has not demonstrated that shutdown systems address the level of process-safety asset integrity required by ISGOTT. 1000kg does not comply with the applicant's approved OSRP safety management system risk assessment criteria to determine release volumes during pumping operations. It does not consider recorded international marine industry data on spill volumes. The Habitats Regulation Appraisal (HRA) Process tests need to have valid input to deliver valid outcomes.

It is less than valid to describe an annual average increase of 700% in activity level as a "small uplift". This is misleading to competent authorities, statutory consultation bodies and stakeholders such as wildlife NGO's.

The proposed new operations are a significant change to current CFPA crude oil handling activity levels. A proportion of noise and underwater vibrations from crude oil transfers is currently incorporated in the noise and vibration signature of the Nigg baseline. The proposed new operations are located to open sea anchorages more than 5 km from current jetty operations. This means an increased risk in operational complexity, significant changes to location and duration of underwater noise and vibration emissions, and an increase in VOC emission levels all of which bring a foreseeable increase in receptor impacts. It has not been assessed that bottlenose dolphins will actually move away due to transfer activity, and natural instinct to remain where they have been for hundreds of years may mean they don't in fact move away but remain "at home" to be affected by released VOC. We don't like breathing fumes at petrol stations, who knows what damage may be done to bottlenose dolphins by VOC.s? Changes for receptors may be substantial and require EIA considerations to be reviewed in the context of significant development change.

**Main Report, P1946\_RN3783\_Rev1. Assessment of Effects on European sites – Mitigation Measures Page 12 (although no visible page numbering exists)**

*“Positioning of fenders in a manner which they create a barrier to contain any oil that may be spilt in the event of a hose failure”*



## Public comment 2

Cylindrical fenders may not provide a seal between vessels; however, partially retained oil will begin to be incorporated into the water column until recovered. By the nature of vessel movements in fluctuating sea levels and fender design, oil can pass fenders to open seas by leaching. No performance data is provided in the application on the oil spill retention capability of fenders to protect European sites. In the event of mooring failure or emergency unmooring, such fender arrangements may not be relied upon to retain spilled oil.

A potential discharge of 75,000kg, (CFPA calculation given in **The CFPA Safety Management system OSRP – version 7. A.1.1 Risk Assessment**), when released by sudden hose failure at high volume pumping rates, can create a spray pattern over decks, pipework, between vessels and directly overboard. However, no hose failure spray prediction modelling is used to establish this in detail in the licence application. Transfers by hose are a temporary connection arrangement. The considerations are vibration, turbulent flow characteristics, radial failure and longitudinal failure. No hose failure causation and frequency information is included in the application.

The UK Health and Safety Executive Major Hazards Assessment Unit (MHAU) recognise studies (**ICHEME Symposium series N 141**) of failures for major hazard sites as summarised in *Hurst et.al (2) “plant and operating procedures”* and *Taylor (4) “accident rates for one international company varied by a factor of 60% across its sites worldwide”*. Given the international scope of tanker availability, these are significant considerations for hazard assessment. Industry historical information by organisations such as Det Norske Veritas (DNV), examine parameters for releases such as grounding, weather, vessel size, drifting, location probability and human error in considerable detail. There is insufficient reference to statistical information on incident frequency and probability used in spill volume determination.

The information provided fails to show consideration of the consequences of hose failure during pumping operations at high volume rates of two tonnes per second. The major risks associated with 'holding' spilled crude oils on vessel external surfaces and between fenders in the gap between two moored vessels are to personnel, fire and explosion. Crude oils sprayed in such a manner will create an emergency situation; rain and darkness are escalation factors. Personnel movement on deck will be hazardous, requiring an emergency response plan to be implemented before any recovery of trapped flammable liquids between vessels and fenders can be undertaken. Ignition would seriously escalate outcomes. Beatrice crude oil, and many other oils which may be transferred under this licence, has recorded hydrogen sulphide content with potential for a serious hazard if released. In an emergency situation, the Master of a vessel must always take action to preserve the safety of the vessel crew and preserve the safety of the vessel, particularly with flammable cargo. Immediate mooring disconnect from a hazardous situation, to allow conventional mechanical oil spill recovery to take place, is a credible control measure which is not examined. The lack of suitable and sufficient assessment of risk is further noted in public comment 5.

The gap between moored vessels in conditions up to 27 knots wind-speed can form a wind tunnel with high velocities aggravating fender leaching to the open sea.

The relationship between equipment failure and spill-to-sea volume is dependent on interventions and immediate staff reactions. Human factors and behaviour are safety critical elements of transfers which involve 24 hour operations at sea. Individual, job and organisation aspects are well described in HSE Guidelines **HSG48 - Reducing error and influencing behaviour**, drugs and alcohol are significant issues to be addressed in risk assessments.

### Public comment 3

The Licence Applicant fails to demonstrate fender manufacturer's oil spill prevention performance data. Using fenders to retain live crude oils should be recorded in the hazard register and vessel safety cases. The emergency situation created by sudden hose failure, sprayed crude oil, fire and explosion risks and human factors for multi-national crews, all need to be examined in a dedicated risk assessments before fenders can be designated as pollution control measures. Pumping operations in an environmentally sensitive arena need greater degree of input than a chat with SNH during an OTL meeting.



International Tanker Owners  
Pollution Federation Ltd photograph



**Licence Application Appendix – B. OIL AND BALLAST WATER DISCHARGE MODELLING (Briefing Note Ref. P1946\_BN3872\_Rev1\_AppB.docx) B.4.5 Tidal Conditions.**

All releases modelled are assumed to occur at high tide, yet no marine industry data is provided to support this assumption.

Advection is a projection of the transportation of the bulk of a fluid over time. It depends largely on the nature and volume of the fluid spilled, tidal effects, wind speeds and water temperatures. Oil spills occurring during rising tides can affect European sites in both the Moray Firth and the Cromarty Firth. The Cromarty Firth inlet tides regularly reach 1.5 knots. Easterly tidal currents would bring spilled oil inside the Firth where there are significant mechanical recovery restrictions. This aspect of tidal conditions has not been considered in worst-case scenario modelling for the proposed anchorage positions.

**Licence Application Appendix – B. OIL AND BALLAST WATER DISCHARGE MODELLING (Briefing Note Ref. P1946\_BN3872\_Rev1\_AppB.docx) B.4.6 Wind Conditions.**

The EIA requirement for worst-case scenario considering wind conditions from the southerly to easterly quadrant from anchorage sites 14 to 17 towards the Cromarty Firth entrance, have not been considered.

The EIA requirement for worst-case scenario, considering wind conditions from the north to north easterly directions from anchorage site 18 towards the Cromarty Firth entrance and coastline cliffs have not been considered.

Vast areas of the immediate coastline are cliffs and rock face with multiple recesses and crags, all of which are poorly accessible. Oil spill recovery difficulties from cliffs, particularly in the case of persistent oils, will mean weathering will occur over a very long period of time affecting the whole marine environment.



## Public comment 4

The Licence Applicant needs to demonstrate that all transfer operations at the individual anchorages will be halted when wind directions are towards the Cromarty Firth entrance. The Licence Applicant also needs to demonstrate that all transfer operations will be halted at low tide and during rising tides. These mitigation measures are essential as foreseeable wind and tidal scenarios have not been modelled, the Licence Applicant has failed to determine effects and European Site damage for these conditions.

**Merchant Shipping (Ship-to-Ship Transfers) Regulations 2010 and Merchant Shipping (Ship to Ship Transfers) (Amendment) 2012 amendments.**

**5.2 Conservation (Natural Habitats, &C.) regulations 1994 and the Conservation of habitats and Species Regulations 2010. – Likely significant effects on a European Site.**

**5.3 What safeguards and contingencies will be put in place against the risk of any accidental pollution?**

Vessels moored for crude oil transfer in open sea anchorages have higher levels of foreseeable risk than vessels moored at Nigg Terminal within the shelter of a harbour and fixed jetty. A freedom of information request to MAIB, for cargo transfer incident data in the period 2000 to date contains details of 14 incidents. (Appendix B). Although the data is incomplete in some regards, Tripod Delta analysis shows clear areas where cargo transfer operations have greatest inherent weaknesses). 92% of incidents occur outside port and 93% of recorded incidents involve non-UK registered vessels (Appendix A)

Human factors (fatigue, communications, motivation, competence) are present in 60% of recorded cases. Equipment failures are present in 40% of recorded incidents.

Continental Shelf offshore operations have involved oil transfer operations for a number of years and have very low incidence of recorded oil spill. Post Piper Alpha offshore operations in particular have seen the introduction of safety case approach to the management of hydrocarbon inventories and include high volume transfer operations. Safety management systems have moved to advanced levels of hazard analysis, risk identification and required controls with extensive demonstration of asset integrity and competence assurance through dedicated vessels and pre-qualified individuals in key positions. These are enhanced safety management systems which go far beyond a duty-holder having a copy of a MARPOL certificate of any vessel, of any flag.

Ah-hoc vessel chartering is an approach which carries recognised reductions in establishing enhanced safe management controls. Management of Change, key safety performance indicators, compliance assurance and verification are omitted in the fast turn-around nature of such commercial engagements. Long term safety plans and bridging documentation for operational safety systems such as permit to work and sub-contractor management controls also fail to materialise. Competence assurance is limited to annual certification inspections levels as is equipment maintenance standards. Man-hour exposure control is based on trust.



It is not valid to imply that transfer operations at Nigg terminal have zero incidents and therefore infer that the proposed transfers at sea anchorage are automatically safe. The fundamental process of hazard identification, suitable and sufficient assessment of risk and the implementation of reasonably practicable control measures must be demonstrated independently of Nigg jetty safety metrics.

### Public comment 5

The Licence Applicant has failed to demonstrate that suitable and sufficient assessment of risk for the proposed operations at the proposed anchorage locations has been made on a stand-alone basis for the scope of the licence activity. Historical MAIB incident data clearly shows that marine activities, of multiple flagged vessels, working outside of the shelter of dedicated port facilities, as proposed by the licence application, fall significantly short in safety performance for the proposed licence activity and are increased risk activities.

**Merchant Shipping (Ship-to-Ship Transfers) Regulations 2010 and Merchant Shipping (Ship to Ship Transfers) (Amendment) 2012 amendments. Regulation 7. Oil Response and Recovery Equipment**

**7.1 Adequate Oil Pollution response equipment shall be provided by the STS operator and forward located at immediate readiness to provide sufficient response resource to deal with an estimated worst case scenario 300t spill of Heavy Fuel Oil.**

### Public comment 6

The Licence Applicant, in selecting 1 tonne response volume, has failed to demonstrate compliance with **(MSN 1829 M)**. Regulation 7.1

The Cromarty Firth is given as 1500m wide at the inlet, yet no more than 200 meters oil spill boom is evident in the OSRP plans submitted.

The Cromarty Firth has many impediments for mechanical oil spill recovery techniques. Jetties, stored rigs, moored structures and marine navigation fixtures will mean conventional U profile boom and skimmers response will be greatly restricted.

The OSRP indicates that Tier 1 and Tier 2 response equipment is available in various lists and held by various parties in various locations. It is not clear where CFPA Tier 2 contractual equipment held by Briggs Environmental Ltd is actually located.

Talisman Energy state (**OSRP 3.3.1.2**) that oil spill equipment will be available “whenever possible”. This does not appear to a reliable and robust arrangement to demonstrate protection for European Sites.

Some reliance is placed on Talisman Energy Tier 2 contracts with OSRL, particularly mobilisation and call out via Aberdeen. It is not clear if OSRL agrees to endorse sub-contracting of Talisman Energy Tier 2 equipment and services to the proposed ship-to-ship transfer operations. It is not clear that CFPA, or the ship-to-ship vessel owners, have contractual arrangements in place for Tier 2 and Tier 3 response.



Beatrice crude oil has a proven characteristic of forming “cowpats” in an undetermined time frame and cannot be recovered by the proposed equipment. No Information is available on recovery. There is a foreseeable risk that spills of Beatrice oil will require beach clean-up operations with local, trained volunteers. Crude oils from all over the world are provided for in the application, yet no details are available of the chemical and physical characteristics of oils (e.g. asphaltene content, wax content, hydrogen sulphide content and solubility and miscibility) and their influence on oil behaviour and oil spill response.

No Information is available on oil spill surveillance. No information is available on the location of tugs for major incident response.

## Public comment 7

The Licence Applicant has failed to demonstrate compliance with regulations that spilled oil emergency response equipment will be forward located at immediate readiness to respond to an estimated spill of 300t heavy fuel oil. The Licence Applicant has also failed to demonstrate equipment can actually be deployed at the scene within the required time-frame and has not clearly demonstrated that properly researched arrangements are in place for suitable oil spill response planning. The location of the nearest tugs for emergency plans is not demonstrated.

**Merchant Shipping (Ship-to-Ship Transfers) Regulations 2010 and Merchant Shipping (Ship to Ship Transfers) (Amendment) 2012 amendments. Regulation 7. Oil Response and Recovery Equipment**

**7.2 Any oil recovery vessel provided must have;**

- the capability to take oil recovered from the sea into its tanks
- a system capable of recovering the transferred oil in seas up to 2 meters;
- enough boom to contain a spill until it can be recovered.

## Public comment 8

The Licence Applicant OSRP does not describe vessels, booms and recovery equipment to meet these regulatory requirements at the proposed transfer sites, which are out with the natural shelter of the Sutors and not the same maritime conditions as Nigg jetty. The risk of spilled oil under-flowing the proposed boom does not appear to have been considered.

Oil loss has been proven historically at speeds of less than 1 knot. The tidal flows of Cromarty Firth regularly reach 1.5 and 5 knots. With the wrong boom selected, such as an inshore boom used in an at-sea application, oil loss is by underflow.

Sea Sentinel 600 booms, listed as OSRP equipment, have a draft of 355 mm and typical wave height application of 1metre to 1.5 metres and a maximum speed of 1 knot according to manufacturer's data. In 2 metre wave conditions at the proposed anchorages the efficiency of this boom can be compromised. Oil recovery boom performance would be significantly impeded by the pitch of the waves, choppy irregularity and tidal effects in the inlet area. Sea Sentinel 600 booms can be ineffective to prevent spill entry into the Cromarty Firth given the maritime conditions at the proposed anchorages. Information from the manufacturer does not support this application.

Flood tide streams into the inner firths may be possible. Shallow water requires shallow draft vessels for response and recovery. No information is given of such equipment.

Briggs Environmental Ltd hold OSIS models of studies for spilled oil movement, specifically tailored for the Cromarty Firth. However this important information is not presented in the application.

The OSRP (Appendix D) does not list ship-to-ship transfer activities in the hazard register of potential oil spill sources. This is a CFPA safety management system issue.

## Public comment 9

The Licence Applicant has failed to demonstrate compliance with Regulations (MSN 1829) 7.2 within the application. The Licence Applicant's current OSRP requires to be updated to reflect industry established spill volumes, oil types proposed, operational risks, equipment selection, oil recovery equipment manufacturers operating envelopes and marine environment conditions (wind, wave and tidal currents) at the site of the new activity and Cromarty Firth inlet. Fate and trajectory modelling related to the European Sites to be protected should be undertaken with revised maximum spill volumes.

## **Merchant Shipping (Ship-to-Ship Transfers) Regulations 2010 and Merchant Shipping (Ship to Ship Transfers) (Amendment) 2012 amendments.**

### **Regulation 10 Volatile Organic Compounds.**

### **Regulation 11. Exemptions.**

### **EU Habitats Directive 92/43/EEC**

A key mitigation measure requiring Volatile Organic Compounds (VOC) recovery equipment has been clearly identified and tabulated as a requirement in risk assessments (Main Report, P1946\_RN3783\_Rev1. Table 5-2, Assessment of potential significant effects of the proposed cargo transfers, page 24)

However comments elsewhere show the Licence Applicant will only consider the use of VOC Recovery systems “where available”. (Main Report, P1946\_RN3783\_Rev1. POTENTIAL ENVIRONMENTAL EFFECTS, Air).

Land based vapour recovery systems which are available for jetty operations may not be available at the proposed anchorages.

There is no information provided in regard to the compliance with the Regulation VOC recovery equipment exemption by MCA.

Talisman Energy operational data shows that Beatrice crude oil has an H<sub>2</sub>S content of > 1%. However H<sub>2</sub>S can have severe toxicity impacts at levels significantly below 1%. There is no information on hydrogen sulphide emissions and hazards during STS transfers. H<sub>2</sub>S being heavier than air and could carpet the sea downwind from vents. H<sub>2</sub>S may be present in any of the global crude oils being transferred or from vessel tanks as a result of sludge. If released, H<sub>2</sub>S can present a severe toxic hazard for all users of sea water surfaces, particularly bottlenose dolphins.

## **Public comment 10**

The Licence Applicant has failed to demonstrate compliance with Regulations (MSN 1829 M) VOC requirements. Key listed mitigation measures in risk assessments are then dismissed by accepting such equipment “where available”. Key mitigation measures to protect European sites cannot be transient or based on an element of chance.

The Licence Applicant has failed to include the risks of hydrogen sulphide in emission impact assessments. This is particularly important given the 700% increase in annual operational volumes to be transferred by this licence application.

**Main Report, P1946\_RN3783\_Rev1. Determination of Potential effects.** (Table 5-2, Assessment of potential significant effects of the proposed cargo transfers)

Page 26

*“In the event of a significant oil spill a negative impact on income across a variety of industries might be experienced. Incomes affected by a spill include those employed by fishing, aquaculture, tourism, and recreation industries”.*



Page 27

*“The modelling results (Appendix B) indicate that oil has the potential to impact fin fish and the shellfish water in the Cromarty Firth. However this would only be possible under certain wind conditions which would carry the slick into the Cromarty Firth”*

Page 30

*“Oil spill can contaminate shellfish stocks even when only exposed to pollutant for a very short time period”.*

The mitigation measures proposed are *“cultivation of shellfish should be banned from human consumption”*. This is a response which is outside the domain of the Licence Applicant and requires to be referred to SEPA, SNH or the Local Authority.

## **Merchant Shipping (Ship-to-Ship Transfers) Regulations 2010 – oil transfer licence application**

### **1. Governance of the port of Cromarty Firth and benefit to local communities**

According to the Port of Cromarty Firth 2014 Annual Review:

*“The port of Cromarty Firth exists to improve, safeguard and develop the port for all its stakeholders.”*

Stakeholders are not defined in the 2014 report however, the 2013 report states:

*“The port of Cromarty Firth has stakeholder and not shareholders - they are customers, employees, local and national government, the business community and the local community. Any surplus will be “ploughed back into the port for the benefit of stakeholders”.*

## Public Comment 11

The community of Cromarty is thus most definitely a stakeholder, as are all the other communities bordering the firth. We are failing to see that the surplus, in excess of £2 million per annum being “ploughed” back into the community. Moreover, the proposal for ship to ship transfers does not improve, safeguard and develop the ports for the residents of Cromarty.

The Scottish Government’s Modern Trust Ports for Scotland: Guidance for good governance states:

Although not an exhaustive list, as stakeholders will vary from port to port, the following may all be considered stakeholders of a trust port:

- Port Users
- The local community
- Local and regional economies and authorities Port employees including
- Trade Unions Related interest groups
- The national economy and Central Government
- Local and regional businesses

The document goes on to state:

“As stakeholders in the port, the interests of these groups should at all times be the guide by which trust port boards direct the port. There are bound to be conflicts of interest from time to time between — and in some cases within — the various stakeholder groups. It is the duty of the boards, at all times, to strike a balance that respects the interests of all stakeholders, not just one group, in the light of the objectives of the port, including commercial considerations, and what constitutes the 'common good' for all stakeholders (current and future) and the port itself.”

## Public Comment 12

We as a community, and as representatives of local business feel that in with regard to this application the Port of Cromarty Firth has not been willing to engage with its stakeholders in a meaningful way and that the balance is being struck very much on the commercial operation of the port and not the common good for all stakeholders. There is no assessment of the economic benefit of this proposal to the Port of Cromarty Firth compared to the economic impact to the various activities and businesses that will be affected should a spill occur.



## 2. Impact of Sites of Conservation Importance, Protected species and Habitats

### SITES OF CONSERVATION

The ship to ship transfer operations are within 6 different areas protected for nature conservation, 3 of which are of European or international importance for bottlenose dolphins, birds and salmon. For example the Moray Firth SAC contains the only known resident population of bottlenose dolphins in the North Sea - one of only 2 within the UK, both of which are considered to be of importance at European level.

It is also the most northerly population and the Moray Firth SAC is the only area in Scotland which is designated for bottlenose dolphins. Its importance in terms of nature conservation cannot be overstated.

The applicant's report correctly identifies the requirement for a Habitats Regulation Assessment (HRA) in relation to the European designated sites. Test 2 of which is whether there will be a significant effect on the site. The document identified that there will be such an effects in the event of an oil spill. Test 3, the Appropriate Assessment (AA), relates to whether there will be an adverse effect on the integrity of the designated site – the document concludes that by following the mitigation and the response plan there will be no such impact.

### Public Comment 13

It is considered that this assessment is wholly inadequate – an oil spill will happen eventually and the impact on the integrity of European site has not been considered in the event of a spill.

**Under the Habitats Regulations, there is a need for a high level of certainty in the assessment conclusions (also following the precautionary principle). This is also highlighted within the Waddenzee judgement which concluded that 'a plan or project [that is] likely to have significant effect on the site is only to be authorised if it is ascertained that it will not adversely affect the integrity of the site ( i.e. where no reasonable scientific doubt remains as to the absence of such effects)'.**

The applicant hasn't show beyond all reasonable scientific doubt that there will be no adverse effect on the integrity of a number of site of European importance, and therefore cannot be authorised in its current state. (see <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A62002CJ0127>)

Furthermore the proposal represents a 700% increase over the existing allowance and has moved from a sheltered on-shore location to a much more exposed setting, thus significantly increasing the probability of spill and thus the potential to impact on site of nature conservation value and protected species - this is not reflected in the assessment.

It is also not clear as to which set of guidelines have been used to undertake the HRA and the experience and qualifications of the authors to carry out such an assessment have also not been clearly identified.

It is considered that the impact of an oil spill has been significantly underplayed by basing on 1 tonne (1000kg) of oil being released – the exercise needs to be repeated based using 300 tonnes as required by the relevant regulations.

There is no scenario in the modelling to take account of an east or north wind blowing (which can be the prevailing wind in the Cromarty Firth) and would result in spilled oil being transferred into the inner firth.

There is no “catastrophic scenario” modelled i.e. if a ship drags anchor, grounding, collision, fire or if a ship sinks. The HRA/AA also needs to be undertaken in light of these scenarios.

There is no discussion of the impact of a spill on the breeding success of the dolphin population, given the emerging research coming from Deepwater Horizon – it is considered that a significant spill could significantly impact on the ability of the dolphins to successfully reproduce and therefore would endanger the long term viability of the population.

There has been no reference to the Inner Moray Firth SAC Management Plan – are STS transfers even recognised in the plan as an activity occurring (or allowed to occur) within the SAC?

There is also no assessment of the collision risk with dolphins due to the increase traffic associated with transfers i.e. 2 tankers per week and up to 6 associated harbour tugs. There is also no assessment of the impact of VOC's and no assessment of the impact of underwater noise on bottlenose dolphins. The report make attempt to looks at the distribution of bottlenose dolphins with the firth and the location would not appear to have been chosen to avoid areas that are heavily used by the bottlenose dolphin population.

## PROTECTED SPECIES

The Cromarty Firth also has regular sighting of various species of whale as well as porpoises – these, along with bottlenose dolphins are European Protected Species (EPS). In relation to these marine species, it is an offence to deliberately or recklessly:





- capture, injure or kill such an animal;
- harass an animal or group of animals;
- disturb an animal while it is rearing or otherwise caring for its young;
- disturb an animal in a manner that is, or in circumstances which are, likely to significantly affect the local distribution or abundance of the species to which it belongs;
- disturb an animal in a manner that is, or in circumstances which are, likely to impair its ability to survive, breed or reproduce, or rear or otherwise care for its young;
- disturb an animal while it is migrating;
- disturb any dolphin, porpoise or whale (cetacean)



## Public Comment 14

The applicant has made no attempt to consider the current baseline usage of the area by all cetacean species and in particular bottlenose dolphins which are particularly active in the proposed area.

There is neither any attempt to consider any seasonal aspects, such as dolphin breeding, and how this would be affected not only by the proposal.

The applicant has made no effort to assess the impact on EPS – there is no mitigation, such as the use of Marine Mammal Observers to reduce the risk of collision and thus injury or death or disturbance of any of these species.

Appendix 2 B6 Scenario 3 shows the oil beaching at Castlecraig. This is the precise location of the North Sutor bird colony home to large numbers of breeding Auks, Cormorant, Shag, Kittiwake and Fulmar. With an expected time between spill and beaching of just 80 minutes there is little chance of an adequate response.

## PROTECTED HABITATS

The Cromarty Firth RAMSAR site is of international importance – the designation relates to its bird population and also to the habitat that support those bird populations, namely, marine littoral sediment, intertidal mudflats and sandflats. The Cromarty Firth SSSI includes habitats in its designation namely, mudflats, sand marsh and salt marsh. The extensive area designated for migratory birds are all entirely

dependent on their integrity by having suitable habitat for the birds. Furthermore the Moray Firth SAC, in which the proposal is located, also contains the Annex 1 habitat of “sandbanks which are slightly covered by seawater all the time”.

In the applicant’s oil spill response plan, the following entries are relevant:

### Protection of Sensitive Areas

This is the secondary method of response. However, as stated,

*the sensitive areas are so extensive, and the tidal regimes so complex that little in the way of large-scale protection will be possible.*

### Shoreline Clean-up

It is **very likely that in the event of a spill, oil will come ashore**. Detailed clean- up guidelines have been developed by Talisman Energy on behalf of PoCF and Highland Council in conjunction with Scottish Natural Heritage (SNH), and SEPA. In many areas within the Cromarty Firth, **these require the oil to be left to degrade naturally, as aggressive clean-up may cause more damage than the spilled oil.**

## Public Comment 15

There is no modelling of the fate of any oil released into the sea before it hits the shore – it is recognised different types of crude oil will behave in different ways. For those oil that will cover the surface it is important to be able to understand the area over which each ton of oil could be dispersed as this will have a direct bearing on the area of dolphin (and other cetacean) habitat that would be affected.

The impact of an oil spill on the habitats would be significant. The oil spill response plan as quoted above implies nothing will be to protect sensitive habitats an equally nothing will be done to clean up a spill – this means there could be oil sitting on the beach for weeks or months damaging these habitats and potentially impacting on the integrity of the site of nature conservation importance

### INVASIVE NON-NATIVE SPECIES (INNS)

According to SNH, “Invasive non-native plant and animal species are one of the greatest threats to biodiversity worldwide. They can have negative impacts on native species and can threaten whole

ecosystems causing serious problems to both the environment and the economy. In Scotland, there is a growing problem with marine invasive non-native species”

Significant pathways for transfer of INNS in the marine environment are fouling of ships hulls and contamination of ballast water.

## Public Comment 16

While the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM) is referenced and it is stated this will be implement for all ships within 12 months of it being ratified - it is not clear how this will be implemented and monitored.

**Furthermore, entry into force will occur 12 months after ratification of the IMO BWM Convention by 30 States representing 35 percent of world merchant shipping gross tonnage – if this does not happen then there will be no regulation of ballast water discharge.**

The release of INNS is a significant risk to the Cromarty Firth and this should be managed by a Marine Biosecurity Plan as recommended by SNH. This is not presented.

## IMPACT ON HUMAN BEINGS INCLUDING AIR QUALITY

The relevant section states that “odour and fumes won’t cause an impact on humans as the transfers will be more than 2km from the nearest habitation

“The cargo transfer process can result in the release of VOCs associated with pungent odours. The designated transfer locations are located more than 2 km offshore. Emissions will be diluted and dispersed to insignificant levels over this distance and therefore will not cause a significant impact on human health.”

“The designated transfer locations are located more than 2 km offshore. The frequency of proposed cargo transfers (not exceeding an average of four per calendar month) may result in a minor increase in odour. Odour will be diluted and dispersed to insignificant levels over this distance and therefore will not be significant.”

## Public Comment 17

There is an unacceptable lack of detail in this section – there is no reference to why distances of greater than 2km are thought to be safe and insignificant – VOC's are carcinogenic and if distillery odours can travel many miles why can't VOC's? Cromarty during previous oil transfers. There is the Southwold example where the local school had to be closed during StS transfer – this was some 12 nautical miles away, this proposal is on 3.5km from Cromarty. There is no attempt to quantify the effect of VOC's on water users such as dolphin tours, kayakers, anglers, leisure sailors etc.

There is recognition that an oil spill would require a ban on eating cultivated seafood. There is little recognition of the local fishing industry – trawling, creels as well as locally harvested mussels and seaweed etc. – an oil spill would have the same impact on this group and there needs to be a proper assessment of the economic impact. The only reference states:

“In the unlikely event of a significant oil spill a negative impact on income across a variety of industries might be experienced. Incomes affected by an oil spill would include those employed in fishing, aquaculture, tourism and recreation industries. The magnitude of this effect will depend on the size of the spill and environmental conditions at the time of the spill.”

Who will pay compensation? The Firth is also popular with leisure anglers, sub aqua divers, kayakers, leisure sailing, swimmers, tourists and locals using the beaches, and wildlife watching including commercial enterprises such as Ecoventures and North 58° sea adventures. Furthermore many residents are dependent on continued tourism for their livelihood – hotels, pubs, B&Bs, shops and restaurants to name a few – their businesses would be destroyed by a significant spill. There has not been a full assessment of the range of users – both commercial and leisure and the potential impact.

Cromarty has been diversifying its tourist offerings over recent years and a significant oil spill or even minor oil deposits on the beaches or smells associated with the transfer process is likely to significantly inhibit any further development as well as impact on existing business.

There is also potential to transfer disease causing pathogens via ballast water which could affect any of the above mentioned water users – this has been completely overlooked – it is part of the IMO BWM convention, however, if this is not going to be implemented then it means this aspect is not being addressed.

There is also no mention of exclusion areas during StS but presumably these will be required and will render areas of the firth inaccessible for users – this requires clarity.

**In short, the assessment of the impact on human beings is wholly inadequate.**

## CULTURAL HERITAGE

The applicant's assessment consists of the following paragraph:

"The proposed cargo transfers will take place afloat within Cromarty Firth harbour waters. In the unlikely event of an oil spill, it may lead to reduced access to cultural heritage wrecks within the area. The cultural heritage sites themselves will not be directly impacted by the proposed cargo transfers. Therefore, impacts on cultural heritage are considered to be insignificant. "

### Public Comment 18

This aspect has been very much ignored – there has not even been an assessment of the baseline cultural heritage interest and no indication of the qualification of the people undertaking the assessment in relation to cultural heritage.

A quick search found at least 7 sites of cultural heritage interest within the vicinity of the South Sutor and elsewhere within the applicant's own report it states:

*"Seabed disturbance could occur in the vicinity of the proposed cargo transfers from anchoring of ships. Anchors typically penetrate the seabed for a few meters in depth and may drag over some distance before holding."*

It is thus considered possible that cultural heritage sites could be lost during normal operations and that a proper assessment of impact should be undertaken by a suitable qualified archaeologist.

### NOISE

### Public Comment 19

There is no assessment of the noise created by operations – rigs in the firth create persistent issues for Cromarty residents and the noise created by ship to ship operation, ships being stacked etc all needs assessed. Also the potential noise impact on key receptors such as the popular South Sutor walk should be assessed.

The additional noise exposure over 1 year equates to approximately an additional 1152 hours in one of the most sensitive and important areas in the whole of the Moray Firth SAC for Bottlenose Dolphins. The additional vessels do not represent 'routine traffic', they are not transiting through, therefore the following statement. 6.2.1 is incorrect; *'The movements and mooring of ships are considered to be part of the normal port operations and there will be no significant increase above previous levels (not exceeding an average of four per calendar month) in port operations or shipping traffic as a result of the proposed cargo transfers.'*

### LANDSCAPE ASSESSMENT

The entire landscape assessment consists of the paragraph:

“The proposed cargo transfers will take place afloat within Cromarty Firth harbour waters. The transfers will take place between ships operating within an existing operational port. The operations will be similar to other shipping operations which already occur in the area, therefore landscape impacts are considered to be insignificant.”

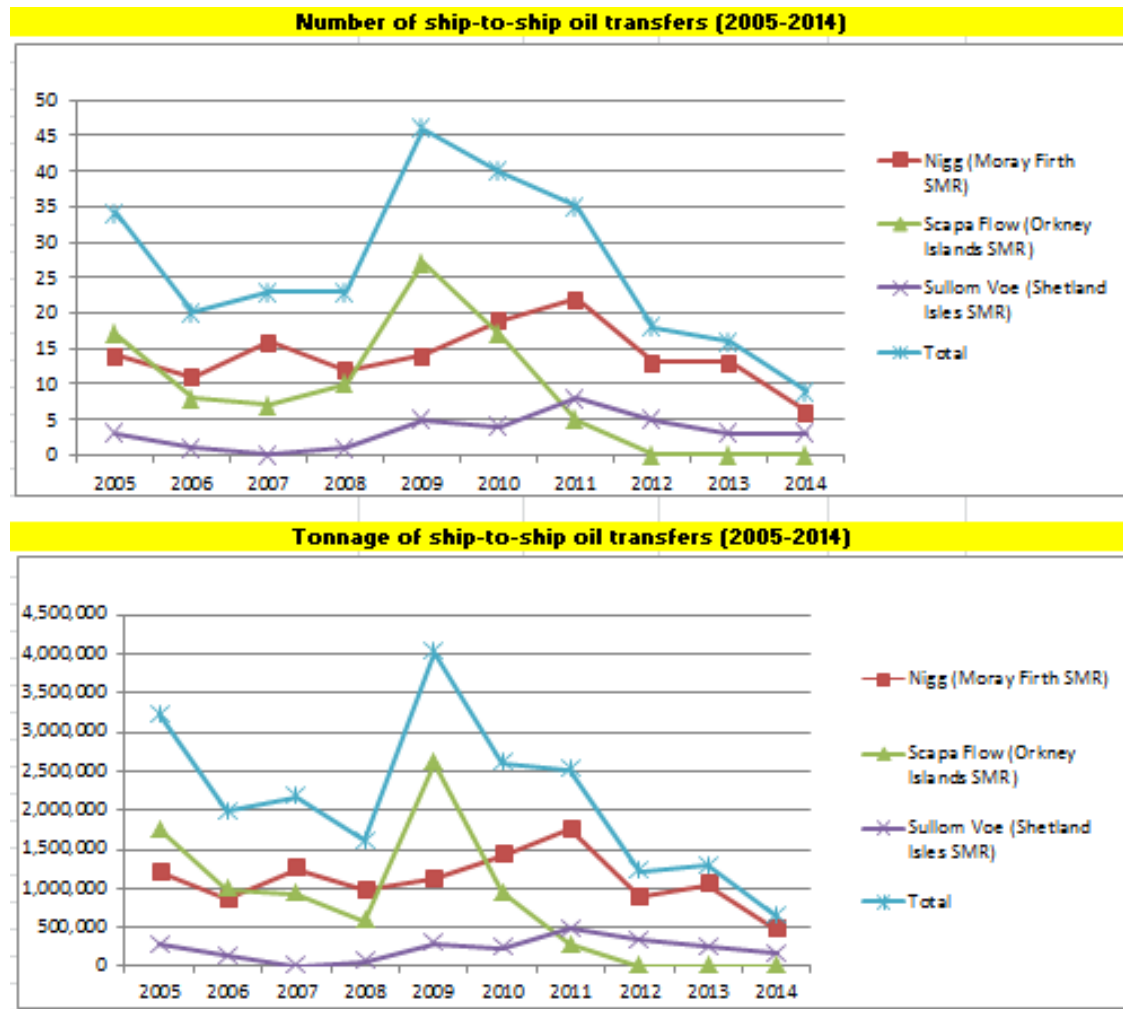
This is wholly inadequate and not in line with relevant guidelines. The area in which the transfers are proposed is designated as a Special Landscape Area and this has not even been recognised. Ships will be anchored in full view of receptors for 24 hours at a time – there are no other “similar shipping operations” currently being undertaken. There has been no assessment of the impact of the change from key viewpoints and this aspect needs to be significantly expanded.

## LACK OF CLARITY IN APPLICATION

The applicant has not demonstrated the business case for this application. Neither is there any detailed economic analysis of the economic viability or the economic impact of the application. Any application for business activity in a protected area should surely show a financial analysis which is then compared with the financial risk. There is no financial analysis in this application.

The CFPA have not carried out research into the number of businesses that rely solely on Cromarty and Moray Firth Ecotourism. Ecotourism generates a huge amount of revenue for the area and there has been no impact assessment carried out. There is no recognition that STS transfers, exclusion zones, noise and emissions may have an impact on local businesses – this must be quantified.

There has been a decreasing trend in Ship to Ship transfer of oil in Scotland since 2009 and this application does not give justification for or show that there is a demand for an 8 times increase in ship to ship oil transfer in this area. There is an existing facility for ship to ship oil transfer that has been used for a number of years; the application does not clarify why this facility is no longer suitable for their operations.



## Public Comment 20

Ship-to-ship transfers of oil have, historically, taken place on the quayside at the Nigg Terminal. The applicant has not outlined the need for a change to this process. The quayside, which is fully set-up for the safe transfer of oil is still available for use – the applicant has made no business case or economic case for a change to the existing process. The applicant does not demonstrate that they have looked at all possible options for the transfer of oil.

The applicant has not demonstrated that there is a demand for such an increase in ship-to-ship transfer of oil.

The applicant has not justified financially that this application is financially viable.

The application does not cover many of the key issues related to ship to ship oil transfer at sea.

## Public Comment 21

Who checks the tankers are up to required UK safety standards and how often does this take place? The application does not clarify the procedures that will be employed to manage the ship to ship transfer process. How many tankers will be expected to be in the Moray Firth at any one time? Will tankers be lined up waiting to access the facility? If so – how will this be managed?

Would the Port of Cromarty Firth be willing to put up an environmental bond to ensure there is money available to clean up?

What is the probability of a spill happening? Appendix D provides some data on the risk of a spill happening, however this appear to relate to the Nigg Terminal. Given that the CFPA have admitted during the meeting with CCC that open sea transfer is a riskier process – this therefore needs to be fully quantified and the risk of small or large incidents occurring made clear so that the public can fully understand this. The application does not cover many of the key issues related to ship to ship oil transfer at sea. The following data applies to marine accidents:-

TRIPOD DELTA ANALYSIS*					
Based on a Freedom of Information search UK Department of Transport Marine Accident Investigation Branch Reportable incidents Cargo loading operations UK waters 2000 to 2015. *Amended to utilise MAIB data provided.					
Date	Human factors	Non-human factors	In port	Out of port	Registration flag
2010		Machinery failure (1)		x	Bahamas
2002	Fatigue (1) Vigilance (2)	Manoeuvrability (2)		x	Unknown
1997		Machinery failure (3) Technical defect (4)		x	Barbados
2010	Competence/error (3) Communication (4)			x	Norway
2007	Operational failure (5)			x	Vanuatu
1997	Error of Judgement (6)			x	Bahamas
2008	Fatigue (7)	Equipment failure (5)		x	United Kingdom
2010	Time pressure (8)	Equipment failure (6)		x	Marshall Islands



1993		Equipment failure (7)		x	Panama
2009		Environmental conditions- weather (8)		x	Gibraltar
2009	Work environment (9)	Equipment failure (9)		x	Bahamas
2009	Inattention (10) Communication (11)			x	Singapore
2009		Equipment failure (10)	x		Bahamas
2009	Motivation (12) Vigilance (13) Inattention (14)			x	Hong Kong Marshal Islands
	14	10	1	13	
			8%	<b>92%</b>	
	Human factors = 14 (59%) Non-human factors = 10 (41%)			UK = 1 (7%) Non-UK = 13 (93%) Unknown = 1	

**Moray Firth Partnership. Project background.****About the Bottlenose Dolphin Tourism Project**

This report complements the findings of the Scottish Government's recent research report, 'The Economic Impact of Wildlife Tourism in Scotland' issued in June 2010. This shows the net economic impact of all wildlife tourism in Scotland is around £65 million, supporting around 2,760 jobs. Around £15 million of this is estimated to relate to marine wildlife tourism, and a further £24 million to coastal tourism including shore-based watching activities. This highlights the importance of coastal and marine tourism to Scotland, and the significance of bottlenose dolphins to both these sectors.

## Centre for Environment Fisheries &amp; Aquaculture Science

## Aquaculture statistics for the UK

Table1: Summary of UK aquaculture production in 2012.

		Production (tonnes)			Value (£)			Number of employees
		2010	2011	2012	2010	2011	2012	2012
Total (finfish + shellfish)	England	12,405	10,992	15,624	27,899,580	21,900,240	31,587,418	1,081
	Wales	9,753	9,137	9,452	9,065,050	8,580,450	10,446,144	134
	Scotland	166,979	170,062	174,531	462,085,230	604,328,070	541,725,180	1,898
	Northern Ireland	12,236	8,776	>5528	10,816,120	8,418,025	>6,692,875	118
	UK	201,373	198,967	>205,134	509,865,980	643,226,785	>590,451,617	3,231

### Duncan Bryden/Rowan Tree Consulting's December 2015 report on the feasibility of a Black Isle Wildlife Trail

*Wildlife tourism is concentrated in the Highlands & Islands, with half Scotland's wildlife trips and £124 million in spending by wildlife visitors.*

*Dolphin watching alone is estimated at £10.4 million, 63% of which happens in the Highlands, mainly on the Black Isle.*

*Overnight visitors with an interest in dolphins spend an average £413 per trip and stay in Scotland for 9.5 days.*

*52,200 overnight visitors to dolphin viewing locations consider dolphins as important in their decision to come, while 33% considered it their prime reason for visiting.*

### Public comment 22

The Licence Applicant does not appear to have to make proper assessment of the scale of economic impact on third parties who may be affected by the licence activity. From rather basic enquiries it appears that the information given is under-researched. There is no indication that the appropriate Local Authority Departments have been consulted in regard to compiling the economic impact to industries affected. These are Tourism, Highland Council Biodiversity (Duty Report 2014), Environmental Air Quality and Public Health Matters. The conclusion of "No residual impact" does not appear to be properly founded.

Compliance with regulation has not been demonstrated in a number of aspects including pollution prevention and control. Many aspects of this application are under-researched. The current Nigg jetty has natural inshore shelter, has top quartile ballast water processing facilities, recovery of Volatile Organic Compound released during transfers is possible there and the jetty avoids industrial operations taking place where bottle nose dolphins live naturally. Investment at the jetty where both vessels can moor securely, recycled ex-Beatrice facilities with dedicated pre-qualified vessels are pragmatic control measures which significantly mitigate risk, provide Beatrice replacement income and maintain current job levels.

This report includes comments from members of the community however it has been prepared to a large extent by,

Duncan Bowers, Cromarty resident. (Tech IOSH, NEBOSH Dip)

Safety Practitioner (Retired). Licence application experience including Wadenzee licence project under European legislation. North Caspian project licences under The Tehran Convention Framework with trans-border oil spill response planning. Shipbuilding engineering background + 35 years international oil and gas industry experience.

and

Dr Greg Fullarton, MCIEEM, MSB, C.Biol – Cromarty resident, with BSc. and Ph.D. in marine biology, 20+ years post qualification experience including undertaking HRA's.