



BRITTOIL OFFSHORE (SINGAPORE) PTE LTD



ENA HABITAT SAFETY CASE SUMMARY FOR PUBLIC INFORMATION



1. EXECUTIVE SUMMARY

This is the Safety Case for the ENA HABITAT Vessel while it is operating within the sovereign territory of Negara Brunei Darussalam. This Safety Case has been prepared by BRITOIL OFFSHORE (SINGAPORE) PTE LTD to satisfy the Brunei Government statutory requirement that the ENA HABITAT vessel is safe to operate and will not endanger human safety or life or harm the environment.

The owner of this Safety Case is Mr. Rajganesh Munusamy QHSE Manager of BRITOIL OFFSHORE (SINGAPORE) PTE LTD.

2. FACILITY DUTY HOLDER

The Duty Holder for the ENA Habitat is:

Mr. Steven Tan / Operations Manager of Britoil Offshore (Singapore) Pte Ltd

Address in Brunei:

In Care of LANTANA SERVICES SDN. BHD. Lot 7191, No 13B, Simpang 116, Bangunan Haji Hassan Bin Haji Abd. Ghani Dan Anak-Anak, Jalan Jaya Negara, Kuala Belait KA1931, Negara Brunei Darussalam

3. STATEMENT OF FITNESS

Britoil Offshore (Singapore) Pte Ltd has a safety and environmental management system (SEMS) to conduct its business in providing offshore floating accommodations and deck space for maintenance activities.

This Safety Case document demonstrates to the extent possible that the Duty Holder has:

- taken all reasonably practicable measures necessary to prevent major accidents and limit their consequences to the public, property and the environment by conducting a Formal Safety Assessment of ENA Habitat and ensuring that all controls are in place to ensure that all risks are ALARP.
 - prepared an onsite emergency plan and liaised with the authorities responsible
 - prepared an offsite emergency plan in conjunction with the charterer while in Brunei waters and liaised with the authorities responsible described in this Safety Case the means by which the Duty Holder will ensure the adequacy of the design, construction, operation, maintenance or modification of the facility, for the relevant stage or stages in its life;
 - submitted a relevant Safety Case for the facility as required by these Regulations and not operate the facility unless the Duty Holder has a Safety Case Certificate from the competent authority;
 - submit a relevant notification for the facility as required. However, there are no notifications for mobile facilities;
 - ensure that the procedures and arrangements described in this Safety Case are followed; and
 - made all necessary information about the vessel available to the public
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In managing its hazards through hardware, procedures, supervision and nurturing a culture for HSE, it is the opinion of the undersigned that ENA Habitat is fit to continue operation.

This assessment has been made by:

Mr. Steven Tan

Operations Manager

Britoil Offshore (Singapore) Pte Ltd

4. CONFIRMATION THAT THE FACILITY IS SUBJECT TO THESE REGULATIONS

Britoil Offshore (Singapore) Pte Ltd under section 14(1)(c) of the Workplace Safety and Health (Facilities) (Control of Major Accident Hazards) Regulations, 2013 is obliged to submit a Safety case for the Vessels ENA Habitat. Safety Case were submitted and approved to complied with the requirements under the Workplace Safety and Health (Facilities) (Control of Major Accidents Hazards) Regulations 2013 (COMAH).

Britoil Offshore (Singapore) Pte Ltd as Duty Holder shall ensure that the procedures and arrangements described in the current safety cases are followed.

5. AN EXPLANATION IN SIMPLE TERMS OF THE ACTIVITY OR ACTIVITIES UNDERTAKEN AT THE FACILITY.

The ENA Habitat is an Accommodation Workboat and provides accommodation for offshore personnel as well as deck space for offshore maintenance activities. It is not designed to exploit any hazardous substances or carry out any well operations.

The physical scope covered by this ENA Habitat Safety Case comprises the ENA Habitat accommodation workboat and all equipment and personnel there-on that are under the jurisdiction of Britoil Offshore. Notwithstanding this, it is recognized within the Safety Case that in operational mode, the ENA Habitat is primarily stationed outside the client facility's 500M safety zone but may enter the client facility for lifting operation of which may present its own risks to ENA Habitat and / or be at risk from ENA Habitat.

The operational scope covered by ENA Habitat Safety Case includes ENA Habitat's main operations and other operational functions.

Main Operational Scope (outside the client facility's 500M safety zone)

- Infield and ocean transits;
- Provision of safe accommodation for personnel;



- Offshore support activities:
 - Lifting Operations to support other vessels for scaffolding works in DNR (Decommissioning and Restoration) field.
 - Undertake onboard mechanical and electrical maintenance work and painting;
 - Temporary storage / lay-down of construction materials, equipment and IMDG substances and materials.

6. THE COMMON NAMES OF THE SUBSTANCES AND PREPARATIONS INVOLVED AT THE FACILITY WHICH COULD GIVE RISE TO A MAJOR ACCIDENT, WITH AN INDICATION OF THEIR PRINCIPAL HAZARDOUS CHARACTERISTICS.

Substance specified in Division 2 of Part II of the Fifth Schedule to the WSHO	Present on board	Above Threshold limit
(a) ACETYLENE	Yes – 150kg maximum	No – limit is 50,000kg
<p>OVERVIEW: Pure acetylene is a colourless and odourless gas. It has a density of 1.097 kg/m³ and a boiling point of -84°C. Its auto-ignition temperature is 300°C. Acetylene gas is extremely flammable and easily ignited by open flames, sparks and static discharge, heat and oxidizing materials. However, it also differs from other flammable gases because its molecules are unstable: under certain conditions, it can decompose explosively into its constituent elements - Carbon and Hydrogen. Decomposition of bottled Acetylene may result in an explosion with a hazard range of many tens of meters; such events are usually triggered by heat, e.g. from an external fire or from flashback of a welding flame down the hose. However the risk of catastrophic decomposition is exacerbated by any damage to cylinder and its internal porous mass. Such damage may be caused by repeated flashbacks or by mishandling or dropping the cylinder. Pure acetylene in itself is not toxic.</p>		
(b) OXYGEN	Yes – 320kg maximum	No – limit is 50,000kg
<p>OVERVIEW: Pure Oxygen is a colourless and odourless gas. It has a density of 1.429 g/L and a boiling point of -182.962°C. Oxygen is a highly reactive gas that is naturally present in air at a concentration of around 21%. Even a small increase in the oxygen level in the air - to 24% - can create a dangerous situation: it becomes easier to start a fire, which will then burn hotter and more fiercely than in normal air and may be almost impossible to extinguish until all the fuel is burnt. A leaking valve or hose in a poorly ventilated room or confined space can quickly increase the oxygen concentration to a dangerous level. Many materials catch fire spontaneously in the presence of pure oxygen, with oil and grease reacting particularly violently. Inhaling pure oxygen can have harmful effects on people.</p>		
(c) Marine Gas Oil	Yes – Marine Gas Oil 1,700 m³ maximum (Approx. 600 tonnes)	No – limit is 25,000 tonnes
<p>OVERVIEW: Physical and Chemical Behaviour: Marine Diesel fuel is a flammable liquid. It may be fatal if swallowed, harmful if inhaled and causes skin irritation. It may cause</p>		



damage to organs through prolonged or repeated exposure. It is toxic to aquatic life with long lasting effects.

Potential harm to people and environment: Ignited in an uncontrolled fire marine diesel generates heavy smoke and heat that can burn, kill or asphyxiate people. If leaked in large quantities to the environment it can damage local marine life.

7. GENERAL INFORMATION RELATING TO THE NATURE OF THE MAJOR ACCIDENT HAZARDS, INCLUDING THEIR POTENTIAL EFFECTS ON THE PUBLIC, PROPERTY AND THE ENVIRONMENT.

The following table is a list of the Major Accident Hazards and associated Major Accident Events that have been identified for the ENA Habitat's operations from the HAZID.

No.	Major Accident Hazards (MAH)	Major Accident Events (MAE)
1	Marine Diesel Oil in the main storage tanks, day tanks and piping (approx. 600 tonnes onboard ENA Habitat)	Escalated engine room / marine diesel fires onboard
2	Flammable materials in the Accommodation, e.g. furniture, paper, clothes, plastics, cooking oils & fats.	Escalated Accommodation fires onboard
3	Unrefined Hydrocarbons (crude oil, condensate and natural gas) on client platforms and in connected (sub-sea) pipelines	Fires and explosions resulting from loss of containment of Hydrocarbons on adjacent client facilities impacting the safety of ENA Habitat and its POB. Note that vessel-platform collisions are considered a potential cause of this MAE.
4	Bacteria and/or toxins in food	Food poisoning
5	Heavy objects at height lifted by the vessel crane, including the main crane boom (max lift 100 tonnes at 23m height) and auxiliary crane (max lift 48 tonnes at 47m height)	Structural damage and loss of stability of the vessel caused by sudden dropping of heavy load
6	Extreme weather combined with failure to secure loads and/or failure to secure water-tight doors & hatches	Loss of stability and potential capsizes / sinking
7	Adjacent vessels for passenger transfers / Passing vessels	Collisions by Adjacent vessels for passenger transfers / Passing vessels, resulting in structural damage and loss of stability of ENA Habitat



No.	Major Accident Hazards (MAH)	Major Accident Events (MAE)
8	Subsea hazards including anchor piles, shallow coral reefs	Structural damage to ENA Habitat and potential loss of stability / capsized / sinking
9	Personnel / Crewboat transfers	Manoverboard during personnel transfers

8. ADEQUATE INFORMATION ON HOW THE PUBLIC CONCERNED WILL BE WARNED AND KEPT INFORMED IN THE EVENT OF A MAJOR ACCIDENT.

The on-site Emergency Response Plan for ENA Habitat is defined in Britoil Offshore (Singapore) Pte Ltd Safety and Environmental Management System (SEMS). On detection of an emergency, the Master will raise the appropriate alarm followed by an announcement on the vessel's PA system to inform the crew and other personnel on-board (including visitors) of the nature of the alarm.

The Britoil Offshore (Singapore) Pte Ltd Emergency Response Team ('ERT') will then initiate the following actions:

- a. Communication of the necessary and relevant information to the public and to the emergency services and authorities concerned in the area;
- b. Provision of notification of the incident to the authority responsible for setting the offsite emergency plan in motion, the type of information which should be contained in an initial warning and the arrangements for the provision of further detailed information when these become available;

It is the responsibility of Britoil Offshore (Singapore) Pte Ltd to ensure the relevant authorities are contacted in the event of an emergency involving the ENA Habitat. As appropriate, the Master in conjunction with the QHSE Manager / DPA and Client Emergency Focal Person will contact;

- a. Britoil Offshore (Singapore) Pte Ltd and Client's emergency support services
- b. Channel 16 Maritime Emergency Response Channel.
- c. Brunei National Disaster Management Centre ('NDMC')
- d. Brunei Search and Rescue.
- e. The National Oil Spill Contingency Plan Management Team ('NOSCOP')
- f. Energy and Industry Department of the Prime Minister's Office ('EIDPMO')

The nature of the emergency will be communicated together with relevant information regarding requirements for support and any danger to the public and / or natural environment. Any concerned parties of the ENA Habitat will be directly contacted by Britoil Offshore (Singapore) Pte Ltd onshore ERT.

9. ADEQUATE INFORMATION ON THE ACTIONS THE PUBLIC CONCERNED SHOULD TAKE, AND ON THE BEHAVIOUR, THEY SHOULD ADOPT, IN THE EVENT OF A MAJOR ACCIDENT:



Adequate information on the actions the public concerned should take, and on the behavior, they should adopt, in the event of a major accident.

1. The nature of the emergency will be communicated together with relevant information regarding actions the public should take.
2. It is imperative that in an emergency situation the public follow issued guidance / Instructions at the time pertaining to that particular emergency.

If the public notices any unsafe behavior or accidents occurring, they should email emergency.sg@britoil.com.sg or call +65 6022 8032. The public is advised to keep away from any dangerous situations so as not to endanger lives or hamper the work of the emergency services. The public is also advised to cooperate with any instruction or request from the emergency services at the time of an accident.

10. CONFIRMATION THAT THE DUTY HOLDER IS REQUIRED TO MAKE ADEQUATE ARRANGEMENTS ONSITE, IN PARTICULAR, LIAISON WITH THE EMERGENCY SERVICES TO DEAL WITH MAJOR ACCIDENTS AND TO MINIMIZE THEIR EFFECTS

Britoil Offshore (Singapore) Pte Ltd has made arrangements with the emergency services of Brunei Darussalam including the police, hospitals and the relevant government departments in the event of an emergency.

11. A REFERENCE TO THE OFFSITE EMERGENCY PLAN FOR THE FACILITY, THIS SHOULD INCLUDE ADVICE TO COOPERATE WITH ANY INSTRUCTION OR REQUEST FROM THE EMERGENCY SERVICES AT THE TIME OF AN ACCIDENT

Following the initial alert and communications, the Client Emergency Focal Person with the assistance of the Master and Britoil Offshore (Singapore) Pte Ltd's QHSE Manager / DPA will coordinate further communications as necessary with all external parties in Brunei. The Master of the ENA Habitat or his designate will continue to be responsible for communications between the vessel and the Client / Britoil Offshore (Singapore) Pte Ltd.

All Major Accident Events that occur on the vessel are to be reported by the Britoil Offshore (Singapore) Pte Ltd's QHSE Manager / DPA to SHENA within 6 hours directly by telephone. Emergency services are called out as needed and provided with all necessary information for them to help aid in an emergency scenario.

12. DETAILS OF WHERE FURTHER RELEVANT INFORMATION CAN BE OBTAINED, UNLESS MAKING THAT INFORMATION AVAILABLE WOULD BE CONTRARY TO THE INTERESTS OF NATIONAL SECURITY OR PERSONNEL CONFIDENTIALITY OR WOULD PREJUDICE TO AN UNREASONABLE DEGREE THE COMMERCIAL INTERESTS OF ANY PERSON.

Further information may be obtained from:

Mr. Steven Tan / Operations Manager of Britoil Offshore (Singapore) Pte Ltd

Address in Brunei: In Care of LANTANA SERVICES SDN. BHD. Lot 7191, No 13B, Simpang 116, Bangunan Haji Hassan Bin Haji Abd. Ghani Dan Anak-Anak, Jalan Jaya Negara, Kuala Belait KA1931, Negara Brunei Darussalam

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