



# Q23/P 2D Marine Seismic Survey Environment Plan Summary

GE-B14 MSS  
March 2014

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039 AH	A DRAFT ISSUED FOR NOPSEMA	MRS/MR	WF	20/03/14

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## Acronyms

2D	Two Dimensional
ALARP	As Low As Reasonably Practical
AMSA	Australian Maritime Safety Authority
AS/NZS	Australian and New Zealand Standard
AQIS	Australian Quarantine Inspection Service
BoM	Bureau of Meteorology
DAFF	Department of Agriculture, Fisheries and Forestry
DEH	Department of Environment and Heritage
DEWHA	Department of Environment, Water, Heritage and the Arts
DEWR	Department of the Environment and Water Resources
DoE	Department of the Environment
EP	Environment Plan
EPBC Act	<i>Environmental Protection and Biodiversity Act 1999</i>
ERA	Environmental Risk Assessment
GEL	Gulf Energy Limited
JNCC	Joint Nature Conservation Committee
MARPOL 73/78	International Convention for the Prevention of Pollution from Ships
MMO	Marine Mammal Observer
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority
OPGGs Act	<i>Offshore Petroleum and Greenhouse Gas Storage Act 2006</i>
PAM	Passive Acoustic Monitoring
SEWPaC	Department of Sustainability, Environment, Water, Population and Communities

# 1 Introduction

## 1.1 Overview

Gulf Energy Limited (Gulf Energy) will undertake a two-dimensional (2D) marine seismic survey (GE-B14 MSS) in a section of Q23/P Permit in the Gulf of Carpentaria. The GE-B14 MSS will cover up to 3,000 line kilometres (km) in length. The survey is an integral part of exploration of Q23/P and will fulfil the permit's work program commitments. The survey is expected to take approximately 25 days to complete, and will occur during 2014, depending on specialist vessel availability and prevailing weather conditions.

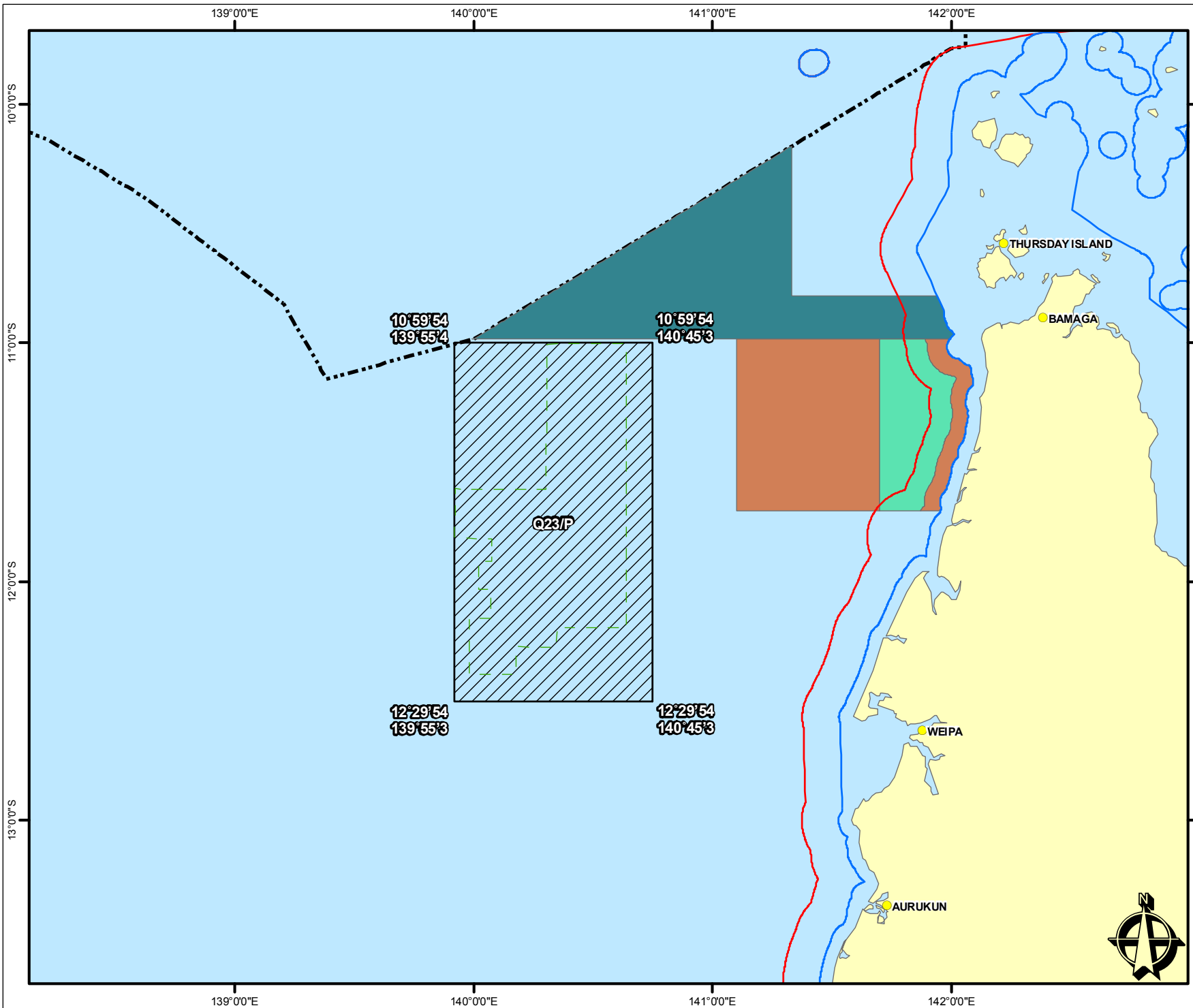
This document is a summary of the Environment Plan (EP). This EP summary has been developed as per the requirements of Regulation 11 (7) and (8) of the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Environment Regulations) in force at the time the approved EP was submitted (26 February 2014).

## 1.2 Location of the Activity

The GE-B14 MSS will take place in Commonwealth waters in the north-eastern portion of the Gulf of Carpentaria, Queensland, within Q23/P (Figure 1). The Gulf of Carpentaria is a large embayment on the northern coast of Australia spanning both Queensland and the Northern Territory. The GE-B14 MSS will be conducted approximately 90 kilometres (km) west-northwest of the town of Weipa, Queensland (nearest landfall). The seismic survey area is in Commonwealth waters, and is not subject to state jurisdiction. The location of the survey area is shown in Figure 1. Q23/P is bound by the coordinates provided in Table 1 and shown in Figure 1.

**Table 1: Coordinates of the Q23/P Boundary**

GDA94	LATITUDE			LONGITUDE		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
Location Point						
A	10	59	54	139	55	4
B	10	59	54	140	45	3
C	12	29	54	139	55	3
D	12	29	54	140	45	3

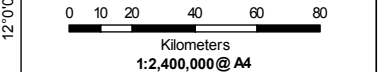


- Legend**
- Q23/P
  - Proposed Seismic Survey Area
  - Coastal Waters (State Jurisdiction)
  - Territorial Sea (Commonwealth Jurisdiction)
  - Exclusive Economic Zone (EEZ)
- West Cape York Commonwealth Marine Reserve**
- Conservation Park Zone
  - Habitat Protection Zone (Coral Sea)
  - Marine National Park Zone
  - Multiple Use Zone
  - Special Purpose Zone

- NOTE THAT POSITION ERRORS CAN BE >5M IN SOME AREAS  
 - MARITIME BOUNDARIES SOURCED FROM GEOSCIENCE AUSTRALIA 2006

**SLIP ENABLER**

**360 environmental**  
 a 10 Bermondsey St, West Leederville, 6007 WA  
 t (08) 9388 8360  
 f (08) 9381 2360  
 w www.360environmental.com.au



**LOCALITY MAP**



DRAWING ID		DATE	
figure 1 - survey landscape.mxd		18-Mar-2014	
HORIZONTAL DATUM AND PROJECTION			
GDA 1994 MGA Zone 50			
CREATED	CHECKED	APPROVED	REVISION
MRS	MRS	MRh	0

**Gulf Energy Limited**  
**Q23/P Gulf Of Carpentaria**  
**Environment Plan Summary**

**Figure 1 - Survey Area**

## 2 Project Activity Description

The GE-B14 MSS will use a specialist survey vessel to image the sub-surface geology of the survey area through the acquisition of 2D seismic data. The survey vessel will tow seismic equipment in a predetermined pattern within the survey area at a speed of approximately five knots. Gulf Energy will utilise a seismic contractor with extensive previous experience of operating in Australian waters. Seismic operations will run 24 hours per day. Data will be acquired using an airgun array that generates an acoustic (pressure wave) pulse from an underwater piston driven by compressed air (source). The acoustic pulses emitted from the airguns are reflected by rocks in the subsurface and those reflection acoustic waves will be recorded up by sensors in a cable (streamer) towed behind the seismic vessel. The reflected sound is then processed and provides information about the structure and geological formations below the seabed with the aim of identifying potential hydrocarbon accumulations. The seismic vessel will follow a series of pre-determined lines, towing the source array at between four and ten metres depth. The shot point interval will be between 12.5 and 25 m, and the streamer depth will be in the range of 5 – 25 m.

The total capacity of the energy source array has not been confirmed, as a vessel has not yet been finalised, however the size of the energy source used will not exceed 4,000 cubic inches, a threshold deliberately chosen to minimise environmental impact. The GE-B14 MSS will be carried out in accordance with relevant Commonwealth Acts and regulations, with appropriate procedures in place to oversee those parts of the survey activities that involve potential environmental impacts, including marine mammal interaction, streamer handling and maintenance and vessel interaction. The survey vessel will comply with relevant Australian and international maritime requirements including, but not limited to, the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78), the International Maritime Organisation, and the Australian Maritime Safety Authority (AMSA).

## 3 Description of the Receiving Environment

### 3.1 Physical

The Gulf of Carpentaria is a shallow epicontinental sea between Australia and Papua New Guinea. The North Marine Bioregion, in which the Gulf of Carpentaria lies, experiences a tropical monsoonal climate, including high temperatures, heavy seasonal, and variable, rainfall and cyclones, alternating with extended periods of no rain (Department of Environment, Water, Heritage and the Arts [DEWHA] 2008a). Cyclones

affect the majority of the region, with a general frequency of one cyclone every one-to-two years, mostly between December and April.

The area of Q23/P encompasses waters over the continental shelf with water depths ranging between approximately 53 and 70 metres (m). There is a scarcity of ocean floor features in the central Gulf of Carpentaria region where Q23/P lies. The central part of the Gulf of Carpentaria is characterised by gently sloping soft sediments.

The Gulf of Carpentaria is a depositional basin in which water circulation is dominated by a primarily clockwise circulating gyre around its coastal margins; the Gulf of Carpentaria Gyre. This pattern of circulation results in two distinct water masses within the Gulf of Carpentaria; the coastal more eutrophic mass out to 15 m depth in the east and out to 30 m depth in the western Gulf of Carpentaria, and the central more oligotrophic mass. Q23/P lies within the central water mass. These water masses are hydrologically and biologically independent.

## 3.2 Biological

In deeper waters of the Gulf of Carpentaria (>50 m) two main megabenthos communities are present; one community located in predominantly sandy sediments along the eastern and southeastern margins of the Gulf that comprise mainly sessile suspension-feeding sponges, zoantharians, pennatulaceans, bivalve molluscs and ascidians. The other community is located in the muddier sediments in the central and western Gulf that comprise mainly deposit-feeding spatangoids and sand dollars.

The offshore waters of the Gulf of Carpentaria basin support a rich assemblage of pelagic fish species including planktivorous and schooling fish, which are an important food source for higher order predators such as sharks, mackerel and demersal fish.

A review of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Protected Matters Search Report (2013) revealed there are ten Threatened species listed that may occur within or adjacent to the proposed survey area. There are seven additional Migratory species that may occur within or adjacent to the proposed survey area; however control measures are in place to minimise any potential risks to these species. There are no Threatened Ecological Communities within Q23/P.

The likely impacts of the proposed seismic survey on listed Threatened species will be limited to very temporary and localised disturbance of any animals that may be present in the vicinity of the survey operations, possibly involving minor behavioural responses such as short term alterations in swimming direction. This is discussed further below.

### Mammals

Blue and humpback whales are listed as Threatened and Migratory under the EPBC Act. Humpback whales breed and calve in the sub-tropical and tropical inshore waters of north-west and north-east Australia between June and October each year. Blue whale migration patterns are similar to those of the humpback. Blue and humpback whales are

not known to regularly migrate through, aggregate, feed or breed in the Gulf of Carpentaria and as such the survey area is considered to be outside of their normal range (DEWHA 2008a). The blue whale is rarely present in large numbers outside recognised aggregation areas. No records are listed for blue whale sightings in the National Whale and Dolphin Sightings and Strandings Database within the survey area.

Bryde's whales and killer whales are listed as Migratory species under the EPBC Act and may occur in the area on occasion. Spotted bottlenose dolphins, Indo-Pacific humpback dolphins, Australian snubfin dolphins and dugongs are listed as Migratory species under the EPBC Act and could potentially occur in the area on occasion.

### **Reptiles**

All six of Australia's marine turtle species are listed as Threatened and Migratory under the EPBC Act, and may occur in the survey area. However, the proposed survey area is not a recognised feeding, breeding or aggregation area for any marine turtle species (DEWHA 2008a). The nearby Cape York Commonwealth Marine Reserve contains recorded breeding sites for the hawksbill, olive ridley and flatback turtle. Q23/P does not coincide with any biologically important internesting waters for any of the species of turtle. Loggerhead and leatherback turtles are migratory visitors to the North Marine Region, and may forage in the Gulf of Carpentaria. There are no recorded breeding sites of either the loggerhead or the leatherback turtle in the Gulf of Carpentaria.

Saltwater crocodiles are only occasionally seen in the open sea (Wilson and Swan 2003) and due to an absence of their typical habitat it is unlikely that they would be found in the seismic survey area so far offshore.

### **Sharks**

The whale shark is listed as Threatened and Migratory under the EPBC Act. Whale sharks may occur in the survey area but the proposed survey area does not contain any recognised whale shark aggregation areas and only very small numbers might be present during the survey. The Gulf of Carpentaria Basin is not considered an important ecological feature or critical habitat for the whale shark (DEWHA 2008a).

The survey area is outside of the recognised habitat zones for the green sawfish and if any are present during the survey they are expected only in minor numbers. Longfin Mako are not listed by the Department of the Environment as known to occur in the North Marine Region, but according to the Department of the Environment Species Profile and Threats Database it may occur in the survey area.

## **3.3 Conservation Areas**

Permit Q23/P is located in the vicinity of the West Cape York Commonwealth Marine Reserve (Figure 1); however there will be no activity by Gulf Energy within the boundary of the Marine Reserve. There are no Marine Protected Areas within the vicinity of Q23/P. There are no known Indigenous cultural heritage values within Q23/P, and there



are no current or pending Native Title Determinations within Q23/P (National Native Title Tribunal 2013). There are no National Heritage Places, World Heritage Properties or wetlands of international importance within or adjacent to the proposed survey area.

## **3.4 Socio-Economic**

### **Oil and Gas Exploration and Production**

Currently there are no oil and gas exploration or production activities within the Gulf of Carpentaria other than the ones proposed for Q23/P. There are no oil production wells within the area.

### **Fisheries**

Commercial fisheries in the survey area include:

- The Gulf of Carpentaria Developmental Fin Fish Trawl Fishery (State);
- The Gulf of Carpentaria Line Fishery (State);
- The Northern Prawn Fishery (Commonwealth);
- The Western Skipjack Tuna Fishery (Commonwealth);
- The Southern Bluefin Tuna Fishery (Commonwealth); and
- The Western Tuna and Billfish Fishery (Commonwealth).

### **Shipping and Ports**

A number of coastal ports occur within the Gulf of Carpentaria which support several major mines in areas adjacent to Gove, Groote Eylandt, McArthur River, Karumba and Weipa. Sea transport is an important and major activity within the north Marine Region and in adjacent coastal waters.

The northern portion of the Gulf of Carpentaria is a major transit route. While there is a certain amount of shipping activity within Q23/P, the area to the north of the northern boundary of Q23/P is where the majority of the shipping activity occurs. The seismic survey vessel goes to great lengths to ensure that no other vessels come close to it, the airgun array or the streamer.

### **Tourism**

Little documented information is available on marine-based tourism activities within the Queensland portion of the Gulf of Carpentaria in which Q23/P lies. Cruise ships and yachts may transit this region of the Gulf of Carpentaria.

## 4 Environmental Hazards and Controls

In accordance with the Environment Regulations, the environmental impacts and risks associated with the activity and any unplanned consequences of the activity have been evaluated and described in the approved EP. An Environmental Risk Assessment (ERA) was undertaken for all aspects of the proposed seismic survey in order to understand and manage the risks associated with the activities involved. The process is based on the key steps as described in Figure 2. Key environmental hazards and control measures are set out in Table 2. All control measures will be employed to reduce environmental risk to acceptable and As Low As Reasonably Practicable (ALARP).

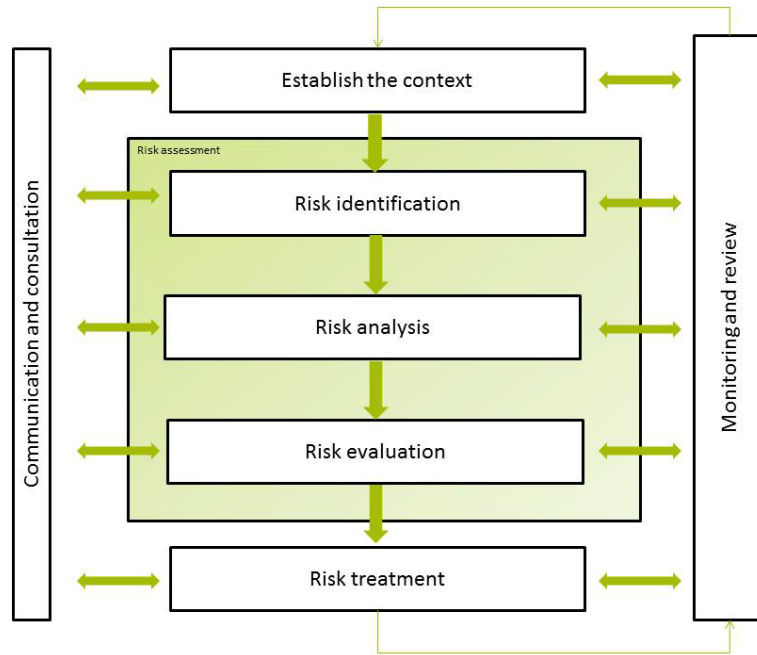


Figure 2: Risk Management Process

**Table 2: Summary of Potential Environmental Impacts and Management Measures**

SOURCE OF IMPACT	MANAGEMENT MEASURES
Use of air guns	Gulf Energy will observe the following DEWHA (2008a) precaution zones: <ul style="list-style-type: none"> <li>● Three kilometre observation zone;</li> <li>● Two kilometre low power zone; and</li> <li>● Five hundred metre shut down zone.</li> </ul>
	A referral under the EPBC Act has been submitted to the Department of the Environment. This has been assessed as 'not controlled action if undertaken in a particular manner'. All 'Particular Manner Conditions' handed down by the Minister will be complied with in the EP in order to minimise environmental impacts to listed threatened species and communities and listed migratory species
	When airguns are fired either in testing or at the start of a seismic line, a 30 minute pre-start-up visual observation will be carried out by a JNCC qualified Marine Mammal Observer (MMO)
	Dedicated watch to be maintained for marine mammals by a trained crew member whenever airguns are operating
	Delay to firing if whales are spotted within low power zone and delay until the animals have moved out of this range and have not been spotted within 30 minutes
	30 minute soft start comprising the ramp up of the airgun array from the smallest gun to the full array
	Operational power-down (to the lowest possible setting) if whales are spotted within low power zone of the airgun array on full power
	Operational stop work in the event of marine mammals approaching within shut down zone of the airgun array whether on full power or low power
	Power up of the acoustic source will only occur after the whale has been observed to move outside of the low power zone, or when 30 minutes have passed since the last whale sighting
	Gulf Energy will not use an energy source array greater than 4,000 cubic inches
	A 150 m caution zone around dolphins, dugongs and marine reptiles
	A no approach 50 m zone for dolphins, dugongs and marine reptiles

SOURCE OF IMPACT	MANAGEMENT MEASURES
	<p>If utilised, the Passive Acoustic Monitoring (PAM) operator will have received training in the use of PAM operating systems, and will have proven field experience in using a PAM system. There is currently no approved or accredited PAM training course; however there are widely recognised training courses that include, at a minimum, training on underwater noise, background and working knowledge of PAM hard and soft water and practical use</p> <p>In the event an additional trained crew member is brought to the bridge to continuously monitor the whale whilst in sight, the trained crew member will have proven experience in whale observation, distance estimation, and reporting. After the pre-survey induction the MMO will conduct an induction with the trained crew member for the GE-B14 MSS observation effort</p>
Artificial light generation	Light levels on board will be maintained to meet optimum lighting safety requirements
Routine discharges	<p>All sewage and domestic wastes will be treated in accordance with International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) prior to discharge, including an International Maritime Organisation approved sewage treatment plant on board and maceration to less than 25 mm diameter</p> <p>There will be no discharge of sewage or decayable domestic wastes from the survey vessel within 12 nm of any coastline</p> <p>The seismic vessel will hold a valid International Sewage Pollution Prevention Certificate and International Oil Pollution Prevention Certificate</p> <p>Bilge water will be treated prior to discharge in accordance with seismic vessel's approved bilge and sludge handling procedures to ensure that oil-in-water concentrations are less than 15 parts per million (ppm). The discharge is monitored automatically and, if oil content exceeds 15 ppm, an alarm is activated, discharge ceases and the water is recirculated to the bilge</p> <p>There will be no discharge of bilge water from the survey vessel within 12 nm of any emergent land or coastline</p>
Survey vessel presence	<p>Compliance with AMSA Marine Orders Part 30: Prevention of Collisions (Issue 8) and AMSA Marine Orders Part 21: Safety of Navigation and Emergency Procedures (Issue 7)</p> <p>The vessel will be operated by accredited seamen, and equipped with navigation aids, radar, vessel GPS tracking and vessel management systems maintaining 24 hour radio and radar watch for and communication with other vessels</p> <p>Application of standard maritime procedures, including radio contact, navigational beacons and lights</p> <p>The survey plan will be posted as a Notice to Mariners in accordance with standard maritime procedures</p>

SOURCE OF IMPACT	MANAGEMENT MEASURES
	<p>The survey plan will be lodged with the Rescue Coordination Centre of AMSA (Canberra) and the Australian Hydrographic Office, who will be kept updated of the movements of the vessel whilst surveying</p> <p>Gulf Energy will continue ongoing consultation with Australian Fisheries Management Authority and other fishing, shipping and defence interests to minimise potential disruption to commercial fishermen, shipping and defence activities and to the proposed survey</p>
Greenhouse gas emissions	<p>Compliance with Protection of the Sea (Prevention of Pollution from Ships) Act 1983, MARPOL 73/78 Annex VI (Regulations for the Prevention of Air Pollution from Ships) and Marine Orders - Part 97 (Marine Pollution Prevention – Air Pollution)</p> <p>Survey vessel will hold valid International Air Pollution Prevention certificate</p> <p>All engines and generators are serviced to manufacturer specifications and maintained at optimum efficiency</p> <p>Vessels will run on marine diesel and not use heavy fuel oil</p>
Discharge or exchange of ballast water and biological fouling	<p>If the seismic vessel associated with the survey should originate from outside Australian waters before it begins the seismic survey in Q23/P, it will exchange ballast water in international waters in accordance with AQIS Ballast Water Management Requirements as enforced under the <i>Quarantine Act 1908</i>, specifically:                      If mobilised from outside of Australia the vessel will undertake ballast water exchange more than 50 nm from land and in water more than 200 m deep</p> <p>Adherence to seismic vessel Ballast Water Management Plan</p> <p>If the seismic vessel associated with the survey should originate from outside Australian waters Prior to entering Australian waters the vessel will undergo hull cleaning and an Invasive Species Inspection</p> <p>Ballast water exchanges or discharges will be recorded</p> <p>When the seismic vessel enters an Australian port it will be subjected to quarantine requirements and inspections. The seismic vessel contractor will ensure that the vessel as well as all seismic equipment such as the streamer, gun array and flotation devices, are fully compliant with AQIS quarantine requirements</p> <p>Adherence to National Biofouling Management Guidance for the Petroleum Production and Exploration Industry</p>
Vessel movement / noise	<p>The Standard Management Procedures as defined in EPBC Act Policy Statement 2.1 (DEWHA 2008b) will be implemented during the survey, along with the additional measure of a qualified MMO on-board to monitor marine mammal activity and to</p>

SOURCE OF IMPACT	MANAGEMENT MEASURES
	<p>minimise the potential for collision</p> <p>Any collision or otherwise reportable incident as per the requirements set out in section 7.6 of the EP will be reported to the Gulf Energy representative and then externally as required by EPBC Act Policy Statement 2.1 (DEWHA 2008b)</p> <p>As per the requirements of part eight of the EPBC Regulations (2000), the survey vessel will not travel at a speed greater than six knots within 300 m of a whale known to be in the area, and will not approach closer than 100 m of a whale known to be in the area</p> <p>All operating personnel are to be made aware of these environmental responsibilities through a pre-survey induction</p> <p>As an additional (unrequired) measure to protect against unnecessary interactions with turtles, <b>turtle guard bars will be utilised if the seismic vessel has them</b>. If used, turtle guard bars will be placed around the subsurface undercarriage at the front of the tailbuoy to prevent animals from entering and becoming entrapped in between the structure while the tailbuoy is in tow</p> <p>Only a solid streamer, together with a single source array will be used</p>
<p>Non-routine operation within protected or heritage area</p>	<p>Assessment in the EP of values against criteria set out in EPBC Significant Impact Guidelines 1.1 (DEWHA 2009) for Matters of National Environmental Significance</p> <p>A referral under the EPBC Act has been submitted to the Department of the Environment. This has been assessed as 'not controlled action if undertaken in a particular manner'. All 'Particular Manner Conditions' handed down by the Minister will be complied with in the EP in order to minimise environmental impacts to protected or heritage areas</p> <p>No seismic operations to take place in protected or heritage areas unless authorised</p> <p>Adherence to <b>all</b> the management measures set out in section 6.9.3 of the EP</p> <p>Familiarisation of crew during pre-survey induction with the access requirements set out in the North Commonwealth Marine Reserves Network Management Plan (Director of National Parks 2013), specifically:                      'Transit through' is the only activity permitted to the seismic vessel in the Marine National Park zone of the West Cape York Commonwealth Marine Reserve</p> <p>Recording and reporting as necessary of any non-routine operation within a protected or heritage area</p> <p>Maps available on the vessel delineating boundaries of protected or heritage areas in the vicinity of the survey area</p>
<p>Non-routine discharges</p>	<p>Adherence to AMSA Marine Orders – Part 30 (Prevention of Collisions), Marine Orders – Part 91 (Marine Pollution Prevention – Oil) and Marine Orders – Part 21 (Safety of Navigation and Emergency Procedures)</p>

SOURCE OF IMPACT	MANAGEMENT MEASURES
	Compliance with MARPOL 73/78 Annex I requirements to prevent oil pollution
	Adherence to <i>Protection of the Sea (Prevention of Pollution from Ships) Act 1983</i> (Part II)
	Ship Oil Pollution Emergency Plan (SOPEP) kept on board and compliant with MARPOL 73/78
	Spill response will be undertaken in accordance with vessel SOPEP and OSCP (Appendix H and section 7.5 of the EP)
	Report any loss of fluid greater than 80 L as per reporting requirements set out in section 7.6 of the EP
	Record any minor loss of fluid up to 80 L and detail how, when and where effluent is disposed of
	Operational procedures in place on board for the safe deployment and retrieval of streamer
	Damaged or leaking streamer will be retrieved as soon as practicable and repaired or replaced as required before further use
	Use of a solid streamer
	No refuelling at sea scheduled during seismic survey
	Survey vessel operated by accredited seamen provided with the latest bathymetric charts
	Survey vessel fully equipped and provided with sophisticated navigation equipment over and above that required for normal maritime use
	The seismic survey plan will be posted as a Notice to Mariners in accordance with standard maritime procedures and other vessels made aware of the seismic vessel's restricted ability to manoeuvre
	Commercial fishermen and commercial shipping operators will be made aware of the survey, and notified of scheduling prior to operations commencing and of any changes during the survey
	Chemicals and dangerous goods will be stored in a designated store in accordance with their respective Material Safety Data Sheets (MSDS). The store is locked and can only be accessed by authorised persons. All authorised persons are trained on appropriate handling techniques. The chemical store is equipped with FM 200 firefighting equipment
	Spill kits kept in close proximity to hydrocarbon or other chemical storage areas, and appropriately replenished / checked when items are used. Kits will be checked for adequacy prior to commencement of activities
	Personal Protective Equipment and absorbent materials are available near the chemical store for rapid clean up. Copies of the MSDS sheets for all chemical and hazardous goods are kept in the chemical store and the bridge

SOURCE OF IMPACT	MANAGEMENT MEASURES
	<p>All solid wastes which cannot be incinerated will be transferred to the mainland for onshore disposal at an appropriately licensed waste facility as defined in the seismic vessel's waste management procedures and the Garbage Management Plan</p> <p>Hazardous wastes will be managed in accordance with the Material Safety Data Sheet for each waste type. Appropriate onshore disposal of the small volumes of solid and hazardous wastes associated with the seismic survey will pose low environmental risk</p>
<p>Emergency vessel anchoring</p>	<p>No anchoring will take place during normal vessel operations</p> <p>The decision to anchor in an emergency is at the discretion of the Vessel Master (or Officer in charge) if required to maintain the safety of the crew and vessel</p>



## 5 Management Approach

The GE-B14 MSS will be managed in accordance with the approved EP accepted by NOPSEMA under the Environment Regulations, other relevant regulation and Gulf Energy's management systems. The objective of the EP is to ensure that environmental risks and potential impacts under both routine and non-routine operations remain ALARP and are of an acceptable level, and describes how performance objectives and standards are achieved.

Gulf Energy's overall environmental objective for the program is to avoid environmental risks or minimise them to ALARP. The implementation strategy in the EP identifies the roles / responsibilities and training / competency requirements for all personnel associated with GE-B14 MSS regarding control implementation, non-conformance management, emergency response (including oil spill response), and reporting, monitoring and auditing requirements. The GE-B14 MSS details monitoring and auditing that will be undertaken, the reporting requirements for any environmental incidents that may occur, and reporting on compliance with the EP.

In the very unlikely event of an uncontrolled diesel spill (and any other emergency situation), the vessel master will initiate the survey vessel SOPEP and first strike response, which will include immediate notification of the AMSA. Upon notification of an incident, AMSA will assume control of the incident and respond in accordance with AMSA's Marine Pollution Response Plan.

## 6 Stakeholder Consultation

Stakeholder engagement and consultation was undertaken as part of the GE-B14 MSS EP development, prior to initial submission of the EP to NOPSEMA. Gulf Energy identified relevant and interested stakeholders, including:

- State and Commonwealth Government agencies with a regulatory role associated with oil spills and emergency situations;
- Government agencies associated with recreational and commercial fishing in the Gulf of Carpentaria;
- Recreational and commercial operators within the Gulf of Carpentaria; and
- Scientific and maritime research organisations.

Consultation undertaken to support the seismic survey comprised email notification of the proposed activities, as well as a consultation factsheet, detailing planned activities including:

- Timing of activities;
- Area and location of survey coverage, including location map and survey lines;
- Equipment to be employed;

- Example photo of seismic survey operations;
- Consultation with government authorities;
- A recognition that the activities may impact on the noted stakeholder; and
- Gulf Energy contact email and phone number.

Subsequently, Gulf Energy undertook an assessment of the merit of the claim and proposed response of the feedback received. Consultation is ongoing, and Gulf Energy will continue to accept feedback until the survey has been completed. All stakeholders will be contacted again once survey timing is confirmed.

## 7 Contact Details

For further information about this activity, please contact:

**Wolfgang Fischer**  
Executive Director  
Gulf Energy Limited  
Suite 1003, Level 10, 4 Bridge Street,  
SYDNEY NSW 2000, Australia  
T: 02 9247 9888  
Via Email: [contact@gulfenergy.com.au](mailto:contact@gulfenergy.com.au)

or

**Michelle Rhodes**  
Director  
360 Environmental  
10 Bermondsey Street  
West Leederville  
6007  
T: 08 9388 8360  
Via Email: [michellerhodes@360environmental.com.au](mailto:michellerhodes@360environmental.com.au)

## 8 References

- Department of the Environment, Water, Heritage and the Arts (DEWHA) 2008a, *North Marine Bioregional Plan: Bioregional Profile: A Description of the Ecosystems, Conservation Values and Uses of the North Marine Region*, accessed 6 June 2013 <http://www.environment.gov.au/coasts/mbp/publications/north/pubs/bioregional-profile.pdf>.
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