

Legendre Facility –  
Disconnection of Anti-scour Mats  
Bridging Document Summary

October 2010

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*This summary has been submitted to comply with Regulation 11(7)(8) of the Offshore Petroleum and Greenhouse Gas Storage (Environment) (OPGGs(E)) Regulations 2009.*

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## Introduction

In preparation for the removal of the Mobile Offshore Production Unit (MOPU) Ocean Legend as part of the anticipated decommissioning of the offshore Legendre facilities, Apache Energy Ltd (Apache) proposes to undertake an ROV operation to disconnect the anti-scour mats from the MOPU mud mat around mid October 2010. The Legendre MOPU is in Offshore Commonwealth Waters, and operates under Production Licence WA-20-L.

## Project Description

The Ocean Legend is a Mobile Offshore Production Unit located over the wellheads, which contains both processing and personnel accommodation facilities. From the processed well stream the crude oil is pumped off for export, surplus gas is reinjected and Produced Formation Water (PFW) treated and discharged to the sea. Oil export is by means of a subsea pipeline to a Floating Storage Offtake (FSO) vessel moored to a CALM Buoy (Catenary Anchor Leg Mooring).

The Ocean Legend MOPU is located in 50 m of water approximately 105 km north of Dampier in the Commonwealth waters of the North West Shelf (NWS) (see **Figure 1**). The location of the MOPU wellhead is centred at:

- 351,875.0 m E and 7,715,500.0m N (GDA94) or
- 19° 42' 14.20" E and 116 ° 42' 31.35" N (GDA94).

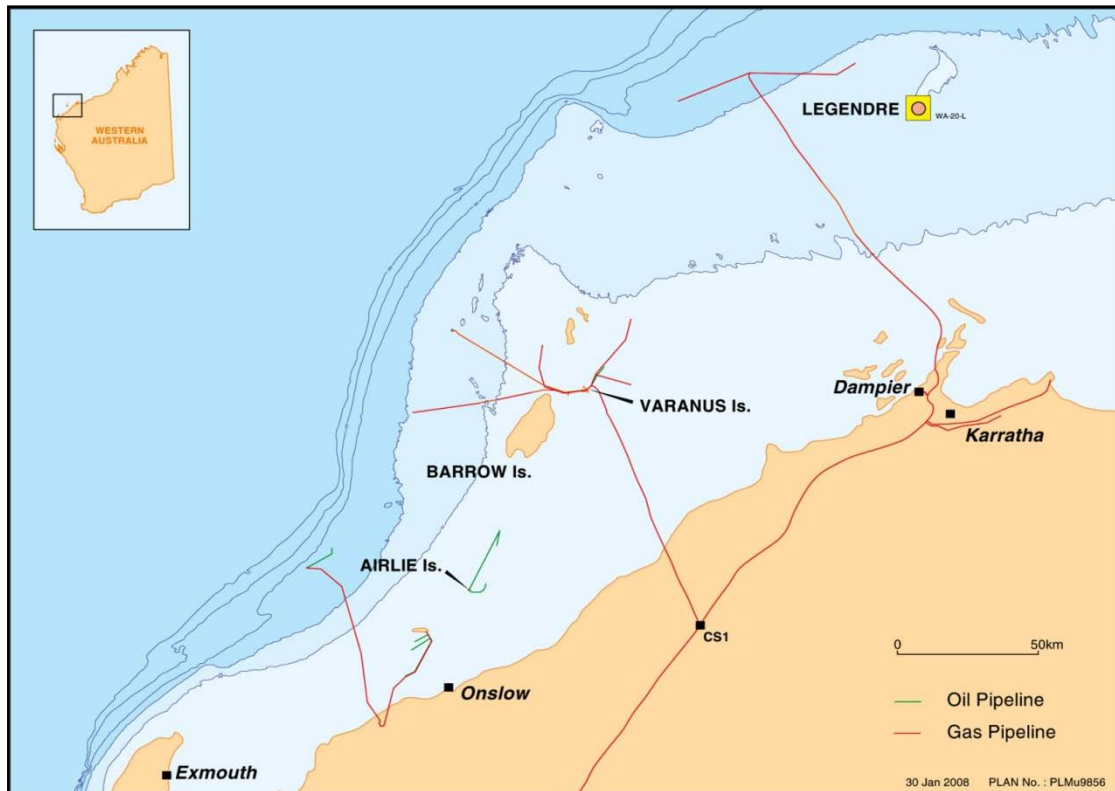
As part of the pre-execution planning for the decommissioning, Apache has contracted a multi purpose work vessel (Neptune Trident) with twin Work Remotely Operated Vehicles (WROVs) for the disconnection of the anti-scour mats and deployment frame removal activities to reduce potential concurrent operations risks at a later stage.

The Neptune Trident's ROV will sever the connections which were used during the installation of the MOPU to hold the anti-scour mats and deployment frames to the MOPU mud mat. Once the anti-scour mats and deployment frames have been cut loose, the ROV will move the deployment frames to a basket for retrieval to the vessel. The anti-scour mats will be left in place at this stage, depending approval for in-situ decommissioning. It is expected that the work will take 2 weeks to complete.

The ROV activities will be carried out under the Legendre Facilities Environment Plan and the General Petroleum Support Activities Environment Plan.

A Hazard Identification Workshop was held on 15 October 2010 to identify any major hazards or operability issues associated with the proposed activities. No additional or new environmental hazards to those already identified in the existing Environment Plans were identified during this workshop.

Environmental impacts are minimal, and mainly relate to risks of dropped objects, storage and handling of hydrocarbons, collision and introduction of marine invasive pest species.



**Figure 1: Location of Legendre Facilities**

### Existing Environment

A description of the existing terrestrial, marine and social environment relevant to this scope of work is provided in the Legendre Facilities EP (EA-68-RI-005).

**Table 1: Ecological activities on North West Shelf**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
<b>Ecological Activity</b>												
Humpback whale migration						■	■	■	■	■		
Dugong breeding on North West Shelf	■	■	■	■	■	■	■	■	■	■	■	■
Turtle nesting on North West Shelf	■	■	■	■	■							
Turtle hatchling emergence on North West Shelf	■	■	■	■	■							
Migratory Birds			■	■	■	■	■	■	■	■		
Mass coral spawning (few nights within month)			■							■		
<b>ROV Work</b>												
Anti-scour mat disconnection work and frame removal										■		

**Key to activity**

- Peak of ecological activity, presence reliable and predictable
- Low level of abundance/activity/presence
- Activity not occurring
- Anti-scour mat disconnection and frame removal activities

**Table 1** provides an overview of the timing of the major ecological activities on the North West Shelf in relation to the proposed anti-scour mat disconnection and support frame removal activities. Although within the migration route for humpback whales (*Megaptera novaeangliae*) in the Exmouth to Port Hedland region, the timing

of the proposed activities are at the end of this migration and are unlikely to significantly affect humpback whales or other cetaceans. Although the activities overlap with the turtle nesting and dugong breeding periods, the MOPU facility is too distant from any sensitive breeding / feeding habitats to significantly affect turtles or dugong.

### Environmental Management

The implementation strategy detailed in the Legendre Facilities EP and the General Petroleum Support Activities EP cover the environmental risks identified during the HAZID Workshop for the proposed ROV works, including roles and responsibilities, environmental education and training, emergency preparedness and incident reporting. Therefore, no additional environmental controls are required for the planned activities.

Apache management documents used to guide the implementation of the proposed ROV activities are:

- Environmental Management Policy (February 2010).
- Legendre Facility EP (EA-68-RI-005)
- General Petroleum Support Operations EP (EA-00-RI-158)
- Environmental Requirements for Offshore Marine Vessels (AE-91-IQ-202)
- Refuelling and Chemical Transfer Management Procedure (AE-91-IQ-098)
- OSCP Volume 1 – Operations (NWS) (AE-OO-EF-008/1).
- OSCP Volume 2 – Resource Atlas (NWS) (AE-OO-EF-008/2).
- Hazard Reporting, Incident Notification and Investigation Procedure (AE-91-IF-002).
- Quarantine Procedure (AE-91-IQ-189).
- Waste Management Plan (EA-60-RI-167).

### Environmental Hazards and Controls

The major environmental hazards and controls associated with the proposed ROV activities are summarised in **Table 2** below.

**Table 2: Summary of Key Environmental Management Commitments for the Anti-scour Mat Disconnection and Support Frame Removal Activities at the Legendre MOPU Facility.**

Activity	Avoidance, Mitigation and Management Measures
Operational Environmental Awareness	<ul style="list-style-type: none"> <li>• Through inductions and educational material as per Legendre Facility EP, all personnel are familiar with the environmental requirements of the Legendre Facility EP, General Petroleum Support Activities EP, bridging documents and procedures, to ensure these guidelines and procedures are being followed.</li> <li>• Environmental issues specific to this activity shall be addressed in a pre-mobilisation toolbox meeting.</li> </ul>
Incident Reporting	<ul style="list-style-type: none"> <li>• Use the Apache “<i>Hazard Reporting, Incident Notification and Investigation Procedure</i>” (AE-91-IF-002) to report incidents to DMP within 2 hours (OPGGS(E) Regulations; 26A).</li> <li>• Recordable incidents to be reported to DMP at the end of each month (OPGGS(E) Regulations; 26B).</li> </ul>

Activity	Avoidance, Mitigation and Management Measures
Deck drainage, chemical storage and management	<ul style="list-style-type: none"> <li>• Follow Apache “<i>Refuelling and Chemical Transfer Management Procedure</i>” (AE-91-IQ-098) and “<i>Environmental Requirements For Offshore Marine Vessels</i>” (AE-91-IQ-202)</li> <li>• Maintain good housekeeping practices.</li> <li>• Store chemicals in bunded areas away from open drains and chemical containers are to be intact.</li> <li>• Use drip trays under all machinery and fuel points and valves.</li> <li>• In the event of a spill, take all actions to control the spill and divert deck drainage to on board containment tanks for treatment through the oil in water separator.</li> <li>• Ensure absorbent material is on board to use in soaking up chemical or oil spills on deck.</li> <li>• Report all spills through Apache “<i>Hazard Reporting, Incident Notification and Investigation Procedure</i>” (AE-91-IF-002).</li> <li>• All spills &gt; 80 L are “<i>Reportable Incidents</i>” under the OPGGS(E) Regulations 2009 (26A) and must be reported to DMP within 2 hours, either directly by contacting the DMP Duty Inspector on 0419 960 621 or via the Apache Perth office.</li> <li>• All spills &lt; 80 L are “<i>Recordable Incidents</i>” under the OPGGS(E) Regulations 2009 (26B) and must be reported to DMP at the end of each month via the Apache Perth office.</li> </ul>
Spillage of diesel fuel or oil	<ul style="list-style-type: none"> <li>• Refuelling should be done prior to offshore mobilisation where possible.</li> <li>• If offshore refuelling is unavoidable, then carry out diesel refuelling during daylight hours only, weather permitting.</li> <li>• Follow Apache “<i>Refuelling and Chemical Transfer Management Procedure</i>” (AE-91-IQ-098) and “<i>Environmental Requirements For Offshore Marine Vessels</i>” (AE-91-IQ-202).</li> <li>• In event of a spill take all actions to control it.</li> <li>• Do not use dispersant without Australian Marine Safety Authority (AMSA) approval.</li> <li>• Report all spills to Apache Perth office (see Apache “<i>Hazard Reporting, Incident Notification and Investigation Procedure</i>”, AE-91-IF-002).</li> <li>• All spills &gt; 80 L are “<i>Reportable Incidents</i>” under the OPGGS(E) Regulations 2009 (26A) and must be reported to DMP within 2 hours, either directly by contacting the DMP Duty Inspector on 0419 960 621 or via the Apache Perth office.</li> <li>• Report all releases of oil in water of &gt; 30 mg/L (over a 24 hour period) to Apache Perth office (Note: for vessel discharges, MARPOL stipulates a maximum of 15 mg/L OIW instead).</li> <li>• All spills &lt; 80 L are Recordable Incidents under the OPGGS(E) Regulations 2009 (26B) and must be reported to DMP at the end of each month via the Apache Perth office.</li> <li>• Implement Apache’s Oil Spill Contingency Plan (OSCP, AE-00- EF-008) if required.</li> </ul>
Liquid Waste Management	<ul style="list-style-type: none"> <li>• Drum waste oil, grease and other liquid waste and return to shore for disposal at an approved waste disposal facility.</li> <li>• Adhere to AQIS requirements for ballast water management</li> </ul>

Activity	Avoidance, Mitigation and Management Measures
Solid Waste Management <ul style="list-style-type: none"> <li>• Food scraps</li> <li>• Garbage</li> <li>• Litter</li> <li>• Scrap metal and wood etc</li> </ul>	<ul style="list-style-type: none"> <li>• All food scraps to be macerated as per MARPOL 73/78 requirements.</li> <li>• Do not dispose of debris, garbage or litter into the sea (skips need covers to prevent wind blown rubbish – especially plastics and cups).</li> <li>• Segregate industrial waste (scrap metals / drums etc) wherever possible for appropriate disposal onshore.</li> <li>• Reduce, reuse and recycle waste wherever practicable.</li> <li>• Record the volume and type of waste as per AEL requirements.</li> <li>• Vessel waste management as per “<i>Environmental Requirements For Offshore Marine Vessels</i>” (AE-91-IQ-202)</li> </ul>
Sewage discharge	<ul style="list-style-type: none"> <li>• Sewage discharges should, as a minimum, conform to MARPOL 73/78 requirements.</li> <li>• Vessel sewage discharges as per “<i>Environmental Requirements For Offshore Marine Vessels</i>” (AE-91-IQ-202)</li> </ul>
Light Overspill	<ul style="list-style-type: none"> <li>• Minimise use of non-essential lighting.</li> </ul>
Fishing	<ul style="list-style-type: none"> <li>• No fishing is permitted from the Neptune Trident.</li> </ul>
Introduction of foreign marine pest species	<ul style="list-style-type: none"> <li>• Adhere to the 'National biofouling management guidance for the petroleum production and exploration industry'</li> </ul>

## Consultation

As part of all Apache offshore activities, including ROV and support vessel operations, Apache consults with numerous stakeholder representatives on an ongoing basis, including participation in risk assessment workshops, with stakeholder representatives including offshore staff, environmental advisers, facility engineers, marine operations personnel and specialist consultants. Environmental analysts from DMP were also present at an environmental risk workshop for the anti-scour mats decommissioning options.

## Further Details

For further information please contact:

Jolanda Keeble  
 Senior Environmental Scientist  
 Apache Energy Ltd  
 PO Box 477, West Perth, WA 6872  
 Phone: 08-6218 7269  
 Email: [jolanda.keeble@apachecorp.com](mailto:jolanda.keeble@apachecorp.com)