

NGANHURRA RISER TURRET MOORING REMOVAL PROJECT REPORT

This monthly decommissioning report provides a progress update on Woodside’s decommissioning activities for the Nganhurra Riser Turret Mooring (RTM) removal. The RTM was safely and successfully removed from the title area and loaded to the quayside at Henderson for deconstruction in October 2023. This is the final report that will be issued for this project, as required by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) General Direction 1913.

The Nganhurra RTM was located in Commonwealth waters in permit area WA-28-L, 38km off the North West Cape in Western Australia (**Figure 1**). The RTM was previously used to support hydrocarbon production from the Enfield development to the Nganhurra floating production storage and offtake facility. The RTM is an 83m riser column structure that was anchored to the seabed in approximately 400m water depth.

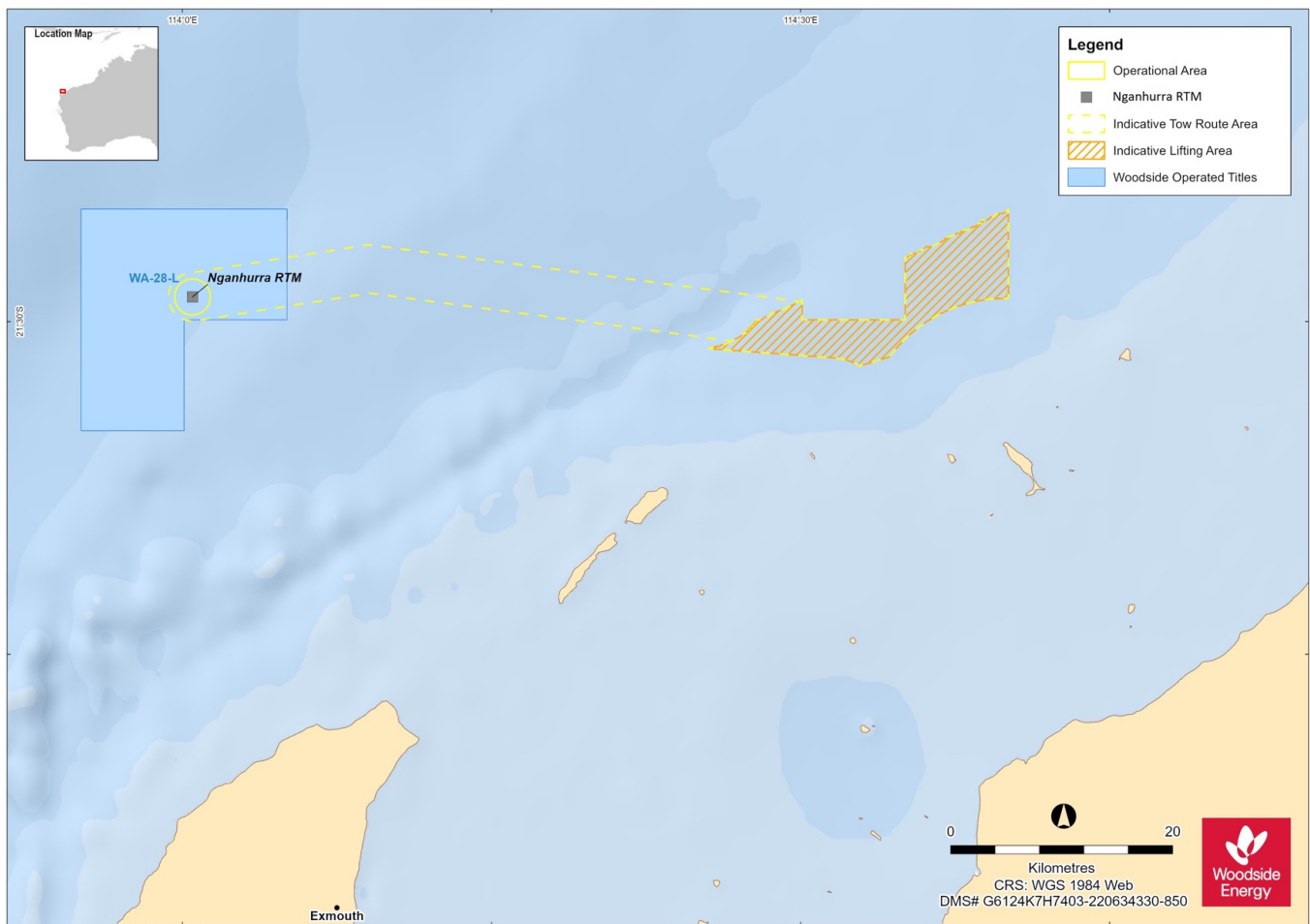


Figure 1 - Nganhurra RTM location, tow route and sheltered water location

RTM removal project plan and schedule

The RTM removal project included the following activities:

- Recovery of RTM from its current location with the heavy lift vessel (HLV) Aegir.
 - Installation of a top lift point on board the RTM. The lift point is used in subsequent removal of the RTM.
 - Disconnection of mooring chains using a remote operated vehicle (ROV).
 - Wet tow of the RTM to a sheltered area for lifting onto a barge with three supporting tow tugs.
 - Lift and secure the RTM onto a barge.
- Tow the RTM on a barge to Henderson with a single dedicated tow tug.
- Offload and deconstruct the RTM at Henderson.
 - Mooring of the barge at Henderson quayside.
 - Cut grillage and load-in the RTM to quayside on self-propelled modular transports (SPMT).
 - Deconstruct and dispose of the RTM. Woodside is planning that over 95% (by weight) of the RTM material will be able to be recycled or repurposed.

The table below describes the preparatory activities for the removal campaign, and an associated schedule (timeline).

Item	Activity	Deliver	Progress
Engineering deliverables	Engineering, design, and analysis of offshore heavy lift	July 2023	Complete
	Tow route analysis	June 2023	Complete
	HAZID risk assessment	June 2023	Complete
	Removal method constructability	July 2023	Complete
	Heavy lift simulation	July 2023	Complete
	Detailed design documents	August 2023	Complete
	Line handling and tow constructability	August 2023	Complete
	RTM weight and structural verification	August 2023	Complete
	Procedures for offshore heavy lift	September 2023	Complete
	Barge mooring and RTM load-in procedures	October 2023	Complete
RTM disposal procedure	October 2023	Complete	
Contracting, Procurement, and Fabrication	Heavy lift vessel contract award	June 2022	Complete
	Disposal contract award	September 2022	Complete
	Procurement of lifting aids and equipment	June 2023	Complete
	Fabrication of lifting aids, inspection, and testing	August 2023	Complete
	Sub-contract tug and barge spread	July 2023	Complete
	Procurement of load-in equipment	June 2023	Complete
	Quayside and disposal yard booking	September 2023	Complete
	Procurement of contingency equipment, on standby if changes to RTM condition impact primary removal method	September 2023	Complete
Pre-mobilisation activities	RTM early works in preparation for heavy lift	June 2023	Complete
	RTM inspection and cleaning	June 2023	Complete
	Heavy lift vessel inspections and assurance activities	August 2023	Complete
	Barge outfitting; installation of grillage, guides and bumpers	August 2023	Complete
	Aegir validation statement	August 2023	Complete
	Transportation of equipment to site of mobilisation	September 2023	Complete
	Invasive Marine Species analysis of RTM marine growth	September 2023	Complete
	Preparation of disposal yard	October 2023	Complete
Regulatory approvals	Aegir safety case project addendum acceptance	July 2023	Complete
	Nganhurra Operations Cessation Environment Plan acceptance	July 2023	Complete
	Nganhurra safety case acceptance	September 2023	Complete
	NOPSEMA Environment Plan inspections	September 2023	Complete
	Tow permit acceptance	September 2023	Complete

RTM removal execution plan and schedule

The table below describes the works that were completed during the removal campaign, including information about offshore works and onshore works, and an associated schedule (timeline). The activities below are sequential and the duration is cumulative.

Location	Activity	Duration (days)	Progress
Offshore	Mobilise heavy lift vessel, tugs, and barge to field	8	Complete
	RTM preparation and installation of top lift point	5	Complete
	Disconnect RTM mooring lines	2.5	Complete
	Tow to sheltered location	1	Complete
	Lift RTM and secure onto barge	5.5	Complete
	Seabed ROV survey	<1	Complete
	Barge tow to Henderson	6	Complete
Onshore / Henderson	Barge preparation for load-in	2	Complete
	RTM load-in to quayside	3	Complete
	Hazardous material inspections	9	Complete
	RTM set down and preparation works for deconstruction	13	Commenced
	Mechanical deconstruction of RTM	32	Planned
	Processing and removal of deconstructed materials	11	Planned
	Demobilisation of site	28	Planned

RTM integrity monitoring

RTM integrity monitoring is no longer required as the RTM is in the deconstruction yard.

Emergency response preparedness

RTM offshore emergency response is no longer applicable now that the RTM is in the deconstruction yard.

Further Information

For further information or request to be consulted by Woodside on this activity please see contact details below:

Email: Feedback@woodside.com

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