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GOVERNMENT NOTICES

COMMONWEALTH OF AUSTRALIA

Section 708
Offshore Petroleum and Greenhouse Gas Storage Act 2006

APPLICATION FOR GRANT OF A PIPELINE LICENCE – CRUX (WA)

I, **GRAEME ALBERT WATERS**, the National Offshore Petroleum Titles Administrator, on behalf of the Commonwealth–Western Australia Offshore Petroleum Joint Authority hereby give notice pursuant to section 708 of the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* that an application has been received from

Shell Australia Pty Ltd
(ACN 009 663 576)

SGH Energy WA Pty Ltd
(ACN 113 911 274)

Osaka Gas Crux Pty Ltd
(ACN 126 767 093)

for the grant of a pipeline licence for the conveyance of petroleum in the offshore area of Western Australia, as set out below.

A person may make a written submission to the Titles Administrator about this application within 30 days from the date of this notice.

This notice takes effect on the day in which it appears in the *Australian Government Gazette.*

Made under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* of the Commonwealth of Australia.

GRAEME ALBERT WATERS
TITLES ADMINISTRATOR
ON BEHALF OF THE COMMONWEALTH-WESTERN AUSTRALIA
OFFSHORE PETROLEUM JOINT AUTHORITY

ROUTE OF THE PIPELINE

The pipeline route is described in the table hereunder and displayed in the attached map (**Attachment 1**), commencing at the boundary of the Territory of Ashmore and Cartier Islands and Western Australia offshore areas to the Upstream Flange Riser Emergency Shutdown Valve (RESDV) on Prelude FLNG. Coordinates are based on Geodetic Datum of Australia (GDA94), UTM Zone 51*.

Feature ID	Feature Name	KP	Easting (mE)	Northing (mN)	Heading	Radius (m)
1	Boundary of the Territory of Ashmore and Cartier Islands and Western Australia offshore areas	78.708	589 032.93	8 526 855.43	232.64	
2	TP7A	89.295	580 618.17	8 520 430.95	232.64	
3	IP7		580 485.86	8 520 329.93		3000
4	TP7B	89.628	580 365.53	8 520 214.90		
5	TP8A	114.836	562 145.09	8 502 795.23	226.29	
6	IP8		561 905.47	8 502 566.13		1500
7	TP8B	115.488	561 591.61	8 502 459.37		
8	TP9A	117.780	559 422.13	8 501 721.35	251.21	
9	IP9		559 072.26	8 501 602.32		1500
10	TP9B	118.504	558 817.72	8 501 334.39		
11	TP10A	126.360	553 407.38	8 495 639.34	223.53	
12	IP10		553 243.31	8 495 466.62		1500
13	TP10B	126.832	553 140.81	8 495 251.57		
14	TP11A	129.418	552 028.34	8 492 917.44	205.48	
15	IP11		551 910.06	8 492 669.26		1500
16	TP11B	129.962	551 711.44	8 492 479.17		
17	TP12A	145.832	540 245.96	8 481 505.31	226.26	
18	IP12		539 911.48	8 481 185.16		3000
19	TP12B	146.751	539 496.03	8 480 980.76		
20	WA-2-IL Boundary	151.514	535 222.02	8 478 877.88		
21	TP13A	151.721	535 037.23	8 478 786.96	243.80	
22	IP13		534 213.72	8 478 381.79		1500
23	TP13B	153.368	534 199.61	8 477 464.11		
24	Prelude PLET SSIV	154.350	534 184.59	8 476 486.75		
25	Prelude PLET hub face	154.360	534 184.36	8 476 472.05	180.88	
26	Prelude Flexible Riser	Approximate total length 900m				
27	Upstream Flange RESDV on Prelude FLNG**		534 322.46	8 475 877.88		

* Coordinates in the map at Attachment 1 are displayed in GDA2020, UTM Zone 51.

** Coordinates are approximate and based on the Prelude FLNG turret centre nominal position, which may move slightly based on sea states and weather.

SPECIFICATIONS

Design and Construction

The offshore pipeline must be designed and constructed in accordance with Offshore Standard DNVGL-ST-F101 – Submarine Pipeline Systems (Offshore Pipeline), which is incorporated in its entirety in Australian Standard AS2885.4 – Pipelines, Gas and Liquid Petroleum (Part 4: Submarine Pipelines). Specifically, the design and construction phase of the pipeline must comply with DNVGL-ST-F101.

Basis of Design

The pipeline design is based on the following parameters:

Item	Item Description	Details
1	Outside diameter of pipe and riser	26” Crux export pipeline: 26 inches (660.5 mm) nominal Prelude PLET (including reducer & SSIV):18 inches (457.2 mm) nominal
2	Wall thickness of pipe inclusive of riser (only for carbon steel)	26” Crux export pipeline: 19.1 mm Prelude PLET (including reducer & SSIV): 25.4 mm 16” ID Prelude flexible riser (total of all layers): ~82.5 mm
3	Length	76.6 km (approximate)
4	Design life	20 years (approximate)
5	Pipeline Material	Flexible steel
6	Pipeline and Riser Steel Specification and Grade	DNVGL-ST-F101 SAWL Gr 450 DF API Spec 17J Specification for Unbonded Flexible Pipe API Spec 17J Rough Bore Flexible Pipe Composition
7	Minimum yield strength of pipe steel	450 MPa
8	Maximum Allowable Operating Pressure	133 barg
9	Design Capacity	550 MMscf/d
10	Maximum Design Temperature	27” Crux Export Pipeline and Prelude PLET (including reducer & SSIV): 70º C 16” ID Prelude Flexible Riser: 70º C
11	Minimum Design Temperature	27” Crux Export Pipeline and Prelude PLET (including reducer & SSIV): -3º C 16” ID Prelude Flexible Riser: -20º C
12	Maximum Operating Temperature	27” Crux Export Pipeline and Prelude PLET (including reducer & SSIV): 55º C 16” ID Prelude Flexible Riser: 50º C
13	Characteristics of substance proposed to be conveyed	Dehydrated gas and condensate
14	General plans and descriptions of pump stations, tank stations or valve stations and their equipment	N/A

15	General plans and description of pigging facilities	Pig launcher is located on Crux platform, and pig received is located on Prelude FLNG, pigging facilities are not within the pipeline licence boundary
16	Cathodic protection	Al-Zn-In alloy anodes. Bracelet type, full shell, non-tapered. 600mm length x 50mm thickness (163kg) installed at various locations along the pipeline. Anodes attached directly to the PLET structure. Bracelet type at each end of the flexible riser.

Attachment 1