

COMMONWEALTH OF AUSTRALIA  
*SPACE ACTIVITIES ACT 1998*

## List of Designated and Protected Assets

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### 1. Introduction

Designated Assets and Protected Assets have a special status in the safety regime for space activities in Australia. Persons wanting to undertake space activities in Australia need to achieve specific safety standards for these assets, as set out in the Flight Safety Code.

Designated Assets and Protected Assets are determined by the Minister for Industry, Tourism and Resources according to criteria and processes set out in "Administrative Arrangements for the Classification of Assets for Space Launch Activities".

This document contains a list of Designated Assets and Protected Assets. The list has been developed based on the three firm proposals to establish commercial space launch facilities on Christmas Island and at Woomera, South Australia. The list will be revised, as needed, to take account of new proposals as they arise.

Facility location information is provided in this document to help unambiguously identify the facility and to provide an approximate indication of where each facility is. It should *not* be taken as a definitive or authoritative source of facility location data. In particular, the location data in this document should *not* be regarded as definitive for the purpose of conducting risk and hazard analysis and assessing probability of impact on a Designated or Protected Asset under the Flight Safety Code.

### 2. Designated Assets and Protected Assets (all referenced to GDA94)

State or Designated Authority	Production Facility	Type	Classification	Latitude	Longitude
NT					
Commonwealth Waters	Challis (AC/L3)	Floating facility	Designated	12°08' South	125°01' East
	Jabiru (AC/L1&2)	Floating facility	Designated	11°56' South	125°00' East

	Laminaria (AC/L5)	Floating facility	Designated	10°37' South	125°59' East
<b>Onshore<sup>1</sup></b>	Mereenie (OL4/OL5)	Central Treatment plant (gas)	Protected <sup>2</sup>	24°00' South	131°33' East
	Palm Valley (OL3)	Gas plant	Protected <sup>3</sup>	24°00' South	132°39' East
<b>TGJA<sup>4</sup></b>	Elang Kakatua (ZOC-A-91-12)	Floating facility	Designated	10°53' South	126°34' East
<b>WA</b>					
<b>Commonwealth Waters</b>	Cossack (WA-9-L)	Floating facility	Protected	19°35' South	116°27' East
	East Spar (WA-13-L)	Floating facility	Designated	20°43' South	114°59' East
	Goodwyn (WA-5&6-L)	Platform	Protected	19°39' South	115°56' East
	Legendre (WA-20-L)	Platform	Designated	19°42' South	116°42' East
	North Rankin (WA-1&2-L)	Platform	Protected	19°35' South	116°08' East
	Wandoo A (WA-14-L)	Monopod	Designated	20°08' South	116°25' East
	Wandoo B (WA-14-L)	Platform	Designated	20°08' South	116°26' East
	Stag (WA-15-L)	Platform	Designated	20°17' South	116°16' East
<b>Coastal Waters and Islands</b>	Agincourt	Monopod	Designated	20°40' South	115°31' East
	Airlie Island <sup>5</sup>	Oil processing plant	Designated	21°20' South	115°10' East
	Airlie Island <sup>6</sup>	Tanker terminal	Designated	21°20' South	115°10' East
	Barrow Island <sup>7</sup>	Oil production, separation & storage/ offshore tanker loading	Designated	20°47' South	115°28' East
	Buffalo (WA-19-L)	Platform and	Designated	10°40' South	126°06' East
	Buffalo (WA-19-L)	floating facility	Designated	10°40' South	126°05' East
	Campbell A	Monopod	Designated	20°25' South	115°44' East
	Chervil	Monopod	Designated	21°19' South	115°14' East

<sup>1</sup> In relation to onshore facilities, the extent of the asset classified will be determined following further consultation.

<sup>2</sup> The classification of this facility will be reviewed following the establishment of alternative supplies of gas to Darwin (expected in 2003).

<sup>3</sup> The classification of this facility will be reviewed following the establishment of alternative supplies of gas to Darwin (expected in 2003).

<sup>4</sup> Timor Gap Joint Authority for the Zone of Cooperation.

<sup>5</sup> In relation to islands or island facilities, the extent of the asset classified will be determined following further consultation.

<sup>6</sup> In relation to islands or island facilities, the extent of the asset classified will be determined following further consultation.

<sup>7</sup> In relation to islands or island facilities, the extent of the asset classified will be determined following further consultation.

	Cowle A	Monopod	Designated	21°31' South	114°58' East
	Griffin (WA-10-L)	Floating facility	Designated	21°13' South	114°39' East
	Harriet A	Platform	Designated	20°36' South	115°37' East
	Harriet B	Monopod	Designated	20°35' South	115°38' East
	Harriet C	Monopod	Designated	20°35' South	115°38' East
	North Herald	Monopod	Designated	21°10' South	115°16' East
	Roller A	Monopod	Designated	21°38' South	114°54' East
	Roller B	Monopod	Designated	21°38' South	114°55' East
	Roller C	Monopod	Designated	21°37' South	114°56' East
	Saladin A	Mini-platform	Designated	21°26' South	115°03' East
	Saladin B	Mini-platform	Designated	21°27' South	115°02' East
	Saladin C	Mini-platform	Designated	21°29' South	115°00' East
	Sinbad A	Monopod	Designated	20°29' South	115°43' East
	Skate	Monopod	Designated	21°36' South	114°59' East
	South Pepper	Tripod	Designated	21°07' South	115°16' East
	Thevenard Island <sup>8</sup>	Gas processing & oil storage/offshore tanker loading	Designated	21°27' South	115°01' East
	Varanus Island <sup>9</sup>	Gas processing liquids storage/offshore tanker loading	Designated	20°38' South	115°37' East
	Wonnich	platform	Designated	20°30' South	115°26' East
	Yammaderry A	Monopod	Designated	21°29' South	114°59' East
<b>Onshore<sup>10</sup></b>	Burrup Peninsula	Gas/LNG plant	Protected	20°36' South	116°47' East
	Burrup (Industrial South)	Gas processing, power supply infrastructure, gas to liquids	Designated	20°49' South	116°37' East
	Burrup (King Bay - Hearson Cove)	Gas processing, Burrup fertilizers, gas to liquids	Designated	20°38' South	116°46' East
	Onslow	Gas processing,	Designated	21°46' South	114°52' East

<sup>8</sup> In relation to islands or island facilities, the extent of the asset classified will be determined following further consultation.

<sup>9</sup> In relation to islands or island facilities, the extent of the asset classified will be determined following further consultation.

<sup>10</sup> In relation to onshore facilities, the extent of the asset classified will be determined following further consultation.

		gas to liquids, LNG			
	Syntroleum Plant	Gas to petroleum	Designated	20°38' South	116°46' East
	Tubridgi	Gas processing plant	Designated	21°47' South	114°52' East
<b>QLD</b>					
<b>Onshore<sup>11</sup></b>	Ballera	Gas/liquids plant	Protected <sup>12</sup>	27°24' South	141°48' East
	Jackson	Oil plant	Designated	27°37' South	142°25' East
	Naccowlah	Oil plant	Designated	27°31' South	142°08' East
<b>SA</b>					
<b>Onshore<sup>13</sup></b>	Moomba	Gas/liquids plant	Protected <sup>14</sup>	28°06' South	140°12' East

**Notes:**

1. In relation to offshore facilities, the asset classified constitutes the whole of the facility structure above the water. More specific details of asset dimensions will be provided following further consultations.
2. In relation to onshore facilities, whether on the mainland or in islands, the extent of the asset classified will be determined following further consultation.

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<sup>11</sup> In relation to onshore facilities, the extent of the asset classified will be determined following further consultation.

<sup>12</sup> The classification of this facility will be reviewed following the development of greater levels of interconnection, spare capacity and redundancy in the gas supply grid.

<sup>13</sup> In relation to onshore facilities, the extent of the asset classified will be determined following further consultation.

<sup>14</sup> The classification of this facility will be reviewed following the development of greater levels of interconnection, spare capacity and redundancy in the gas supply grid.

## Appendix A: Proposed Developments and their Classification

The “Administrative Arrangements for the Classification of Assets for Space Launch Activities” establish a process by which proposed developments which meet the criteria become classified as Designated or Protected Assets. They are flagged as Proposed Designated Assets or Proposed Protected Assets once an approval to install and construct or similar approval has been issued by the appropriate authority for that facility. The Asset Safety Standards of the Flight Safety Code do not apply to Proposed Designated Assets or Proposed Protected Assets. Note, however that the Casualty Safety Standards of the Flight Safety Code do apply. Proposed Designated Assets and Proposed Protected Assets will be transferred to the List of Designated and Protected Assets once they are operational. Launch Operators are then required to meet the Asset Standards set out for such assets in the Flight Safety Code.

State/ Designated Authority	Production Facility	Type	Classification	Latitude	Longitude
<b>NT</b>					
<b>TGJA</b>					
	Proposed Bayu-Undan BU-WP1	Wellhead Platform	Designated	11°05' South	126°40' East
	Proposed Bayu-Undan BU-CUQ	Compression, Utilities & Quarters Platform	Designated	11°05' South	126°40' East
	Proposed Bayu-Undan BU-DPP	Drilling, Production & Processing Platform	Protected	11°05' South	126°40' East
	Proposed Bayu-Undan BU-FSO	Floating Storage & Offloading Facility	Protected	11°05' South	126°40' East
<b>WA</b>					
<b>Commonwealth Waters</b>					
<b>Coastal Waters and Islands</b>	Proposed Bamba	Wellhead Platform	Designated	20°33' South	115°36' East
<b>Onshore</b>					
<b>QLD</b>					
<b>Onshore</b>					
<b>SA</b>					
<b>Onshore</b>					

### Notes

1. The proposed LNG plant at 12°35' South 130°55' East near Darwin, NT, is flagged as a possible protected asset, but is not included in the list of proposed designated

and protected assets because it has not yet been granted approval to install and construct.

2. The proposed Sunrise development at approximately 9°35'South, 128°10'East is flagged as a possible designated asset, but is not included in the list of proposed designated and protected assets because it has not yet been granted approval to install and construct.
3. Proposed Bambra development has not yet been granted approval to install and construct (17-9-2001). Position currently fixed by seapole after exploratory operations.

## **Appendix B: Discussion of the Classifications**

The List of Designated and Protected Assets has been developed having regard to the criteria set out in the “Administrative Arrangements for the Classification of Assets for Space Launch Activities”.

In particular, the facilities included in the list have catastrophic potential in terms of casualties because of their remoteness, inaccessibility and potential to catch fire or explode in the event of impact from debris, and because destruction or severe disablement of the facility would appreciably compromise strategically significant economic activity and export markets.

### ***B.1 Designated Assets***

Facilities associated with developments in the Timor Sea and NT have been classified as Designated Assets or Protected Assets because they are in the vicinity of some proposed flight paths associated with the Asia Pacific Space Centre (APSC) Christmas Island proposal and some proposed flight paths associated with the Kistler Woomera proposal, and because of their potential for catastrophic consequences in the event of an accident.

Facilities associated with the Carnarvon Basin off the north-west coast of WA have been classified as Designated or Protected Assets because they are in the vicinity of some proposed flight paths associated with the APSC Christmas Island proposal, and because of their potential for catastrophic consequences in the event of an impact.

Facilities associated with the Cooper Basin have been classified as Designated or Protected Assets because they are in the vicinity of some proposed flight paths associated with the Kistler Woomera proposal, and because of their potential for catastrophic consequences in the event of an impact.

Petroleum facilities in Bass Strait have not been classified as Designated or Protected Assets because there are no known proposals to fly in the vicinity of these facilities. Should a new space launch project be proposed which would possibly fly in the vicinity of these facilities, additions to the List of Designated and Protected Assets will need to be considered according to processes set out in the “Administrative Arrangements for the Classification of Assets for Space Launch Activities.”

New petroleum facilities to be constructed in areas which are in the vicinity of existing or known proposed flight paths will be considered for inclusion in the List of Designated and Protected Assets according to processes set out in the “Administrative Arrangements for the Classification of Assets for Space Launch Activities.”

### ***B.2 Protected Assets***

The List of Designated and Protected Assets classifies the following facilities as Protected Assets. These facilities have been classified as Protected Assets having regard to the criteria set out in the “Administrative Arrangements for the Classification of Assets for Space Launch Activities” and, in particular, their role in underpinning the economic activity of a whole region, state or nation. The principle reason for their Protected Asset status is indicated, with a more complete description following the list.

- ❑ Burrup Peninsular gas/LNG plant. (Main gas supply for WA domestic consumption.)
- ❑ North Rankin platform. (Key source of WA gas supply and key export facility.)
- ❑ Goodwyn platform. (Key source of WA gas supply and key export facility.)

- ❑ Cossack floating facility. (Key export facility.)
- ❑ Ballera gas/liquids plant. (Main gas supply for Brisbane and coastal QLD.)
- ❑ Moomba gas/liquids plant. (Main gas supply for Adelaide, Canberra, Sydney and regional NSW.)
- ❑ Palm Valley and Mereenie gas plants. (Sole gas supply for NT.)

Proposed Protected Assets:

- ❑ Bayu-Undan platform and floating facility. (Major income source for East Timor and proposed major source of Australian domestic gas.)

### **North Rankin and Goodwyn platforms**

The onshore NWS project is supplied by two of the world's largest offshore production platforms. North Rankin and Goodwyn platforms are located about 130 kilometres north west of the Burrup Peninsula and supply the onshore plant via a sub sea pipeline. The North Rankin platform is capable of processing up to 1815 million cubic feet per day (MMcf/d) of gas through three parallel production trains. Currently, the North Rankin platform has 25 production wells. The Goodwyn platform can process up to 1100 MMcf/d through two parallel production trains. This platform currently has 11 production wells and six gas re-injection wells.

### **Cossack Pioneer floating facility**

The Cossack Pioneer floating production, storage and offload (FPSO) facility in the NWS is located about 34 kilometres west of the North Rankin platform. It is capable of producing up to 140,000 barrels per day of oil and 118 MMcf/d of gas.

### **Moomba gas plant, north-east South Australia**

Moomba is the processing centre for natural gas produced in north-east South Australia, and south-west Queensland. It has been the sole source of gas to Adelaide, Canberra, Sydney and regional NSW, and a recent limited supplier to Melbourne and regional Victoria. While the new Eastern Gas Pipeline from Longford to Sydney is challenging the monopoly status of Moomba gas into Sydney, it is likely that Moomba will remain the dominant supply source for the near future.

The Moomba facilities are critical to the economy of the whole south-east of Australia. It is also a major producer of petroleum liquids and ethane. The ethane is piped to Sydney where it is the critical feedstock for the petrochemical industry.

### **Ballera gas plant, south-west Queensland**

The south-west region of Queensland is a major producer of gas, petroleum liquids and oil. Processing occurs at Ballera and is supplied for mineral processing in the north of the State (e.g., Mount Isa), and the main supply source for Brisbane and coastal regional Queensland. Some gas supplies are coming from coal bed methane and declining gas fields in the south-east of the State, but no major replacement supplies will be available until the PNG and or the Timor Sea fields are connected to Queensland. Even when alternative pipelines are constructed, these facilities will remain a major source of Queensland's gas. The facilities are critical to the economy of Queensland.

### **Palm Valley and Mereenie gas plants, Northern Territory**

These fields are presently the sole supply of gas for the Northern Territory. This situation will change when Timor Sea gas becomes available in a couple of years. Gas is used for power generation in Darwin, Alice Springs, Yulara, Tennant Creek, Katherine and the Macarthur River mine.



**Bayu-Undan Project**

The Bayu-Undan field was discovered in 1995 and is located in the Timor Sea about 500 kilometres north-west of Darwin. Phillips Petroleum Ltd is the operator of the Bayu-Undan Project, that includes a two-phase development to extract natural gas, condensate and LPG. The liquids production phase of Bayu-Undan, involving expenditure of about \$3 billion, was approved in 1999.

The gas production phase will involve offshore production facilities supplying a processing plant near Darwin via a sub sea pipeline. Gas production from Bayu-Undan is expected to commence in early 2004, preceded by development of the infrastructure. The Bayu-Undan facilities will be capable of producing about 400 million barrels of condensate and LPG and 3.4 trillion cubic feet (Tcf) of gas. The gas produced is expected to supply both LNG for export and the domestic market. Large onshore facilities dependent on the supply of this gas will be a substantial pipeline network supplying Queensland and eastern States markets, the Comalco refinery at Weipa and new world scale industries around Darwin.

The Bayu-Undan facilities will underpin significant export industries important to the economy of the Northern Territory and the national economy, and be a major supplier of gas to eastern States markets from Adelaide in the south to Townsville in the north.

As the Bayu-Undan gas fields are in the Timor Sea Zone of Cooperation (ZOCA), the project will provide major revenue benefits to the new nation of East Timor.