



Moomba Hub Services Book



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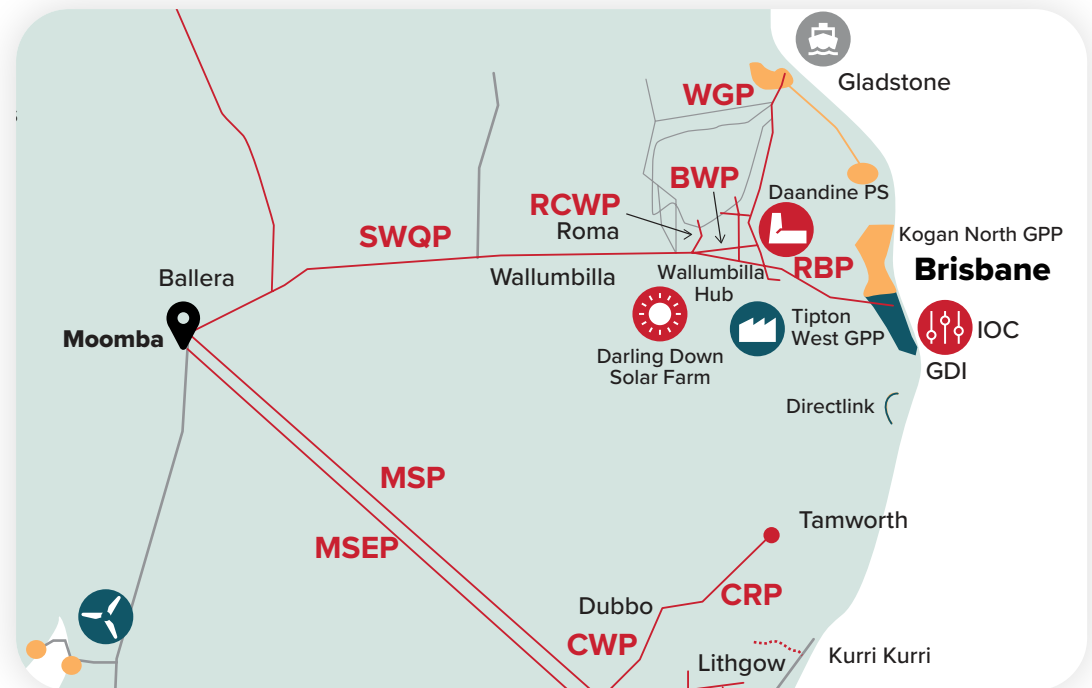


Introduction

Moomba Hub is the interconnection of three key APA and non-APA owned pipelines in north-east South Australia. It links the Cooper Basin gas fields at the Moomba Gas Plant to Queensland via the South West Queensland pipeline (SWQP), New South Wales via the Moomba to Sydney pipeline (MSP) and South Australia via the Moomba to Adelaide pipeline system (MAPS). The Moomba Hub facilitates bi-directional flows on SWQP and MSP to allow for seasonal domestic gas and LNG export demand.

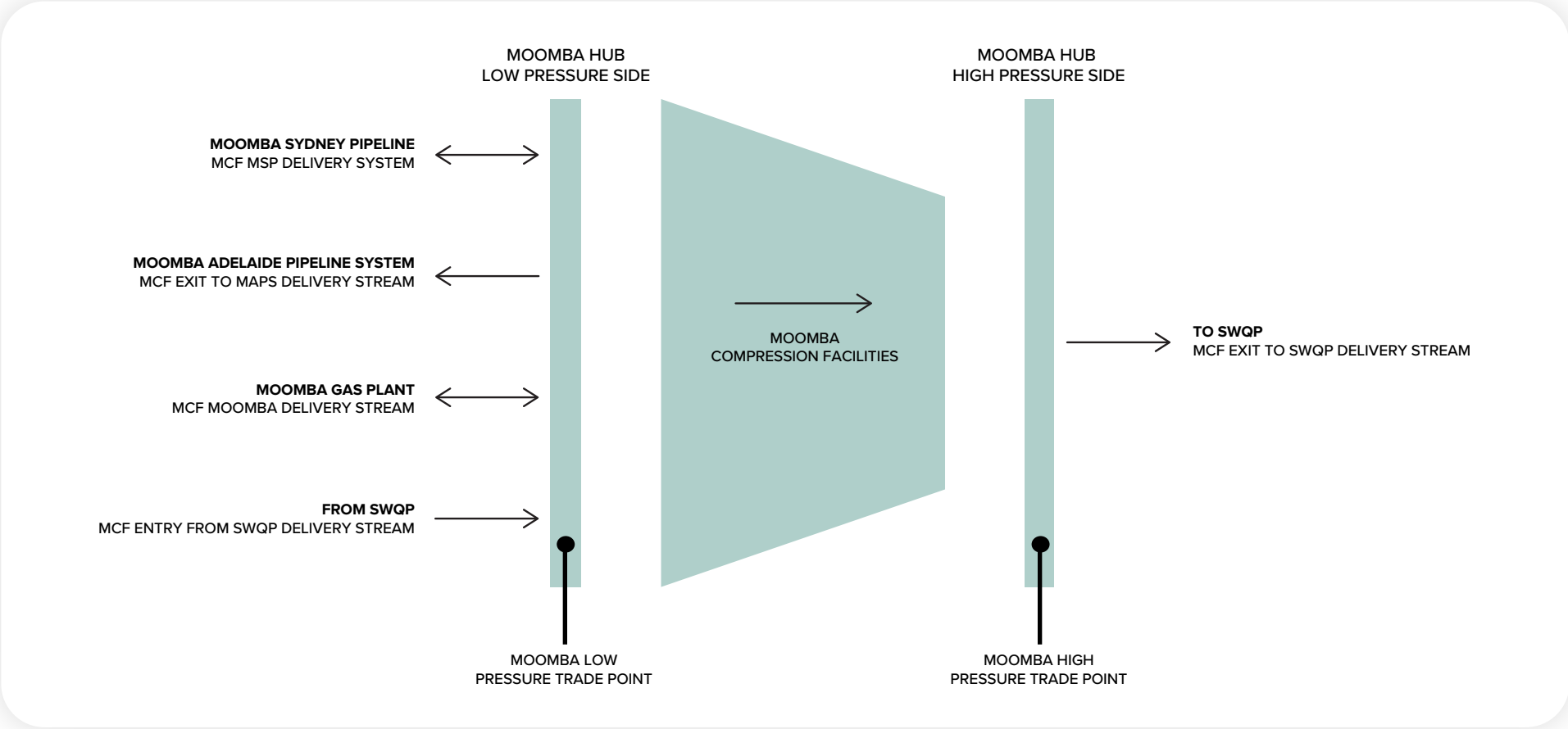
To facilitate gas moving within the Moomba Hub, APA provides redirection services enabling the transportation of gas from one pipeline's delivery point to another pipeline's receipt point. To facilitate gas moving eastwards to SWQP, APA also provides compression services in order to pressurise the gas for entry into the SWQP.

Gas commodity trading at Moomba is supported by APA's in pipe trade service at two trading points in the Moomba Hub – the Moomba Low Pressure Trade Point (MLPTP) and the Moomba High Pressure Trade Point (MHPTP).



Moomba Hub

Simplified Schematic



In this services book you will find information about the services APA offers at Moomba Hub and how they may be useful for you. Pricing information is published on the APA website at [APA Tariffs and Terms](#)

Summary of Key Acronyms & Terms

Term / Acronym	Meaning
GJ	Gigajoule
IPT	In Pipe Trade
MAPS	Moomba to Adelaide pipeline system
MCF	Moomba Compression Facility
MDQ	Maximum daily quantity
MGP	Moomba Gas Plant
MHPTP	Moomba high pressure trade point
MLPTP	Moomba low pressure trade point
MSP	Moomba Sydney pipeline
SUG	System Use Gas
SWQP	South West Queensland pipeline
TJ	Terajoule
WLPTP	Wallumbilla low pressure trade point

Term	Description
Firm	The highest priority of service available to APA customers. The firm service is provided up to the customers reserved service maximum daily quantity (MDQ) which is charged on a take-or-pay basis. Customers can increase their reserved MDQ for a service by purchasing it from another APA customer with MDQ using APA's capacity trading platform or directly from APA using APA's Supplementary MDQ product.
Auction	A priority of service that is lower than Firm and applicable only when a customer wins auction capacity for a day via the AEMO-operated Day Ahead Auction (DAA). Refer to this link for further details.
Interruptible	A priority of service that is lower than Firm and Auction. Interruptible services do not have any reserved MDQ and are charged on a throughput basis.

Services

Compression Service

At the Moomba Hub, APA owns and operates compression to enable customers to move gas from low pressure outlets to high pressure inlets.

Compression services are provided on a Firm, Auction and Interruptible priority basis.

Compression usage is calculated daily as the difference between high pressure deliveries (less any high pressure receipt) and low pressure receipts (less any low pressure deliveries) for each customer. The receipt and delivery points that are included in this calculation are reflected in the table below. Worked examples of the compression service charge are provided in the Example Use Case section.

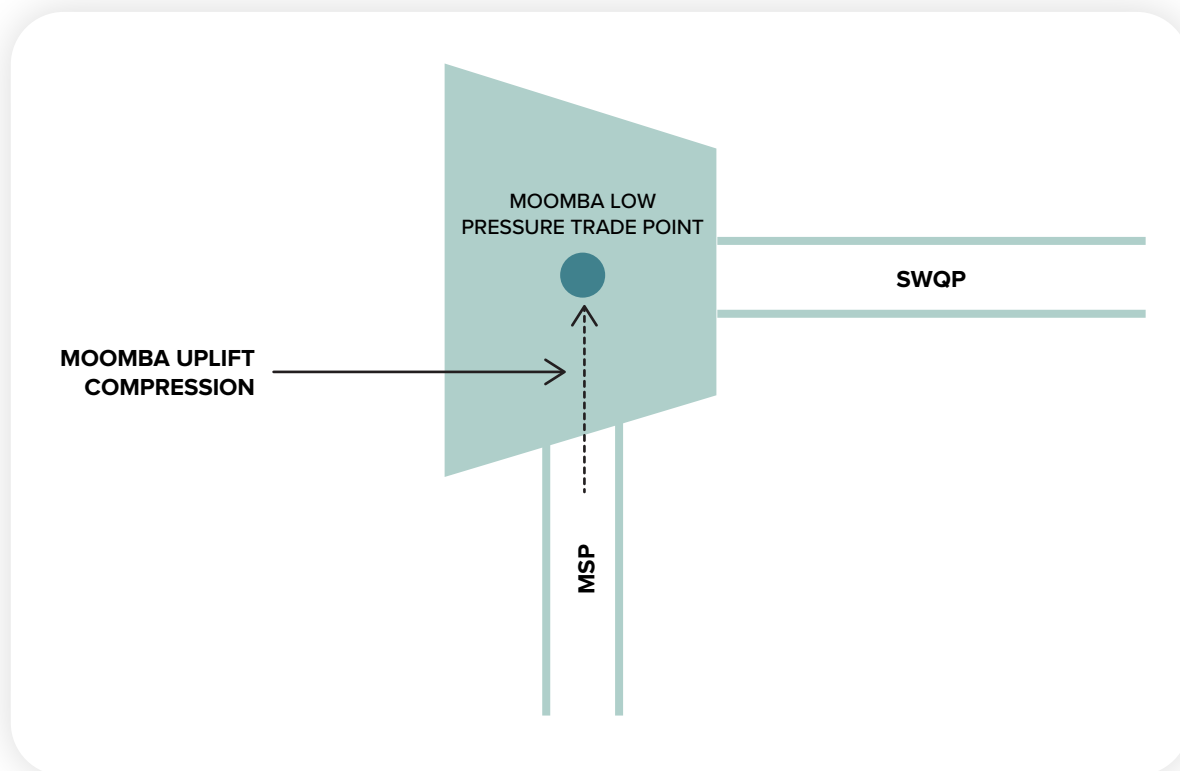
Low Pressure	
Receipt	Delivery
MGP	MAPS Exit
MLPTP	MLPTP
SWQP Entry	MSP Exit
MSP Entry (on SWQP)*	

High Pressure	
Receipt	Delivery
MHPTP	MHPTP
	SWQP Exit

*Compression is calculated on gas transported from MSP to SWQP e.g. a user transporting gas from Culcairn North to WLPTP will require the Moomba compressor to operate in an Eastern-haul mode and will incur Moomba compression on those deliveries.

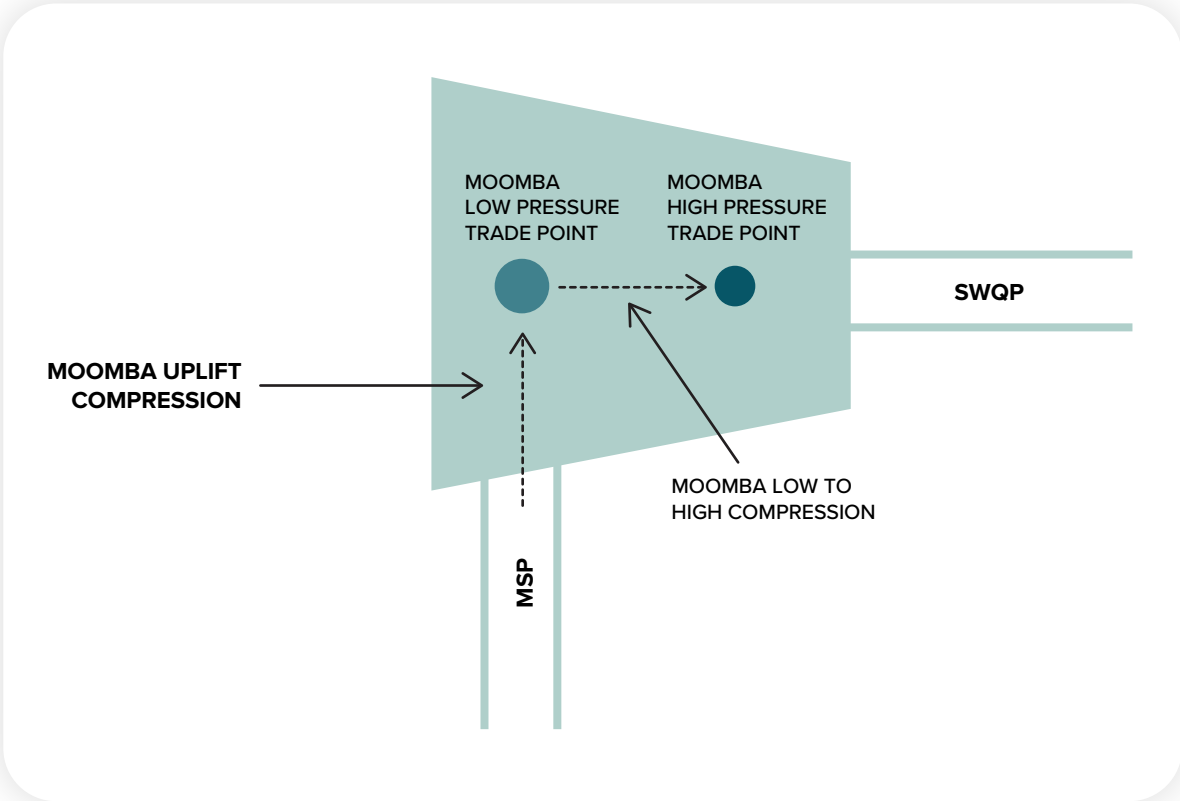
Moomba Uplift Fuel Gas

The compressors at the Moomba Hub requires uplift fuel gas when gas is transported from MSP to MGP, MAPS or SWQP. Customers are required to contribute uplift fuel gas when they transport northern haul on MSP. A customer's daily contribution towards uplift fuel gas is calculated on an equitable basis with other users that utilise the Moomba compressors in MSP uplift mode on that day. A customer's uplift fuel gas forms part of its Shipper SUG Share.



Moomba Fuel Gas

Customers contribute fuel gas when they use the compression services at the Moomba Hub to move gas from the low pressure side to the high pressure side. A customer's daily fuel gas contribution is calculated on an equitable basis with other users that utilise the Moomba compressors on that day. A customer's fuel gas forms part of its Shipper SUG Share.



For example, if a customer has access to gas supply at the MSP Wilton Notional receipt point and they wish to transport this gas to the Wallumbilla Low Pressure Trade Point (WLPTP) on the SWQP to sell or notionally store, a compression service at Moomba is required to compress this gas. Additionally, the customer will incur both Moomba uplift fuel gas and Moomba fuel gas under a multi-asset transport service which allows transport from MSP to SWQP.

Compression Service MDQ Trading

Firm compression service MDQ can be traded between APA customers using the APA Capacity Trading product or the AEMO exchange capacity trade platform.

Compression Service Pricing – Moomba

Prices for the compression service can be found here

[APA Tariffs and Terms](#)

AEMO Day-Ahead Capacity Auction – Moomba Compression

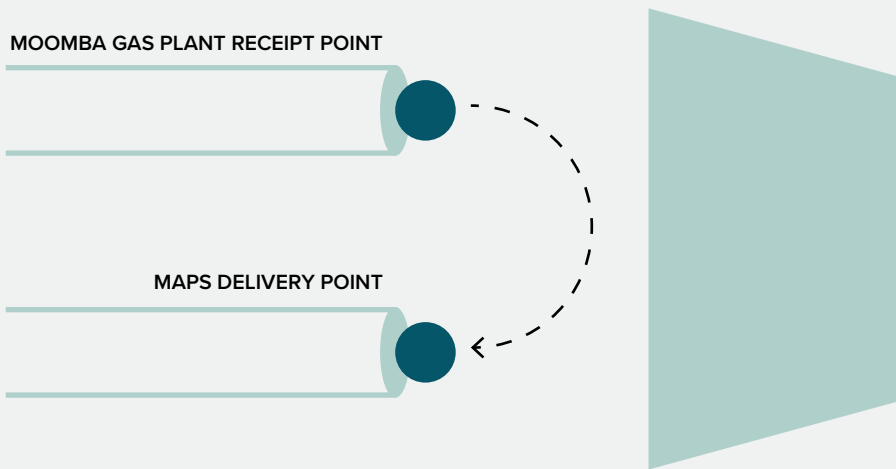
The AEMO day-ahead auction (DAA) is a daily auction of contracted but un-nominated (CBU) firm compression capacity (see this [link](#) for further information). The DAA includes Moomba Compression. Customers that have won capacity in the DAA nominate to APA to use their won auction compression capacity at Moomba and the Auction priority of service will apply.

Redirection Service

The redirection service is a short haul transportation service that enables customers to transport gas between receipt and delivery points within the Moomba Hub. Typically, a redirection service will be coupled with a compression service as the redirection service facilitates transportation of gas between the relevant Hub receipt and delivery points while the compression service enables the gas to be compressed to the appropriate pressure level to be delivered at the delivery point.



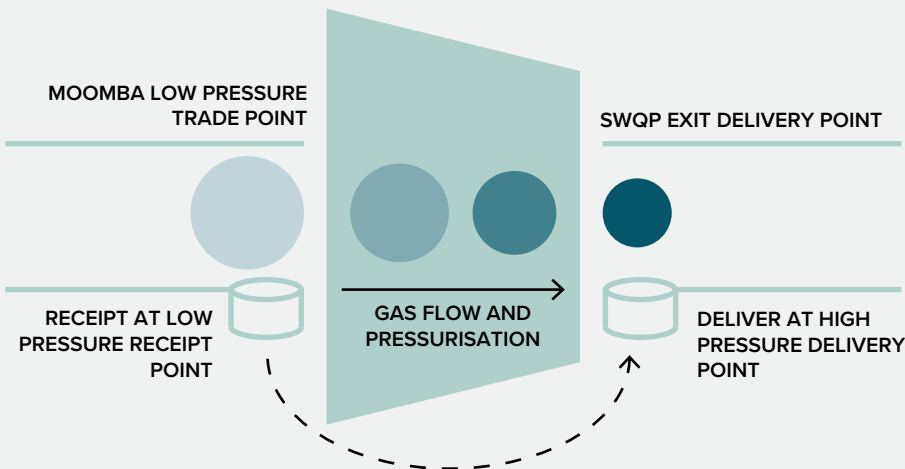
Redirection Not Requiring Compression



In some instances, a redirection service is not required for receipts and deliveries at the Moomba Hub, such as:

- When a customer is receipting gas from a Hub receipt point and using a full-haul transportation service to transport the gas (for example, receipting gas at the MGP receipt point and delivering gas to the Ballera delivery point on the SWQP);
- Gas is being receipted at the Moomba Low Pressure Trade Point and delivered exclusively to the Moomba High Pressure Trade Point.

Redirection Requiring Compression



Note: under each of these scenarios, a compression service is still required in order to appropriately pressurise the gas.

A matrix that indicates when Redirection, Pressure and In Pipe Trade services are required can be viewed here [MAS Tariff Matrix](#).

Prices for the redirection service can be found here [APA Tariffs and Terms](#).

In Pipe Trade Service

In Pipe Trading (IPT) enables APA customers to transfer gas at the Hub to other customers. The customer buying gas can nominate to receive quantities from a notional receipt point. The customer selling gas then nominates to deliver gas to the buyer's account at that notional delivery point.

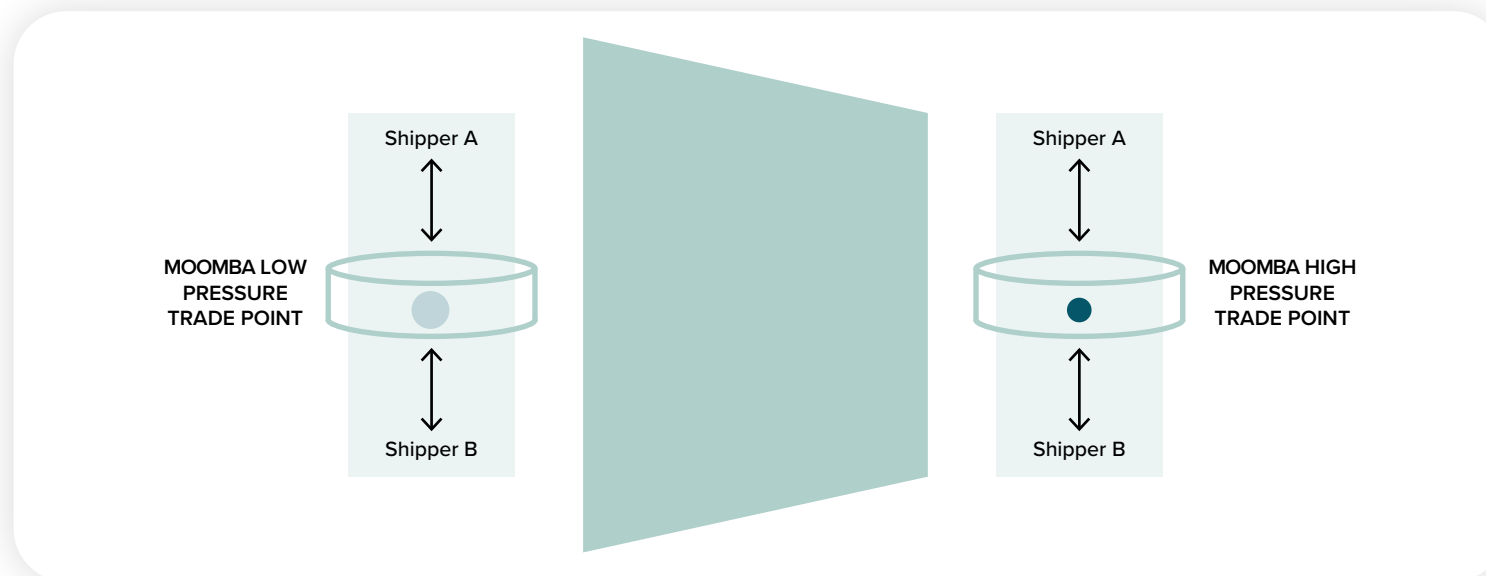
At the Moomba Hub, IPT is available at both the MLPTP and the MHPTP. Buyers of gas at either of these notional locations are then able to:

- On-sell to another customer using the IPT service
- Receipt gas to move to another notional or physical delivery point using Transport, Redirection and/or Compression services

A key benefit of IPT is that customers do not need to align supply and demand to a physical receipt or delivery point, rather they can transact with greater certainty. IPT is designed this way to create confidence in our customer's ability to trade by keeping trades whole despite physical point-level variances. However if there is a trade quantity mismatch, allocations will be based on the lower of the buyer and seller nominations and any resulting pipeline imbalance will be applied to the respective counterparty. IPT charges are only payable for sold quantities (no charge for buyers).

Prices for the In Pipe Trade service can be found here

[APA Tariffs and Terms.](#)



Example Use Case 1

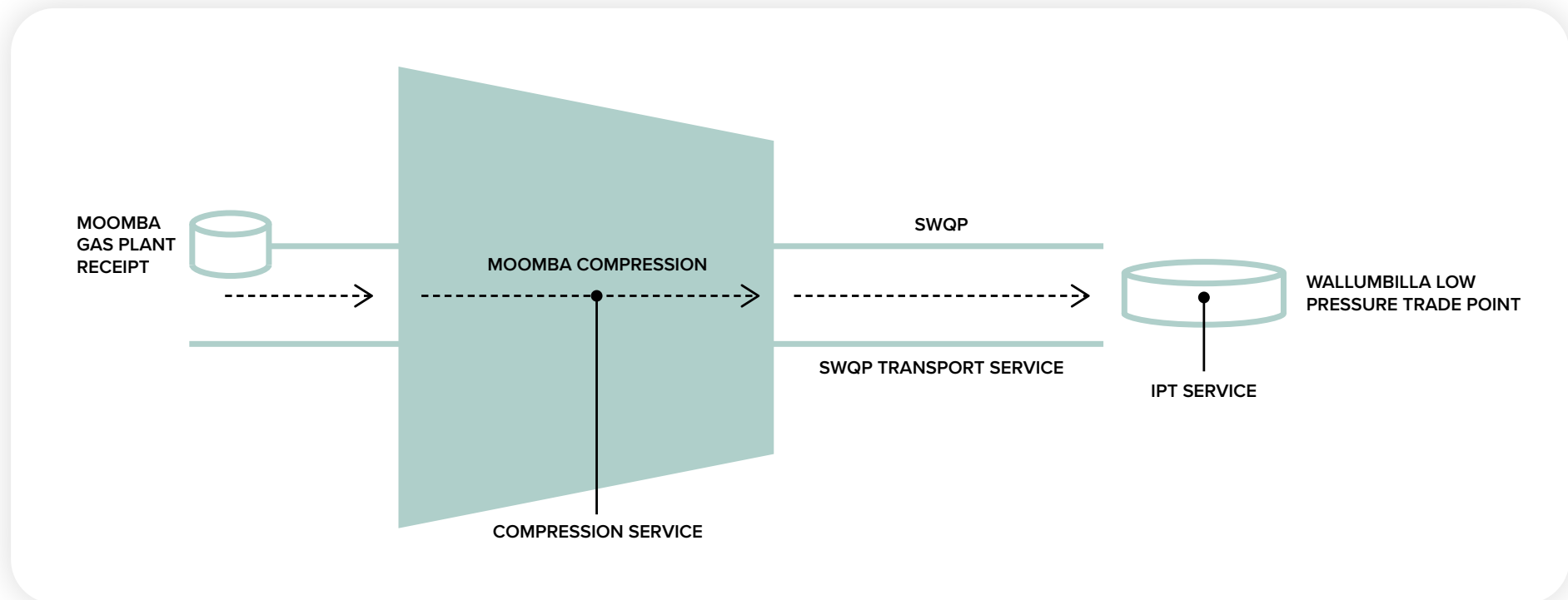
Customer Background

ACME Gas Co has an arrangement to purchase 20TJ/day of gas from a producer at MGP. They also have an agreement with a counterparty to deliver at WLPTP. ACME need the highest level of certainty that they will be able to deliver gas to meet their contractual obligations.

What services does the Customer need?

As a minimum, the customer will need the following base services:

- Compression
- SWQP transport
- In Pipe Trade



What priorities of service does the Customer need?

The customer determined the priority of service for the Compression and SWQP transport services as firm with a service maximum daily quantity of 20 TJ/d, coupled with a Supplementary MDQ facility, Interruptible services and Auction services for both Compression and SWQP transport. This will allow them to access both firm and non-firm transportation quantities for shorter periods of time, subject to available capacity.

The In Pipe Trade service does not have different service priorities and all trades are treated with equal priority.

What additional services may be beneficial for the Customer?

On days when the customer wants different transportation options, dependant on their WLPTP counterparty demands, they may want to either:

1. Redirect the gas to another delivery point at Moomba Hub (for example, the MAPS delivery point);
2. On-sell the gas to another APA customer.

To facilitate these alternative actions, the Customer will require the below additional service:

- A Redirection service

Note: the customer already has an IPT service as a base need and this enables them to undertake action no. 2. above.

What priorities of service for additional services does the Customer need?

The Redirection service is exclusively available with an Interruptible priority, fulfilling the customer's need to utilise the service intermittently, particularly when their primary gas demand is temporarily not required, and they opt to trade the gas instead.

What will the customer be charged?

The customer uses both firm and variable services and therefore their charges will vary for any given day depending on their activity.

Here is an example scenario and the charges that would be applicable.

On the day the customer:

1. Receives 20 TJ from their supplier at the MGP using the SWQP Firm transport service
2. Delivers 5 TJ to the MAPS delivery point using the Redirection service
3. Delivers 15 TJ to their counterparty at the WLPTP using the SWQP Firm transport service

Based on the above actions, the customer also used the following service:

4. 15* TJ of Compression service

*The customer bought 20 TJ, then delivered 5 TJ on the low pressure side of Moomba and delivered a total of 15 TJ on the high pressure side (15 TJ to SWQP).



The charges will be:

Activity No.	Charge Calculation
1	5 TJ x Redirection rate
2	20 TJ x Firm SWQP transport rate (customer delivered less than their SWQP MDQ, therefore the MDQ x rate is applied a capacity charge)
3	20 TJ x Firm Pressure rate (customer delivered less than their Firm Compression MDQ, therefore the MDQ x rate is applied)
4	15 TJ x IPT rate (customer sold 15TJ to counterparty)



Example Use Case 2

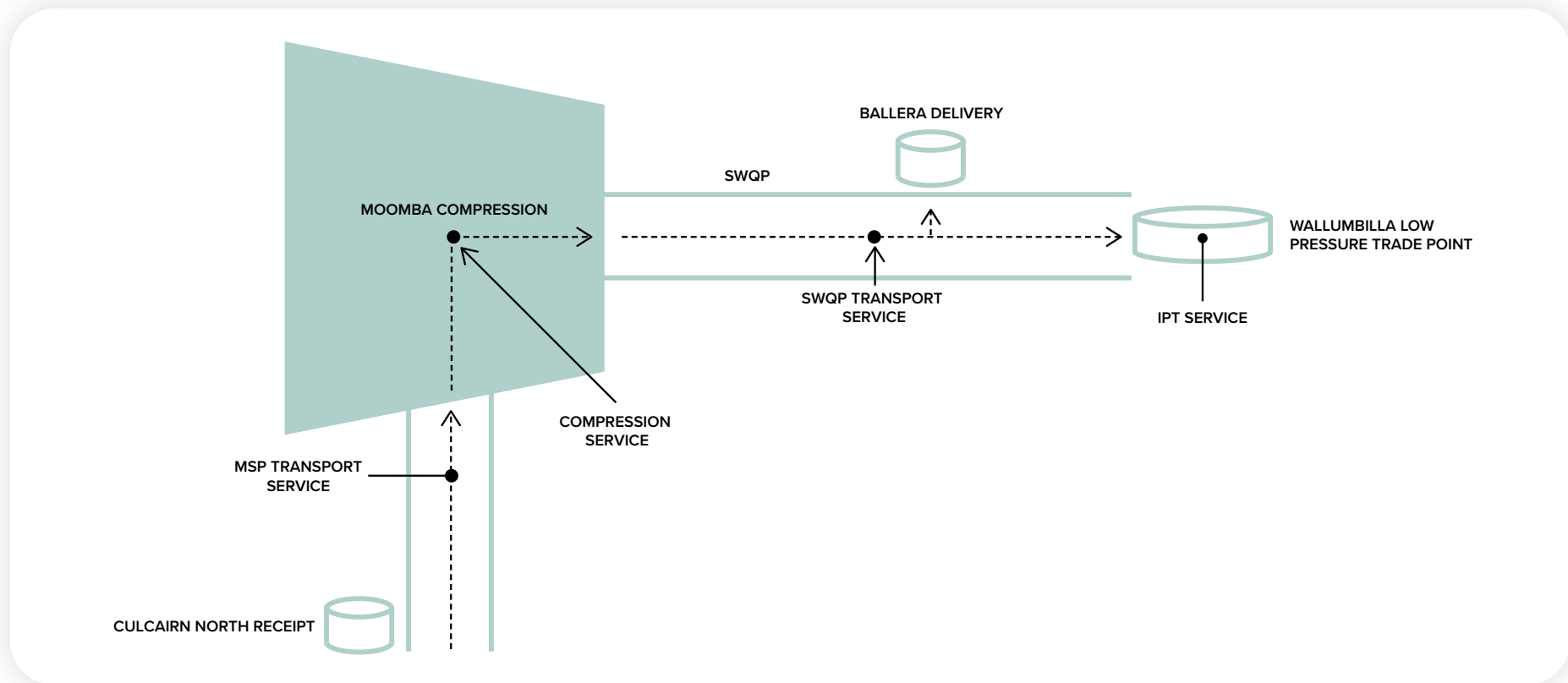
Customer Background

ABC Energy Co has contracted to receive 10TJ/day of gas at Culcairn North to deliver to a counterparty at Ballera on SWQP. ABC need the highest level of certainty that they will be able to deliver gas to meet their contractual obligations.

What services does the Customer need?

As a minimum, the customer will need the following base services:

- MSP transport
- Compression
- SWQP transport



What priorities of service does the Customer need?

The customer determined the priority of service for the MSP and SWQP transport services and Moomba Compression as firm with a service maximum daily quantity of 10 TJ/d, coupled with a Supplementary MDQ facility, Interruptible services and Auction services for both Compression and SWQP transport. This will allow them to access both firm and non-firm transportation quantities for shorter periods of time, subject to available capacity.

What additional services may be beneficial for the Customer?

On days when the customer wants different transportation options, dependant on their Ballera counterparty demands, they may want to either:

1. Redirect the gas to another delivery point on MSP (for example, the Culcairn Notional point)
2. Store some or all of the gas to another delivery point on MSP or SWQP
3. On-sell the gas to another trading participant at Culcairn Notional on MSP or WLPTP on SWQP

To facilitate these alternative actions, the Customer will require the below additional services:

- A Redirection service
- A Locational Park & Loan service*
- In Pipe Trade service

*Locational Park & Loan service is not offered at the Moomba Hub.



What priorities of service for additional services does the Customer need?

The Redirection service is exclusively available with an Interruptible priority, fulfilling the customer's need to utilise the service intermittently, particularly when their primary gas demand is temporarily not required, and they opt to trade the gas instead.

As the customer is not expecting the need to store gas on a regular basis, they are comfortable using an Interruptible Park & Loan service with an allowance of 10 TJ/d on MSP and SWQP cumulatively, allowing them to park or loan gas equal to their typical daily usage. The customer can also access firm park capacity on a seasonal basis at Culcairn Notional and WLPTP (subject to available capacity).

The In Pipe Trade service does not have different service priorities and all trades are treated with equal priority.



What will the customer be charged?

The customer uses both firm and variable services and therefore their charges will vary for any given day depending on their activity.

Here is an example scenario and the charges that would be applicable.

On the day the customer:

1. Receipts 10 TJ from Culcairn North using the MSP Firm transport service
2. Delivers 8 TJ to Ballera using the SWQP Firm transport service
3. Delivers 2 TJ to the WLPTP using the SWQP Firm transport service
4. Sells 1 TJ to a buyer at the WLPTP using the IPT service

Based on the above actions, the customer also used the following services:

5. 10* TJ of Compression service
6. 1** TJ of Locational Park & Loan service

*The customer received 10 TJ on MSP and delivered 10 TJ onto SWQP (Ballera and the WLPTP).

**The customer had net receipts of 10 TJ and net deliveries of 9 TJ on SWQP, therefore they parked 1 TJ of gas on the day.

The charges will be:

Activity No.	Charge Calculation
1	10 TJ x Firm MSP transport rate (MDQ x rate is applied a capacity charge)
2	10 TJ x Firm Pressure rate (Firm Compression MDQ x rate)
3	10 TJ x Firm SWQP transport rate (MDQ x rate is applied a capacity charge)
4	1 TJ x IPT rate (customer sold 1 TJ to counterparty)
5	1 TJ x Interruptible Park rate (customer was within their Interruptible Park allowance of 10 TJ)

Example Use Case 3

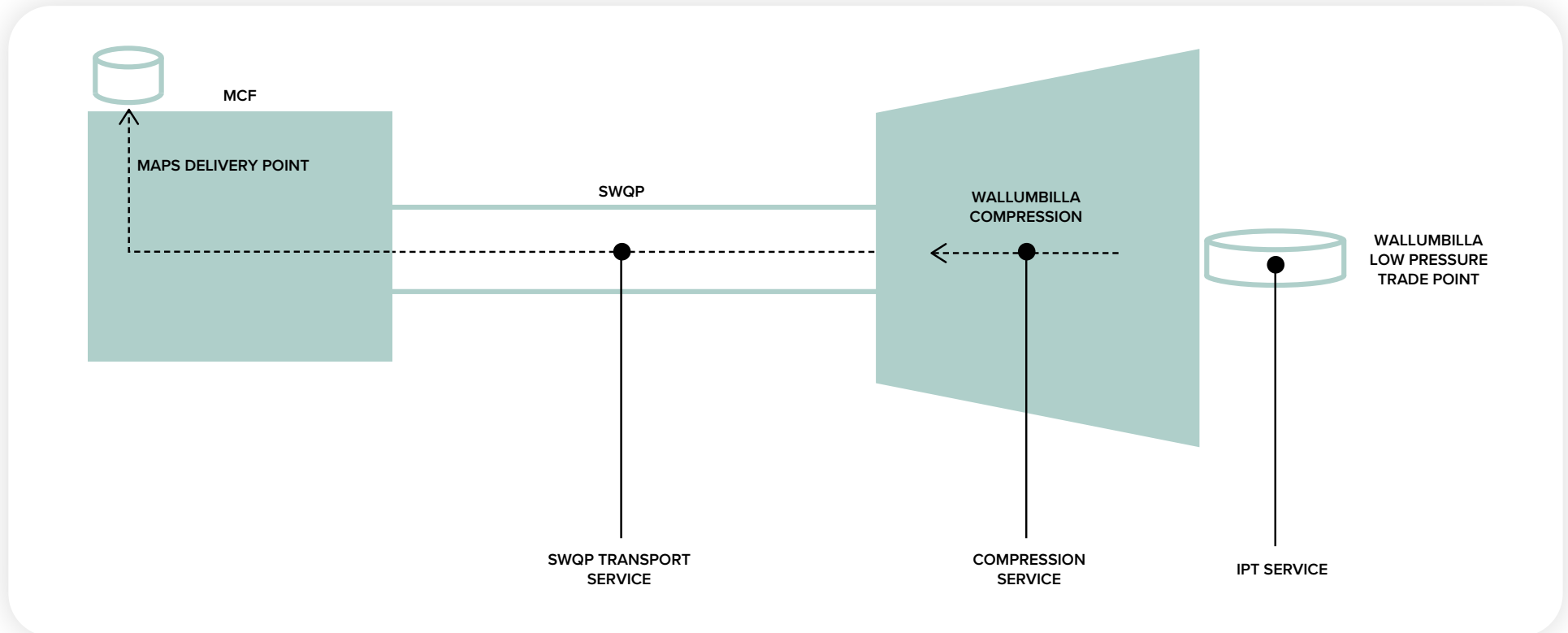
Customer Background

ION Corp has contracted to receive 5 TJ/day of gas at WLPTP to deliver to the MAPS delivery point. ION need the highest level of certainty that they will be able to deliver gas to meet their contractual obligations.

What services does the Customer need?

As a minimum, the customer will need the following base services:

- SWQP transport
- Wallumbilla Compression



What priorities of service does the Customer need?

The customer determined the priority of service for the SWQP compression and transport services as firm with a service maximum daily quantity of 5 TJ/d, coupled with a Supplementary MDQ facility, Interruptible services and Auction services for both Compression and SWQP transport. This will allow them to access both firm and non-firm transportation quantities for shorter periods of time, subject to available capacity.

What additional services may be beneficial for the Customer?

On days when the customer wants different transportation options, dependant on their portfolio demands, they may want to either:

1. Redirect the gas to another delivery point on SWQP (for example, the Roma Brisbane Pipeline (RBP) delivery point)
2. Store some or all of the gas at Wallumbilla
3. On-sell the gas to another trading participant at WLPTP

To facilitate these alternative actions, the Customer will require the below additional services:

- A Redirection service
- A Locational Park & Loan service
- In Pipe Trade service



What priorities of service for additional services does the Customer need?

The Redirection service is exclusively available with an Interruptible priority, fulfilling the customer's need to utilise the service intermittently, particularly when their primary gas demand is temporarily not required, and they opt to trade the gas instead.

As the customer is not expecting the need to store gas on a regular basis, they are comfortable using an Interruptible Park & Loan service with an allowance of 5 TJ/d allowing them to park or loan gas equal to their typical daily usage. The customer can also access firm park capacity on a seasonal basis at WLPTP (subject to available capacity).

The In Pipe Trade service does not have different service priorities and all trades are treated with equal priority.

What will the customer be charged?

The customer uses both firm and variable services and therefore their charges will vary for any given day depending on their activity.

Here is an example scenario and the charges that would be applicable.

On the day the customer:

- 1.** Buys 5 TJ from a counterparty at the WLPTP using the IPT service
- 2.** Delivers 2 TJ to the RBP delivery point using the Redirection service
- 3.** Delivers 3 TJ to the MAPS delivery point using the SWQP Firm transport service (MDQ 5TJ)

Based on the above actions, the customer also used the following service:

- 4.** 5* TJ of Compression service

*The customer received 5 TJ on the low pressure side of Wallumbilla and delivered 5 TJ on the high pressure side (2 TJ to RBP and 3 TJ to SWQP).

The charges will be:

Activity No.	Charge Calculation
1	No charge is applicable as buys at an IPT point are not chargeable
2	$2 \text{ TJ} \times \text{Redirection rate}$
3	$5 \text{ TJ} \times \text{Firm SWQP transport rate}$ (customer delivered less than their SWQP MDQ, therefore the MDQ x rate is applied a capacity charge)
4	$5 \text{ TJ} \times \text{Firm Compression rate}$ (customer used their firm Compression MDQ)



Other Useful Links

→ [Up-to-date tariffs and terms](#)

→ [Uncontracted Capacity Outlook](#)

Further Information

→ Please contact [Commercial](#) for further information



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