



# Wholesale Market Connection Approval Procedures (Victoria)

**Prepared by:** AEMO Gas Operations

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## Current version release details

Version	Effective date	Summary of changes
2.0	1 May 2024	AEMO is making amendments to these Wholesale Market Procedure to reflect AEMO's connection approval process for DTS connections.

**Note: There is a full version history at the end of this document.**

# 1. Introduction

## 1.1. Purpose and scope

These are the Wholesale Market Connection Approval Procedures (Victoria) (Procedures) made in accordance with section 91BL of the National Gas Law (NGL) and rule 272 of the National Gas Rules (NGR).

A *connection* includes any *connection equipment* including any *pipeline equipment* that, in the reasonable opinion of AEMO, is associated with a *connection point*, including valves, pressure regulators and *metering equipment*.

The connection approval process only covers the *connection agreement* made between the *Connection Applicant* and the DTS\_SP. AEMO's role is to ensure the *connection* meets the principles outlined in AEMO's connection assessment process.

After the *connection agreement* is approved there will be additional processes that are required to be undertaken with AEMO to ensure:

- (a) Market registration is completed for the intending operator and/or owner of the *connection*.
- (b) Election of the *responsible person* for the *metering installation* is completed.
- (c) The *responsible person* undertakes market registration of the *metering installation* ~~is completed~~.
- (d) Election of the *responsible gas quality monitoring provider* is completed.
- (e) The *gas quality monitoring provider* undertakes s market registration of the gas quality monitoring equipment ~~is completed~~.
- (f) A new or amended Operating Agreement for the DTS connected facility ~~may be~~ is entered into, if required.

These processes are not covered in this Procedure but, as a consequence of the *connection agreement*, will be required.

[The DTS SP has design requirements for the Connection Applicant as per rule 270\(2\)\(a\). The design requirements of the DTS SP are not defined in this Procedure and will be communicated by the DTS SP during the connection application process.](#)

The NGL and the NGR prevail over these Procedures to the extent of any inconsistency.

These Procedures may only be amended in accordance with Part 15B of the NGR.

## 1.2. Application

These Procedures apply to AEMO and each person to whom they are expressed to apply.

## 1.3. Legal and Regulatory Framework

These Procedures have been made under section 91BL of the National Gas Law.

The connection approval procedures must, as required by Rule 272(7) of the NGR, contain the:

- (a) principles;
  - (b) procedures;
    - (i) Therefore AEMO has summarised the high level connection process in these [Procedures](#).
  - (c) system operation requirements;
  - (d) gas safety requirements;
  - (e) system security requirements; and
  - (f) DTS reliability requirements
- used by AEMO for approving or rejecting a proposed connection.

## 1.4. Definitions and interpretation

### 1.4.1. Glossary

Terms defined in the NGL and the NGR have the same meanings in these Procedures unless otherwise specified in this clause.

Terms defined in the NGL and NGR are intended to be identified in these Procedures by italicising them, but failure to italicise a defined term does not affect its meaning.

The words, phrases and abbreviations in the table below have the meanings set out opposite them when used in these Procedures.

**Table 1 Defined Terms**

Term	Definition
ALARP	As Low as Reasonably Practicable
Common model	A modelled representation of the <i>declared transmission system</i> agreed between AEMO and the <i>DTS SP</i> under the <i>service envelope agreement</i> as may be updated from time to time to reflect changes to the <i>DTS</i> .
CTM	Custody Transfer Meters (CTMs) as defined in the Wholesale Market Metering Procedures.
DDS	<i>declared distribution system</i> as defined in Part 19 of the Rules. [Note only declared distribution systems that are directly connected to the DTS are covered by Part 19]
Distribution Deed	Type of operating agreement, between Distributor and AEMO.
DTS	<i>Declared Transmission System</i>
<a href="#">DTS SP</a>	<a href="#">Declared Transmission System Service Provider</a>
MAOP	Maximum Allowable Operating Pressure (Pipeline).
MHQ	Maximum Hourly Quantity.
MinOP	Minimum Operating Pressure (Pipeline).
Monitoring point	monitoring points as defined in the Wholesale Market Gas Quality Monitoring Procedures.
Operating agreement	As defined in the <a href="#">clause section 91BG</a> of the NGL.
NGL or Law	National Gas Law.
NGR or Rules	National Gas Rules.
Schedule	An <i>operating schedule</i>
System security	The Wholesale Market System Security Procedures (Victoria) describe how AEMO manages system security in the DTS.

Term	Definition
Shoulder	As defined in the Wholesale Market System Security Procedures.
Summer	As defined in the Wholesale Market System Security Procedures.
VGPR	Victorian Gas Planning Report
Winter	As defined in the Wholesale Market System Security Procedures.

### 1.4.2. Interpretation

The following principles of interpretation apply to these Procedures unless otherwise expressly indicated:

- (a) These Procedures are subject to the principles of interpretation set out in Schedule 2 of the National Gas Law.
- (b) References to time are references to Australian Eastern Standard Time.

## 1.5. Related documents

The following documents support this Procedure.

**Table 2 Related Wholesale Market Procedures**

Reference	Title	Location
Gas Quality Procedures	Wholesale Market Gas Quality Monitoring Procedures (Victoria)	<a href="https://www.aemo.com.au/energy-systems/gas/declared-wholesale-gas-market-dwqm/procedures-policies-and-guides">https://www.aemo.com.au/energy-systems/gas/declared-wholesale-gas-market-dwqm/procedures-policies-and-guides</a>
Maintenance Planning Procedure	Wholesale Market Maintenance Planning Procedures (Victoria)	
Metering Procedures	Wholesale Market Metering Procedures (Victoria)	
System Security Procedures	Wholesale Market System Security Procedures (Victoria)	

## 2. Connection Approval Procedures

The *connection approval procedures* cover the processes required to be completed for the approval of new or modified DTS *connections*.

### 2.1. Types of Connections

These Procedures covers the processes to obtain connection approval from AEMO for a new *connection*, or modify an existing *connection*, to the DTS.

The connection types that would follow this process are summarised in Table 1.

**Table 3** Connection Types

Connection Type	Description	Example
Connection Type 1	New connection point	<ul style="list-style-type: none"><li>• New connection to a production facility</li><li>• New connection to gas-fired power generation</li><li>• New connection to distribution network</li></ul>
Connection Type 2	New connection point at, or adjacent to, an existing DTS connection point	<ul style="list-style-type: none"><li>• Addition of an additional connection point (e.g. Mortlake) at, or adjacent to, an existing connection point (e.g. SEA Gas)</li></ul>
Connection Type 3	Material changes to connection equipment at a DTS connection point	<ul style="list-style-type: none"><li>• Upgrading of meter</li><li>• Upgrading flow measurement equipment or gas quality monitoring equipment</li><li>• Changes in operating gas pressure, flow rate, flow direction or blend percentage</li></ul>

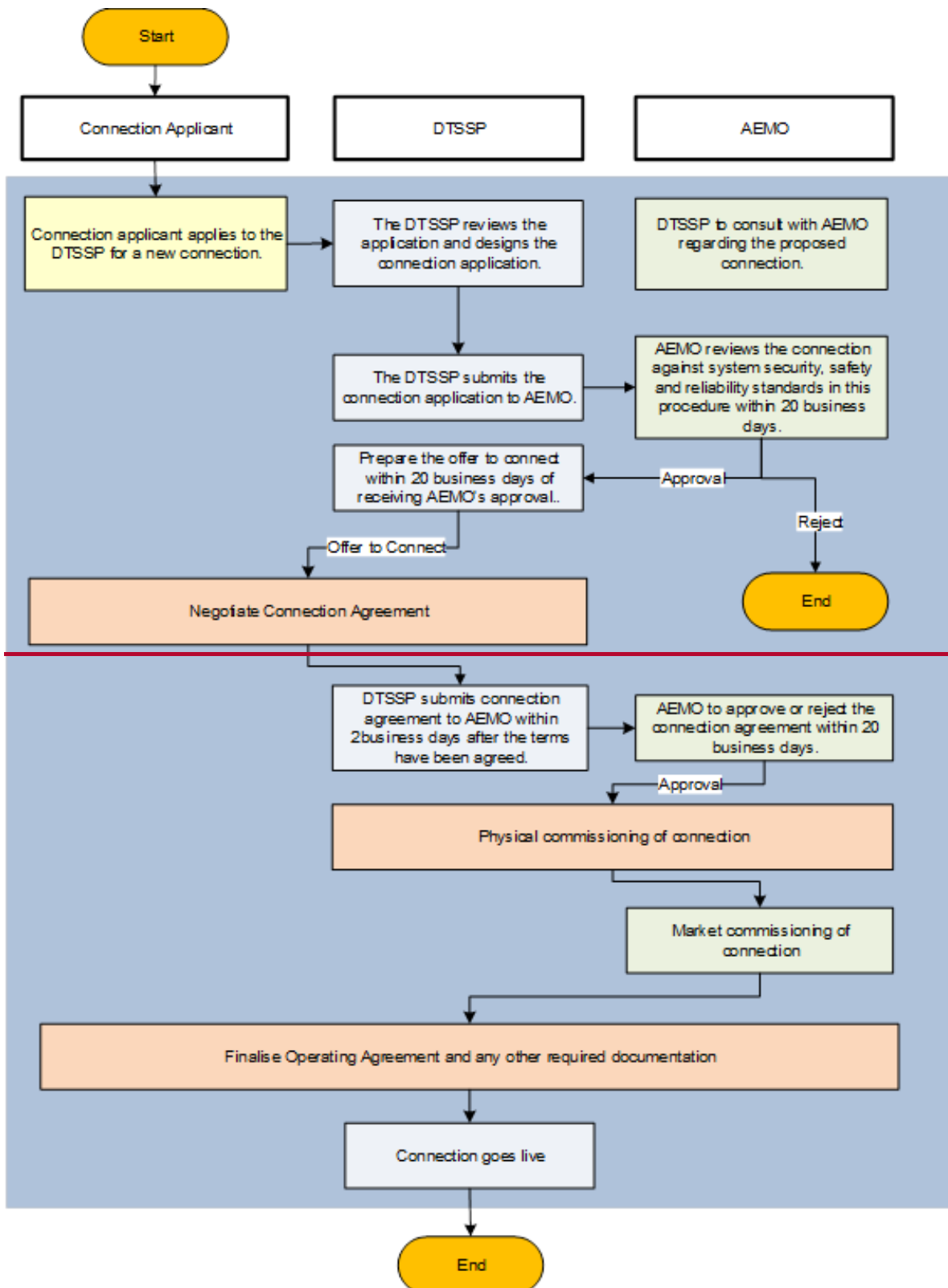
Sections 1.1 and 2.2 of these Procedures outlines the steps in the end-to-end connections process and Section 3 describes the principles and methodology AEMO uses to approve or reject a proposed *connection* or modification of a *connection*.

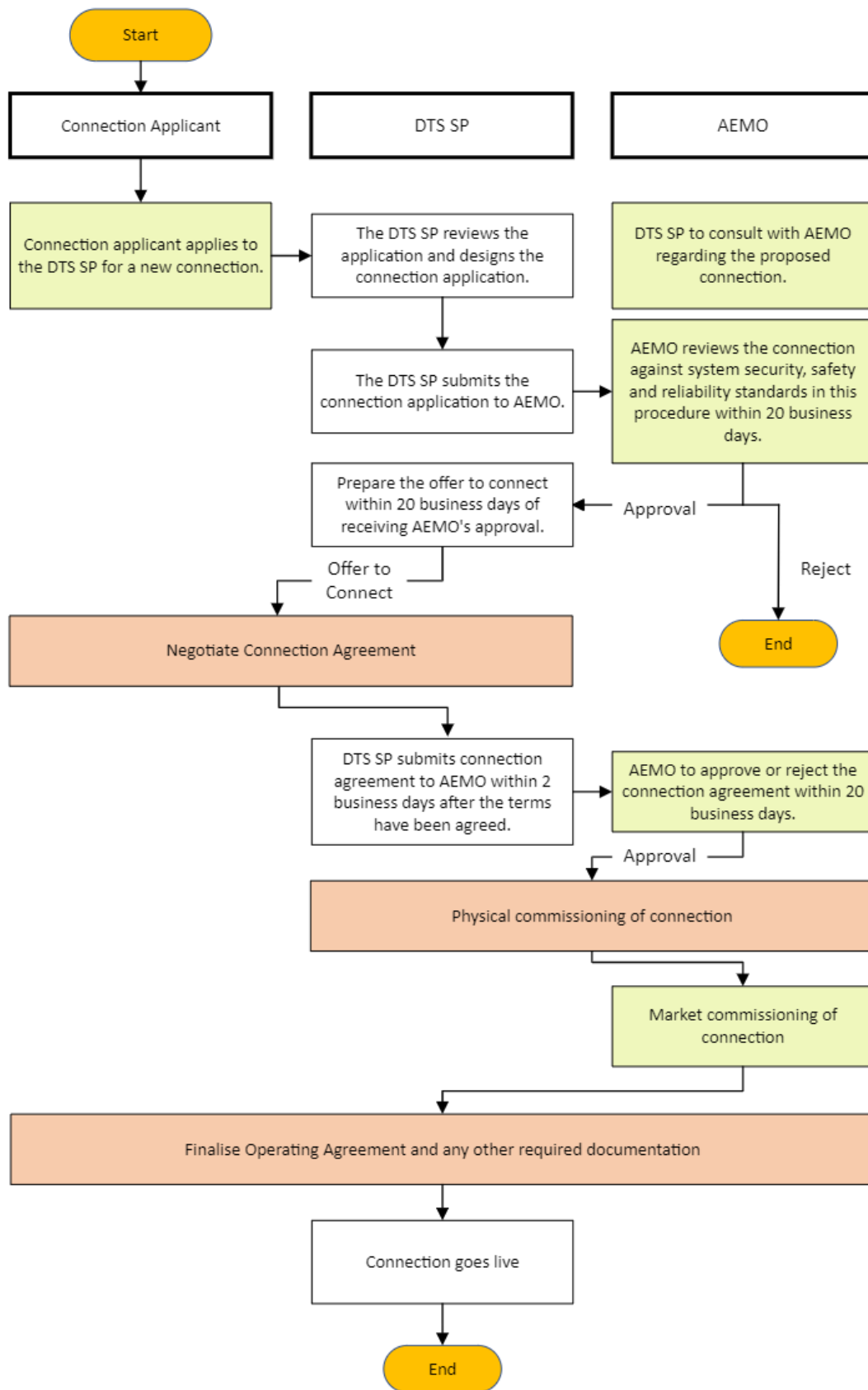
### 2.2. Overview of DTS Connection Application Tasks

A flowchart describing the connection approval process for Connection Types 1, 2 and 3 is shown in Figure 1. The flowchart is provided for illustrative purposes only and does not affect or take priority over the provisions in the Rules or the National Gas Law.

Figure 1 DTS Connection Approval Process Schematic







## 2.3. DTS Connection Application Tasks

The DTS connection application process includes:

- (a) Application enquiry for a DTS *connection* sent to the DTS\_SP;
- (b) DTS *Connection Applicant* applies for a new or modified *connection* to DTS\_SP;
- (c) DTS *Connection Application* submitted to AEMO for approval;
- (d) *Connection agreement* agreed by *Connection Applicant* and DTS\_SP is sent to AEMO for approval.

Following this process the *connection* is constructed and commissioned. These processes are not considered by these Procedures which only consider intending new or modified *connections*.

## 2.4. DTS Connection Application Tasks

The application enquiry is a prerequisite to the Connection Application being lodged as required by the Rules.

**Table 4 Application Enquiry for a DTS connection**

Responsible Entity	Description of Task
Connection Applicant	<ul style="list-style-type: none"> <li>Approach DTS_SP with connection inquiry</li> </ul>
Connection Applicant	<ul style="list-style-type: none"> <li>May approach AEMO for further information around the end-to-end connection process</li> </ul>
DTS_SP	<ul style="list-style-type: none"> <li>Explore feasibility of proposed connection</li> </ul>
DTS_SP	<ul style="list-style-type: none"> <li>Notify AEMO of a potential new connection</li> <li>Consult AEMO regarding the system operation and security requirements of proposed connections</li> </ul>
AEMO	<ul style="list-style-type: none"> <li>AEMO assesses the connection application against the requirements of section 3.</li> </ul>

**Table 5 DTS Connection Applicant applies for a new or modified Connection to DTS\_SP**

Responsible Entity	Description of Task
Connection Applicant	<ul style="list-style-type: none"> <li>Make an application to connect to the DTS_SP</li> </ul>
DTS_SP	<ul style="list-style-type: none"> <li>Complete the engineering design for the connection*</li> </ul>
DTS_SP	<ul style="list-style-type: none"> <li>Notify <i>Connection Applicant</i> in writing if becomes aware of any information contained in or relevant to an application to connect that is materially impacted</li> </ul>

**Table 6 DTS Connection Application submitted to AEMO**

Responsible Entity	Description of Task
Connection Applicant and DTS_SP	<ul style="list-style-type: none"> <li>Compile information specified in section 4 for the AEMO connection application</li> <li>DTS_SP submit connection application to AEMO</li> </ul>
AEMO	<ul style="list-style-type: none"> <li>AEMO assesses the proposed <i>connection</i> or modification of <i>connection</i> against the requirements of section 2.6.</li> <li>If required, request additional information from the DTS_SP to assess the proposed <i>connection</i> or modification of <i>connection</i>, as per rule 272(5)</li> <li>AEMO to consult on gas quality standard with <i>Registered participants</i>, if inconsistent with the <i>gas quality specifications</i>; <del>requested</del> for a <i>system injection point</i> under rule 287(1).</li> </ul>
DTS_SP and Connection Applicant	<ul style="list-style-type: none"> <li>Provide additional requested information used to assess the connection to AEMO</li> </ul>
AEMO	<ul style="list-style-type: none"> <li>Approve or reject the proposed <i>connection</i> or modification of <i>connection</i> within 20 business days, from the date all requested information has been provided.</li> </ul>

Responsible Entity	Description of Task
	<ul style="list-style-type: none"> <li>Notify DTS_SP in writing of connection approval or rejection</li> <li>If the connection is rejected, AEMO is to outline the reasons for rejection and recommend potential solutions</li> </ul>

**Table 7 Connection Agreement with DTS\_SP**

Responsible Entity	Description of Task
DTS_SP	<ul style="list-style-type: none"> <li>Make an offer for connection to the DTS to the <i>Connection Applicant</i> within 20 business days after the proposed connection has been approved by AEMO, or such longer period that the DTS_SP and <i>Connection Applicant</i> agree.</li> <li>Offer to connect must contain the terms and conditions, as specified by the DTS_SP for connection to the DTS</li> </ul>
DTS_SP and <i>Connection Applicant</i>	<ul style="list-style-type: none"> <li>Negotiate the <i>connection agreement</i></li> </ul>
<i>Connection Applicant</i>	<ul style="list-style-type: none"> <li>Enter into a <i>connection agreement</i> with the DTS_SP</li> </ul>
DTS_SP	<ul style="list-style-type: none"> <li>Provide final <i>connection agreement</i> to AEMO for approval within 2 business days after the <i>connection agreement</i> has been finalised</li> <li>Outline any material changes from the connection approval stage that may impact system security, operation or safety</li> </ul>
AEMO	<ul style="list-style-type: none"> <li>Identify any material changes to the <i>connection</i> since the connection approval stage</li> <li>AEMO reassesses the- proposed <i>connection</i> or modification of <i>connection</i> against the requirements of section 3.</li> </ul>
AEMO	<ul style="list-style-type: none"> <li>Request additional information from the DTS_SP as required under NGR 275(5)</li> </ul>
DTS_SP and <i>Connection Applicant</i>	<ul style="list-style-type: none"> <li>Provide additional information to AEMO, as requested above</li> </ul>
AEMO	<ul style="list-style-type: none"> <li>Approve or reject the <i>connection agreement</i> within 10 business days from the date AEMO has received the proposed <i>connection agreement</i>.</li> <li>If the <i>connection agreement</i> is rejected, AEMO is to provide formal written notice to the DTS_SP and <del>if rejected</del> provide reasoning for rejection. This may occur if additional information is required for AEMO to assess the proposed <i>connection</i> or modification of <i>connection</i>.</li> </ul>

### 3. Connection Approval Process

The proposal for a *connection* or modification of a *connection* considered for approval by AEMO have to be compliant with the Rules and Wholesale Market Procedures including the Wholesale Market Metering Procedures and Wholesale Market Gas Quality Procedures.

#### 3.1. Connection Approval Principles

AEMO applies the following principles when considering a proposal for a *connection* or modification of a *connection*.

**Table 8 Summary of the principles AEMO uses to assess new or modified connections:**

Principle	Description
System Operation and System Security	<ul style="list-style-type: none"><li>The <i>connection</i> must not have an adverse impact on the operation or system security of the DTS, as defined in the <i>system security procedures</i> normal operating state.</li></ul>
Safety	<ul style="list-style-type: none"><li>The <i>connection</i> must not cause a threat to public safety and all identified risks must be reduced to ALARP.</li></ul>
Reliability	<ul style="list-style-type: none"><li>The proposed new or modified <i>connection</i> communication, gas quality and metering equipment needs to meet the specifications and reliability requirements specified in the Rules and the Wholesale Market Metering Procedures.</li></ul>

Further details of the principles and AEMO’s methodology used to assess a new or modified *connection* using these principles are outlined in the following sections.

#### 3.2. System Security and Operation

The *connection* must not have an adverse impact on the operation or system security of the DTS (as defined in the *system security procedures*) over a five-year outlook period, that aligns to the Victorian Gas Planning Report.

Specifically, the impact of a new or modified *connection* would require AEMO to consider:

- (a) The *connection* must not result in a threat of supply to *Customers*, which is comprised of the residential, small industrial and commercial gas users and essential services such as hospitals and homes for the aged and infirm.
- (b) System pressures and flows must be within and forecast to remain within the operating limits specified in the Wholesale Market Critical Location Pressures.
- (c) The *connection* must allow the gas within the DTS to [be](#) maintained within the *gas quality specifications* in accordance with the Wholesale Market Gas Quality Monitoring Procedures.
- (d) The *connection* must not have a material adverse effect on the operation of the DTS, and thus the *connection* must allow the DTS to be operated in accordance with the *Service Envelope Agreement (SEA)* and existing Operating Agreements.
- (e) AEMO is to confirm that the operating parameters required for the *connection* (operating temperature, MAOP, MinOP, maximum flow rate) are not able to be exceeded under normal circumstances.

### 3.3. Connection Load

The impact of the proposed *connection* on system security is assessed based both on the peak day forecast load and the maximum capacity of the connection site. The capacity of the connection site should be advised by the DTS\_SP, and should take into consideration the meter capacity, the upstream or downstream constraints and constraints arising from other equipment at the connection site (measurement equipment, valves etc), where the meter capacities are defined in the next table.

**Table 9 Summary of Meter Types**

Meter Type	Description
Coriolis	<ul style="list-style-type: none"><li>• Maximum meter capacity at MinOP.</li><li>• Meter capacity curve (relationship between meter capacity and inlet pressure designed at acceptable pressure drop of 100 kPa).</li></ul>
Turbine	<ul style="list-style-type: none"><li>• Maximum meter capacity at MinOP specified as the maximum design speed of turbine rotation.</li></ul>
Ultrasonic	<ul style="list-style-type: none"><li>• Maximum meter capacity corresponding to the maximum velocity the electronics are able to measure.</li></ul>

All gas-fired [power](#) generation units and direct connect large withdrawal units should outline their ability to respond and reduce their gas load in an emergency situation. This should outline how the facility is able to reduce their gas demand, the ramp rate and minimum demand requirements.

### 3.4. Modelling

AEMO will require the information specified in section 4 of [these Procedures](#) to inform its modelling of the *connection*. If this information is not provided then AEMO may reject the proposed *connection* or modification of a *connection*.

AEMO will assess a proposed *connection* or modification of a *connection* using modelling completed using the *common model* to assess the *connection's* impact on DTS system security and ensure the principles in section 3.1 are upheld.

AEMO's assessment of the connection and its impact are completed using a 1-in-20 gas day demand, as forecast for the Victorian Gas Planning Report. AEMO's assessment of the impact of the *connection* is for the 5 year horizon of the Victorian Gas Planning Report.

If modelling determines that system operations will be negatively impacted or system security cannot be maintained (i.e. there is insufficient DTS capacity to maintain supply to CTMs or there is a forecast breach of the MAOP or the MinOP) the *connection* may be rejected.

### 3.5. Gas Quality

*Off-specification gas* presents a risk to public safety. To maintain the DTS in a normal operating state gas quality needs to be maintained as per the Wholesale Market Gas Quality Monitoring Procedures. AEMO may reject a proposed *connection* or modification of a *connection* if the *Connection Applicant* is not able to demonstrate the *connection* will be compliant with the Wholesale Market Gas Quality Monitoring Procedures.

Requirements for the *gas quality monitoring system* are outlined in Wholesale Market Gas Quality Monitoring Procedures. *Gas quality monitoring systems*, and corresponding *gas quality*

*monitoring plans* are to be provided by the *responsible gas quality monitoring provider* at each *system injection point* and *DTS monitoring points* as considered necessary by AEMO.

AEMO may be requested to approve or agree, under rule 287(1) for DTS connections or rule 287A(2) for DDS connections, to allow for the injection of gas at a registered *metering installation* at a *system injection point* that does not comply with the *standard gas quality specifications*.

AEMO will assess this proposal against the requirements of the Wholesale Market Gas Quality Procedures. AEMO may consult the DTS\_SP before providing approval under rule 287(1) for DTS connections or agreement under rule 287A(2) for DDS connections.

## 3.6. Safety

The *connection* must not cause a threat to public safety. Specifically, AEMO assesses:

- (a) Hazards and risks associated with operation of the *connection* must be minimised as low as reasonably practicable (ALARP).
- (b) The *connection* must be compliant with AEMO's Gas Safety Case.
- (c) The risk of a *connection* resulting in an unplanned loss of supply (or interruption to supply) to a Customer must be ALARP. ~~The connection must not result in an unplanned loss of supply (or interruption) to a customer in any circumstance.~~
- (d) The *connection* must not cause a gas related threat to public safety while in operation.

AEMO may reject a proposed *connection* or modification of a *connection* if it determines it is not compliant with the Gas Safety Act and/or the *connection* presents an unacceptable **safety**-risk to public safety, property or to the interruption of supply.

Methods used by AEMO to review and manage the safety of the proposed *connection* or modification of a *connection* are outlined below. The requirements to ensure safe operation of the *connection point* may also be addressed in an operating agreement and the *gas quality monitoring plan* to address risks to gas quality.

### 3.6.1. Hazard and operability study (HAZOP)

Risks and hazards associated with facility operation are to be identified through a hazard and operability study (HAZOP). AEMO will identify risks in accordance with its Gas Safety Case. Risks that AEMO may consider, include:

- (a) Reduced pipeline capacity;
- (b) Supply demand imbalance;
- (c) Localised supply issue;
- (d) An over-pressure or under-pressure event;
- (e) Negative impact to downstream pipelines or distribution networks;
- (f) Negative impact on AEMO's ability to comply with regulations and/or rule requirements;
- (g) Negative impact to AEMO's stakeholder relationships;

- (h) Negative impact on AEMO's ability to run the DWGM;
- (i) Material impact on the market price;
- (j) Safety of the public; and
- (k) *Off-specification gas quality event.*

A HAZOP is to be performed with the *Connection Applicant*, the DTS\_SP and AEMO, ~~as AEMO deems necessary~~. [A HAZOP can be requested by the DTS SP or AEMO](#). The hazards and risks associated with facility operation are identified and reviewed according to the methodology described in AS 2885.6.

If risks are identified, a joint risk assessment with all stakeholders is to be performed where the consequence of the risk may impact these stakeholders. Any hazards or risks that are identified must be reduced to as low as reasonably practicable (ALARP).

### 3.6.2. Isolation Requirements

AEMO requires that every *connection point* has an isolation system in place that complies with AS 2885.1. As per AS 2885.1, all metered connection sites require isolation valves. For large withdrawal connections AEMO will make an assessment to determine if the isolation valve is to be remotely operable by AEMO based on the potential to impact system security.

For all injection points (interconnected facilities, storage facilities and production facilities), AEMO requires remote control of the isolation valve. This is to prevent an over-pressure event causing damage to the DTS and to enable AEMO to direct the flow of gas in the event of an *off-specification gas quality event* or to curtail withdrawals to maintain system security.

### 3.6.3. Methodology

All *Connection Applicants* are required to provide an isolation plan (as per AS 2885.1:2018) and corresponding process and instrumentation diagram depicting the isolation system. AEMO will assess the isolation plan in accordance with the standards to deem if appropriate. AEMO may reject the proposed *connection* or modification of a *connection* if isolation is insufficient.

### 3.6.4. Bypass

As per AS 2885.1, all connection sites require a station by-pass to facilitate facility maintenance, meter calibrations and allow the meter to be by-passed in an emergency. The bypass should be depicted on the process and instrumentation diagrams provided by the DTS\_SP. AEMO may reject the proposed *connection* or modification of a *connection* if the *connection* has no bypass, or the bypass is deemed inadequate.

## 3.7. AEMO's Connection Approval

AEMO will consider the proposed *connection* or modification of a *connection* against the principles and processes defined in [chapter section 3 of these Procedures](#).

AEMO may, in writing:

- (a) Approve the proposed *connection* or modification of a *connection* if it meets the connection approval process requirements.



(b) Reject the proposed *connection* or modification of a *connection*, explaining which element of this connection approval process was not sufficiently addressed by the proposed *connection* or modification of a *connection*.

## 4. AEMO’s Connection Approval Information Requirements

The table below lists all of the information that needs to be provided to AEMO for a proposed *connection* or modification of a *connection* by the *Connection Applicant* and the *DTS\_SP*.

If information is not available at the time of application, AEMO may reject the proposed *connection* or modification of a *connection*.

**Table 10 Applicant Details**

Applicant Details	Applicability
Date	All
Applicant	All
ABN	All
Contact Name	All
Business Address	All
Phone	All
Email	All

**Table 11 Connection Details**

Connection Details	Applicability
Description of proposed works	All
Connection Location Address <ul style="list-style-type: none"> <li>Reference valve</li> <li>Elevation (if new pipeline is specified)</li> </ul>	All
Connection type	All (see Table 3)
Specify the connection point type: <ul style="list-style-type: none"> <li>transfer point; or</li> <li>delivery point; or</li> <li>receipt point.</li> </ul>	All (See Part 19 Rule definitions)
Closest existing <i>connection point</i>	All
Type of gas <ul style="list-style-type: none"> <li>Natural Gas, biomethane, Hydrogen, Blend Processing or Other</li> </ul>	All <i>market injection points</i>
Average heating value anticipated	All <i>market injection points</i>
Average Gas Composition	All <i>market injection points</i>
Proposed connection date Practical completion date	All
Proposed date for first gas flow for commissioning purposes	All
Applicable DTS Pipeline Number	All DTS <i>connection points</i>
P&ID for connection (Should depict connection equipment, valves and measurement locations for pressure and temperature and lengths of upstream and downstream piping and positions of all connection equipment)	All DTS <i>connection points</i>
Key Plan	All DTS <i>connection points</i>

**Table 12 Operating Parameters**

Operating Parameters	Applicability
Maximum operating pressure (MAOP)	All
Minimum operating pressure (MinOP)	All
Maximum anticipated delivery pressure	All
Maximum Operating Temperature	All
Minimum Operating Temperature	All
Maximum allowable velocity	As applicable (where a limiting factor)
Max Ramp Rate (GJ/hour)	As applicable
Max Ramp Down Rate (GJ/hour)	As applicable
Max blend rate	<i>Blend Processing Facility</i>
Expected average blend rate	<i>Blend Processing Facility</i>
Annual production profile	<i>All receipt points</i>
Total Storage capacity	<i>Storage Facility</i>
Storage cushion gas	<i>Storage Facility</i>

**Table 13 Forecast Load**

Forecast Load Parameters	Applicability
Maximum Daily Quantity for min. 5 year outlook period	<i>All transmission delivery points</i>
Maximum Hourly Quantity for min. 5 year outlook period	<i>All transmission delivery points</i>
Anticipated number of connections	<i>All transmission delivery points</i>
Peak hourly flow	<i>All transmission delivery points</i>
Indicative hourly profile	<i>All transmission delivery points</i>
Maximum required instantaneous offtake rate	<i>All transmission delivery points</i>
Maximum allowable velocity	<i>All transmission delivery points</i>
Minimum Flow Rate	<i>All transmission delivery points</i>

**Table 14 Connection Specification**

Connection Specification	Applicability
Description of all skid mounted equipment <ul style="list-style-type: none"> <li>• Filter</li> <li>• Heating</li> <li>• Regulators</li> <li>• Meter</li> <li>• Isolation Valves</li> <li>• Knock-out liquid drum</li> </ul>	All
Meter Type	All
Meter Size <ul style="list-style-type: none"> <li>• Provide with Manufacturers Data Sheet as evidence</li> </ul>	All
Meter Uncertainty	All
Meter Accuracy <ul style="list-style-type: none"> <li>• Provide with calibration certificate as evidence</li> </ul>	All
Maximum Meter Capacity (as defined in Section 3.1)	All
Meter Capacity Curve	All Coriolis meters
Operating philosophy of the metering system <ul style="list-style-type: none"> <li>• min and max pressures</li> <li>• minimum and maximum flow rates</li> </ul>	All - If multiple measurement streams

Connection Specification	Applicability
Methods of calibration for meter, pressure transmitter and temperature transmitter	All
Maximum Connection Capacity (specify the limiting factor)	All
Maximum facility capacity (e.g. gas generator unit capacity)	<i>transmission delivery points</i> as applicable
RTU Type	All
Type of temperature transmitter <ul style="list-style-type: none"> <li>• Manufacturer</li> <li>• Type</li> <li>• Specification</li> </ul>	All
Temperature transmitter location	All
Type of pressure transmitter	All
Specification of differential pressure measurement	As applicable
Connection point elevation	All
Isolation valve specification	All
Isolation Plan	All
Maximum by-pass Capacity	All - If the connection equipment has a by-pass facility
Ramp up time from zero to design flow	All <i>market injection points</i> and <i>market withdrawal points</i>
Ramp down time from zero to max flow	All <i>market injection points</i> and <i>market withdrawal points</i>
Emergency Ramp Down Rate	All <i>market injection points</i> and <i>market withdrawal points</i>

**Table 15 Configuration – DTS Connections only**

DTS Configuration	For connections that require DTS augmentations
DTS Pipeline length to connection	For connections that require additional pipe length installed prior to the connection point.
DTS pipeline diameter	For connections that require additional pipe length installed prior to the connection point.

**Table 16 Metering Configuration**

Communications Equipment	Applicability
Confirm compliance with Wholesale Market Metering Procedures	All
Specification of back-up communications <ul style="list-style-type: none"> <li>• Telecommunications service provider</li> </ul>	All
Specification of back-up electricity source (minimum 3 hour requirement)	All

**Table 17 Miscellaneous**

Communications Equipment	Applicability
Compliance with Wholesale Market Gas Quality Monitoring Procedures	<i>market injection points</i> and <i>monitoring points</i> .
Gas Quality Monitoring Plan	<i>market injection points</i> and <i>monitoring points</i> .
Operating Agreement OR Distribution Deed	All

# Previous version release details

Version	Effective date	Summary of changes
1.1	31 July 2010	Rebranded and updated to reflect NGR
1.0	31 May 2000	Initial version