Gas Day Harmonisation Transition Plan

SEA Gas					
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1 Purpose

This document describes the planned activities SEA Gas will undertake to ensure a successful transition from current gas day operating times to the standard market timetable.

2 Background

SEA Gas operates the transmission pipeline systems that transport natural gas from Port Campbell and Iona in Victoria to various offtakes and interconnected pipeline systems in South Australia and Victoria.

The pipelines operated by SEA Gas include the:

- Port Campbell to Adelaide pipeline (PCA);
- Port Campbell to Iona pipeline (PCI); and
- Mortlake pipeline

Currently SEA Gas operates to a gas day commencing at 6am Australian Central Standard Time (ACST). Reporting is primarily aligned with this gas day, except for a few instances where SEA Gas pipeline systems connect to the Declared Wholesale Gas Market (DWGM) in Victoria, which operate to a gas day commencing at 6am Australian Eastern Standard Time (AEST).

In line with National Gas (Capacity Trading and Auctions) Amendment Rule 2018 (Rules), all east coast gas producers, pipelines, compression, storage and market operators are required to commence the standard gas day at 6am AEST from October 1, 2019 onwards. This alignment of the gas day will provide continuity across the east coast gas sector.

As per Schedule 5, Part 6 Rule 4 of the Rules, SEA Gas as a facility operator is required to provide to AEMO and publish information about our arrangements for facilities for the transition to use of the standard gas day and standard nomination cut-off time.

SEA Gas have identified the changes required to conform to the amendments made to the Rules. SEA Gas have also considered the impact of these changes on each of its pipelines, facilities, systems, receipt and delivery points to devise a scope of the transition to the new harmonised gas time.

3 References

- National Gas Rules Version 45 (Part 26 & Schedule 5)
- National Gas (Capacity Trading and Auctions) Amendment Rule 2018

4 Definitions

CP:	Cathodic Protection
DWGM:	Declared Wholesale Gas Market
GBB:	Gas Bulletin Board
GCMS:	Gas Contract Management System
GMT:	Greenwich Mean Time
MLV:	Main Line Valve
MMS:	Mortlake Meter Station
PCA:	Port Campbell to Adelaide pipeline
PCI:	Port Campbell to Iona pipeline
PCT:	Pipeline Capacity Trading
PRMS:	Pressure Reducing Metering Station
SCADA:	Citect Supervisory Control and Data Acquisition System
SEA Gas Pipeline System:	SEA Gas operated pipelines consisting of the PCA, PCI and Mortlake pipelines
STTM:	Short Term Trading Market
SWP:	South West Pipeline
Transition Day:	The gas day commencing 6am 30 September 2019 ACST and concluding at 6am 1 October AEST.
Transition Hour:	The gas hour on the Transition Day when the transition occurs. Only a half hour of flow will be recorded.
Transition Time:	The time on the Transition Day where the change to the Standard Market Timetable occurs for that system.
UGS:	Iona Gas Plant

5 Transition Plan Scope

5.1 Overview of Transition

SEA Gas have identified the following systems and facilities as requiring market transition arrangements to be developed.

- Contracts
- GCMS & Nomination Timing
- Stakeholder Transactions
    - SEA Gas shippers
    - GBB
    - STTM
    - DWGM
    - PCT
    - SA Retail Market
- SCADA
- Facilities
    - Flow control sites
    - Pressure control sites
    - Other sites

5.1.1 Pre-Transition Day

The SEA Gas Pipeline System will continue operating on ACST time until the Transition Day.

An internal Management of Change process is underway to ensure a smooth and successful transition to the harmonised gas day requirements.

Both GCMS and the SCADA system operate from two separate physical locations, at the head office and a backup site. Changes to those systems will be applied concurrently.

5.1.1.1 Contracts

All contracts impacted by the change to a Standard Market Timetable are being reviewed. Amendments relating to the definition of time and gas day will be advised to all affected parties prior to the Transition Day.

5.1.1.2 GCMS & Nomination Timing

A software upgrade of GCMS is scheduled for mid-September. It will include changes necessary to manage the Transition Day, standard market timetable and standard nomination cut-off time. Some additional updates will be required to be applied on Transition Day.

The nomination cut off time will remain at 3pm ACST up to and including the Transition Day.

5.1.1.3 Stakeholder Transactions

Reporting processes will remain using an ACST gas day up until September 29, 2019.

5.1.1.4 SCADA

RTU modifications to recognise the SCADA time change have been completed at all affected sites. This will enable the changes to be made to the site RTUs via a forced status update at the implementation time on the Transition Day. The SCADA servers will then be pointed to reflect the new time zone.

A testing program has been developed utilising three test RTUs and a test server to replicate the implementation process, prior to the Transition Day. This bench test will confirm that the completed RTU modifications will allow a successful transition.

The SCADA system and RTUs will continue to operate in ACST up to the Transition Day.

5.1.2 Transition Day

The Standard Market Timetable transition will commence mid-morning on September 30, 2019. It is intended that all transition processes will be completed during business hours.

5.1.2.1 Contracts

All changes to contracts will be completed prior to the Transition Day.

5.1.2.2 GCMS & Nomination Timing

At the start of the Transition Day, GCMS servers will be adjusted from ACST to AEST. Inbound and Outbound hourly data still being received in ACST will be manually inserted within GCMS as required.

Scheduled Tasks within GCMS will operate to an ACST gas day until after 3pm when day ahead schedules are performed. The system will be updated to adjust the time of submission for time-based schedules to use AEST after the completion of the day ahead schedule.

Data submitted by shippers on the Transition Day will be required to align with an AEST gas day.

The nomination cut off time will remain at 3pm ACST on the Transition Day.

5.1.2.3 Stakeholder Transactions

Reporting processes performed prior to the completion of the day ahead schedule on the Transition Day will be performed according to the timing of the ACST gas day. Processes performed after this time will be completed using an AEST gas day and will be sent earlier

than required[1]. Any data that is incomplete at the revised time will be monitored and manually resent at the ACST submission time if necessary.

5.1.2.4 SCADA

Between 9 and 10am ACST on the Transition Day, SCADA servers will be adjusted from ACST to AEST.

A Boolean variable will be remotely toggled on each RTU to ensure all facilities then operate and archive metering data in AEST. These changes will be implemented within half an hour of commencing, such that the time change is not across the start or end of an hour.

Prior to the Transition Day, testing will be completed by the SCADA and RTU maintenance service provider and witnessed by a SEA Gas engineer. This testing will simulate the events that will take place on the Transition Day while observing any impacts on the RTUs, schedulers and meter accumulators.

5.1.2.5 Facilities

Three types of control points have been considered in the transition.

Points that operate on pressure control or other control principles are not expected to require any restrictions to their operation at the time of transition.

Points that operate on flow control will need additional management to ensure the transition proceeds successfully. The plan for points operating on flow control in outlined in 6.5.1.

MLV sites are pipeline isolation valves that have no control mode or flow measurement. A time adjustment to the time server will be undertaken on the day of transition at all MLV locations, which will have no impact. Additional management at MLV sites on the Transition Day is not required.

In addition, operational locations will require changes to accommodate a change to AEST.

5.1.3 Standard Market Timetable Period

The SEA Gas pipeline system will operate on the new harmonised gas day from October 1, 2019 onwards.

[1] Interactions with PCT will operate to the non-harmonised Gas Day on the Transition Day and will move to harmonised timing on the morning following the Transition Day.

6 Systems

6.1 Contracts

SEA Gas are reviewing all current haulage and interface agreements. Amendments to contracts relating to the change to a Standard Market Timetable will be advised to stakeholders via letter prior to the Transition Day.

6.2 GCMS & Nomination Timing

The Gas Contract Management System manages all nominations, schedules, reports and invoicing relating to the SEA Gas Pipeline System. The three pipelines it manages currently operate to a gas day commencing at 6am ACST. All data is currently stored within the system with a GMT timestamp, and subsequently a Gas Day and Gas Hour associated with the gas day currently in effect. Servers operate in ACST

In order to transition to a Standard Market Timetable, GCMS requires an adjustment to use an AEST gas day. Data will still be recorded hourly in GMT; however, each gas hour will now be recorded in alignment with the AEST gas day. As such, there will be a half hour step adjustment in sequential GMT timestamps when the transition occurs. This transition will occur on the Transition Day and take effect for the entire day.

As the Transition Day will be to move forward from ACST to AEST, this will occur once affecting one hour making it a half hour of actual time. Consequently, a half hour of actual time will not be recorded on this gas day, and the gas day will only be 23.5 hours long.

For the Transition Day, live data will not be available via the application or FTP Server. Data for the Transition Day will be made available at the conclusion of the Transition Day after data validation processes have completed.

The cut off time for nominations under existing contractual arrangements is 3pm ACST. This will continue up to and including the Transition Day.

Contractual changes advised to affected parties will require the cut off time for day ahead nominations to be submitted by 3pm AEST from 1 October 2019. Changes to GCMS will be applied after the cut off time on the Transition Day to enforce this change for subsequent days.

6.2.1 Submission of Profiles via upload or FTP

As the shift to an AEST gas day will occur on the Transition Day, all data supplied for the Transition Day will be required using an AEST timestamp. To ensure alignment of data on the Transition Day, submission of profiles via upload or FTP will not be permitted for Gas Day 30/9 (either those submitted prior to or on the Transition Day). Profiles may only be submitted directly via the application.

6.3 Stakeholder Transactions

Where a report is provided to a market or customer that includes the Transition Day, that report will report that day as a day of 23.5 hours. All other days will be 24 hours long.

Where a report[2] is provided to a market or customer that includes gas hours within the Transition Day, those reports will be reported in AEST. The first hour of the Transition Day shall be recorded as 0.5 hours, and the remaining hours shall be recorded as hours reflective of an AEST gas day.

In addition to data recording, scheduled tasks will be adjusted for the following events on the Transition Day, to align with Post Harmonisation timing

- Gas Bulletin Board daily data submissions
- STTM Facility Hub Capacity, Facility and MOS Step Allocations
- PCT daily data submissions
- SA Retail Market submissions

6.3.1 FTP Interface with SEA Gas shippers

Reports generated by SEA Gas for gas days prior to the Transition Day, will be recorded with a GMT aligned with ACST. Note that this includes files generated after the Transition Day but for any gas day on or prior to 29 September 2019.

Reports generated for gas days on the Transition Day will be recorded with a GMT aligned with AEST. This day will represent a period of 23.5 hours commencing at 6am ACST and concluding at 6am AEST. The first hour of the day will represent a period of 30 minutes.

Reports generated for gas days subsequent to the Transition Day will be recorded with a GMT aligned with AEST. These days will represent a period of 24 hours commencing at 6am AEST.

Nominations submitted by shippers for gas days prior to the Transition Day will be required to reflect a gas day commencing at 6am ACST.

Nominations submitted by shippers for the Transition Day will be required to reflect a gas day of 23.5 hours commencing at 6am ACST and concluding at 6am AEST.

Nominations submitted by shippers for gas days following the Transition Day will be required to reflect a gas day aligned with the Standard Market Timetable.

[2] In the case where data is reported to a network operator for the Transition Day, data will be manually adjusted to report the first 23 hours as complete hours in ACST, and the last hour of the day being 0.5 hours long, concluding the gas day at 5:30 ACST.

Note that nominations are recorded by gas day and no specific reference is required to be made to time zone or GMT.

Profiles submitted by shippers for gas days prior to the Transition Day will be required to reflect a gas day commencing at 6am ACST and GMT of D-1 @ 20:30.

Profiles for the Transition Day will not be accepted via FTP.

Profiles submitted by shippers for gas days following the Transition Day will be required to reflect a gas day commencing at 6am AEST and GMT of D-1 @ 20:00.

6.3.2 Reporting to the Gas Bulletin Board

Data is submitted to AEMO via API's for the Gas Bulletin Board. There is no change to the data submission process with respect to the transition to a Standard Market Timetable, however the content of the files and the time at which data is submitted will be modified as follows:

Description	Content Change	Timing Change
Supply of daily data for • Daily Production and Flow • Nominations and Forecasts • Short Term Capacity Outlook	No change to structure. Flow and Nomination data for the Transition Day will represent 23.5 hours of flow. Capacity for the Transition Day will be reported as if it were a day of 24 hours (ie. unchanged from previous days). Data for other days will reflect a gas day of 24 hours.	Files are supplied on change of data ahead of the required cut-off times in the current schedule. Schedule will be adjusted to operate to AEST.
Supply of non-daily files • Gate Station Nameplate Rating • Connection Point Nameplate Rating • Linepack Capacity Adequacy • Medium Term Capacity Outlook	No change to structure. Capacity for Gas Day 30/9 will be reported as if it were a day of 24 hours (ie. unchanged from previous days).	Timing of submission not directly affected by change to AEST.

• Nameplate Rating • Uncontracted Capacity Outlook		

6.3.3 Reporting to the STTM

Data is submitted to AEMO via FTP for the STTM. There is no change to the data submission process with respect to the transition to a Standard Market Timetable, however the content of the files and the time at which data is submitted will be modified as follows:

Description	Content Change	Timing Change
Facility Hub Capacity	No change to structure. Capacity for the Transition Day will be reported as if it were a day of 24 hours. Capacity for other gas days will be reported aligned with the applicable gas day.	The file is currently submitted 1 hour after the end of an ACST gas day. The requirement is to submit within 3 hours. Submissions will be updated to be 1 hour after the end of an AEST gas day, effective from 1 October 2019.
Facility Allocation MOS Step Allocation	No change to structure. Allocation for the Transition Day will be reported as a gas day of 23.5 hours. Capacity for other gas days will be reported as a period of 24 hours aligned with the applicable gas day.	The files are currently submitted 1.5 hours after the end of an ACST gas day. The requirement is to submit within 4.5 hrs. Submissions will be updated to be 1.5 hours after the end of an AEST gas day, effective from 1 October 2019.

6.3.4 Allocations for the DWGM

Data is submitted to AEMO via FTP for allocations in the DWGM. The DWGM system is continually polled for allocation agent data. Allocations are returned within 5 minutes of receiving the data to allocate. Allocation data is already using a Standard Market Timetable gas day, so no change is required to the data submitted.

Inputs to the allocation require a conversion from ACST to AEST in order to determine the result. This conversion is no longer required post 1 October 2019. A revised allocation methodology is being developed to take effect from 1 October 2019, that will remove the need for a conversion from ACST to AEST.

Description	Content Change	Timing Change
Allocation results for SWP (SEA Gas) Injection Point on daily and monthly basis for Normal, Preliminary, Final and Revised data.	No change to file structure or content. Data is already supplied aligned with Gas Day in AEST. Change to allocation methodology is being developed.	Allocation result is currently submitted 5 minutes after allocation data is published. There is no change to timing as a result of transitioning to a Standard Market Timetable.

6.3.5 Interactions with the PCT

SEA Gas receives and submits data to PCT via API's via a schedule aligned to ACST and a non-harmonised market. There is no change to the data submission process with respect to the transition to a Standard Market Timetable, however the schedule will be amended to the AEST harmonised market timetable at the commencement of the harmonised gas day. This is summarised as follows:

Description	Content Change	Timing Change
For the Supply of daily data • Auction Quantities • Capacity Transfer Status • Auction Settlement Quantities	No change to stricture. AQL's for the Transition Day will be calculated as if it were a day of 24 hours. Data for the Transition Day will represent 23.5 hours of flow.	Files are sent on a schedule, to be updated to harmonised timings on morning of 1 October 2019. Submission to use current schedule up to and including Transition Day.
For the supply of ad-hoc data • Contract Details • Auction Service Curtailment Notice	No change to structure or content.	Adhoc nature of submissions is not impacted by GDH.

• Zone Curtailment Information		

6.3.6 Reporting to the SA Retail Market

Data is submitted to AGN via SFP for the Cavan Delivery Point which acts as a physical gate point to the SA Distribution Network, and supply data to the network operator for hourly flows at this point.

There is no change to the data submission process with respect to the transition to a Standard Market Timetable, however the content of the files and the time at which data is submitted will be modified as follows:

Description	Content Change	Timing Change
Supply of hourly data for Cavan Delivery point into SA distribution network 2.5 hours after the end of a gas day.	No change to file structure. Content of file changed to reflect GMT aligned with AEST from 6am on 1/10/2019. Last gas hour of Gas Day 30/9 contains one half hour flow.	On the Transition Day, for Gas Day 29 September, data will be sent approximately 80 mins after the end of the ACST Gas Day as per current timing. On 1 October 2019, for the Transition Day, data will be submitted 2.5 hours after the end of the ACST Gas Day. On 2 October 2019 thereafter, data will be sent 80 mins after the end of the AEST Gas Day.

As per clause 419 d) of the Retail Market Procedures, SEA Gas advise the following:

6.3.6.1 Meter Reconfiguration Scenarios

The Cavan Delivery point is the only site where data is recorded and then supplied to the Network Operator in South Australia. It will be transitioned to the new Standard Market Timetable on the Transition Day.

6.3.6.2 Meter Readings

All readings obtained by telemetered data being stored, collected and transferred to reporting database automatically.

6.3.6.2.1 Prior to 30 September

Prior to the Transition Day, data will be collected and stored as per current practices.

6.3.6.2.2 On 30 September

On the Transition Day, telemetered data will be updated to record aligned with the Standard Market Timetable. For one hour, only a half hour's flow will be recorded. At the end of this day, SEA Gas will manually extract 47 half hours of flow from the reporting database and reassemble the data such that the last hour of the day represents a half hour of flow.

6.3.6.2.3 For 1 October and beyond

For this period, the reporting database will be recording data aligned to the Standard Market Timetable. Data supplied to the Network Operator will be for a period of 6am – 6am AEST.

6.3.6.3 Estimated Meter Readings

It is not anticipated that estimated meter readings will be required. If data is unavailable, then this data can be recovered later or calculated from live flow rate data.

6.3.6.4 Hourly Metering Data

The Hourly Metering Data for the Transition Day will be extracted from the reporting database at the conclusion of the Transition Day. For the period up to the Transition Time, existing data will be recorded. The Transition Hour will only contain a half hour of flow. For the gas hours after the Transition Time until the end of the Transition Day, those hours will be redetermined as half hourly values. The data will then be reassembled to produce complete gas hours up until the last hour of the Transition Day, which will contain only a half hour of flow.

6.3.6.5 Reporting

On the Transition Day, for Gas Day 29 September, data will be sent approximately 80 mins after the end of the ACST Gas Day as per current timing.

On 1 October 2019, for the Transition Day, data will manually be calculated and then submitted 2.5 hours after the end of the ACST Gas Day.

On 2 October 2019 thereafter, data will be sent 80 mins after the end of the AEST Gas Day.

6.4 SCADA

6.4.1 SCADA Software Platform

The SCADA operating system has been reviewed and checked for screens containing any live data and time references. The only locations displaying a gas time for operational use is at the flow control locations, where the current gas hour is highlighted. This has been

addressed in the SCADA screen review. The transition to a Standard Market Timetable will not result in any other changes to SCADA screens.

6.4.2 *Data Exchange via 3rd Party Interface Agreements*

Multiple facilities connected to the SEA Gas pipeline receive or provide live data to/from SEA Gas. This is managed by an Interface Agreement, specifying the nature and content of the data exchange.

Except for additional totaliser and accumulator data provide to AEMO Gas Operations, any data is streamed live and not referenced by a SEA Gas time stamp.

There is no impact on the information being exchanged as a result of the GDH change. There will need to be an update to some agreements where the gas time reference is not already in AEST.

This table identifies those connected facilities:

	Location	Interface Party	Data Shared
	Iona – UGS	Network Operator Producer	Live data and meter accumulator to Network Operator Live data exchange to and from plant
	Iona – SWP	Network Operator VTS Pipeline Operator	Live data and meter accumulator to Network Operator Live data exchange to and from Pipeline Operator RTU
	Iona – UFM2/3/4	Network Operator Producer	Live data and meter accumulator to Network Operator Live data exchange to and from plant
	Iona – Mortlake	Network Operator	Live data and meter accumulator to Network Operator

	Minerva	Producer	Live data exchange to (pressure and SLV only) and all meter & GC etc from plant
	Mortlake PRMS	Power Station - Customer	Live data exchange to and from plant
	Poolaijelo	SESA Pipeline Operator	Live data exchange to and from Pipeline Operator
	Cavan Train 1	SA Retail Market Operator	Live data to SA Retail Market Operator RTU
	Cavan Train 2	SA Retail Market Operator	Live data to SA Retail Market Operator RTU
	Torrens Island	Power Station - Customer	Live meter and GC data to customer
	Quarantine	Power Station – Customer	Live meter and GC data to customer
	Pelican Point	Power Station - Customer	Live meter and GC data to customer

6.5 Facilities

6.5.1 Flow Controlled Sites

Points that operate on flow control will need additional management to ensure the transition proceeds successfully. To prevent flow controller operational issues and gas delivery errors, SEA Gas' preference is to have no scheduled flow during the Transition Hour, as well as both the hours preceding and proceeding the Transition Hour. If the customer is not able to cease flows for that required duration, they will have the option of nominating a constant profile over these hours.

Flow control points in the SEA Gas pipeline system include:

- Delivery at Iona UGS
- Delivery at Iona SWP
- Delivery at Iona Mortlake
- Delivery at Cavan 1 PRMS

- Delivery at Cavan 2 PRMS

6.5.2 Pressure Controlled Sites

There will be no restrictions on the Transition Day to shippers/customers at the points that are pressure controlled.

Pressure control points in the SEA Gas pipeline system include:

- Receipt at Iona UGS
- Receipt and delivery at Iona UFM2/3
- Receipt at Iona UFM4
- Receipt at Iona Mortlake
- Receipt and delivery at Minerva
- Delivery at Mortlake PRMS
- Delivery at Poolaijelo PRMS
- Delivery at Naracoorte PRMS
- Delivery at Jervois PRMS
- Delivery at Bolivar PRMS
- Delivery at Torrens PRMS
- Delivery at Quarantine PRMS
- Delivery at Pelican Point PRMS

6.5.3 Other Controlled Sites

There will be no restrictions on the Transition Day to shippers/customers at the points that are otherwise controlled.

These control points within the SEA Gas pipeline system include:

- Miakite compressor station
- Dergholm CP facility
- Coomandook compressor station
- MLV 1C, 2, 4, 7, 8, 9 and 10