Gas Day Harmonisation

transmission transition plan

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Contents

1 Purpose

This document defines the approach APA Group will take to ensure the Pipeline Transmission business will be compliant with the National Gas Rules and Retail Market Procedures requirements to align all gas day start times within the East Coast Gas Markets to 6am (AEST) and Nominations Cut Off time to 3pm (AEST) from 1 October 2019.

2 Key Personnel

The following APA personnel are nominated as key contacts for the Gas Day Harmonisation Transition.

Name	Role	Contact Details
Michael Cini	Manager Operations Support Market Services, AEMO GDH Market Readiness Co-ordinator	P: 07 3323 6157 M : 0438 144 722 E : michael.cini@apa.com.au
John Lenigas	Program Manager, Gas Day Harmonisation Project	P: 08 81139109 M : 0412 832 939 E : john.lenigas@apa.com.au

3 Overview

APA has initiated a program of work to ensure all Transmission related assets and systems will be configured to operate to comply the AMEO Harmonised Gas Day requirements.

This program of work encompasses changes to the following systems:

- All affected transmission gas meters
- Transmission SCADA systems
- Transmission Historian infrastructure
- Energy Components (EC)
- Linepack Simulator
- Biztalk Data Transfer
- External party interfaces, such as shippers, third parties and AEMO.

APA owned/operated facilities that are in scope of this transition plan include:

- Roma Brisbane Pipeline (RBP)
- Amadeus Gas Pipeline (AGP)
- Wickham Point Pipeline (WPP)

- Bonaparte Gas Pipeline (BGP)
- Reedy Creek Wallumbilla Pipeline (RCWP)
- South West Queensland Pipeline (SWQP)
- Carpentaria Gas Pipeline (CGP)
- Moomba Sydney Pipeline (MSP)
- Central West Pipeline (CWP)
- Central Ranges Pipeline (CRP)
- South East South Australia Pipeline (SESA)
- Moomba Compression Facility
- Wallumbilla Compression Facility A
- Wallumbilla Compression Facility B
- Kogan North Gas Processing Facility (KNGPF)
- Berwyndale Wallumbilla Pipeline (BWP)
- Orbost Gas Processing Facility (OGP)

It is APA's intent to have all assets and systems ready for operation by 1 October 2019. APA is implementing a program of work to update all affected assets to allow a straightforward transition of operation at go live.

4 Approach

4.1 Field Devices.

APA is implementing a program of work to upgrade all sites to accommodate a GDST set point. This program will see all low materiality sites upgraded prior to 30 September 2019. High materiality sites will each have a dedicated team of engineers attend site on the 30 September 2019 to upgrade software at the site and commission the site to ensure correct operation.

4.1.1 Low materiality sites.

Device upgrades have commenced in April 2019. The table below indicates forecast for each jurisdiction.

Devices

Area	Apr	May	June	July	Aug	Sept	Oct	Totals
NSW		1	8	13	5	2		29
NT					19	19		38
QLD	1	11	1	5	41	39		98
SA						3		3
Totals	1	12	9	18	65	63		168

Area	Apr	May	June	July	Aug	Sept	Oct	Totals
NSW		1	8	11	1	1		22
NT					9	8		17
QLD	1	3	1	4	21	5		35
SA						2		2
Totals	1	4	9	15	31	16		168

These sites are low flow rate sites and considered low risk.

4.1.2 *Prioritisation of High Materiality Sites*

High volume sites will have dedicated teams of engineers deployed on the day to ensure the meter software upgrades are installed and tested. These teams will remain available post go live in the event that site attendance is needed to address any issues.

These sites are:

State	Site Name	Owner	AEMO Category
SA	Moomba Hub	APA	A
QLD	Wallumbilla Hub	APA	A
NSW	Wilton MS	APA	B
NSW	Culcairn MS	APA	B
QLD	Mica Creek Hub	APA	B
QLD	Ballera Hub	APA	B

4.2 Applications.

APA is undertaking the modification and reconfiguration of all internal applications affected by the Gas Day Harmonisation requirement.

4.2.1 *SCADA Systems*

SCADA Systems will be reconfigured to support automatic update of Gas Day Start Time set point to remote devices. This change will be complete by 30 August 2019.

4.2.2 *Historian Systems and Historian Based Applications including Energy Components (EC)*

Historian Systems will be reconfigured to support the simultaneous presentation of data from the field at 6am (AEST). This change will be complete by 30 August 2019.

Other internal applications such as Energy Components will have marginal changes made and tested to ensure end to end data flow is validated. End to end testing will be completed by 14 August 2019.

4.2.3 *System Performance*

Due to the alignment of GDST, simultaneous presentation of field data to APA's internal systems will occur. APA will undertake stress testing of all systems to validate operation by 30 August 2019.

APA is undertaking stress and performance testing of all systems that the transient processing load will increase due to the alignment of GDST.

APA will report on the outcome of these tests and confirm that any appropriates steps are taken to address performance issues found.

4.2.4 Interconnected Parties

APA is dependent upon a number of external parties for metering and other data. APA is engaged with all third parties to confirm readiness. APA forecasts these discussions will be complete by 1 September 2019.

4.3 Integrated Operations Centre (IOC).

The IOC is central to the successful daily operation of the gas transmission business and processing of gas market data. Changes to the GDST have direct impacts on the operations of the IOC.

Supporting the system performance testing, as mentioned in 4.2.3 above, APA will be running a series of business process tests to ensure that the IOC resourcing and management will be reviewed and any issues addressed prior to go live.

5 MDQ/MHQ Short Gas Day Impacts

No change to MDQ will be imposed by APA on short gas day.

Contractual MHQ limits will also remain in force and monitored by APA on the short gas day.

6 Short Gas Day Nomination Methodology

APA will request that shippers will nominate for the short gas day taking into consideration the short gas day duration in relevant jurisdictions as per table below. APA will engage with shippers to confirm this approach. This will be completed by 30 August 2019.

7 Important Gas day times

	Pre 30/9/19			Gas Day 30/9/19			From 1/10/19		
Jurisdiction	**GDST**	**Hours**	**Nomination cut off time**	**GDST**	**Hours**	**Nomination cut off time**	**GDST**	**Hours**	**Nomination cut off time**
NSW	6:30 AEST	24	14:30 AEST	6:30 AEST	23.5	14:30 AEST	6:00 AEST	24	15:00 AEST
SA	6:30 AEST	24	13:00 AEST	6:30 AEST	23.5	13:00 AEST	6:00 AEST	24	15:00 AEST
QLD	8:00 AEST	24	16:00 AEST	8:00 AEST	22	16:00 AEST	6:00 AEST	24	15:00 AEST
NT	8:30 AEST	24	15:00 AEST	8:30 AEST	21.5	15:00 AEST	6:00 AEST	24	15:00 AEST

Please note the change to the nomination cut off times for facilities as per Part 26 of the National Gas Rules. All times are reported in Australian Eastern Standard Time (AEST) to align with the transition provisions under the rules.

8 Meter Reconfigurations

As per schedule 5, part 6, rule 4 of the National Gas Rules, the following meter reconfiguration scenarios are addressed.

8.1 Interval meters or physical gate points that have not been reconfigured to measure and record for a standard gas day.

None.

8.2 Interval meters or physical gate points that have been reconfigured to measure and record for a standard gas day.

APA has a range of assets across four Jurisdictions. The following details how Meter Readings, Estimated Meter Readings, Hourly Metering Data and Reporting will be managed prior to 30 September 2019 and on 30 September 2019.

From 1 October 2019 APA will comply with all requirements of the Harmonised Gas Day market.

8.2.1 Area Meter Data for all jurisdictions – South Australia, Queensland, New South Wales and Northern Territory.

Area	Device Count	Meter / Site Type	Meter Readings (prior 30/9)	Estimation Strategy (prior 30/9)	Hourly Data (short day 30/9)
Moomba Hub	6	Multiple Gas Days/ Multiple Jurisdictions.	No change.	Estimate based on review of SCADA trend / data for the specific GD (Hourly average data). Interpolating between any missing data or failed readings. Verification from backup meter sources as available Escalation if alternate meter data is not available is to utilise flow / energy information from previous gas day as a substitute	The systems will produce actual data and collate this to reflect the gas day for reporting to AEMO and the market for the relevant jurisdiction in the Moomba Hub.
Culcairn	2	NSW legacy gas day + No change to VTS meters.	No change.	Estimate based on review of SCADA trend / data for the specific GD (Hourly average data). Interpolating between any missing data or failed readings. Verification from	The systems will produce actual data and collate this to reflect the gas day for reporting to AEMO and the market for the relevant jurisdiction.

				backup meter sources as available Escalation if alternate meter data is not available is to utilise flow / energy information from previous gas day as a substitute	
All other sites	156	Standard Single Gas Day with hourly data	No change.	Estimate based on review of SCADA trend / data for the specific GD (Hourly average data). Interpolating between any missing data or failed readings. Verification from backup meter sources as available Escalation if alternate meter data is not available is to utilise flow / energy information from previous gas day as a substitute	The systems will produce actual data and collate this to reflect the gas day for reporting to AEMO and the market for the relevant jurisdiction.
Total	**164**				

8.2.2 Go Live Contingency Planning.

Scenario	Likelihood (Low, Med, Hi)	Impact	Pre Go-Live Mitigation	Post Go-Live Contingency Plan
APA managed meter GD change not effective	Low	High	• Review of all field systems to ensure all GD changes are identified • Pre-deploy preparation code for new gas day to all devices, including verification • Prepare automated deployment system for devices for on the day • Deploy additional engineering and operational resources to critical sites • Deploy resources to sites where pre-deployment is not possible • Alternate data extraction tool available	• Trigger gas day change on the day using automated system • Verify gas day change has occurred on all devices • Manually intervene with devices that have failed verification • Apply estimation strategy until permanent resolution is found
Customer managed meter GD change not effective	Med	Moderate	• Review of all customer managed systems impacted by GD changes • Communications protocol with customers to ensure awareness of GD changes	• Data matching system to ensure all devices (APA and customer) have reset GD at new time. • Notification to customer where GD change has been ineffective

Scenario	Likelihood (Low, Med, Hi)	Impact	Pre Go-Live Mitigation	Post Go-Live Contingency Plan
Resource Shortage during site deployments. Sickness or unplanned absence.	Med	Some sites will not be upgraded to new GDST leading to estimates being presented post 1/10/19.	Resource planning to accommodate resource unavailability. Vendor engagement to support internal resources.	Reliance on standard estimation strategies until upgrades are complete. Lift resource allocation to accelerate remaining work.
Device or comms failure	Low	Site will not report data.	Device testing and validation. Local operations resources to be made available to address any issues.	Reliance on standard estimation strategies until device repaired or complete.
Force majeure during migration work	Med	Site upgrades will be delayed.	Daily monitoring of weather conditions and reforecasting deployment work to minimise impact. Medium term analysis of weather forecast and resource planning to accommodate expected adverse conditions. Secure Vendor resourcing to support additional effort if needed.	Reliance on standard estimation strategies until upgrades are complete. Lift resource allocation to accelerate remaining work.
Unplanned IT Systems Outage	Low	Dependent on system	Ensure BCP planning is reviewed and confirmed.	Enact BCP for effected systems if possible.

8.3 Reporting

APA will complete AEMO monthly readiness assessments as required.

Additionally, APA will issue to AEMO

- Weekly reports commencing 2 September 2019 detailing progress on preparation for Gas Day Harmonisation.
- Daily reports commencing 23 September 2019 detailing progress of site completions and any reforecasting of effort or change in approach.
- A report at 10am on 30 September 2019 indicating readiness of short gas day processing and data validation to be executed on 1 October 2019.
- A report at 10am on 1 October 2019 indicating outcomes of short gas day processing and data validation for 30 September 2019.
- A report at 10am on 2 October 2019 indicating outcomes of first aligned gas day processing (1 October 2019) and data validation status.

9 AEMO Market Trial

APA has raised if there is a need for an end to end market trial. AEMO has indicated that there is not a requirement for a co-ordinated market trial.

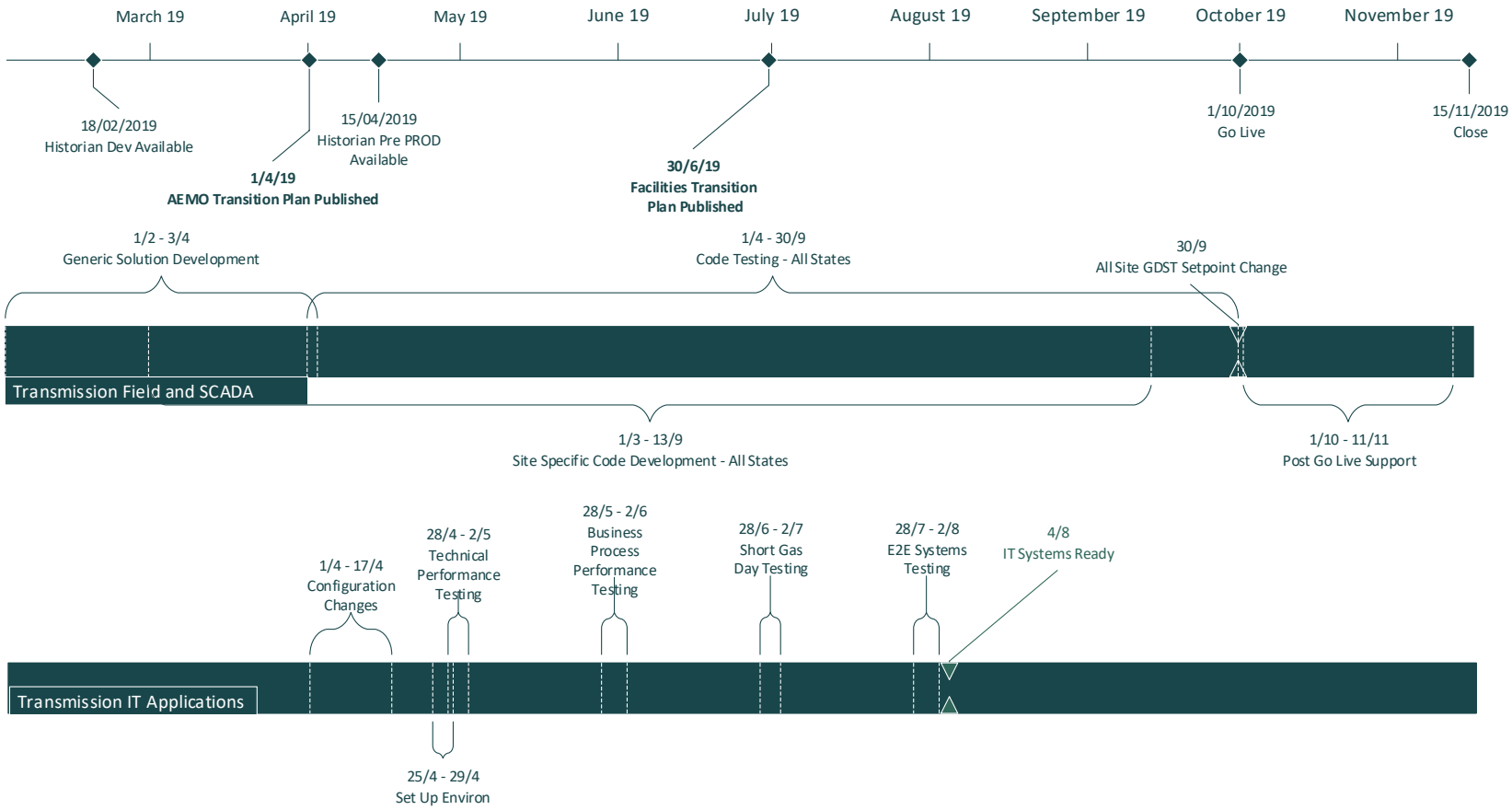
10 Site List

Site Name	Device Count	Deployment Month
Northern Territory		
Darwin City Gate RMS	4	August
Channel Is MS	7	August
Waddell RMS	1	August
Inpex OT	1	August
Wickham Point RMS	2	September
Wadeye SS	1	August
Wadeye RMS	1	August
Ban Ban Springs RMS	2	August
Pine Creek RMS	2	September
Katherine RMS	3	September
Mataranka OT	1	September
Daly Waters SS	1	August
Elliot RMS	1	August
Tennant Creek	3	September
Tanami SS	2	September
Palm Valley RMS	3	September
Mereenie MS	3	September
New South Wales		
Cootamundra	1	July
Young	1	July
Bomen	1	July
Uranquinty	2	July
Culcairn	2	September
Burnt Creek	1	July
Illabo	1	July
Goulburn	1	June
Marulan	1	June
Moss Vale	1	July
Bowral	1	July
Wilton	2	July
Young CS	5	August
Oberon	1	June
Marsden	1	July
Dubbo	1	July

Site Name	Device Count	Deployment Month
Canberra MS	1	May
Lithgow	1	June
Orange	1	June
Bathurst	1	June
Cowra	1	June
Blayney	1	June
Queensland		
Brightview	1	August
Redbank	2	August
Bellbird	1	August
Ellengrove	1	July
Lytton	2	August
Oakey	1	June
Gibson Island	5	August
Toowoomba	3	July
Sandy Creek	2	August
Arubial	1	April
Scotia	3	August
Woodroyd	3	August
Kogan North CGPF	7	May
Dalby	1	August
Yuleba	1	August
Braemar	1	August
Berwyndale	1	August
Tarbat	1	May
Cheepie	3	August
QCS4	2	August
Roma	2	July
SWQP Wallumbilla CS	17	September
BWP Wallumbilla RMS	3	September
RBP Wallumbilla RMS	5	September
Springvale	1	August
Corrie Downs	1	August
Noranside	1	August
Glencoe	1	August
Mica Ck	7	August

Site Name	Device Count	Deployment Month
X41	1	August
Ballera	6	September
Mount Howitt	1	August
Morney Tank	1	July
Davenport Downs	1	July
Moomba CS	8	September
Poolaijelo RMS	1	September
Ladbroke Grove RMS	2	September
Victoria		
Orbost	1	September

11 Schedule


March 19
April 19
May 19
June 19
July 19
August 19
September 19
October 19
November 19
18/02/2019
Historian Dev Available
1/4/19
AEMO Transition Plan Published
15/04/2019
Historian Pre PROD Available
30/6/19
Facilities Transition Plan Published
1/10/2019
Go Live
15/11/2019
Close
1/2 - 3/4
Generic Solution Development
1/4 - 30/9
Code Testing - All States
30/9
All Site GDST Setpoint Change
Transmission Field and SCADA
1/3 - 13/9
Site Specific Code Development - All States
1/10 - 11/11
Post Go Live Support
1/4 - 17/4
Configuration Changes
28/4 - 2/5
Technical Performance Testing
28/5 - 2/6
Business Process Performance Testing
28/6 - 2/7
Short Gas Day Testing
28/7 - 2/8
E2E Systems Testing
4/8
IT Systems Ready
Transmission IT Applications
25/4 - 29/4
Set Up Environ