

# MOS ESTIMATES REPORT: MOS PERIODS: JUNE 2015, JULY 2015 & AUGUST 2015

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## 1. Introduction

MOS (Market Operator Service) estimates provide a guide of the largest daily increase and decrease MOS quantities that market participants may reasonably expect for each STTM pipeline. The MOS estimate is based on historical data and therefore does not limit the quantity of MOS that may be experienced in the future.

The MOS estimates also determine the value of any overrun MOS. If the MOS estimate (increase or decrease) for an STTM pipeline exceeds the total quantity of MOS offered for that pipeline (increase or decrease respectively), then any overrun MOS is paid at the weighted average price within the relevant MOS stack. Otherwise, if the total quantity of MOS offered for an STTM pipeline exceeds the MOS estimate then overrun MOS is paid at the highest priced offer within the stack.

In accordance with rule 397 of the National Gas Rules (STTM Rules), AEMO publishes MOS increase and decrease estimates for each STTM pipeline prior to the commencement of each monthly MOS period. In determining the MOS estimates for each MOS period, AEMO must use the data specified in Section 5.2 (b) of the STTM Procedures.

## 2. The MOS period

MOS periods are defined in section 5.1 of the STTM Procedures. The MOS estimates contained in this document relate to: MOS periods June 2015, July 2015 and August 2015.

The MOS quantities for each STTM pipeline and each gas day are as determined in accordance with the published methodology for determining MOS estimates.<sup>1</sup>

### Sydney and Adelaide hubs

The MOS quantities for these periods are based on 'Method 2' for year 3 to year 6 of an STTM hub.<sup>2</sup> This means they are derived using the actual daily MOS allocation quantities for the periods June 2011, 2012, 2013, 2014; July 2011, 2012, 2013, 2014; and August 2011, 2012, 2013, 2014; for the following STTM pipelines:

- Moomba to Sydney Pipeline (MSP) and Eastern Gas Pipeline (EGP) – these supply gas to the Sydney STTM hub; and
- Moomba to Adelaide Pipeline (MAP) and SEA Gas pipeline (SEA) – these supply gas to the Adelaide STTM hub.

The input data collected from the previous four years was combined to create a larger and more representative sample of MOS allocations, as stated under Method 2 in the methodology.

### Brisbane hub

The Brisbane STTM hub commenced operations on 1 December 2011. Therefore The MOS quantities for this period are based on 'Method 2' for year 3 to year 6 of an STTM hub.<sup>3</sup> This means MOS estimates for the upcoming MOS period for the Roma to Brisbane Pipeline (RBP), the sole

<sup>1</sup> Available at: <http://www.aemo.com.au/en/Gas/Wholesale-Gas-Markets/Short-Term-Trading-Market/Market-Operator-Service-MOS>.

<sup>2</sup> *Methodology for determining MOS estimates v2.0*, 2011; p.18.

<sup>3</sup> *Methodology for determining MOS estimates v2.0*, 2011; p.18.

pipeline that supplies gas to the Brisbane STTM hub are derived using the actual daily MOS allocation quantities for the periods June 2012, 2013, 2014; July 2012, 2013, 2014; and August 2012, 2013, 2014.

## Explanation of MOS quantities and summary statistics

Positive MOS quantities indicate the requirements for increase MOS, whereas negative MOS quantities indicate the requirements for decrease MOS.<sup>4</sup>

STTM Rule 397(1)(a) requires AEMO to publish its estimate of the maximum quantity of MOS (by way of increase and decrease) likely to be required on any gas day in the relevant MOS period. This is provided in Table 1 below.

STTM Rule 397(1)(b) requires AEMO to publish its estimate of the range of daily quantities of MOS likely to be required, together with the number of gas days in the MOS period to which each of those estimated quantities applies. This is provided in the following tables and charts:

- Table 2 shows summary statistics of MOS quantity distributions, including the means, standard deviations, 5 and 95 percentile of the distributions, range and inter-quartile range,<sup>5</sup> and the proportions of days in the MOS period with positive and negative MOS quantities.
- Table 3 shows the daily MOS quantities sorted in descending order and the number of day(s) associated with each estimated quantity.
- Figure 1 displays the curves of daily MOS quantities sorted in descending order from the highest to the lowest values.
- Figure 2 shows the Box plots which provide a graphical summary of the data and are useful tools for comparing the MOS increase and decrease quantities of the different STTM pipelines.

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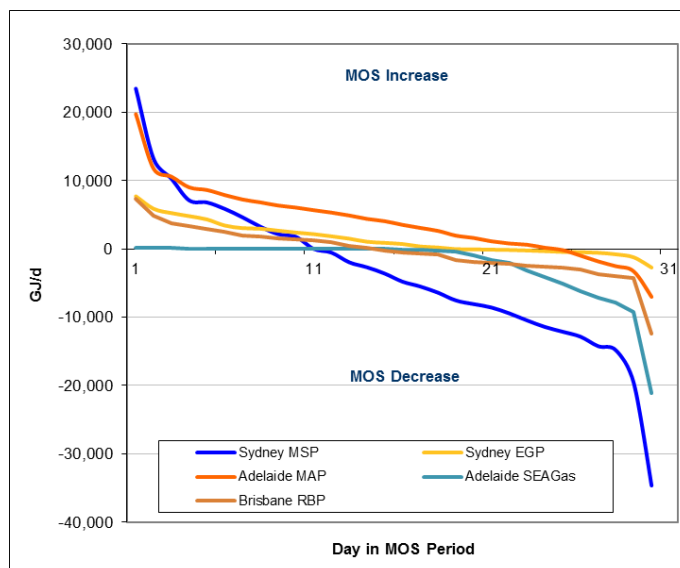
<sup>4</sup> Note MOS increase and decrease offers must comply with the requirements in section 5.4(b)(ii) and section 5.4(c)(ii) of the STTM Procedures, and should be greater than zero for the purpose of creating the MOS stacks.

<sup>5</sup> The inter-quartile range is the range of values between the first (25%) and third quartiles (75%) of the distributions.

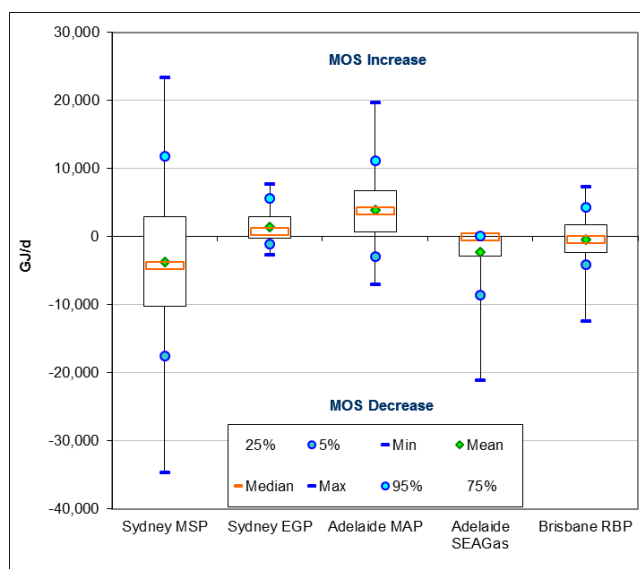
## MOS Period June 2015

**Table 1 – Maximum MOS quantities (GJ)**

	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
<b>MOS increase</b>	23,466	7,712	19,734	147	7,278
<b>MOS decrease</b>	34,633	2,723	7,023	21,049	12,474

**Figure 1 – Curves of daily MOS quantities**

**Table 2 – Summary statistics of daily MOS quantities**

	Summary statistics GJ/d				
	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
Maximum	23,466	7,712	19,734	147	7,278
95%	11,882	5,596	11,221	102	4,319
75%	2,988	2,885	6,702	21	1,702
50%	-4,202	805	3,793	-46	-437
25%	-10,207	-211	665	-2,926	-2,381
5%	-17,481	-1,032	-2,951	-8,605	-4,125
Minimum	-34,633	-2,723	-7,023	-21,049	-12,474
Mean	-3,691	1,470	3,936	-2,300	-376
Std deviation	11,072	2,383	5,242	4,488	3,596
% days positive	37%	60%	80%	43%	47%
% days negative	63%	40%	20%	57%	53%

**Figure 2 – Distribution of daily MOS quantities**


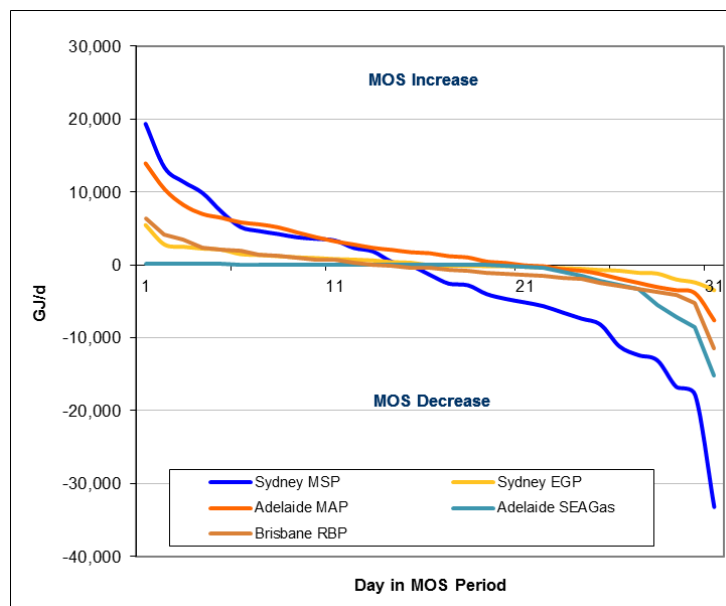
**Table 3 – Daily MOS quantities (GJ/d) for June 2015**

No of days	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
1	23,466	7,712	19,734	147	7,278
1	13,192	5,875	11,742	105	4,801
1	10,280	5,254	10,585	98	3,729
1	7,114	4,805	9,011	81	3,317
1	6,800	4,317	8,626	46	2,917
1	5,867	3,426	7,886	37	2,571
1	4,631	3,047	7,235	29	1,943
1	3,260	2,958	6,817	22	1,767
1	2,171	2,666	6,358	18	1,506
1	1,770	2,407	6,051	11	1,331
1	6	2,170	5,670	8	1,275
1	-540	1,851	5,323	3	1,003
1	-1,956	1,501	4,894	0	448
1	-2,688	1,058	4,400	-2	218
1	-3,607	889	4,063	-4	-301
1	-4,796	721	3,523	-87	-573
1	-5,505	354	3,073	-178	-644
1	-6,410	213	2,639	-227	-854
1	-7,541	-28	1,943	-390	-1,600
1	-8,071	-64	1,612	-911	-1,942
1	-8,569	-111	1,121	-1,651	-2,065
1	-9,431	-151	796	-2,070	-2,225
1	-10,465	-231	621	-3,211	-2,433
1	-11,415	-328	175	-4,185	-2,583
1	-12,122	-439	-171	-5,112	-2,788
1	-12,831	-474	-970	-6,262	-3,026
1	-14,233	-567	-1,826	-7,205	-3,649
1	-14,844	-789	-2,534	-7,842	-3,991
1	-19,638	-1,231	-3,292	-9,229	-4,235
1	-34,633	-2,723	-7,023	-21,049	-12,474

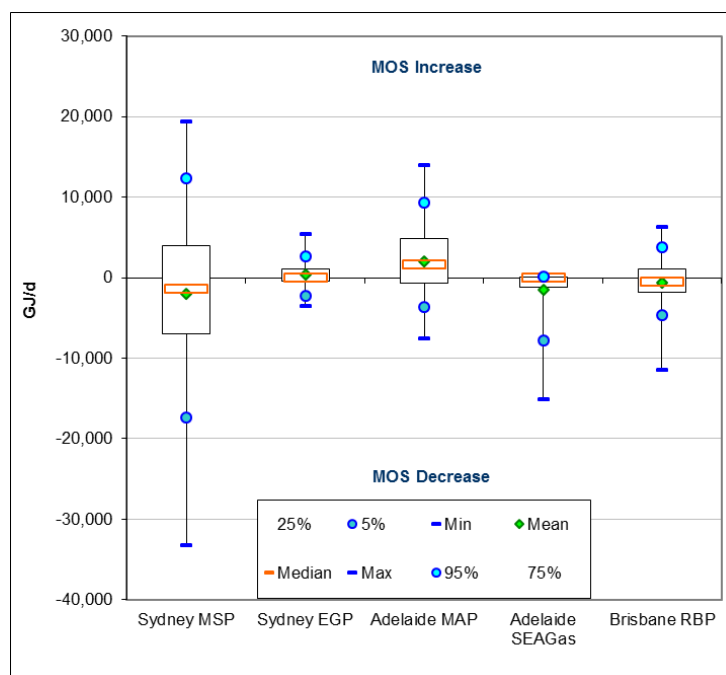
## MOS Period July 2015

**Table 1 – Maximum MOS quantities (GJ)**

	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
<b>MOS increase</b>	19,349	5,475	13,929	165	6,314
<b>MOS decrease</b>	33,198	3,462	7,606	15,100	11,400

**Figure 1 – Curves of daily MOS quantities**

**Table 2 – Summary statistics of daily MOS quantities**

	Summary statistics GJ/d				
	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
Maximum	19,349	5,475	13,929	165	6,314
95%	12,380	2,645	9,315	103	3,787
75%	4,016	1,128	4,806	18	1,131
50%	-1,360	-41	1,605	-1	-447
25%	-6,940	-490	-692	-1,187	-1,858
5%	-17,300	-2,201	-3,677	-7,860	-4,679
Minimum	-33,198	-3,462	-7,606	-15,100	-11,400
Mean	-2,000	329	2,012	-1,513	-607
Std deviation	10,409	1,688	4,487	3,354	3,192
% days positive	45%	48%	65%	48%	42%
% days negative	55%	52%	35%	52%	58%

**Figure 2 – Distribution of daily MOS quantities**


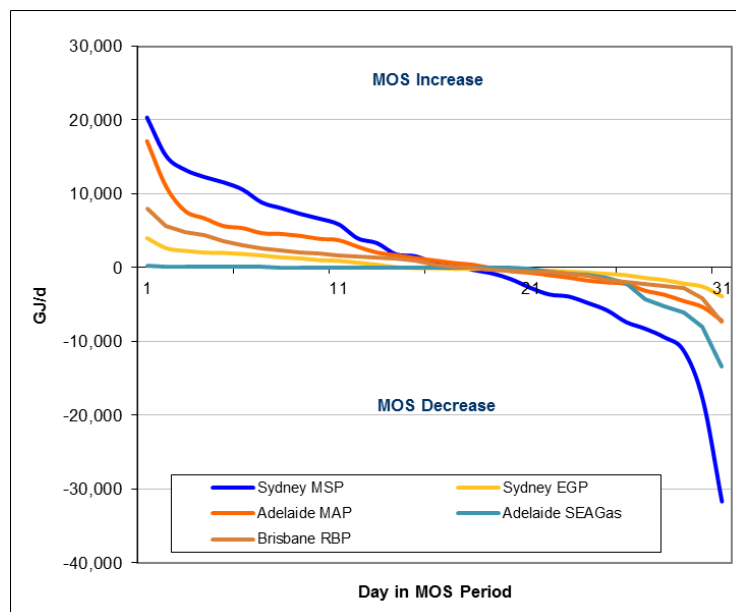
**Table 3 – Daily MOS quantities (GJ/d) for July 2015**

No of days	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
1	19,349	5,475	13,929	165	6,314
1	13,363	2,804	10,401	106	4,163
1	11,397	2,485	8,229	100	3,411
1	9,886	2,236	6,996	99	2,419
1	7,314	2,088	6,469	89	2,064
1	5,216	1,492	5,847	67	1,934
1	4,643	1,359	5,568	47	1,438
1	4,239	1,208	5,155	25	1,262
1	3,792	1,048	4,456	11	1,000
1	3,582	943	3,793	8	760
1	3,347	805	3,236	7	666
1	2,329	730	2,799	4	297
1	1,850	616	2,340	2	23
1	422	393	2,062	2	-182
1	-110	309	1,743	1	-376
1	-1,360	-41	1,605	-1	-447
1	-2,563	-96	1,204	-2	-705
1	-2,781	-125	1,027	-4	-866
1	-3,997	-159	464	-6	-1,099
1	-4,654	-170	281	-143	-1,186
1	-5,132	-258	-60	-253	-1,406
1	-5,655	-355	-178	-433	-1,477
1	-6,515	-451	-598	-916	-1,741
1	-7,365	-530	-786	-1,457	-1,974
1	-8,182	-690	-1,257	-2,132	-2,459
1	-11,171	-789	-1,896	-2,708	-2,838
1	-12,367	-1,074	-2,459	-3,321	-3,276
1	-13,093	-1,185	-3,036	-5,450	-3,771
1	-16,725	-1,990	-3,460	-7,148	-4,188
1	-17,874	-2,412	-3,893	-8,572	-5,169
1	-33,198	-3,462	-7,606	-15,100	-11,400

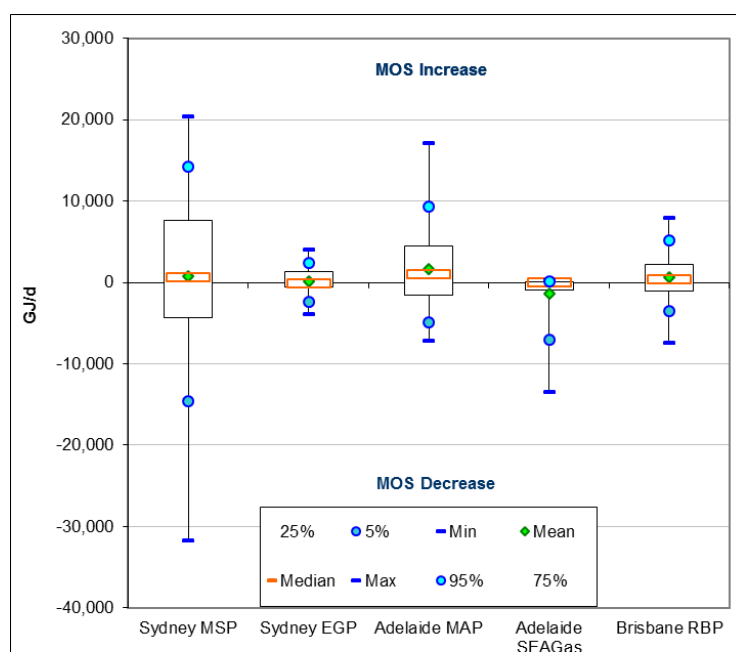
## MOS Period August 2015

**Table 1 – Maximum MOS quantities (GJ)**

	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
<b>MOS increase</b>	20,346	4,002	17,141	193	7,953
<b>MOS decrease</b>	31,707	3,899	7,207	13,425	7,384

**Figure 1 – Curves of daily MOS quantities**

**Table 2 – Summary statistics of daily MOS quantities**

	Summary statistics GJ/d				
	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
Maximum	20,346	4,002	17,141	193	7,953
95%	14,184	2,452	9,310	116	5,203
75%	7,673	1,321	4,437	36	2,226
50%	666	-75	973	0	393
25%	-4,359	-612	-1,557	-953	-1,013
5%	-14,567	-2,374	-4,945	-7,001	-3,473
Minimum	-31,707	-3,899	-7,207	-13,425	-7,384
Mean	710	183	1,640	-1,366	603
Std deviation	10,433	1,649	4,976	3,044	3,039
% days positive	55%	45%	58%	52%	58%
% days negative	45%	55%	42%	48%	42%

**Figure 2 – Distribution of daily MOS quantities**




**Table 3 – Daily MOS quantities (GJ/d) for August 2015**

No of days	Sydney MSP	Sydney EGP	Adelaide MAP	Adelaide SEAGas	Brisbane RBP
1	20,346	4,002	17,141	193	7,953
1	15,122	2,632	10,963	133	5,586
1	13,245	2,272	7,656	99	4,819
1	12,281	2,037	6,679	91	4,440
1	11,553	1,991	5,630	87	3,513
1	10,561	1,849	5,353	73	2,959
1	8,817	1,648	4,668	64	2,601
1	8,062	1,388	4,565	42	2,386
1	7,283	1,254	4,309	29	2,066
1	6,633	1,021	3,899	24	1,858
1	5,866	926	3,721	10	1,645
1	3,961	661	2,828	7	1,521
1	3,324	395	2,042	5	1,366
1	1,793	51	1,674	3	1,166
1	1,548	-58	1,292	1	898
1	666	-75	973	0	393
1	446	-152	633	-2	160
1	-299	-163	393	-3	0
1	-774	-203	-86	-6	-325
1	-1,578	-222	-501	-13	-418
1	-2,734	-332	-698	-136	-559
1	-3,639	-424	-1,035	-523	-636
1	-3,919	-544	-1,353	-882	-898
1	-4,798	-681	-1,760	-1,023	-1,127
1	-5,788	-835	-2,007	-1,439	-1,629
1	-7,382	-1,025	-2,216	-2,124	-1,917
1	-8,288	-1,406	-3,130	-4,283	-2,257
1	-9,457	-1,680	-3,684	-5,333	-2,531