

# Issues Paper

## Allowable Revenue and Forecast Capital Expenditure for the Australian Energy Market Operator 2016/17 – 2018/19

October 2016

Economic Regulation Authority

WESTERN AUSTRALIA

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## Invitation to make submissions

Interested parties are invited to make submissions on the ERA's issues paper by **4:00 pm (WST) 11 November 2016** via the submission [portal](#) located on the ERA's website, or:

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### CONFIDENTIALITY

In general, all submissions from interested parties will be treated as being in the public domain and placed on the Authority's website. Where an interested party wishes to make a submission in confidence, it should clearly indicate the parts of the submission for which confidentiality is claimed, and specify in reasonable detail the basis for the claim. Any claim of confidentiality will be considered in accordance with the provisions of 55 of the *Economic Regulation Authority Act 2003*.

The publication of a submission on the Authority's website shall not be taken as indicating that the Authority has knowledge either actual or constructive of the contents of a particular submission and, in particular, whether the submission in whole or part contains information of a confidential nature and no duty of confidence will arise for the Authority.

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# 1 Introduction

## 1.1 Background and scope of this Issues Paper

The Economic Regulation Authority (**ERA**) has received a submission from the Australian Energy Market Operator (**AEMO**) for the level of revenue it can recover from market participants for the three-year period from 1 July 2016 to 30 June 2019 for:

- market operation and system management of the Wholesale Electricity Market (**WEM**), as set out in the Wholesale Electricity Market Rules (**WEM Rules**); and
- operating the Gas Bulletin Board and preparing the Gas Statement of Opportunities as required under the Gas Services Information (**GSI**) Rules (**GSI Rules**).

AEMO's submission is available on the ERA's website. This is AEMO's first allowable revenue submission since assuming responsibility for these functions on 30 November 2015, as part of the Energy Market Review (**EMR**) being undertaken by the State Government.

This submission replaces previous submissions made by the Independent Market Operator (**IMO**) and System Management in November 2015 and February 2016 respectively.<sup>1</sup> Rule changes were made on 1 July 2016 deeming these submissions to have been withdrawn and requiring AEMO to submit its own proposal by 16 September 2016. The ERA must make its determination on AEMO's proposal by 16 December 2016.

In determining AEMO's allowable revenue and forecast capital expenditure, the ERA must publish an issues paper and seek public consultation on AEMO's proposal. The allowable revenue determined by the ERA forms the basis of annual budgets for AEMO. Market fees, which are charged based on megawatt hours (**MWh**) of energy generated or consumed, are adjusted each year to reflect the annual budget. Annual adjustments arising from differences between forecasts and actuals are also made to account for surpluses or shortfalls in revenues from market fees and system operation fees.

AEMO must publish a budget for both its WEM and GSI services on its website. As a result of a rule change, AEMO is not required to seek the Minister's approval of its WEM and GSI budgets, as was the case with the IMO previously.

AEMO must apply to the ERA to reassess its allowable revenue if its budget proposal is likely to result in revenue, over the three year allowable revenue period, being more than 15 per cent greater than the amount determined by the ERA. That is, an annual budget may vary from the amount approved in the allowable revenue determination, providing the total expenditure over the three year period only varies by up to 15 per cent. Capital expenditure can vary by up to 10 per cent over the three year period before AEMO is required to seek a reassessment.

The ERA has prepared this issues paper to clarify the ERA's assessment process and to assist interested parties make submissions on AEMO's proposal. Interested parties are invited to make submissions on any aspect of AEMO's proposal.

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<sup>1</sup> These submissions can be found on the ERA website: <https://www.erawa.com.au/electricity/wholesale-electricity-market/determinations/independent-market-operator-imo-system-management-and-australian-energy-market-operator-aemo-allowable-revenue> and <https://www.erawa.com.au/gas/gas-markets/independent-market-operator-imo-and-australian-energy-market-operator-aemo-allowable-revenue>

## 1.2 Rules governing the proposal and determination of allowable revenue and forecast capital expenditure

The WEM and GSI Rules each require the ERA to determine the allowable revenue and forecast capital expenditure for AEMO for the services it provides under the rules.

AEMO provides the following services under the WEM Rules:

- market operation services, including operation of the Reserve Capacity Mechanism, Short Term Energy Market and Balancing Market and settlement and information release functions;
- system planning services, including AEMO's performance of the Long Term Projected Assessment of System Adequacy function; and
- market administration services, including the procedure change process, participation in the Market Advisory Committee and other consultation, support for monitoring by the ERA, audit, and registration related functions.

AEMO's system management functions under the WEM Rules include:

- ensuring the secure and reliable operation of the South West Interconnected System (**SWIS**) and the operation of the WEM;
- procuring adequate ancillary services where Synergy cannot meet the ancillary service demands; and
- monitoring rule participants' compliance with the market rules relating to dispatch and Power System Security and Power System Reliability.

AEMO provides the following services under the GSI Rules:

- operation of the Western Australian Gas Bulletin Board; and
- preparation and publication of the annual Gas Statement of Opportunities report.

The factors the ERA must take into account in determining the allowable revenue and approving the forecast capital expenditure for AEMO for the services it provides under the WEM and GSI Rules are essentially the same. They are as follows:

- the allowable revenue must be sufficient to cover the forward looking costs of providing the relevant services in accordance with the following principles:
  - recurring expenditure requirements and payments are recovered in the year of expenditure;
  - capital expenditure is to be recovered through the depreciation and amortisation of the assets acquired by the capital expenditure in a manner that is consistent with good accounting principles;
- the allowable revenue and forecast capital expenditure must include only those costs that would be incurred by a prudent provider of the services, acting efficiently, seeking to achieve the lowest practically sustainable cost of delivering the services in accordance with the WEM or GSI Rules, while effectively promoting the wholesale market or GSI objectives;
- where possible, the ERA should benchmark the allowable revenue and forecast capital expenditure against the costs of providing similar services in other jurisdictions;

- where costs incurred by AEMO relate to both the performance of functions in connection with the WEM or GSI Rules and the performance of AEMO's other functions, the costs must be allocated on a fair and reasonable basis between:
  - costs recoverable as part of AEMO's allowable revenue and forecast capital expenditure; and
  - other costs not to be recovered under the WEM or GSI Rules.

## 2 AEMO Proposal

### 2.1 Proposed allowable revenue and forecast capital expenditure

AEMO's proposed allowable revenue and forecast capital expenditure for the 1 July 2016 to 30 June 2019 review period (**AR4**) are outlined in Table 1 below.

**Table 1 Proposed Allowable Revenue and Forecast Capital Expenditure for 2016/17-2018/19**

\$'000 (nominal)	2016/17	2017/18	2018/19	Total
WEM Market Operations Allowable Revenue	17,121	16,214	20,638	53,973
WEM System Management Allowable Revenue	17,652	18,675	18,168	54,495
GSI Allowable Revenue	2,040	2,151	1,687	5,878
<b>Total Allowable Revenue</b>	<b>36,813</b>	<b>37,040</b>	<b>40,493</b>	<b>114,346</b>
WEM Market Operations Forecast Capital Expenditure	15,562	13,752	2,216	31,530
WEM System Management Forecast Capital Expenditure	9,912	7,238	1,467	18,618
GSI Forecast Capital Expenditure	228	496	392	1,115
<b>Total Forecast Capital Expenditure</b>	<b>25,702</b>	<b>21,486</b>	<b>4,075</b>	<b>51,263</b>

AEMO's proposed allowable revenue and capital expenditure includes:

- Business as usual (**BAU**) costs. These are costs to provide the services in their current form. Outlining these separately allows comparisons against prior period activities and the identification of efficiencies or additional costs.
- System Management transition costs. These are the costs of transferring the system management function from Western Power to AEMO. This reflects additional expenditure arising from separating the functions from Western Power and creating an independent market and system operator in the WEM, including setting up a security desk in the new AEMO Perth office.
- Market reform projects. These are the planning and establishment costs associated with AEMO's development and implementation of new procedures and systems to comply with the amended WEM requirements being developed



by the EMR team. Specifically, this includes the Wholesale Settlements and Power System Operations work streams in AEMO's WA Market Reform Program, which will run over the next two to three years.

- New office fitout costs have been included in capital expenditure. AEMO will be moving to a new office facility, capable of housing all employees and the necessary infrastructure to provide the workspace and environment for it to develop standalone systems and prepare for the new market structures to be introduced in July 2018.

A summary of total allowable revenue and capital expenditure classified under these four categories is shown in Table 2 below, together with the total expenditure approved for the previous allowable revenue period (**AR3**). Proposed BAU costs are lower than were approved for AR3. However, overall costs are higher due to transitioning System Management to AEMO, building new market systems to accommodate the EMR reforms and moving to a new office.

**Table 2 Proposed Allowable Revenue and Forecast Capital Expenditure by category for 2016/17-2018/19**

\$'000 (nominal)	Approved AR3	BAU AR4	System Management Transition	Market Reform	New Office Fitout	Total
WEM Market Operations Allowable Revenue	48,776	44,768	-	9,205	-	53,973
WEM System Management Allowable Revenue	39,405	40,197	8,116	6,182	-	54,495
GSI Allowable Revenue	6,919	5,878	-	-	-	5,878
<b>Total Allowable Revenue</b>	<b>95,100</b>	<b>90,843</b>	<b>8,116</b>	<b>15,388</b>	<b>0</b>	<b>114,346</b>
WEM Market Operations Forecast Capital Expenditure	6,274	4,786	-	25,243	1,502	31,530
WEM System Management Forecast Capital Expenditure	3,999	2,205	3,213	10,899	2,299	18,618
GSI Forecast Capital Expenditure	461	917	-	-	199	1,116
<b>Total Forecast Capital Expenditure</b>	<b>10,734</b>	<b>7,908</b>	<b>3,213</b>	<b>36,142</b>	<b>4,000</b>	<b>51,263</b>

AEMO's projection of WEM market fees over the AR4 period, compared with the current fees, are set out in Table 3 below.

**Table 3      Projected WEM Market Fees for 2016/17-2018/19**

	2015/16 current \$/MWh	2016/17 \$/MWh	2017/18 \$/MWh	2018/19 \$/MWh
Market Operations	0.504	0.416	0.384	0.539
System Management	0.372	0.472	0.493	0.474
Total	<b>0.876</b>	<b>0.889</b>	<b>0.8777</b>	<b>1.103</b>
% change		<b>+1%</b>	<b>-1%</b>	<b>+15%</b>

AEMO intends to reset the 2016/17 fee following the ERA decision on AEMO's allowable revenue. Table 3 table outlines the movements in market fees resulting from the proposed expenditure based on an assumed increase in electricity volumes of around 1 per cent per annum.

GSI fees are split evenly between shippers and producers. AEMO has not provided a projection of GSI fees.

## 2.2 WEM allowable revenue

### 2.2.1 Market Operator

AEMO became the market operator for the WEM on 30 November 2015. Rule making and compliance and enforcement functions previously performed by the IMO did not transfer to AEMO. A breakdown of AEMO's projected operating costs for its market operator functions, compared with the amounts approved for AR3, are set out in Table 4 below. The AR3 approved allowable revenue includes costs relating to rule making and monitoring compliance and enforcement.

**Table 4 Projected operating costs for market operator functions**

\$'000 (nominal)	2016/17	2017/18	2018/19	AR4 Total	AR3 Total
<b>BAU Costs</b>					
Employee benefits expenses	5,168	5,122	5,917	16,207	17,521
Accommodation	767	939	735	2,441	2,251
Supplies and services	4,867	5,135	5,425	15,427	14,851
Borrowing	154	120	143	417	1,277
Depreciation	5,423	2,392	2,459	10,275	12,877
<b>TOTAL</b>	<b>16,379</b>	<b>13,709</b>	<b>14,680</b>	<b>44,768</b>	<b>48,776</b>
<b>Market Reform</b>					
Market reform planning	250	-	-	250	
Training and travel	149	743	47	939	
Other	344	1,762	2,267	4,373	
Borrowing	-	-	585	585	
Depreciation	-	-	3,059	3,058	
<b>TOTAL</b>	<b>743</b>	<b>2,505</b>	<b>5,958</b>	<b>9,206</b>	<b>-</b>
<b>Total Market Operator Costs</b>	<b>17,121</b>	<b>16,214</b>	<b>20,638</b>	<b>53,973</b>	<b>48,776</b>
<b>By Service:</b>					
Market Operations	12,974	11,577	13,418	37,969	24,411
System Planning	3,870	4,317	5,203	13,391	8,683
Market Administration	276	320	2,017	2,614	15,682
<b>Total</b>	<b>17,121</b>	<b>16,214</b>	<b>20,638</b>	<b>53,973</b>	<b>48,776</b>

Key assumptions employed by the AEMO to derive its proposed allowable revenue for market operator functions for AR4 are outlined in Table 5 below.

**Table 5 Key assumptions applied to forecast market operator operating expenditure for AR4**

Cost or calculation parameter	Key Assumption
Escalation Rate for Annual Indexation Costs	Indexation cost based on Department of Treasury advice of 2.50 per cent across the Review Period. AEMO has excluded costs covered by fixed price contracts from this indexation.
Employee Benefits Expenses	Salary increases have been estimated in line with AEMO's Enterprise Agreement (EA). The current AEMO EA provides for annual increases of 2.9 per cent.  The current AEMO EA expires on 30 June 2018 and the salary rate increase is assumed to roll forward to 2018-19.  Labour costs have decreased over the review periods due to a reduction in staff with some functions remaining with the

Cost or calculation parameter	Key Assumption
	IMO (5 full-time equivalents ( <b>FTE's</b> )), and a reduction in the average FTE's allocated to the electricity market operator functions. Furthermore, there are synergies gained by sharing a single corporate services team across the three functions (market operator, GSI functions, and System Management).
Supplies and Services	<p>This category encompasses Operations and Technology, System Capacity, Market Development, and Corporate Services costs.</p> <p>The Operations and Technology costs will increase due mainly to the costs of several new data links that will need to be implemented and operated for the new markets.</p> <p>System Capacity costs will increase mainly related to additional consultancy costs required to support the work done on the WA Electricity Statement of Opportunities (<b>ESOO</b>).</p> <p>Market Development costs will reduce as the rule development and changes function did not transfer from the IMO to the AEMO.</p> <p>Corporate Services costs will reduce as savings from a shared corporate services team supporting both the electricity market operator as well as the system management functions.</p>
Accommodation	<p>Accommodation costs include office rental, cleaning, electricity, maintenance and car parking, which are apportioned across the three functions.</p> <p>AEMO plans to consolidate its WA market operator and WA system management teams into a single Perth office in September 2017, including the system management control room with appropriate security and services for a 24/7 operator.</p>
Depreciation	<p>Depreciation is determined by the expected written down value of assets as of 30 June 2016, as well as depreciation that flows from assets purchased over the course of the review period.</p> <p>The expected useful life of assets is based on AEMO's fixed and intangibles assets policy, with specific consideration given to assets that may be affected by the market reforms.</p> <p>Depreciation on WA Market Reform establishment assets is based on an economic life of 10 years.</p>
Borrowing Costs	<p>All capital requirements are funded at AEMO's cost of capital estimated at 3.30 per cent, being Bank Bill Swap Bid Rate plus a margin.</p> <p>Projected borrowing costs have been calculated based on existing loan facilities and the projected capital expenditure.</p> <p>Zero borrowing costs are attributable to the fitout of the new office, as this is offset by the commercial terms of the lease incentive.</p>
Market reform	Depreciation costs for the market reform relate to the new market systems that have been deployed to support and deliver the new functions arising from WEM market reforms.

Cost or calculation parameter	Key Assumption
	<p>Significant expenditure on training and travel with most of it comprised of training material design and production, and the delivery of training to market participants and AEMO staff.</p> <p>Other expenditure includes technology costs relating to operating the data links for the new WA data centres and additional licencing fees to support new market systems.</p> <p>Also there is significant expenditure on operating personnel and support services required to meet AEMO's additional obligations and the systems to support these for the new market.</p>

### Issue 1

Interested parties are invited to make submissions on the key assumptions employed by AEMO in deriving the proposed Market Operations Allowable Revenue for 2016/17 to 2018/19.

## 2.2.2 System Management

On 1 July 2016, AEMO became legally responsible for system management functions. AEMO's submission provides details of a series of contractual arrangements it has entered into with Western Power to transfer system management functions over the review period. These include:

- Between July 2016 and October 2016, AEMO and Western Power entered into an operating agreement for Western Power to exercise System Management functions on AEMO's behalf;
- On 31 October 2016, System Management staff who accept AEMO's employment offer will transfer to AEMO, but continue to work in the Western Power control centre until AEMO builds a control room in Western Australia (expected to occur by September 2017), and the operating agreement will be replaced by a services agreement;
- The services agreement will provide AEMO staff with access to current Western Power facilities (primary and back up control room), the use of operational systems and, if required, a secondee service, which will cover any roles where a Western Power employee has declined to join AEMO until such time as AEMO is able to replace the employee. The service agreement also includes provision for a residual operating service, which covers any operating services that may have been provided under the operating agreement but do not fit into any of the above arrangements.

A breakdown of AEMO's projected operating costs for its system management functions, compared with the amounts approved for AR3, are set out in Table 6 below. Projected costs payable to Western Power under the operating and services agreements are shown separately.

**Table 6 Projected operating costs for system management functions**

\$'000 (nominal)	2016/17	2017/18	2018/19	AR4 Total	AR3 Total
<b>AEMO BAU</b>					
Employee benefits expenses	4,006	6,576	5,803	16,385	
Accommodation	-	417	489	906	
Supplies and services	1,204	1,665	3,366	6,236	
Borrowing	-	-	-	-	
Depreciation	623	732	732	2,087	
<b>Total AEMO BAU</b>	<b>5,833</b>	<b>9,390</b>	<b>10,390</b>	<b>25,614</b>	
<b>Western Power BAU</b>					
Employee benefits expenses	2,003			2,003	
Accommodation	456	175		631	
Supplies and services	5,643	3,775	521	9,940	
Borrowing					
Depreciation	710	1,180	120	2,010	
<b>Total Western Power BAU</b>	<b>8,812</b>	<b>5,130</b>	<b>641</b>	<b>14,584</b>	
<b>Combined BAU</b>					
Employee benefits expenses	6,009	6,576	5,803	18,388	16,790
Accommodation	456	592	489	1,537	926
Supplies and services	6,847	5,440	3,887	16,176	9,142
Borrowing	-	-	-	-	2,205
Depreciation	1,333	1,912	852	4,097	10,343
<b>Total Combined BAU</b>	<b>14,645</b>	<b>14,520</b>	<b>11,031</b>	<b>40,198</b>	<b>39,405</b>
<b>System Management Transition</b>					
Employee benefits expenses	2,019	1,560	1,658	5,237	-
Supplies and services	-	737	1,541	2,278	-
Depreciation	-	273	328	601	-
<b>Total Transition Costs:</b>	<b>2,019</b>	<b>2,570</b>	<b>3,526</b>	<b>8,116</b>	<b>-</b>
AEMO	-	2,570	2,858	5,429	
System Management	2,019	-	668	2,688	
<b>Market Reform</b>					
Market reform planning	740	-	-	740	-
Training and travel	178	884	-	1,062	-
Other	71	699	2,041	2,811	-
Borrowing costs	-	-	253	253	-
Depreciation	-	-	1,317	1,317	-
<b>Total Market Reform Costs</b>	<b>988</b>	<b>1,583</b>	<b>3,611</b>	<b>6,182</b>	<b>-</b>
<b>Total System Management Costs</b>	<b>17,652</b>	<b>18,675</b>	<b>18,168</b>	<b>54,495</b>	<b>39,405</b>

Key assumptions employed by AEMO to derive its proposed allowable revenue for system management functions for AR4 are outlined in Table 7 below.

**Table 7 Key assumptions applied to forecast system management operating expenditure for AR4**

Cost or calculation parameter	Key Assumption
Escalation Rate for Annual Indexation Costs	Indexation cost based on Department of Treasury advice of 2.50 per cent across the review period. AEMO has excluded costs covered by fixed price contracts from this indexation.
Employee Benefits Expenses	Salary increases have been estimated in line with AEMO's Enterprise Agreement (EA). The current AEMO EA provides for annual increases of 2.9 per cent.  The current AEMO EA expires on 30 June 2018 and the salary rate increase is assumed to roll forward to 2018-19.  Western Power employees are expected to transfer to AEMO on 31 October 2016, and these costs have been included.
Supplies and Services	AEMO has an Operating Agreement with Western Power until October 2016 that specifies the amount that is payable to Western Power. At the time of its submission, the AEMO and Western Power were negotiating a services agreement for October 2016 onwards.  Existing System Management assets will continue to be owned by Western Power, which will charge AEMO a service fee.
Accommodation	Accommodation costs include office rental, cleaning, electricity, maintenance and car parking, which are apportioned across the three functions.  Accommodation costs are forecast to increase between review periods as AEMO will continue to run the System Management function from the control room in Western Power until moving to a single AEMO Perth office in September 2017.
Depreciation	How depreciation charges are recorded will change between the review periods. There is no depreciation charge on existing System Management assets owned by Western Power. Rather, AEMO will pay a service charge to Western Power based on a Services Agreement, which will include depreciation costs.
Borrowing Costs	Borrowing costs will reduce between periods as AEMO will pay a service charge to Western Power based on a Services Agreement, which will include the costs of borrowing.
Transition of system management from Western Power to AEMO	A significant portion of the transition costs relate to an additional six personnel in the control room staff to enable the running of a stand-alone security desk.  Also an additional 2 FTE's for the ongoing development and support of operating procedures, IT project management, training, and independent security review of network outage requests.
Market reform	Depreciation costs for the market reform relate to the new market systems that have been deployed to support and deliver the new functions arising from WEM market reforms.

	<p>Significant expenditure on training and travel with most being for training material design and production, and the delivery of training to market participants and AEMO staff.</p> <p>Other expenditure includes technology costs relating to operating the data links for the new WA data centres and additional licencing fees to support new market systems. Also there is significant expenditure on operating personnel and support services required to meet AEMO's additional obligations and the systems to support these for the new market.</p>
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## Issue 2

Interested parties are invited to make submissions on the key assumptions employed by AEMO in deriving the proposed System Management Allowable Revenue for 2016/17 to 2018/19.

## 2.3 WEM forecast capital expenditure

Forecast capital expenditure for market operation and system management is discussed under the following headings:

- business as usual;
- system management transition from Western Power to AEMO;
- market reform; and
- new office fitout.



## 2.3.1 BAU capital expenditure

### Market Operations

**Table 8 Forecast Capital Expenditure for Market Operations BAU**

\$'000 (nominal)	2016/17	2017/18	2018/19	AR4 Total	AR3 Total
WEM system	185	650	650	1,485	1,288
WEM system metering and settlements	40	40	424	504	473
Infrastructure – market systems	136	136	299	572	2,796
Data/Information Provision	-	-	-	-	1,284
Corporate support	57	62	85	204	436
<b>Sub-total</b>	<b>419</b>	<b>888</b>	<b>1,458</b>	<b>2,765</b>	<b>6,274</b>
WA integration	407	-	-	407	-
Architectural alignment of infrastructure	954	440	220	1,614	-
<b>TOTAL</b>	<b>1,780</b>	<b>1,328</b>	<b>1,678</b>	<b>4,786</b>	<b>6,274</b>

Note: Excludes new office fit-out.

AEMO states that the level of investment required is to maintain the systems at the required level of performance, and the focus is on maintaining existing systems until migration to new market systems.

The forecast capital expenditure for the Market Operations BAU has been grouped into seven key areas for the upcoming three year period. Details on these three areas are set out on pages 21-22 of the AEMO's submission to the ERA.

### System Management

**Table 9 Forecast Capital Expenditure for System Management BAU**

\$'000 (nominal)	2016/17	2017/18	2018/19	Total AR4	Total AR3
WEM System Management	905	1,180	120	2,205	3,999

System Management BAU forecast capital expenditure is required to maintain the System Management systems at the required level of performance, with the focus on maintaining existing systems until migration to the new market systems.

AEMO has identified a number of projects that are required within the AR4 review period for System Management to continue to provide effective management and operation of the WA power network. These include the following:

- Enhancements to the Dispatch Training Simulator (**DTS**) system, which is used to train controllers and other staff in a real-time environment (including dispatch of participants and scheduling of generation).

- Improvements to System Management operational systems to ensure critical systems are secured to an industry acceptable standard, as defined by AEMO.
- Specifying, designing, and implementing small-scale changes to Operational Systems to ensure they are fit for-purpose to manage dispatch and system security.
- Addressing the risks of obsolete and/or unsupported hardware through a remediation program of the critical System Management Operational Systems.

### 2.3.2 System management transition

**Table 10 Forecast Capital Expenditure for System Management Transition**

\$'000 (nominal)	2016/17	2017/18	2018/19	Total
WA Integration	390	-	-	<b>390</b>
Software licensing	2,823	-	-	<b>2,823</b>
New office fitout		2,299		<b>2,299</b>
<b>Total</b>	<b>3,213</b>	<b>2,299</b>	-	<b>5,512</b>

The majority of forecast capital expenditure costs relate to software licensing with AEMO being required to purchase additional licences as the existing license arrangements held by Western Power do not support outsourcing. Further details on these three areas are set out on page 29 of the AEMO's submission to the ERA.

### 2.3.3 Market reform project

**Table 11 Forecast Capital Expenditure for Market Reform Project**

\$'000 (nominal)	2016/17	2017/18	2018/19	Total
WEM Market Operations	13,782	10,922	539	25,243
WEM System Management	5,083	4,469	1,347	10,899
<b>Total</b>	<b>18,865</b>	<b>15,391</b>	<b>1,886</b>	<b>36,142</b>

AEMO notes in its submission that the cost estimates were developed during the planning phase of the project using a bottom-up approach. Throughout the planning phase, a number of peer assist and peer review workshops were undertaken to challenge and strengthen the accuracy of these estimates.

A key component of the project is to ensure that AEMO and all participants fully understand the changes, are regularly engaged with, and are well prepared to comply with the new reforms through various programs (e.g. the Change Management Program). The above estimates encompass not just system implementation costs, but also costs required for the various programs to transition to the new market.

Further detailed information on the Market Reform Project forecast capital expenditure projects can be found in AEMO's submission to the ERA on pages 30-42 and in Appendix A to the submission.

### 2.3.4 New office fitout

As noted above, AEMO intends to move to a new office in 2017/18.

**Table 12 Forecast Capital Expenditure for new office fitout**

\$'000 (nominal)	2016/17	2017/18	2018/19	Total
WEM Market Operations	-	1,502	-	<b>1,502</b>
WEM System Management	-	2,299	-	<b>2,299</b>
<b>Total</b>	-	<b>3,801</b>	-	<b>3,801</b>

AEMO notes it expects to secure lease incentives that will cover most of its fit out costs.

#### Issue 3

Interested parties are invited to make submissions on AEMO's Forecast Capital Expenditure for the WEM for 2016/17 to 2018/19

## 2.4 GSI allowable revenue

The GSI Rules commenced on 29 June 2013, with the first allowable revenue period being 1 July 2013 to 30 June 2016 (**AR1**). On 30 November 2015, the accountabilities for the Gas Bulletin Board (**GBB**) and Gas Statement of Opportunities (**GSOO**) transferred to AEMO.

A summary of AEMO's proposed operating expenditure by category for 2016/17 to 2018/19 (**AR2**) is set out in Table 13 below.

**Table 13 Proposed GSI operating expenditure by category**

\$'000 (nominal)	2016/17	2017/18	2018/19	Total AR2	Total AR1
Employee Benefits Expense	717	712	803	<b>2,232</b>	<b>2,352</b>
Accommodation	102	124	97	<b>323</b>	<b>304</b>
Supplies and Services	539	551	552	<b>1,642</b>	<b>1,985</b>
Borrowing Costs	22	32	25	<b>78</b>	<b>379</b>
Depreciation	662	733	209	<b>1,603</b>	<b>1,899</b>
<b>Allowable Revenue</b>	<b>2,040</b>	<b>2,151</b>	<b>1,687</b>	<b>5,878</b>	<b>6,919</b>

Key assumptions employed in the derivation of the proposed Allowable Revenue for the second review period are outlined in Table 14 below.

**Table 14 Key assumptions applied in the derivation of GSI Allowable Revenue for the Second Review Period**

Cost or calculation parameter	Key Assumption
Escalation Rate for Annual Indexation Costs	Indexation cost based on Department of Treasury advice of 2.50 per cent across the review period. AEMO has excluded costs covered by fixed price contracts from this indexation.
Employee Benefits Expenses	<p>AEMO has reduced the average employee numbers allocated to the GSI functions over the review period from 6.1 to 5.1 full-time equivalent employees (FTEs) per annum.</p> <p>Salary increases have been estimated in line with AEMO's Enterprise Agreement (EA). The current AEMO EA provides for annual increases of 2.9 per cent.</p> <p>The current AEMO EA expires on 30 June 2018 and the salary rate increase is assumed to roll forward to 2018-19.</p>
Supplies and Services	<p>This category encompasses Operations and Technology, System Capacity, Market Development, and Corporate Services costs.</p> <p>AEMO projects a decrease in costs for the 2017-19 period compared to the 2013-16 period. The major variances relate to savings in Operations and Technology on the cost of maintaining the GBB software due to identified efficiencies and savings in Corporate Services due to AEMO's strong focus on cost control and efficiencies gained through the integration of functions into AEMO.</p>
Accommodation	<p>Accommodation costs include office rental, cleaning, electricity, maintenance and car parking, which are apportioned across the three functions.</p> <p>AEMO currently leases space on Level 17, 197 St Georges Terrace, and the current lease agreement is for 10 years, with an option for AEMO to exit from the lease after 5 years.</p> <p>AEMO plans to consolidate its WA market operator and WA system management teams into a single Perth office in September 2017, including the system management control room.</p> <p>The costs of the office move are included in the proposed cost estimates.</p>
Depreciation	<p>Depreciation is determined by the expected written down value of assets as of 30 June 2016, as well as depreciation that flows from assets purchased over the course of the review period.</p> <p>The expected useful life of assets is based on AEMO's fixed and intangibles assets policy, with specific consideration given to assets that may be affected by the market reforms.</p> <p>Depreciation on WA Market Reform establishment assets is based on an economic life of 10 years.</p>
Borrowing Costs	<p>All capital requirements are funded at AEMO's cost of capital estimated at 3.30 per cent, being Bank Bill Swap Bid Rate plus a margin.</p> <p>Projected borrowing costs have been calculated based on existing loan facilities and the projected capital expenditure.</p>

## 2.5 GSI forecast capital expenditure

AEMO's proposed capital expenditure is set out in Table 15 below.

**Table 15 Proposed GSI forecast capital expenditure detail**

\$'000 (nominal)	2016/17	2017/18	2018/19	Total AR2	Total AR1
GSI	88	90	202	380	351
Infrastructure – market systems	19	19	41	78	50
Architectural alignment of infrastructure	96	180	150	426	
Corporate support	26	8	0	34	59
<b>Total BAU</b>	<b>228</b>	<b>297</b>	<b>392</b>	<b>917</b>	<b>461</b>
New office fitout	0	199	0	199	-
<b>Total</b>	<b>228</b>	<b>496</b>	<b>392</b>	<b>1,116</b>	<b>461</b>

AEMO's proposal provides an explanation of what it identifies as the major areas of capital expenditure.

- **Gas Services Information Systems** – AEMO notes that the Gas Bulletin Board (GBB) requires sustained investment to maintain its current capability as well as to facilitate any evolutionary changes. This expenditure will allow for the implementation of GSI Rule changes and will ensure the GBB remains compliant with the GSI Rules.
- **Architectural alignment of infrastructure** – AEMO notes that the infrastructure used to support WA services was previously designed and deployed to support the requirements of the WA environment only. As a result of transitioning the services to AEMO, there is a requirement to consider the organisation's broader IT principles. The planned expenditure relates to hardware refreshes and infrastructure upgrades, which will comply with AEMO standards. AEMO notes that this will bring significant benefits, in terms of the overall reliability, security, and cost effectiveness of the AEMO IT systems landscape.
- **New office fitout** – Capital costs incurred in the office fitout. In the current Perth property market, AEMO expects to secure incentives that cover most of its fitout costs.

### Issue 4

Interested parties are invited to make submissions on the key assumptions employed by AEMO in deriving the proposed GSI allowable revenue and forecast capital expenditure for 2016/17 to 2018/19

## 2.6 Allocation of costs

AEMO's proposal notes, consistent with the IMO, it has integrated its functions under the WEM and GSI Rules to enable it to achieve operational efficiencies that would not be achieved if the functions were operated separately. Accordingly, many of AEMO's resources (including staff, administrative support, office accommodation, and other corporate and management support) are shared across both electricity and gas functions.

AEMO's proposal notes it has used a detailed split of approved full time equivalent positions to allocate payroll costs between functions. Accommodation costs have been allocated across functions based on position count.

AEMO notes it intends to achieve cost synergies by utilising a single Western Australian corporate services function with the costs allocated across all Western Australian functions.

AEMO's proposal notes there are significant economy-of-scale savings that will accrue from the consolidation and integration of market operations and system management into the existing AEMO environment, including:

- efficiency gains in corporate support functions such as HR, payroll, IT and finance; and
- significant reductions in IT hardware and software licensing costs via economies of scale, system consolidations and elimination of duplicate or obsolete systems.

## 3 Process to be followed by the ERA

The ERA intends to compare the AEMO's projected revenue with costs incurred by the IMO and System Management during the previous review period, adjusted for any functions that did not transfer to AEMO.

The ERA will review the costs associated with the transfer of WEM functions from the IMO and Western Power to AEMO and the establishment of the reformed market in 2018-19 to test the reasonableness of the estimates.

The ERA will compare AEMO's projected costs for providing WEM services against the actual and projected costs incurred by AEMO for the provision of similar services in the Eastern States.

The ERA will also seek to benchmark costs against similar functions in other markets and will compare the projected corporate costs with organisations of a comparable size.

The process that the ERA intends to apply in its determination is to:

- Assess the proposed business as usual costs against actual costs in the period 2013-2016 of parallel services provided by the IMO and System Management in the provision of both GSI and WEM related services, where possible, after adjusting for any functions that have not been transferred to AEMO.
- Assess the methodology and assumptions used to determine the operating and service agreements charges from Western Power for providing system management services.

- Benchmark the business as usual costs against similar services provided by AEMO in the Eastern States, where possible.<sup>2</sup>
- Review the reasonableness of the methodology and assumptions used to forecast expenditure in relation to the transition of System Management from Western Power to AEMO and the Market Reform Project.
- Seek further supporting information for the proposed allowable revenue and forecast capital expenditure sufficient to demonstrate that it is consistent with costs that would be incurred by a prudent provider of services, acting efficiently, and seeking to achieve the lowest sustainable cost of delivering these services in Western Australia.
- Identify and assess whether recurring expenditure requirements and payments are recovered in the year of the expenditure.
- Identify and assess differences in costs that are reflective of “trend changes”, due to cost drivers, such as an increasing scale of operations and inflation of unit costs.
- Identify changes in costs that are reflective of changes in the nature of activities being undertaken, or changes in the manner in which activities are undertaken (such as transfers of certain activities from being undertaken in-house to being undertaken by contractors).
- Assess the reasonableness of the methods used to develop the estimates for the market reform and system management transition capital expenditure, and test key assumptions and costs.
- Assess whether amounts of depreciation and amortisation included in the allowable revenue have been appropriately determined from capital expenditure.
- Assess whether costs incurred by AEMO that relate to both the performance of functions in connection with the WEM or GSI Rules, and the performance of AEMO’s other functions, have been allocated on a fair and reasonable basis.
- Seek technical advice to assist it in its review.

## Issue 5

Interested parties are invited to make submissions on the process that the Authority intends to follow in assessing the AEMO’s allowable revenue and forecast capital expenditure.

<sup>2</sup> The Authority notes that in some instances it may not be practical to undertake such benchmarking as there are no directly comparable entities to AEMO in other jurisdictions in terms of scale of operation, structure of the business and nature of activities.