

# Determination of the Ancillary Service Cost\_LR Parameters for 2016/17 to 2018/19

31 March 2016

**Economic Regulation Authority**

WESTERN AUSTRALIA

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## DETERMINATION

1. On 24 November 2015, System Management (a segregated unit of Western Power) submitted to the Authority a proposal for the Ancillary Service Cost\_LR parameters for the period from 1 July 2016 to 30 June 2019 (**review period**).
2. The proposed Cost\_LR parameters were submitted in accordance with the requirements of clause 3.13.3B of the Wholesale Electricity Market Rules (**Market Rules**) under which the Authority is required to determine the Ancillary Service parameters for the review period.
3. System Management's proposal is available on the Authority's website.<sup>1</sup> System Management also provided the Authority with a confidential attachment detailing the indicative costs for each System Restart contract which has not been published.
4. On 7 January 2016, the Authority issued a notice inviting submissions on the proposed Cost\_LR parameters and an issues paper to assist interested parties in understanding and making submissions on the proposal. One submission was received from Synergy. The submission is available on the Authority's website.<sup>2</sup>
5. In making its determination, the Authority has taken into account the matters set out in clauses 3.13.3B(a) of the Market Rules.
6. The Authority has determined that the values of the Cost\_LR parameters for the review period will be as shown in the table below.

Cost_LR parameters	2016/17 \$'000 Annual cost	2017/18 \$'000 Annual cost	2018/19 \$'000 Annual cost
"L" component	1,400	1,400	1,400
"R" component	547.9	561.7	575.7

7. The reasons for this determination are set out below.

<sup>1</sup> ERA website, Load Rejection (Cost\_LR), [https://www.erawa.com.au/electricity/wholesale-electricity-market/determinations/ancillary-services-parameters/load-rejection-cost\\_lr](https://www.erawa.com.au/electricity/wholesale-electricity-market/determinations/ancillary-services-parameters/load-rejection-cost_lr)

<sup>2</sup> ERA website, Load Rejection (Cost\_LR), [https://www.erawa.com.au/electricity/wholesale-electricity-market/determinations/ancillary-services-parameters/load-rejection-cost\\_lr](https://www.erawa.com.au/electricity/wholesale-electricity-market/determinations/ancillary-services-parameters/load-rejection-cost_lr)

## REASONS

### Legislative requirements

8. Clause 3.13.3B of the Market Rules requires the Authority to determine values for the Cost\_LR parameters.
9. The Cost\_LR parameter provides for the payment to a Market Generator for the costs of providing Load Rejection Reserve and System Restart Ancillary Services.
10. Load Rejection Ancillary Services are provided by generators that are selected to be shut down quickly in the event of lost load, such as when a transmission line trips. This service is required in order to maintain system frequency within acceptable limits. Generators providing Load Rejection Services are compensated through the “L” component of the Cost\_LR parameter.
11. System Restart Ancillary Services are provided by generators capable of starting up on black system conditions and are also able to energise the power system to enable other generators to be started up. Generators providing System Restart Services are compensated through the “R” component of the Cost\_LR parameter.
12. Under the Market Rules,<sup>3</sup> the Authority must determine the values for the Cost\_LR parameter, taking into account the Wholesale Market Objectives<sup>4</sup> and System Management’s Cost\_LR proposal.
13. Clause 3.13.3B of the Market Rules establishes the requirements for the Authority’s determination of the values for the Cost\_LR parameter:
  - System Management must submit a proposal for the values of the Cost\_LR parameter by 30 November prior to the start of the review period.
  - the Authority must undertake a public consultation process in approving the values for the Cost\_LR parameter, which must include publishing an issues paper and issuing an invitation for public submissions; and
  - by 31 March of the year in which the review period commences, the Authority must determine the values for the Cost\_LR parameter for the review period.
14. In determining the values of the Cost\_LR parameter, clause 3.13.3B(a) of the Market Rules requires that the Authority take into account whether the values cover the costs for providing the Load Rejection Reserve and System Restart Ancillary Services.

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<sup>3</sup> Clause 3.13.3B.

<sup>4</sup> The Wholesale Electricity Market objectives are provided for under clause 1.2 of the Market Rules.

## Proposed Cost\_LR parameters

15. System Management's proposed values for the Ancillary Service Cost\_LR parameter are shown in the table below.

### System Management's proposed values for the Ancillary Service Cost\_LR parameter

Cost_LR parameters	2016/17 (\$'000 per annum)	2017/18 (\$'000 per annum)	2018/19 (\$'000 per annum)
"L" component	0	0	0
"R" component	929	3,273	3,355

## Approach to assessment

16. The Authority has assessed System Management's proposal against the factors set out in clause 3.13.3B of the Market Rules by taking into account:
- the Wholesale Market Objectives;
  - whether the proposed values for the Cost\_LR parameter covers the costs for providing the Load Rejection Reserve Service, System Restart Service and Dispatch Support Ancillary Service (except those provided through clause 3.11.8B of the Market Rules); and
  - issues raised in public submissions.

## Public submissions

17. In accordance with clauses 3.13.3B(b) of the Market Rules, the Authority undertook public consultation on the proposed Cost\_LR parameters, including publishing an issues paper on 7 January 2016 and issuing an invitation for public submissions. The closing date for public submissions was 5 February 2016.
18. One submission was received from Synergy.
19. Synergy's submission notes that, prior to the introduction of the competitive balancing market in July 2012, the Market Rules excluded the then Verve Energy (now Synergy) from receiving any commitment compensation associated with any facility start-ups or shutdowns. This had the effect of restricting it from recovering any start-up or shut down costs associated with providing load rejection services.
20. Synergy notes that although this restriction was removed in 2012, it did not seek to recover any explicit costs associated with providing load rejection services via the Cost\_LR mechanism.
21. Synergy notes the Margin Peak and Margin Off-Peak methodology was modified by Jacobs Group (Australia) Pty Limited (**Jacobs**) in its advice to the Independent Market Operator in relation to calculating the margin values for Spinning Reserve services for the 2015/16 year. Synergy notes the change in methodology takes account of the impact of load rejection services and provides an explicit approach to

quantify the costs associated with the provision of load rejection services. Synergy considers this modelling should be used to establish the “L” component of the Cost\_LR parameter rather than continue to adopt a value of nil.

## Assessment

### “L” Component

22. The Authority notes Synergy currently provides Load Rejection Reserve service as part of its Ancillary Service obligations, under clause 3.11.7A of the Market Rules. As submitted by System Management and determined by the Authority at the last review, the current value of the “L” component is zero.
23. In its proposal, System Management notes it engaged Jacobs in June 2014 to conduct a study to assess the cost of providing various levels of Load Rejection Reserve services. System Management provided a confidential version of the report on the study to the Authority, and it also presented the results to the Market Advisory Committee at a meeting on 13 August 2014.
24. Based on Jacobs’ report, System Management included in its Cost\_LR proposal a graph that provides the forecast annual cost for various levels of Load Rejection. It showed a zero cost for providing the 2014 level of Load Rejection Reserve of 120MW. System Management stated at the time of preparing the Cost\_LR proposal, there was no confirmed requirement of any need to increase the level of Load Rejection from the 2014 level.<sup>5</sup> Consequently, System Management has made no change to the allocation of zero cost for the “L” component for the review period.
25. The Authority received one public submission in response to the Authority’s issues paper on the Cost\_LR parameters from Synergy. The Authority has considered Synergy’s submission which expressed that Jacobs’ 2016/17 Margin Peak and Margin Off-Peak Review Final Report (26 November 2015)<sup>6</sup> quantifies the costs associated with the provision of Load Rejection Reserve, and that it is appropriate the Authority determine that the value for the “L” component reflect the cost of providing Load Rejection Reserve for the review period.
26. The Authority notes that System Management did not consult with Synergy in relation to the cost of providing load rejection services prior to submitting its Cost\_LR proposal. Although not required by the Market Rules, the Authority considers it would have been good practice to do so, given that Synergy is the supplier of these services and would have a view on the cost of doing so.
27. The Authority is aware from its role in approving the Margin Peak and Off-Peak parameters for Spinning Reserve services, that the modelling undertaken by Jacobs to inform these values for the 2015/16 and 2016/17 years, also takes account of the provision of Load Rejection Services. In addition to estimating the Margin Peak and Off-Peak parameters for providing Spinning Reserve services, the modelling

<sup>5</sup> AEMO website, *Ancillary Services Report 2015*, 12 August 2015, <http://wa.aemo.com.au/docs/default-source/System-Management-Reports/final-2015-ancillary-services-report-for-imo-website.pdf?sfvrsn=0>

<sup>6</sup> ERA website, *2016/17 Margin Peak and Margin Off-Peak Review Final Report – Public*, 26 November 2015, <https://www.erawa.com.au/cproot/14023/2/IMO%20Submission%20of%20Proposed%20Margin%20Values%202016%2017.pdf>

- provides an estimate of the costs of providing Load Rejection services. For the 2016/17 year, the modelling indicates the cost is in the region of \$1.4 million.<sup>7</sup>
28. The Authority notes the modelling undertaken by Jacobs for the 2015/16 and 2016/17 Margin Peak and Off-Peak parameters builds on the review Jacobs undertook for System Management in 2014 in relation to increasing the level of Load Rejection Services from the current quantity of 120 MW.<sup>8</sup>
  29. The Authority considers the modelling undertaken for the purposes of establishing the parameters in relation to Spinning Reserve services has provided evidence that there is a cost to Synergy in providing Load Rejection services. The Authority has discussed these results with System Management. System Management has acknowledged that the report it based its assessment on has been superseded by the subsequent modelling Jacobs has undertaken in relation to the Margin Peak and Off-Peak parameters.
  30. The Authority notes Synergy has advised it considers the cost modelled by Jacobs for the purposes of estimating the Margin\_Peak and Margin\_Off-Peak parameters provides a reasonable estimate of the costs of providing the service. Synergy has advised that it is not able to provide its own estimate as it does not have a market simulation tool like the one used by Jacobs.
  31. As set out in its determinations on the Margin\_Peak and Margin\_Off-Peak parameters, the Authority has accepted the modelling methodology adopted by Jacob's for the purposes of estimating the costs of providing spinning reserve services. In particular, it accepts there is an interaction cost effect between the cost of providing Spinning Reserve and the cost of providing Load Rejection Reserve, with the cost of providing both forms of reserve generally higher than the sum of providing each reserve separately. On that basis, the Authority considers the modelling undertaken for the Margin\_Peak and Margin\_Off-Peak parameters, also provides a reasonable estimate of the costs of providing load rejection services. Therefore, the Authority has determined that the "L" component of the Cost\_LR should be set at \$1.4 million per annum to reflect the costs Synergy incurs in providing Load Rejection services.
  32. The Authority notes the Margin\_Peak and Margin\_Off-Peak parameters are determined on an annual basis, whereas the Cost\_LR determination relates to a three year period. The estimated cost of Load Rejection Services taken from the most recent Margin\_Peak and Margin\_Off-Peak modelling relates to the 2016/17 year.
  33. The Authority considers System Management should liaise with AEMO, Jacobs and Synergy prior to the 2017/18 and 2018/19 years to establish if the costs for providing Load Rejection Services are likely to be significantly different, and make a revised submission to the Authority if necessary.<sup>9</sup>

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<sup>7</sup> Comprising \$0.4 million per annum in relation to the stand-alone cost of providing load rejection and \$1 million being the share of joint costs for providing both load rejection and spinning reserve ancillary services.

<sup>8</sup> Jacobs Group, *Load Rejection Study Final Report*, 7 July 2014

<sup>9</sup> Clause 3.13.3C of the Market Rules provides for the Cost\_LR to be revised during the review period if System Management determines the costs will be materially different from the determined cost.

## “R” Component

34. Clause 3.10.6 of the Market Rules requires System Management to set an appropriate standard for the System Restart Ancillary Service.
35. System Management has determined that there should be at least three generating stations that can start upon black system conditions and can energise the rest of the system. Three services are required to ensure that a service is available to cover one planned and one forced outage amongst the service providers. In addition, System Management has determined that the black start generators should not be at the same location to mitigate the risk of common failure in the same geographic or electrical area (sub-networks). System Management's preference would be for there to be a black start provider to be in each of the electrical sub-networks being North Metropolitan, South Metropolitan and South Country, however currently there is no black start provider in the South Country.<sup>10</sup>
36. The Authority notes that currently System Management has contractual arrangements with Synergy to provide System Restart services in the South Metropolitan and North Metropolitan sub-network area,<sup>11</sup> and with Western Energy to provide System Restart services in the South Metropolitan sub-network area.<sup>12</sup> These contractual arrangements expire on 30 June 2016. As noted above, there is currently no System Restart provider in the South Country sub-network area.
37. System Management's proposal states that a procurement process is currently underway for System Restart services for the three sub-network areas for the review period. It has received indicative pricing from potential providers through a tender process. System Management's proposed values for the “R” parameter are based on this information, allowing for an escalation rate of 2.5% per annum over the review period.<sup>13</sup>
38. The Authority notes that System Management has provided a confidential attachment to its proposal that details the indicative cost for each System Restart Ancillary Service contract tendered for the review period. In addition, System Management has also provided the Authority with details of all responses to the expressions of interest and tender process for System Restart services.
39. The table below shows System Management's proposed values for the Cost\_LR parameter for this review period compared to the determined values for the last review period. As the procurement process is still underway, confidential information in relation to tenders has been redacted.

<sup>10</sup> AEMO website, *Ancillary Services Report 2015*, Western Power System Management, 12 August 2015, <http://wa.aemo.com.au/docs/default-source/System-Management-Reports/final-2015-ancillary-services-report-for-imo-website.pdf?sfvrsn=0>

<sup>11</sup> The Kwinana\_GT1 facility is contracted to provide System Restart services at the South Metropolitan sub-network area and the Pinjar\_GT3 and Pinjar\_GT5 facilities are contracted to provide System Restart services at the North Metropolitan sub-network area.

<sup>12</sup> The Perth Energy Kwinana\_GT1 facility is contracted to provide System Restart services at the South Metropolitan sub-network area.

<sup>13</sup> In System Management's proposal, it states the escalation rate is based on the Department of Treasury Consumer Price Index Forward Estimates.



- [REDACTED]
44. [REDACTED]
45. [REDACTED] the Authority considers the proposed restart service cost of [REDACTED] is greater than the actual costs of providing the service and is not consistent with the WEM objectives.
46. The Authority has based its determination of the “R” component on the value approved at the last review [REDACTED], adjusted for CPI of 2.5 per cent per annum, [REDACTED]
47. In relation to the [REDACTED], the Authority notes the proposed costs are broadly in line with current costs after taking account of CPI. [REDACTED] Taking these factors into account, the Authority considers the costs proposed for the [REDACTED] service to be reasonable.
48. Subsequent to lodging its proposal, System Management advised that the party which tendered for the new South Country service has withdrawn. In the absence of a new South Country service, System Management proposes to [REDACTED] to ensure there are three System Restart services in place.
49. In light of these circumstances, the Authority determines that the “R” component in relation to the System Restart Ancillary Service in the South Country sub-network area to be nil for the review period. However, to ensure three separate System Restart services are in place for the entire review period, an amount [REDACTED]

has been included in the “R” component for 2017/18 and 2018/19. After including an allowance for CPI increases of 2.5 per cent per annum, this results in an “R” component of [REDACTED] in 2017/18 and [REDACTED] in 2018/19.

50. In the event that System Management is successful in procuring a new service in the South Country, it will be able to submit a revised proposal if necessary.<sup>14</sup> However, the Authority notes that the current process for determining the standard for the System Restart Service as set out in the Market Rules does not explicitly require an economic evaluation taking account of risk versus cost. The Authority considers any future proposed significant increase in cost should be evaluated carefully to ensure it provides a net overall benefit.
51. A summary of the “R” component of the Cost\_LR parameter determined by the Authority is set out in the table below.

**Determined values for the R component of the Cost\_LR parameter for 2016/17 to 2018/19**

	2016/17 Determined (\$'000 per annum)	2017/18 Determined (\$'000 per annum)	2018/19 Determined (\$'000 per annum)
“R” component	547.9	561.7	575.7
Comprising:			
[REDACTED]			
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]			
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

<sup>14</sup> As discussed above, clause 3.13.3C of the Market Rules provides for the Cost\_LR to be revised during the review period if System Management determines the costs will be materially different to the determined cost.