Allowable Revenue Determination – System Management

31 March 2010

Economic Regulation Authority
WESTERN AUSTRALIA

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Determination

1. On 30 November 2009, System Management (a segregated business unit of Western Power) submitted to the Economic Regulation Authority (**Authority**) a proposal for System Management's allowable revenue (**proposed allowable revenue**) for the period 2010/11 to 2012/13 (**second review period**).[1] The proposed allowable revenue was submitted in accordance with the requirements of clause 2.23.3 of the *Wholesale Electricity Market Rules* (**Market Rules**), under which the Authority is required to periodically determine the allowable revenue of System Management for periods of three years duration.

2. System Management's submission is available on the Authority's web site.[2]

3. On 24 December 2009, the Authority issued a notice inviting submissions on the proposed allowable revenue and an issues paper to assist interested parties in understanding and making submissions on the proposal. A single submission was received from Landfill Gas and Power Pty Ltd.

4. In making its determination, the Authority has taken into account the matters set out in clause 2.23.12 of the Market Rules.

5. The Authority has determined that System Management's allowable revenue for the review period should be less than the proposed allowable revenue. The values of allowable revenue proposed by System Management and the values determined by the Authority are shown in Table 1.

Table 1 System Management allowable revenue - 2010/11 to 2012/13 (nominal $'000)

	2010/11	2011/12	2012/13
System Management proposed allowable revenue	7,711	8,047	8,549
Authority determined allowable revenue	6,568	7,177	7,588

6. A breakdown of the Authority's adjustments to System Management's proposed allowable revenue by cost line item is shown in Table 2.

[1] System Management, 30 November 2009, Allowable Revenue Application 1 July 2010 to 30 June 2013. The 'first review period' was the three year period 2007/08 to 2009/10 and was the subject of a determination of allowable revenue by the Authority in March 2007 (Economic Regulation Authority, 30 March 2007, Allowable Revenue Determination – System Management).

[2] See ERA web site, System Management, 30 November 2009, Allowable Revenue Application 1 July 2010 to 30 June 2013, http://www.era.wa.gov.au/2/272/42/determination_o.pm

Table 2 Adjustments to System Management's proposed allowable revenue - 2010/11 to 2012/13 (nominal $'000)

	2010/11	2011/12	2012/13
System Management proposed allowable revenue	**7,711**	**8,047**	**8,549**
Calculation Error[3]			5
Operating Expenses			
Labour Costs[4]	(197)	(438)	(615)
Insurance Costs[5]	(210)	(221)	(232)
Decision Dispatch Support Simulator[6]	(18)	(18)	(19)
Capital Expenses			
Depreciation allowances[7]	(766)	(289)	(174)
Borrowing Costs[8]	48	96	74
Authority determined allowable revenue	6,568	7,177	7,588

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

Reasons for the Determination

Legislative Requirements

8. The *Electricity Industry (Wholesale Electricity Market) Regulations 2004* provide for the Market Rules to confer on an entity the function of operating the South West interconnected system (**SWIS**) in a secure and reliable manner. Clause 2.2.1 of the Market Rules confers this function on the Electricity Networks Corporation (**Western Power**), acting through the segregated business unit known as System Management.

9. Clause 2.2.2 of the Market Rules lists the following further functions of System Management in relation to the Wholesale Electricity Market (**WEM**):

- to procure adequate Ancillary Services where the Electricity Generation Corporation (**Verve Energy**) cannot meet the Ancillary Service Requirements;
- to assist the Independent Market Operator (**IMO**) in the processing of applications for the participation and for the registration, deregistration and transfer of facilities;

3 See p.4 (footnote 10).

4 See pp.9-11.

5 See pp.13.

6 See p.15.

7 See pp.18-20.

8 See pp.20-21. Borrowing costs here refers to interest cost only, and therefore excludes the principal cost component.

- to develop Market Procedures, and amendments and replacements for them, where required by the Market Rules;
- to release information required to be released by the Market Rules;
- to monitor Rule Participants' compliance with the Market Rules relating to dispatch and Power System Security and Power System Reliability; and
- to carry out any other functions or responsibilities conferred, and perform any obligations imposed, on it under the Market Rules.

10. Clause 2.23 of the Market Rules requires the Authority to determine amounts of allowable revenue for System Management to provide services defined in clause 2.23.1 of the Market Rules, being system operation services, including all of System Management's functions and obligations under the Market Rules except for the provision of Ancillary Services.

11. Clause 2.23.3 of the Market Rules establishes the requirements for the Authority's determination of allowable revenue:

    - System Management must submit a proposal for its costs by 30 November prior to the start of the review period;
    - the Authority must undertake a public consultation process in approving the allowable revenue, 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 allowable revenue for the review period.

12. Clause 2.23.12 of the Market Rules sets out the following factors that the Authority must take into account in determining amounts of allowable revenue for System Management.

    - The allowable revenue must be sufficient to cover the forward looking costs of providing the relevant services in accordance with the following principles:

        i. recurring expenditure requirements and payments are recovered in the year of expenditure;

        ii. capital expenditures are to be recovered through the depreciation and amortisation of the assets acquired by the capital expenditure in a manner that is consistent with generally accepted accounting principles;

        iii. costs incurred by System Management that are related to market establishment, as designated by the Minister, are to be recovered over a period determined by the Minister from 'energy market commencement'; and

        iv. notwithstanding paragraphs (i), (ii) and (iii), expenditure incurred and depreciation and amortisation charged, in relation to any 'Declared Market Project' are to be recovered over the period determined for that Declared Market Project.

    - The allowable revenue must include only 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 Market Rules, while effectively promoting the Wholesale Market Objectives.

- Where possible, the Authority should benchmark the allowable revenue against the costs of providing similar services in other jurisdictions.

Proposed Allowable Revenue

13. System Management's proposed allowable revenue is shown in Table 3.

Table 3 System Management proposed allowable revenue – 2010/11 to 2012/13 (nominal $'000)[9]

	2010/11	2011/12	2012/13
Proposed allowable revenue	7,711	8,047	8,549

14. In its submission to the Authority, System Management has presented its proposed allowable revenue as a sum of cost line items, together with details of actual and projected costs for the first review period (2007/08 to 2009/10) (Table 4).

Table 4 System Management actual costs for the first review period (2007/08 to 2009/10) and proposed allowable revenue for the second review period - (2010/11 to 2012/13) (nominal $'000)[10]

Cost item	2007/08 Actual	2008/09 Actual	2009/10 Forecast	2010/11 Forecast	2011/12 Forecast	2012/13 Forecast
Labour Costs	2,401	3,003	3,247	3,888	4,370	4,823
Functional Costs	105	483	490	486	526	556
Legal Costs	292	339	363	375	385	400
Insurance Costs	150	165	200	210	221	232
IT Capital Costs[11]	652	972	1,243	1,090	750	690
IT Operating Costs	73	98	120	445	468	497
Operational Capital Assets						
Windfarm Forecasting Software Tool				420	120	120
Dispatch Decision Support Simulator				797	193	202
Dispatcher Training Simulator				-	1,014	1,035
Total	**3,673**	**5,060**	**5,663**	**7,711**	**8,047**	**8,555**

9 System Management, 30 November 2009, Allowable Revenue Application 1 July 2010 to 30 June 2013, p. 7.

10 System Management, 30 November 2009, Allowable Revenue Application 1 July 2010 to 30 June 2013. Total expenses in 2012/13 in the above table differ from those reported in Table 1 of System Management's Application (p.7) (and therefore also Table 1 and Table 3 of this determination) due to a summation error in System Management's Application. The Authority has also adjusted the capital expenditure line item to ensure that the first and second review periods are comparable.

11 Includes depreciation and borrowing costs.

15. System Management's submission includes a summary description of the forecast costs and their derivation. System Management separately provided the Authority with supporting documentation for the derivation of forecast costs, and responses to additional requests for information. This supporting documentation has not been published by the Authority; however, it is referred to in this determination where relevant.

Approach to Assessment

16. The Authority has assessed System Management's proposed allowable revenue against the factors set out in clause 2.23.12 of the Market Rules, by consideration of a range of matters, including:

- whether the proposed allowable revenue and supporting information provided by System Management demonstrates a robust and transparent budgeting and capital planning process;
- for costs of a recurrent nature, a comparison of forecast costs for the second review period against a benchmark of costs in the first review period; and
- for costs of a capital nature, assessment of whether supporting information for capital projects is sufficient to demonstrate the expenditures to be consistent with System Management acting efficiently, seeking to achieve the lowest practically sustainable cost of delivering services, and verification of the calculation of depreciation allowances and borrowing costs from amounts of capital expenditure.

Benchmarking

17. Sub-clause 2.23.12(c) of the Market Rules requires the Authority, where possible, to benchmark the Allowable Revenue of System Management against the costs of providing similar services in other jurisdictions. The Authority considers that it is a difficult exercise to undertake such a benchmarking study for the purpose of this review as there are no directly comparable entities to System Management in terms of scale of operations, structure of the business, and nature of activities.

18. However, the Authority has conducted a high level analysis comparing the combined costs of System Management and the WEM's market operator – the IMO – from the first review period (2007/08 – 2009/10) against the costs for providing services by the National Electricity Market's (**NEM**) market and system operator at that time, the National Electricity Market Management Company Limited (**NEMMCO**).[12] The Authority considers this to be the closest comparator for a benchmarking study.[13] The Authority's analysis provides a general indication that

[12] Until 30 June 2009, the NEM's market and system operator functions were provided by the NEMMCO. The NEMMCO's roles and responsibilities were transitioned to the Australian Energy Market Operator (AEMO) on 1 July 2009.

[13] This analysis was conducted by comparing the published market fee rates of the two jurisdictions, that is, the cost for providing services per unit of energy supplied and/or demanded. Calculations for the NEMMCO were based on general revenue to be recovered through market fees and market customer load forecast (as published on the AEMO's web site http://www.aemo.com.au/registration/fees09-10.html), whereas calculations for the IMO and System Management were based on their respective revenue

the WEM's combined market and system operator market fee rates (reflecting the combined costs of the System Management and the IMO) have been at least twice the amount of the NEMMCO's market fee rates providing similar services during the first review period. The Authority considers that the large disparity is mainly due to the NEM's economies of scale advantage over the WEM.

19. For this review period, the Authority has also conducted a high level analysis on forecast market fee rates to ascertain what the WEM's combined market and system operator market fee rates (reflecting the combined costs of System Management and the IMO) may be. The forecast market fee rates for this review period were calculated with the allowable revenue determined by the Authority[14] and projected market forecast load[15] for the review period. For the first review period, System Management's and the IMO's average combined market fee rate was 42 cents per MWh. For this review period the Authority projects that the average combined market fee rate to be 49 cents per MWh. If this projected average combined market fee rate was realised for this review period, this would represent an increase of 17 per cent in the average market fee rate over the first review period.

20. The Authority will explore the extent to which it can draw on appropriate data, and other possible means to undertake benchmarking study to a sufficient level of depth and rigour in future review periods.

Public Submissions

21. In accordance with clause 2.23.3(b), the Authority undertook public consultation on System Management's proposed allowable revenue, including publishing an issues paper on 24 December 2009 and an invitation for public submissions. The closing date for public submissions was 27 January 2010.

22. A submission was received from Landfill Gas and Power Pty Ltd.

23. Landfill Gas and Power indicates support for System Management's assumptions and forecast costs. Particular mention is made of the proposed increase in the number of employees and capital expenditure plans in light of the additional demands that will be placed on System Management as a result of recommendations of the Oates Review.[16]

requirements to be recovered through market fees and the combined amount of energy supplied and demanded (as published on the IMO's web site http://www.imowa.com.au/fees_charges).

[14] See ERA web site, Determination of the IMO and System Management Allowable Revenue and Ancillary Service Parameters, http://www.erawa.com.au/2/272/42/determination_o.pm

[15] The projected market supply and demand load was calculated using forecasts of energy sent-out for the SWIS, which was obtained from the IMO's 2009 Statement of Opportunities Report. See IMO web site, http://www.imowa.com.au/f176,17993/2009_SOO_Final_v0.2.pdf, (p.50).

[16] The Oates Review is a government review of Verve Energy's financial situation and outlook. This review recommends options for the reform of the structure of the market and government owned entities that service the South West Interconnected System. The review can be found at http://www.energy.wa.gov.au/cproot/1571/14895/Verve Energy Review Final Report August 2009.pdf. Implementation of the Oates Review's recommendations commenced early in 2010 and was still in progress at the time of publication of this determination.

Segregation from Western Power and Budgeting processes

24. During the course of preparing this determination the Authority has formed the view that there are significant deficiencies in accounting arrangements for segregating System Management from the remainder of Western Power's business. In particular, the Authority makes the following observations.

- To the extent of developing System Management's proposed allowable revenue, there is a lack of evidence of accounting separation between System Management and the remainder of Western Power's business.
- For some of Western Power's overhead costs (accommodation costs and corporate overheads), there has been no transparent allocation of costs to System Management, thereby reducing the transparency of costing of System Management's activities and the recovery of those costs from Market Participants.
- There does not appear to be a rigorous process for jointly forecasting costs for System Management and the larger Western Power business, and for allocating costs to System Management. For one cost item in System Management's proposed allowable revenue (insurance costs), System Management included an allocation of costs from the insurance costs of Western Power, despite Western Power recovering the full amount of costs through network tariffs under the terms of the access arrangement for the South West Interconnected Network (**SWIN**).

25. The Authority is further of the view that there are substantial deficiencies in the budgeting processes applied by System Management in developing its proposed allowable revenue. These deficiencies are addressed in the following sections of this determination, but the Authority makes the following general observations:

- System Management does not appear to have any rigorous internal processes of scrutiny and approval of the forecasts of costs underlying the proposed allowable revenue, but rather appears to rely on the Authority to undertake this role; and
- some supporting information requested by the Authority and subsequently supplied by System Management (in particular the business case for additional staff positions) appears to have only been developed in response to the Authority's request for information and after submission of the proposed allowable revenue, indicating a lack of rigour in their assessment of allowable revenue.

26. In view of the deficiencies in accounting separation, transparent cost allocation and budgeting processes, the Authority is unable to rely on a presumption of a robust and transparent budgeting process in assessing the proposed allowable revenue.

Costs of the First Review Period

27. A key issue for the Authority to consider is the extent to which costs for the first review period can be used as a base for determining allowable revenue for the second review period.

28. A comparison of allowable revenue and actual costs for the first review period is shown in Table 5.

Table 5 System Management approved allowable revenue and actual expenditure for the first review period – 2007/08 – 2009/10 (nominal $'000)[17]

Expenditure	Approved	Actual
Labour Costs	9,200	8,651
Functional Costs	970	1,078
Legal Costs	993	994
Insurance Costs	300	515
IT Capital Costs	2,622	2,867
IT Operating Costs	330	291
Total	**14,415**	**14,396**

29. The variation in System Management's projected total actual expenditure relative to its approved allowable revenue over the first review period is small (-0.1 per cent of total allowable revenue). However, there are some material variations between approved revenue and projected actual expenditure relating to particular cost line items, including labour costs (-$549,000), functional costs ($108,000), insurance costs ($215,000) and IT capital costs ($245,000).

30. Underspending on labour costs relative to approved allowable revenue for the first review period was largely contained to 2007/08 and driven mainly by allocation errors in the accounting separation of costs between System Management and the larger Western Power business.[18]

31. Allocation errors were also the cause of apparent underspending on functional costs by $245,000 in 2007/08.[19] Functional costs are projected to exceed approved allowable revenue by a total of $353,000 over the last two years of the first review period. The drivers for higher than budgeted functional costs during this period is not clear from the supporting information provided by System Management. However, it was acknowledged by the Authority at the time of the determination for the first review period that estimates for some cost items were provisional given the early stage of the WEM.[20]

32. Insurance costs reflect System Management's share of Western Power's overall insurance premiums. As the Authority has disallowed System Management's

[17] See ERA web site: System Management, 30 November 2009, Allowable Revenue Application 1 July 2010 to 30 June 2013. Actual values include projected actual costs for 2009/10.

[18] System Management, 30 November 2009, Allowable Revenue Application 1 July 2010 to 30 June 2013, p.8.

[19] System Management, 30 November 2009, Allowable Revenue Application 1 July 2010 to 30 June 2013, p.10. Given the allocation errors cited by System Management, the Authority has not had regard to the stated value of actual functional costs in 2007/08 in assessing System Management's forecast of functional costs for the second review period. The Authority notes that the errors in statements of actual labour costs and functional costs for 2007/08 would not have affected market charges for System Management, which would have been determined on the basis of the approved allowable revenue for that year and not the statement of actual costs.

[20] See ERA website, Allowable Revenue Determination – System Management 30 March 2007, p.12, http://www.era.wa.gov.au/2/272/42/determination_o.pm

insurance costs for the second review period, the issue of whether premiums for the first review period are a reasonable base for projecting insurance costs during the second review period is not explored further.[21]

33. System Management has attributed the higher than budgeted IT capital expenditure during the first review period to system requirements that were not foreseen at the time of the Authority's first determination and changes to the Market Rules.[22]

34. As discussed later in paragraph 63, System Management has moved some costs from IT capital expenditure into IT operating expenditure in the second review period. Therefore, the total of IT capital expenditure and IT operating expenditure from the first review period could be relevant as a base for evaluating the proposed total forecast costs in these areas for the second review period. It is noted that for the first review period the total actual is 7 per cent over budget.

35. In the case of IT operating costs, System Management has proposed a substantial increase in costs between the first and second review periods. As shown in Table 4 these costs will increase from an estimated $120,000 in 2009/10 to $445,000 in 2010/11 and then increase at a lower rate off this new base. This increase is mainly due to changes in the base for this cost item, including labour costs dedicated to System Management Market IT Systems (**SMMITS**) capital projects, Bureau of Meteorology data and IT infrastructure support cost that were either not incurred during the first review period or were captured in a different cost line item. In the absence of these base changes, year-on-year growth for this cost component over the first review period was around 7 per cent, which is consistent with annual growth over the first review period.

36. Taking into account the reasons for variations between forecast and actual costs in the first review period, and that System Management was a relatively new organisation at the commencement of the first review period with consequent uncertainty in activities and budget, the Authority considers that actual costs during the first review period generally provide a reasonable basis for projecting costs for the second review period.

Costs of the Second Review Period

Recurrent Costs

Labour Costs

37. System Management's forecast of labour costs provides for annual increases in costs of 19.7 per cent in 2010/11, 12.4 per cent in 2011/12 and 10.4 per cent in 2012/13. These cost increases are attributed to:

- expected underlying growth in employee benefits of 5 per cent in 2010/11, 5 per cent in 2011/12 and 7 per cent in 2012/13;
- amounts of $197,222 in 2010/11, $150,000 in 2011/12 and $160,500 in 2012/13 included as contingencies to allow for potential variation in employee remuneration, resulting from factors such as a need to offer a

[21] The Authority's reasons for not allowing System Management's proposed insurance premiums are stated in paragraphs 56 to 58 of this determination.

[22] System Management, 30 November 2009, Allowable Revenue Application 1 July 2010 to 30 June 2013, p.17 and supporting document DM6766160.

higher salary to replace existing staff members that leave, staff members choosing to move from a Certified Agreement to an Individual Agreement, and allowances for shift work, availability and overtime;[23]

- the impact of increased staffing and underlying growth in employee benefits upon on-costs, with on-costs set at 25 per cent of employee benefits for the second review period; and
- an increase in staff numbers from 21.76 full-time equivalent (**FTE**) positions in 2009/10 to 26.83 FTE positions by 2012/13.

38. System Management has not provided justification for the rates of underlying growth in employee benefits. The Authority observes, however, that the rates applied by System Management are the same as the escalation rates adopted by the IMO, which were based on advice from an independent remuneration consultant, and are broadly consistent with labour cost forecasts for the electricity, gas and water sectors used by the Australian Energy Regulator in recent determinations (of 4.4 per cent in 2010/11, 6 per cent in 2011/12 and 6 per cent in 2012/13).[24]

39. System Management has determined labour on-costs as a proportion of salary costs determined on the basis of actual costs in preceding years. Given that the major components of on-costs (including workers compensation insurance, sick leave entitlements and payroll tax) are obligations that are a stable proportion of direct labour costs, the Authority considers this approach to be reasonable for the determination of labour on-costs.

40. In relation to the inclusion of contingency amounts within projected labour costs, the Authority notes that the practice of forecasting by applying escalation rates to labour costs for a base year would generally be expected to capture the uncertainties for which these contingency amounts are proposed. However, System Management has sought to justify these contingencies by suggesting that some of the risks to its projected labour costs may be skewed to the upside, particularly where a replacement for an existing staff member is being sought or where staff members choose to move from one remuneration agreement to another. On balance, the Authority does not accept this argument and considers that these contingencies are not consistent with costs allowable under the Market Rules.

41. System Management provided a business case to the Authority supporting the proposed increase in FTE positions over the second review period.[25] The proposed increase in FTE positions reflects an assessment that the increasing complexity of the SWIS network and the expansion of connected generation capacity are creating a requirement for further expertise in support staff. In addition, significant changes to the industry environment are creating additional demands on System Management's existing staff complement, reducing their ability to meet obligations to Market Participants.[26]

42. In general, the Authority does not consider the business case supporting the proposed increase in FTE positions to be sufficient justification for the purposes of

[23] System Management, e-mail correspondence, 2 March 2010.

[24] Econotech, 25 March 2009, Updated labour cost growth forecasts.

[25] System Management supporting document DM6769556.

[26] System Management supporting document DM679556 notes the potential for a Carbon Pollution Reduction Scheme and the Oates Review as examples of changes in the industry environment.

an allowable revenue determination. The Authority notes that this significant increase in the proposed labour costs in the second review period is also on top of a significant increase of actual labour costs of approximately 35 per cent throughout the first review period. The Authority is not convinced that the requirement for additional FTE positions has been identified following a broader assessment of ongoing business needs that considers the trade-offs between the use of permanent staff, contractors and consultants, and IT applications.

43. However, the Authority observes that System Management has advised that it expects to save around $50,000 in 2010/11 on contractors due to the increase in FTE positions. Accordingly, the Authority has chosen to allow an increase of one FTE position for the second review period, commencing from 2010/11, to reflect this saving.

44. On the basis of the above, the Authority has determined that System Management's labour costs for the purposes of determining allowable revenue for the second review period to be the amounts shown in the following table.

Table 6 System Management labour costs – 2010/11 to 2012/13 (nominal $'000)

	2010/11	2011/12	2012/13
Labour Costs	3,691	3,932	4,208

Functional Costs

45. System Management notes that functional costs comprise costs for external analysis, travel, staff development, and procuring contractors and consultants.

46. System Management provided the Authority with details of its proposed functional costs for the second review period, shown in Table 7.

Table 7 System Management forecast functional costs - 2010/11 to 2012/13 - (nominal $'000)[27]

	2010/11	2011/12	2012/13
AustraClear	5	5	5
Consultants	200	200	200
Other	1	1	1
Travel & Staff Development	50	50	50
Audit/Review etc.	30	30	30
Contractors	200	240	270
Total functional costs	**486**	**526**	**556**

[27] System Management, 30 November 2009, Allowable Revenue Application 1 July 2010 to 30 June 2013, p.26.

47. Functional costs forecast for 2010/11 are approximately the same as for 2009/10 (a decline of -0.8 per cent), but are forecast to increase by 8.2 per cent in 2011/12 and 5.7 per cent in 2012/13.

48. With the exception of the proposed costs for contractors, System Management has indicated that the forecast functional costs are derived from either: a simple average of costs incurred during the first review period;[28] or via a 'nominal allocation'.[29]

49. Information provided by System Management indicates that the increases in functional costs in 2011/12 and 2012/13 arise solely from increases in anticipated contractor costs, with these costs projected to increase by 20 per cent in 2011/12 and 12.5 per cent in 2012/13.[30] System Management has stated that the cost for contractors in 2010/11 of $200,000 is lower than the average annual cost for contractors over the first review period of $250,000 due to the replacement of some contract positions with permanent positions. Over the remainder of the review period growth in costs is driven by the need to procure engineering expertise for part-time project work, escalation of costs at the rates used to escalate System Management's labour cost and an expectation of an increased requirement for contractors to assist in general market changes.[31]

50. On the basis of the information provided by System Management, the Authority considers that a rigorous process has not been applied in determining forecasts of functional costs. Ideally, costs estimates should incorporate some degree of underlying cost growth through the use of escalation factors. While System Management has appropriately escalated contractor costs by the escalation factors that were used to project labour costs over the second review period, other functional costs have not been escalated.

51. For the purposes of this determination, the Authority has concluded that the changes to allowable revenue that would result from adjusting System Management's proposed costs through appropriate escalation would not make a material difference to the level of allowable revenue. Accordingly, it has approved the functional costs detailed in Table 7. For future review periods, System Management may wish to consider the use of escalation factors in determining its proposed functional costs.

Legal Costs

52. System Management noted that it incurs legal costs through the provision of advice from external legal service providers on:

- interpretation and advice concerning WEM functions and obligations;
- dispute resolution;
- governance and ring-fencing;

[28] These costs include payments to AustraClear, which is required by the IMO to receive System Operation Fees under clause 9.22 of the Market Rules: audit/review costs, etc.

[29] Includes travel and staff development, and 'other' functional expenses such as parking and miscellaneous expenses. In the case of travel and staff development, System Management indicates that an allocation for costs is made at the individual FTE position level and then grossed up to 25 FTE positions. System Management supporting document DM6756039.

[30] System Management supporting document DM6756039.

[31] E-mail correspondence from System Management to the Authority, 23 February 2010.

- procurement advice; and
- preparation of tender material and contracts.[32]

53. Legal costs are projected to increase in each year of the second review period by 3.3 per cent in 2010/11, 2.7 per cent in 2011/12 and 3.9 per cent in 2012/13.

54. System Management indicates that the forecast of legal costs was derived by multiplying the average hourly rate for legal advice over the first review period by an estimate of the hours of advice per year required in the second review period. The estimate of hours is based on actual hours of advice during the first review period adjusted upwards in accordance with the view of System Management that it will have an increasing need for advice over the second review period.[33] System Management states that it expects continued legal expenditure will be necessary given the nature of the WEM and the potential financial exposure of participants. However, no justification is provided for the view of increased need for legal advice over the second review period.

55. Despite the lack of information provided by System Management, the Authority is satisfied that there may be an increase in requirements for legal advice over the second review period and that the estimated hourly cost of advice is a conservative estimate. The Authority also observes that the cost increases for the second review period are only slightly higher than forecast rates of general inflation. The proposed legal costs are therefore considered to be consistent with System Management acting efficiently, seeking to achieve the lowest practically sustainable cost of delivering services.

Insurance Costs

56. System Management has included an allowance for insurance costs in its proposed allowable revenue, determined as a proportion of Western Power's total insurance premiums. This proportion is stated to be based on an external consultant's report on System Management's risk exposures and key budgeted underwriting information, such as revenue and payroll, for both Western Power and System Management.[34]

57. In the course of making its determination the Authority identified that allowance has been made for recovery of Western Power's entire amount of insurance costs in network tariffs under the access arrangement for the SWIN. As such, provision for recovery of a proportion of these costs as part of System Management's allowable revenue would allow double-recovery of these costs.[35]

58. To avoid the double recovery of insurance costs, the Authority has excluded the allowance for insurance costs from System Management's allowable revenue, being amounts of $210,000 in 2010/11, $221,000 in 2011/12 and $232,000 in 2012/13.

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[32] System Management, 30 November 2009, Allowable Revenue Application 1 July 2010 to 30 June 2013, p 12.

[33] System Management, supporting documentation DM 6736574.

[34] System Management, supporting documentation, DM6756266.

[35] System Management, supporting documentation, DM6792930.

IT Operating Expenditure (IT Opex) Costs

59. System Management provided the following breakdown of its projected IT Opex costs for the second review period.

Table 8 System Management IT operating expenditure costs - 2010/11 to 2012/13 (nominal $'000)[36]

	2010/11	2011/12	2012/13
Bureau of Meteorology Data	30	30	30
IT Operating Support	130	140	150
IT Infrastructure Support	35	35	35
SMMITS Operating Cost	250	263	282
Total IT OPEX costs	**445**	**468**	**497**

60. To meet its obligation to provide load forecasts, System Management requires data from the Bureau of Meteorology.[37] The forecast cost of $30,000 is based on data costs incurred over the first review period, supplemented by additional data costs to support the forecasting of output by intermittent generators.

61. IT operating support costs comprise labour costs associated with the support (help desk) and maintenance of the daily functions of the SMMITS software. System Management expects that cost increases will be driven by progressive development and improvement of the software. Accordingly, System Management has escalated these costs by $10,000 per annum, corresponding to an annual increase of approximately 7 per cent. This is consistent with the average annual cost increase over the first review period.[38]

62. IT Infrastructure support costs reflect a fixed fee estimate for moving WEM related hardware and software from Western Power's Corporate IT to the Supervisory Control and Data Acquisition (**SCADA**) System. System Management states that the benefits will include increased security and availability of SMMITS and related support resources and a reduction in overall long-term costs through development and integration of SMMITS with other SCADA systems.[39]

63. SMMITS operating costs are payments to two consultants supporting the SMMITS software. During the first review period these costs were capitalised against the relevant SMMITS project. System Management has stated that it will retain a core group of specialists in future to support SMMITS and other IT applications and interfaces. Projected costs over the second review period are based on the expected cost in 2010/11 escalated by the same escalation rates used to derive projected direct labour costs (5 per cent in 2011/12 and 7 per cent in 2012/13).[40]

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[36] System Management, 30 November 2009, Allowable Revenue Application 1 July 2010 to 30 June 2013, p.26.

[37] System Management, 30 November 2009, Allowable Revenue Application 1 July 2010 to 30 June 2013, p.26.

[38] System Management, supporting documentation DM6756039.

[39] System Management, supporting documentation DM6756039.

[40] System Management, supporting documentation DM6756039.

64. The Authority considers that System Management has not provided adequate justification for the increases in IT operating expenditure. In particular, System Management has not addressed the reasons for increases in IT infrastructure support costs, and has provided limited justification and supporting analysis for the increases in IT infrastructure support costs. However, given the shifting of some costs from capital to operating expense across the two review periods, the Authority has considered the total of IT capital costs and IT operating expenditure instead. On this basis the yearly totals of $1,535,000 for 2010/11, $1,218,000 for 2011/12 and $1,187,000 for 2012/13 compare reasonably with the estimated actual of $1,363,000 for 2009/10. Taking this into account, the Authority accepts that the estimated costs are consistent with System Management acting efficiently, seeking to achieve the lowest practically sustainable cost of delivering services.

Capital Costs

65. The capital costs included by System Management in the proposed allowable revenue include only depreciation allowances. Depreciation allowances include amounts arising from actual and planned capital expenditures in the first review period that are carried over into the second review period according to depreciation schedules, and amounts arising from capital projects planned for the second review period. No provision is made for a cost of capital.

66. The Authority has assessed System Management's proposed depreciation expense by first considering whether the capital projects planned for the second review period represent expenditures that are consistent with System Management acting efficiently, seeking to achieve the lowest practically sustainable cost of delivering services, and secondly verifying the calculation of amounts of depreciation and borrowing costs.

Capital Projects for the Second Review Period

67. Depreciation allowances included in System Management's proposed allowable revenue for the second review period include amounts in respect of three capital projects involving the acquisition of new software tools. These projects involve procurement of:

- a Windfarm Forecasting Software Tool, involving capital expenditure of $300,000 in 2010/11 and operating expenses of $360,000 over the second review period;
- a Dispatch Decision Support Simulator (**DDSS**) to enhance transparency in the dispatch processes performed by System Management, involving capital expenditure of $611,000 in 2010/11 and operating expenses of $581,000 over the second review period; and
- a Dispatcher Training Simulator (**DTS**) involving capital expenditure of $1,000,000 in 2011/12 and operating expenses of $621,000 over 2011/12 and 2012/13.

68. System Management has also included depreciation allowances in respect of capital projects involving the augmentation of existing systems and software. These projects are:

- Reporting – reducing an over-reliance on manual processes, which are error-prone and labour-intensive, to meet System Management's obligations under the Market Rules. Costs in 2010/11 relate to required systems changes, including modifications to SMMITS, while costs in subsequent years reflect the requirement for robust testing of the generated reports.

- Projected Assessment of System Adequacy (**PASA**) Redevelopment – PASA is used by planning engineers to determine whether general outages can be approved. The current PASA was created as an interim measure and requires re-development to enhance the current functionality and allow sophisticated scenario modelling.
- SCADA Ancillary Service Enhancements – this project will modify the SCADA system to allow Market Participants to provide Ancillary Services while complying with their Resource Plans.
- Market Rule/System Changes – this line item is described as a contingency to allow System Management to fund the necessary changes to market IT systems and business processes to fulfil its obligations under the Market Rules. A contingency provision of the same amount ($250,000 per annum) was approved by the Authority as part of System Management's allowable revenue for the first review period.

69. System Management supplied business cases to the Authority for each of the three capital projects for the acquisition of new software tools.[41] The Authority considers these business cases to be sufficient evidence of an underlying assessment of need, consideration of options to address that need and, where viable given System Management's existing systems, efforts to procure the required software through competitive tender.

70. In the course of making its determination the Authority identified the following issues:

- the assumed US dollar exchange rate used to convert costs to their Australian dollar equivalents for the DDSS and DTS acquisitions;
- inadvertent overstatement of one cost component for the DTS; and
- a proposal to expense rather than capitalise costs for the Windfarm Forecasting Software Tool and DDSS in the acquisition year.

71. System Management has budgeted for a cost of the DDSS and DTS acquisitions on the basis of a cost in US dollars and applying an exchange rate of $AU1 = US70 cents. As of 30 November 2009, the date of System Management's submission, the US dollar exchange rate was US91.78 cents.[42] The Authority's view is that the current exchange rate is the most appropriate rate to use for the purpose of converting US dollar costs that will be incurred in the second review period and notes that the exchange rate has remained at around US90 cents since System Management lodged its submission with the Authority. The Authority notes that System Management will have the opportunity to hedge any exchange rate risk that might exist in relation to these projects. Reflecting these considerations, the Authority has applied an exchange rate of US90 cents in determining System Management's allowable revenue.

72. Following discussions with System Management it has been confirmed that the correct cost for the purchase and deployment of the DTS is US$700,000 rather than

[41] System Management supporting documentation DM6761210, DM6737934, DM677657 and DM678270.

[42] Reserve Bank of Australia, http://www.rba.gov.au/statistics/hist-exchange-rates/index.html

the amount of $US1 million stated in System Management's submission.[43] The Authority has determined System Management's allowable revenue on this basis.

73. The cost of capital projects in the second review period in relation to the augmentation of existing IT systems and software is summarised in Table 9.

Table 9 System Management proposed IT capital projects for augmentation of existing systems - 2010/11 to 2012/13 (nominal $'000)[44]

	2010/11	2011/12	2012/13
Reporting	300	100	100
PASA Redevelopment[45]	410	0	0
SCADA Ancillary Service Enhancements	100	100	100
Market Rule/System Changes	250	250	250
Total IT Costs	**1,060**	**450**	**450**

74. The need for the Reporting and PASA Redevelopment IT capital projects is contained in System Management internal planning and implementation documentation provided to the Authority.[46] The need for the SCADA Ancillary Service Enhancements and Market Rule/System Changes IT capital projects is outlined in System Management's submission.[47]

75. For the Reporting and PASA Redevelopment projects, System Management has not provided robust business cases as it identifies the problem being targeted and alternative solutions but does not address the cost-benefit issue.

- Supporting documentation for the Reporting project identifies existing reporting processes as error-prone and labour-intensive and notes that the proposed project will address these issues. However, System Management has not identified the anticipated savings in terms of staff time and cost or the benefits for market participants from the proposed system enhancements.[48]
- The PASA Redevelopment documentation notes that the proposed project will integrate the approval/rejection of generation outages with the PASA planning scenario and will provide a more robust platform supporting multiple users. However, the documentation does not make clear how these technical characteristics translate into improved service levels, lower

[43] System Management supporting documentation DM6737934 p.2 and p.4 (respectively). System Management confirmed this error in an e-mail to the Authority on 22 February 2010.

[44] System Management, 30 November 2009, Allowable Revenue Application 1 July 2010 to 30 June 2013, p.26.

[45] References to the PASA redevelopment in System Management's submission and supporting documentation initially provided to the Authority would appear to indicate that this proposed capital expenditure replicates a capital expenditure undertaken during the first review period (System Management, 30 November 2009, Allowable Revenue Application 1 July 2010 to 30 June 2013, p.18 and p.23, and DM4479807). The Authority raised this issue with System Management and received documents clarifying that this was not the case (System Management, e-mail correspondence 23 February 2010).

[46] System Management supporting documentation DM5614398 and DM4479807.

[47] System Management, 30 November 2009, Allowable Revenue Application 1 July 2010 to 30 June 2013, pp.21-25.

[48] System Management supporting documentation DM5614398.

costs and/or reduced risk for System Management in satisfying its obligations under the Market Rules.[49]

76. The Authority considers that System Management should improve its business case processes. However, the Authority recognises that Market Participants will benefit from a reduction in the potential for errors in reporting and that the modelling of available generation capacity and forecast load provides a basis for assessing proposals for generation outages and is an important aspect of System Management's role mandated by the Market Rules. Therefore, the Authority accepts for this determination that the Reporting and PASA Redevelopment projects are consistent with System Management acting efficiently, seeking to achieve the lowest practically sustainable cost of delivering services.

77. The Authority observes that the SCADA Ancillary Service Enhancements project is in the nature of contingency amounts for costs that System Management expects that it may incur during the second review period, rather than being forecast costs for defined projects. The contingency amounts are based on actual costs in the first review period for similar IT projects. The Authority does not accept that System Management has provided adequate evidence of a likelihood of these activities and associated costs in the second review period. The Authority has therefore excluded these capital costs ($100,000 in each year of the second review period) from determination of depreciation allowances.

78. The Authority observes that the Market Rule/System Changes projects are in the nature of contingency amounts for costs that System Management expects that it may incur during the second review period, rather than being forecast costs for defined projects. The contingency amounts are based on the value of a contingency amount ($250,000 per year) that was included in the allowable revenue for the first review period. The Authority accepts that System Management is likely to incur costs in responding to changes in the Market Rules. The current Market Rules provide no scope for ex post recovery of costs that emerge during a review period and that fall below the threshold amount required for a project to be considered a Declared Market Project. As such, the Authority considers that it is reasonable that the allowable revenue include such amounts.

Depreciation Allowances

79. The Authority has reviewed the basis for the System Management's proposed depreciation costs over the second review period by:

- establishing the accounting procedures applied by System Management to derive depreciation allowances and considering whether these procedures accord with generally accepted accounting principles; and
- performing a check of System Management's calculation of depreciation amounts relating to capital expenditure undertaken in the first review period.

80. System Management's submission indicates that capital costs associated with the Windfarm Forecasting Software Tool and the DDSS will be expensed in the year of acquisition (2010/11). Acquisition and implementation costs associated with the DTS are amortised over two years.

[49] System Management supporting documentation DM4479807.

81. The Authority considers that these depreciation schedules are not consistent with the application of commonly accepted accounting principles on the following basis.

- Accounting guidelines released by the Western Australian Department of Treasury and Finance to assist agencies with the interpretation of *AASB138: Intangible Assets* note that intangible assets with an acquisition cost of $5,000 or less should be expensed and that discretion should be exercised in determining whether to expense intangible assets above this threshold subject to materiality.[50]
- As System Management is ring-fenced from Western Power, materiality should be assessed on the basis of System Management's operations and the Authority considers that purchase and implementation costs associated with the Windfarm Forecasting Tool and DDSS are material in this regard.
- Software licences are included as intangible assets and capitalised where the licence is a one-off, up-front cost included in the purchase price of the software and the period of the licence is greater than two years.

82. In light of these considerations the Authority has incorporated the depreciation of IT capital expenditure over two and a half years in the determination of System Management's allowable revenue. This time period is consistent with:

- Western Power's accounting policy for the depreciation of intangible assets;[51]
- System Management's proposed depreciation of capital costs relating to the augmentation of its existing systems in the second review period; and
- depreciation arrangements approved by the Authority in its first determination (which was applicable to the first review period).

83. Expenditure in relation to new capital projects undertaken during the second review period will therefore make the contributions to System Management's allowable revenue in the second review period as shown in Table 10.

[50] Department of Treasury and Finance, AASB 138 Intangible Assets, Accounting Policy Guideline 2.

[51] See Western Power web site, *Western Power Annual Report 2009*, p.80, http://www.westernpower.com.au/documents/annualReports/annualReport2009/WPAR_Revised.pdf

Table 10 System Management IT capital and operating expenditure costs for new capital projects - 2010/11 to 2012/13 (nominal $'000)[52]

	2010/11	2011/12	2012/13
Windfarm Forecasting Software Tool			
Depreciation	60	120	120
Operating Costs	120	120	120
Dispatch Decision Support Simulator			
Depreciation	105	210	210
Operating Costs	168	175	183
Dispatcher Training Simulator			
Depreciation		156	310
Operating Cost		300	321
Total Depreciation	**165**	**485**	**640**
Total Operating Costs	**288**	**595**	**624**

84. As a result of the Authority's adjustments to System Management's proposed capital cost allowable revenue is reduced by $746,000 in 2010/11, $229,000 in 2011/12 and $74,000 in 2012/13. These adjustments predominantly reflect the lower cost base due to a higher exchange rate assumption and the lower purchase and deployment cost for the DTS. The Authority's decision to depreciate projects over 2.5 years results in $311,000 in recovery of actual capital costs being deferred to the next allowable revenue review period (i.e. 2013/14 – 2015/16).

85. With respect to depreciation allowances for IT Capital Costs for augmentation of existing systems, the Authority has checked System Management's calculation of depreciation amounts in relation to capital expenditure over the first and second review periods and verified that the calculations are correct. The Authority has, however, amended the amounts to reflect the exclusion of amounts in respect of the IT capital projects for SCADA Ancillary Service enhancements. These depreciation allowances are shown in Table 11.

Table 11 System Management IT capital costs for augmentation of existing systems - 2010/11 to 2012/13 (nominal $'000)

	2010/11	2011/12	2012/13
Depreciation Allowances	**192**	**454**	**594**

Borrowing Costs

86. System Management has not submitted any borrowing costs associated with its capital projects for the second review period, or in relation to those capital projects commenced in the first review period and for which depreciation is incurred in the second review period.

[52] System Management, 30 November 2009, Allowable Revenue Application 1 July 2010 to 30 June 2013, p.26. Discrepancies in totals is due to rounding.

87. For this determination, the Authority has added an amount to allowable revenue in respect of borrowing costs for capital expenditure in the second review period, for which the Authority is requiring depreciation of IT capital expenditure over a period longer than one-year.

88. The Authority has calculated a cost of capital for System Management based on an understanding that System Management could potentially have access to debt funds from the Western Australian Treasury Corporation at a cost in the order of the 10-year Commonwealth Bond rate of 5.48 per cent plus 60 basis points.[53] The resultant borrowing costs are shown in Table 12.

Table 12 System Management allowance for borrowing costs - 2010/11 to 2012/13 (nominal $'000)[54]

	2010/11	2011/12	2012/13
Interest Expense	**48**	**96**	**74**

[53] Reserve Bank of Australia, http://www.rba.gov.au/statistics/tables/index.html#interest_rates

[54] Authority calculations based on supporting data provided by System Management and proposed capital expenditure for the second review period contained in System Management's submission.