

Staff Working Paper

2014 DAU Draft Decision on MAR – Estimating Selected Operating and Maintenance Costs

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1 INTRODUCTION

This paper sets out details of calculations on selected operating and maintenance costs presented in our 30 September 2014 Draft Decision on the Maximum Allowable Revenue (MAR) aspects of Aurizon Network's 2014 Draft Access Undertaking (2014 DAU).¹

In particular, the chapters in this paper cover in more detail our adjustments to direct operating costs (specifically, system-wide and regional costs), corporate overheads and ballast cleaning costs.

Please report is a draft working paper prepared by QCA staff and has not been considered by the QCA board.

DRAFT

¹ For clarification, the details of calculations do not take into account any information provided by stakeholders since the release of our Draft Decision on the MAR.

2 SYSTEM-WIDE AND REGIONAL COSTS

This chapter outlines the process adopted for estimating system-wide and regional costs for the 2014 Draft Access Undertaking (DAU) period, as set out in our Draft Decision on the Maximum Allowable Revenue (MAR). System-wide and regional costs are categorised into three components: train control, safe working and operations (TSO); infrastructure management; and business management.

2.1 Step 1: Establish base year costs

Aurizon Network's proposed system-wide and regional costs for the 2014 DAU period were largely based on the escalation of its 2012–13 base year costs. These base year costs were developed for its 2013 DAU submission in April 2013, and therefore differ to its 2012–13 actual operating costs.²

To establish our base year costs, we reviewed Aurizon Network's 2012–13 actual operating costs against Aurizon Network's proposed base year estimates. RSMBC also reviewed Aurizon Network's 2012–13 actual operating costs, including the changes from previous years' actual costs (2009–10 to 2011–12) and the proposed step changes to forecast costs over the 2014 DAU period (2013–14 to 2016–17).

Based on these reviews, we stated in our Draft Decision that our preferred position was to use 2012–13 actual costs for each of the three cost categories.

However, in our modelling, we applied the following approaches for infrastructure management costs and business management costs:

- For infrastructure management costs, we incorrectly used Aurizon Network's proposed 2013–14 costs as our base year for escalation over the remainder of the 2014 DAU period. However, we intended to use 2012–13 actual costs (as shown on page 115 of RSMBC's report).³ This will be reviewed in our Final Decision.
- For business management costs, with the exception of cost components derived in Step 4, we used Aurizon Network's proposed 2013–14 costs as our base year for escalation over the remainder of the 2014 DAU period. We will review this treatment in our Final Decision.

2.2 Step 2: Apply QCA adjustments to base year costs

In our Draft Decision, we then made additional adjustments to base year costs.

First, we made an adjustment to the cost allocation for non-coal traffic in TSO costs. Aurizon Network's model made an adjustment for non-coal traffic at the Rockhampton Train Control Centre, but not the Mackay Train Control Centre. We have adjusted the costs for the Mackay

² Aurizon Network, 2013 DAU, sub. no. 3: 204

³ Aurizon Network's infrastructure management divisional costs were adjusted by RSMBC to remove non-regulated activities and capitalised costs using Aurizon Network's proposed allocation (76%) of costs. We note that Aurizon Network also provided us with actual 2012–13 costs related to non-regulated activities and capitalised costs. We will consider these in our Final Decision.

Train Control Centre to reflect a 91 per cent allocation of costs for coal traffic (which formed part of the TSO costs).⁴ We have addressed this issue on page 63 of the MAR Draft Decision.

Secondly, for infrastructure management costs, we did not approve the inclusion of annual costs for the Executive Vice President, Aurizon Network (the equivalent position to CEO of network). Instead, we considered CEO costs should be considered as part of the assessment of corporate overheads to avoid any potential double counting of the costs.

2.3 Step 3: Escalate base year costs

As set out in our Draft Decision, we escalated the labour component of base year costs by the forecast Wage Price Index, rather than the Average Weekly Ordinary Times Earnings index proposed by Aurizon Network. Our indexation estimates are set out on pages 58-59 of our MAR Draft Decision.

With the exception of costs outlined in Step 4 below, our general approach was to apply a uniform rate of 2.5 per cent to escalate the non-labour component of base year costs. This is consistent with Aurizon Network's proposed approach.

2.4 Step 4: Alternative methodology for business management costs

2.4.1 Estimating our proposed cost allowance

For the following components of business management costs, we used alternative approaches to estimating our proposed cost allowance:

- For commercial development costs, we accepted Aurizon Network's proposed non-labour costs over the entire 2014 DAU period as Aurizon Network had applied downward changes to these costs in each year.
- For regulation and policy costs, we reduced Aurizon Network's proposed non-labour cost allowance for the preparation of UT5 by \$1.5 million (in nominal dollars) over the last two years of the 2014 DAU period. This reduction was in recognition of the extensive work done on the 2014 DAU and stakeholder concerns about the costs of the UT4 process.⁵

2.4.2 Application of cost allocation factor

Where appropriate, we then applied a cost allocation factor to calculate the costs attributable to below-rail regulated activities.

As noted above, for Aurizon Network's proposed business management costs for below-rail operations, the cost allocation factor in percentage terms increases over each year of the 2014 DAU period. For 2013–14, this allocation is 87 per cent, while for 2016–17 it is 90 per cent.

This means, for business management costs, the year-to-year increase is driven by the escalation factor as well as the change in the cost allocation factor (Table 3).

For TSO and infrastructure management costs, this cost allocation factor was constant across all years of the regulatory period. For these two cost categories, we applied the cost allocation factor to the base year estimates (in Table 1 and 2, respectively, below).

⁴ Subsequent to the release of our Draft Decision on the MAR, we noted that Aurizon Network had applied the 91 per cent allocation factor to its updated costs for Mackay Train Control Centre (to which we re-applied the 91 per cent allocation factor). This will be reviewed in our Final Decision.

⁵ QCA, Draft Decision – Aurizon Network 2014 DAU – Maximum Allowable Revenue, September 2014: 65

2.5 Summary of the proposed adjustments in our MAR Draft Decision

Table 1 QCA proposed adjustments to train control, safe working and operations (\$ million, nominal)

	2012–13 (Actual) ¹	2013–14	2014–15	2015–16	2016–17
Aurizon Network proposed costs	29.87	31.13	32.65	34.21	35.72
QCA proposed costs	25.77 ²	26.47	27.25	28.11	29.07
• Labour component	22.93	23.56	24.27	25.05	25.93
• Non-labour component	2.84	2.91	2.99	3.06	3.14
QCA proposed escalation factor for labour (against 2012–13 base year cost)		1.028	1.058	1.093	1.131
QCA proposed escalation factor for non-labour (against 2012–13 base year cost)		1.025	1.051	1.077	1.104
QCA adjustments (against Aurizon Network proposed costs)		(4.66)	(5.40)	(6.10)	(6.66)

Notes: Totals may not add due to rounding. (1) Base year estimates in this table are after the application of the appropriate cost allocation factor and therefore represent costs attributable to below-rail activities. Includes estimated utility costs, consistent with costs presented on page 112 of RSMBC's report. (2) We have replaced the base year costs for TSO with the Aurizon Network's 2012–13 actual costs. We have also adjusted the costs for the Mackay Train Control Centre to reflect a 91 per cent allocation of costs for coal traffic.

Table 2 QCA proposed adjustments to infrastructure management (\$ million, nominal)

	2013–14 ¹	2014–15	2015–16	2016–17
Aurizon Network proposed costs	15.94	16.63	17.34	18.04
QCA proposed costs	14.88 ²	15.30	15.76	16.26
• Labour component	10.02	10.32	10.66	11.03
• Non-labour component	4.86	4.98	5.10	5.23
QCA proposed escalation factor for labour (against 2013–14 base year cost)	—	1.030	1.063	1.101
QCA proposed escalation factor for non-labour (against 2013–14 base year cost)	—	1.025	1.051	1.077
QCA adjustments (against Aurizon Network proposed costs)	(1.06)	(1.33)	(1.58)	(1.78)

Notes: Totals may not add due to rounding. (1) Base year estimates in this table are after the application of the appropriate cost allocation factor and therefore represent costs attributable to below-rail activities. Since the cost allocation factor is constant across all years, the year-to-year increase is driven solely by the application of the relevant escalation factor. (2) The \$1.06m difference between Aurizon Network's proposed 2013–14 costs and our proposed 2013–14 base year costs includes our removal of Aurizon Network's proposed Executive Vice President network costs.

Table 3 QCA proposed adjustments to business management (\$ million, nominal)

	2013–14¹	2014–15	2015–16	2016–17
Aurizon Network proposed costs	10.51	10.95	13.85	13.46
• Labour component	8.46	9.07	9.58	10.15
• Non-labour component	2.05	1.88	4.27	3.31
QCA proposed costs	10.50	10.66	12.75	12.05
• Labour component	8.45	8.78	9.16	9.57
• <i>Non-labour component^{2,3}</i>	2.05	1.88	3.60	2.48
QCA proposed escalation factor for labour (against 2013–14 base year costs)	—	1.030	1.063	1.101
QCA proposed escalation factor for non-labour (against 2013–14 base year costs)	—	1.025	1.051	1.077
Aurizon Network proposed cost allocation (%)				
• <i>VP Network Operations</i>	100	100	100	100
• <i>Regulation & Policy</i>	87	88	89	90
• <i>Commercial Development</i>	87	88	89	90
QCA adjustments (against Aurizon Network proposed costs)	(0.01)	(0.29)	(1.09)	(1.40)

Notes: Totals may not add due to rounding. (1) Base year estimates in this table are after the application of the appropriate cost allocation factor. (2) For the Regulation and Policy cost category, we adjusted Aurizon Network proposed costs to reduce the UT5 allowance by a total of \$1.5 million over 2015–16 and 2016–17. (3) For the Commercial Development cost category, we accepted Aurizon Network's proposed non-labour costs as Aurizon Network had applied downward changes to these costs.

3 CORPORATE OVERHEADS

This chapter outlines the process adopted to develop our proposed corporate overhead costs for the 2014 DAU period, as set out in our Draft Decision on the MAR. Actual cost details are limited by confidentiality requirements.

3.1 Step 1: RSMBC review of corporate overhead costs

RSMBC removed capital expenditure from Aurizon Network's direct costs allocator and made an adjustment to the workers compensation cost. The application of these adjustments to Aurizon Network's proposed costs is outlined on page 55 of RSMBC's Report. The RSMBC adjusted estimate in Table 4 is used as the base for all other adjustments.

Table 4 RSMBC's adjustments to Aurizon Network's proposed corporate overhead costs (\$ million, nominal)

<i>2014 DAU corporate overheads cost allocation</i> ¹	<i>2013–14</i>	<i>2014–15</i>	<i>2015–16</i>	<i>2016–17</i>
Aurizon Network proposed blended rate methodology	65.97	68.62	71.29	73.87
RSMBC revised Aurizon Network blended rate methodology ²	64.11	66.67	69.24	71.74

Source: RSMBC, 2013 DAU, 2014: 55. Notes: (1) Each approach in this table applies Aurizon Network's blended allocation (based on a blended average of network FTEs, revenues and assets) to corporate cost centres where a causal cost driver could not be identified. (2) This approach includes adjustments to direct costs allocator to remove capital expenditure and amendment of worker's compensation costs.

3.2 Step 2: QCA review of corporate overhead costs

The Draft Decision reflected that we were unconvinced that Aurizon Network's overall proposal for corporate overheads reflected the costs that would be incurred by an efficient 'standalone business' providing a similar service to a similar customer base and demand profile to that of Aurizon Network. On this basis, we made a number of adjustments to corporate overhead cost centres provided to us by Aurizon Network. We set out the reasons in the Draft Decision. Further information is provided below.

Table 5 Cost adjustments made to Aurizon Network corporate overhead model

<i>Corporate cost category</i>	<i>QCA Allocation method</i>	<i>Reason</i>
Costs excluded from corporate costs		
Investor relations	No Allocation	Remove as investor relations not a core activity for a stand-alone entity. Investor relations functions are related to the broader Aurizon Network corporate form. Further, allowances are provided separately for equity raising costs (where it can be demonstrated that these are efficient) and debt raising costs.
Corporate marketing and branding	No Allocation	Remove as branding and marketing not a core activity for a stand-alone, monopoly business such as Aurizon Network, which has a small well-informed customer base.
National policy	No Allocation	Duplication of regulatory and legal team in Aurizon

Corporate cost category	QCA Allocation method	Reason
		Network.
Stakeholder relations costs	No Allocation	Duplication of functions in Aurizon Network — commercial function responsible for dealing with stakeholders.
Business re-engineering and corporate restructuring	No Allocation	Removed as corporate costs associated with corporate restructuring represent decisions for the integrated entity and need not represent the part of the efficient cost base that a stand-alone business would pass through to access holders. Further, it could be expected that such costs would be offset over time by efficiencies in corporate costs arising from an effective restructuring.
Cost adjustments¹		
Company secretary	Direct cost	Proposed reduction in allowance for company secretary to be commensurate with an organisation the size of Aurizon Network, operating as a standalone business.
Legal costs	Direct cost	Adjust Aurizon Network's legal costs to reflect the proportion for unregulated activities. This was based on the same allocation of costs to regulated activities as Aurizon Network assumed for business management functions.
Other adjustments		
Removal of allowances allocated to empty cost centre	No Allocation	Allowance removed on the basis that this is an empty cost centre — no explanation of the cost centre was included in Aurizon Network's corporate overhead model. We will review this treatment in our Final Decision.
Human resources – amendment to allocation method	Network Ops FTEs ²	Amended allocation method for single cost item to Network Ops FTEs (was previously Network Ops revenue).

Notes: (1) Adjustments were made to these categories prior to applying our direct cost allocator (in step 3 below). (2) In the course of reviewing the corporate overheads model since the Draft Decision, we identified an error in our allocator (which was incorrectly set at no allocation). The effect of this error is not material, but we will address this in our Final Decision.

3.3 Step 3: Amended corporate cost allocators – direct costs and FTEs

As set out in the Draft Decision, we did not accept Aurizon Network's proposal to allocate corporate overheads based on its proposed blended cost allocation method. In this respect, where the blended allocator approach was used to apportion corporate overhead costs to Aurizon Network, we replaced this with a direct cost allocation methodology.

The Draft Decision also reflected our position that the corporate overhead methodology should be applied for both operating and maintenance cost activities, rather than operating costs only, as proposed by Aurizon Network.

We included our revised estimates of the direct costs and FTE allocators in Table 33 of the Draft Decision. We were unable to publish all numbers as Aurizon Network has claimed confidentiality over some costs.

3.4 Step 4: Apply Wage Cost Index rather than AWOTE to wage escalation

In our Draft Decision, we proposed adjusting the labour cost escalation factors to reflect the forecast Wage Price Index, rather than the Average Weekly Ordinary Times Earnings (AWOTE) index proposed by Aurizon Network. Our indexation estimates are set out on page 58–59 of the MAR Draft Decision.

Subsequent to the release of our MAR Draft Decision, we discovered that our modelling did not modify the escalation factor for all labour costs from the AWOTE to the Wage Price Index. This will be reviewed in our Final Decision.

3.5 Step 5: Adjustment for RSMBC savings and the telecommunications backbone

3.5.1 Treatment of RSMBC identified savings

RSMBC reviewed forecast operating expenditure to historical operating expenditure at both the regional and system levels. Based on this review, RSMBC identified potential savings which could be made to the Aurizon Network corporate overhead costs.⁶

We did not apply cost saving adjustments in this step to corporate cost categories that we adjusted in Step 2. The cost savings adjustments reflected in the corporate overhead allowance are set out in Table 6 below. The total savings amount as shown in Table 6 was escalated by the forecast consumer price index (2.5 per cent) to derive savings to be applied to each year of the 2014 DAU period.

Table 6 Allocation of RSMBC identified savings for 2012-13 (\$2012-13 million)

<i>Cost category</i>	<i>RSMBC report</i>	<i>Allocator</i>	<i>Allocator %</i>	<i>QCA Savings to be allocated to AN</i>
Finance	XXXX ¹	Direct	XXXX1	XXXX ¹
General counsel and company secretary	XXXX ¹	n.a.	n.a.	–
Human resources	XXXX ¹	FTE	15.43%	XXXX ¹
Safety, health and environment	XXXX ¹	FTE	15.43%	XXXX ¹
Enterprise and branding	XXXX ¹	n.a.	n.a.	–
Overall corporate overhead stretch target	XXXX ¹	Direct	XXXX1	XXXX ¹
Total savings to be allocated to AN				3.6

Source: RSMBC, 2013 DAU, 2014: 23, QCA analysis. Note: (1) Aurizon Network has indicated this information is confidential.

3.5.2 Treatment of telecommunications backbone

As identified in our Draft Decision, we provided \$9.5 million (\$2013–14) for the telecommunications backbone costs. We offset this cost by revenue received from Queensland Rail as a contribution to this service. This derived base year cost was escalated by the forecast consumer price index (2.5 per cent) over each year of the 2014 DAU period.

⁶ RSMBC, 2013 DAU, 2014: High Level Review of Forecast Operating Expenditure, Chapter 8.

4 BALLAST UNDERCUTTING COSTS

This chapter outlines the process adopted to develop our proposed direct ballast cleaning costs for the 2014 DAU period, as set out in our Draft Decision on the MAR.

4.1 Step 1: Establish direct costs for ballast cleaning in real terms

Based on information provided in Aurizon Network's proposal and model, we established direct costs for ballast cleaning in real terms as shown below.

Table 7 Aurizon Network's 2014 DAU proposed direct ballast cleaning costs (\$2011–12 million)

	2013–14	2014–15	2014–15	2015–16
Ballast undercutting	55.27	64.86	65.88	66.36
Ballast undercutting—other	4.31	4.27	4.30	4.38
Ballast undercutting—turnout	3.25	4.09	4.38	4.52
Total	62.83	73.23	74.57	75.26

Source: Aurizon Network Reporting Module - 30 April 2013. Note: Numbers may not sum due to rounding.

4.2 Step 2: Adjust costs to reflect post-GPR intervention rate

As discussed in our Draft Decision on the MAR, our views are:

- there is inconclusive evidence of a substantive need for corrective ballast undercutting in the 2014 DAU period
- the cost of any corrective ballast undercutting required in the 2014 DAU period which pertains to previous undertaking periods should be met by Aurizon Network, rather than its customer base having to provide further funding (and hence, paying twice)
- there is a lack of clarity regarding the precise methodology Aurizon Network has adopted to assess future ballast cleaning costs (see Table 62 of September 2014 MAR Draft Decision)
- the ground penetrating radar (GPR) intervention rate (i.e. 600MNT) should be used in assessing the efficient ballast cleaning costs, rather than the pre-GPR intervention rate (i.e. 400MNT) which appears to have been adopted when assessing future ballast cleaning costs and represents a less efficient intervention rate .

Against this background, we adjusted the annual costs identified in Step 1 to reflect an estimate of the post-GPR intervention rate rather than the pre-GPR intervention rate as follows:

$$\left[\frac{\text{Pre GPR intervention rate}}{\text{Post GPR intervention rate}} \right] * \text{Direct ballast cleaning costs}$$

Where:

Pre-GPR intervention rate = 400MNT

Post-GRP intervention rate = 600MNT

This provided an estimate of the direct ballast cleaning costs (in real terms) based on Aurizon Network's volume forecasts and adopting the post-GPR intervention rate rather than the pre-GPR intervention rate.

This approach effectively reduced all costs by one third, including fixed and capital related costs such as depreciation. This was considered reasonable on the grounds that for a significant change in scope, all costs would be variable.

In our Draft Decision, we escalated direct maintenance costs, excluding depreciation by the forecast Maintenance Cost Index (MCI). We escalated the depreciation component by CPI, as this would be consistent had the ballast cleaning assets been included in the RAB (which is escalated at CPI).

Table 8 Our proposed adjustments to Aurizon Network's proposed ballast cleaning costs for estimated efficient scope (\$2011–12 million)

	2013–14	2014–15	2014–15	2015–16
Aurizon Network's proposed costs	62.83	73.23	74.57	75.26
QCA proposed adjustments for estimated efficient scope	(20.94)	(24.41)	(24.86)	(25.09)
QCA proposed ballast costs (based on Aurizon Network's volume forecasts)	41.89	48.82	49.71	50.17

4.3 Step 3: Adjust for differences in our volume forecasts

We adjusted the ballast costs derived in Step 2 for differences in our volume forecasts relative to those of Aurizon Network. We have adopted the adjustments provided by Jacobs.

Jacobs' adjustments were based on the following assumptions:

- Based on Aurizon Network's maintenance assumptions, 60% of ballast costs were allocated to corrective activities for previous years' fouling and treated as asset renewal activities. The remaining 40% of ballast cleaning costs were considered to be planned maintenance that would vary according to expected total volumes.
- A cost elasticity was estimated for each year as the ratio of the percentage change in Aurizon Network's costs to the percentage change in forecast volumes of ballast cleaned (rather than replaced). This cost elasticity estimate was used to adjust total ballast undercutting costs to take account of the difference between the QCA's revised volume forecasts and Aurizon Network's forecasts for each year.
- The adjustment to total costs was derived, for each year as:

$$\text{Change in total tonnage}_t (\%) * \text{Cost elasticity}_t * \text{Cost for cleaned ballast}_t (\$ \text{ million})$$

The revised volume forecasts used by Jacobs to determine the change in total tonnage were those provided by Energy Economics in May 2014, but excluded volumes for the Wiggins Island Rail Project (WIRP) prior to 2015–16 (refer Table 13 of the Draft Decision).

Table 9 Our proposed adjustments to Aurizon Network's proposed ballast cleaning costs (\$2011–12 million)

	2013–14	2014–15	2014–15	2015–16
QCA proposed ballast costs (based on Aurizon Network's volume forecasts)	41.89	48.82	49.71	50.17

	2013–14	2014–15	2014–15	2015–16
forecasts)				
QCA proposed adjustments for volumes ¹	6.09	(4.39)	0.27	(1.61)
QCA proposed ballast costs (\$2011–12)	47.98	44.43	49.98	48.56

Note: (1) Estimated by Jacobs

4.4 Step 4: Convert to nominal terms

We converted our proposed real ballast cleaning calculated in Step 3 into nominal terms using our proposed maintenance cost index (MCI) and consumer price index (CPI) forecasts. As noted above, only the depreciation component of the total ballast cleaning costs was escalated by the CPI forecasts, while the remainder was escalated by the MCI forecasts.

Table 10 Our proposed adjustments to Aurizon Network's proposed ballast cleaning costs (\$ million)¹

	2013–14	2014–15	2014–15	2015–16
CPI adjustment factor (%)	5.27	7.91	10.60	13.37
MCI adjustment factor (%) in Draft Decision	5.75	8.43	11.15	14.84
MCI adjustment factor (%) in updated Draft Decision	5.83	8.51	11.14	14.63
QCA proposed ballast costs (\$2011–12)	47.98	44.43	49.98	48.56
Depreciation component	7.70	10.53	10.53	10.53
Non-depreciation component	40.27	33.90	39.45	38.03
QCA Draft Decision ²				
QCA proposed ballast costs (\$nominal)	50.70	48.12	55.49	55.62
Depreciation component	8.11	11.36	11.65	11.94
Non-depreciation component	42.59	36.76	43.84	43.68
QCA Updated Draft Decision ³				
QCA proposed ballast costs (\$nominal)	50.73	48.14	55.49	55.54
Depreciation component	8.11	11.36	11.65	11.94
Non-depreciation component	42.62	36.78	43.84	43.60

Notes: Totals may not add due to rounding. (1) In real terms (\$2011–12), the estimates in this table are consistent with Table 63 of our Draft Decision on the MAR that we released in September 2014. (2) The nominal estimates are consistent with those published in the Draft Decision, Table 63. (3) We have derived revised estimates using an updated MCI forecast consistent with our updated QCA Draft Decision MAR that we published in our Information Update on 21 November 2014. They are therefore slightly different to the nominal estimates in our Draft Decision.

GLOSSARY

A

AWOTE Average Weekly Ordinary Time Earnings

B

C

CPI Consumer Price Index

D

DAU Draft Access Undertaking

E

F

FTE Full Time Equivalent

G

GPR Ground Penetrating Radar

H

I

J

K

L

M

MAR Maximum Allowable Revenue

MCI Maintenance Cost Index

MNT Million Net Tonnes

N

O

P

Q

QCA Queensland Competition Authority

R

RAB Regulatory Asset Base

RSMBC RSM Bird Cameron

S**T**

TSO Train Control, Safe Working and Operations

U**V****W**

WIRP Wiggins Island Rail Project

X**Y****Z**

REFERENCES

Aurizon Network, The 2013 Access Undertaking Explanatory Material: Volume 3 - MAR and Reference Tariffs. April 2013. (sub. no. 3).

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