Request Number 1:

Question 2:

a) **Can ARTC please provide planned versus actual expenditure and scope for the 'full track reconstruction' activity and indicate the extent to which floods and other factors contributed to the variance?**

b) **Considering the 2021 floods, could you please outline any precautions ARTC has undertaken to mitigate the impact of extreme weather events?**

Advice:

a) **Can ARTC please provide planned versus actual expenditure and scope for the 'full track reconstruction' activity and indicate the extent to which floods and other factors contributed to the variance?**

2021 Planned V's Actual

The table below provides the 2021 plan and actual $'s and scope along with the comparison to 2020 actuals. The increase from 2020 to 2021 was as planned.

Activity		2020 (act) (a)	2021 (plan) (b)	2021 (act) (c)	% Variance 2020 (act) v 2021 (act) (c)/(a)-1
Full Track Reconstruction (MPM)	$ (000's)	7,812	11,187	10,546	35.0%
	Scope (m)	1,860	2,561	2,486	33.7%

Background: How is Scope Determined?

The track reconditioning scope is planned in the year prior to delivery (ie 2020 for 2021) and is therefore influenced by the track conditions present at the time. Track condition parameters are influenced by factors including asset age / condition, rainfall, drainage and tonnage demand.

To determine the annual scope, ARTC utilises a multi-criteria analysis (MCA) which considers both track condition and network criticality factors to ensure the site selections are based on likelihood and consequence of failure.

Track condition parameters used in the MCA include geometry defects, maintenance history, top moving sum (TMS), temporary speed restrictions (TSR's), ballast fouling and formation layer roughness.

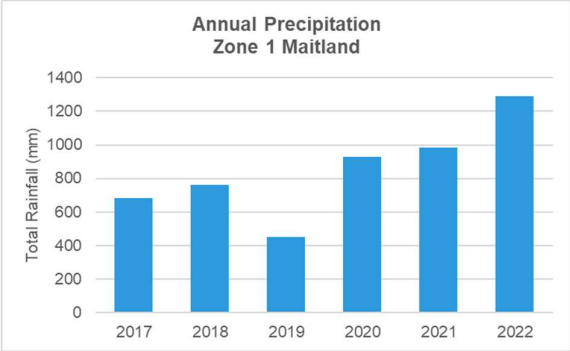
Criticality parameters used in the MCA include tonnage demand, asset type (eg formation in a tunnel), TSR duration (loaded direction), track radius, track gradient and location risk for emergency work response.

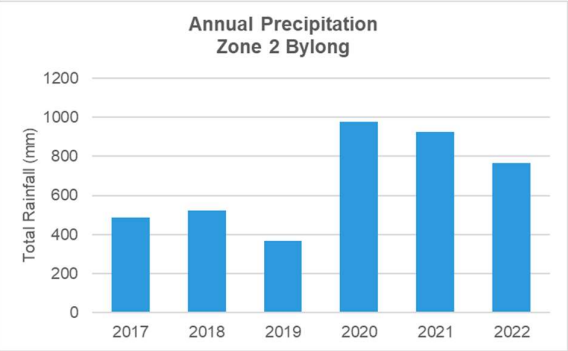
The MCA is used to identify and classify which projects are capital sites (>200m) and which are maintenance sites (<200m). The year-on-year variations of scheduled maintenance for Track Reconditioning can be influenced due purely to the length of the reconditioning required and the classification it receives.

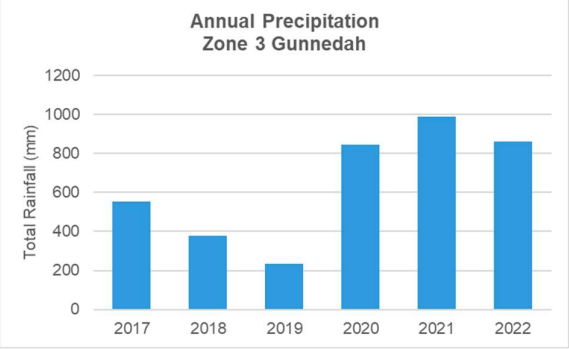
What Factors Influenced the 2021 Scope increase?

The scope increase during 2021 was primarily influenced by track conditions which could be attributed to an increase in rainfall. Rainfall can impact asset performance and the key track condition parameters used to determine track reconditioning scope. 2020 saw an increase in annual rainfall after several years of relatively dry conditions. While flood events also have an impact on track formation (particularly emerging emergency works) it is prolonged wet conditions which will contribute most to ongoing track performance and therefore the maintenance requirements.

The increased rainfall in 2020 contributed to the deteriorating track condition seen in that period and hence the need for the increase in track reconditioning maintenance scope identified for 2021.







The severe March flooding in 2021 resulted in the decision to move the scheduled April closedown until later in the month to ensure ARTC was able to complete the planned April scope. This also allowed customers to move product immediately post recovery of floods and not have an immediate track outage due to scheduled maintenance. The floods and subsequent rescheduling of the closedown required the short notice cancellations of contractors, materials and equipment which resulted in additional costs relating to demobilisation and remobilisation of planned works and sites.

b) Considering the 2021 floods, could you please outline any precautions ARTC has undertaken to mitigate the impact of extreme weather events?

Flooding can not only influence track condition and ongoing maintenance costs but can also impact the cost of projects due to site damage, re-work, delays and re-mobilisation costs.

To completely mitigate the impacts of flooding events would be cost prohibitive and would have many practical barriers to achievement. Holistic customer benefits of major flood mitigation initiatives on the Hunter Valley rail network are also limited as the same major weather events also impact on other operations within the supply chain.

Instead, ARTC focus on achievable initiatives that minimise the impacts of such extreme events and aid with recovery. Some of these include:

- *Flooding Special Locations*

  ARTC have a register of flooding locations based on historical flood events. These sites are listed in ARTC's asset register and are identified in the weather warning system. This flooding knowledge allows rail network maintainers to focus maintenance work, asset strategies and flood recovery work. It also allows projects managers to plan appropriately when delivering projects at one of these locations.

- *Weather Warning System*

  During 2021 ARTC had engaged the services of a contract weather reporting provider, to push out alerts both on forecast and actual weather events (rainfall, wind, fire, etc) This gave ARTC the ability to assess and mitigate risks to the operating network during extreme weather event in real time and in accordance with the Extreme Weather Response framework.

  Furthermore, ARTC have recently partnered with Weatherzone to produce a customisable dashboard that provides live weather observations and alerts to teams across our network. It's available to all ARTC employees and can also be accessed by contractors on request. The dashboard can be accessed remotely via the Weatherguard application. The system allows for efficient preparations and targeted network recovery after major flooding events.

- *Waterproof Points Machine*

  Traditional points machines have needed to be replaced once submerged by flood water resulting in further delays to the return to service once they are submerged. ARTC has commenced a trial using a waterproof points machine at known risk sites such as Sandgate. The waterproof machine will allow for a quicker return to train service and avoid the cost of points machine replacement after flooding events. Two of these machines are planned to be installed, one in CAL23 and another in CAL24.

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Cleared by:	Monica Ell
Officer Responsible:	Allison Boardman

Request Number 1:

Question 3:

Noting the increase in infrastructure losses from signalling-related failures despite a lower number of failures, how does ARTC's prioritisation of Points Condition Monitoring installation take account of the criticality of points?

Advice:

Points Condition Monitoring (PCM) Background

PCM equipment measures key operating parameters that relate to the condition of point machines in real time. Collection, trending and analysis of the PCM data allows ARTC to identify deteriorating conditions prior to failure. This allows the asset teams to plan maintenance intervention to reduce and prevent failures to ultimately lower network disruption to the customers. PCM technology is also used in the root cause analysis of failures that do eventuate which allows for targeted preventative programs to be developed.

Non-invasive site-based sensors and data loggers are installed inside signalling equipment cabinets or buildings to measure and record real time key parameter data relating to asset condition and performance.

These parameters include:

- Switch machine motor current.
- Operating time.
- Ambient temperature; and
- Relay status.

The common root cause of failure types that the system is best at predicting are:

- Poor lubrication of slide chairs.
- Build-up of coal or sand (which restricts operation over time).
- Clutch failure; and
- Points detector being out of adjustment caused by geometry issues.

The above failures account for almost all the root cause types ARTC experiences in the normal operation of points (aside from exceptional events like floods, lightning strikes, ballast obstruction etc). ARTC's trial of PCM identified a potential of a 30-50% reduction in points failures for sites with PCM installed.

The installation of PCM was a five-year program endorsed at RCG through the Sustaining Capital submissions, commencing in 2018 and delivered more than 200 PCM sites.

Site Prioritisation

To identify the sites that would deliver the greatest customer benefit from PCM installations, a Multi Criteria Analysis (MCA) was performed on all points in the Hunter Valley Coal Network (coal assets only). The MCA criteria used a weighting of likelihood and consequence parameters including historical failure data, network criticality, tonnage and maintenance travel times to determine the priority locations for each of points which installed PCM over the five-year program.

For example, in Zone 1 it was proposed to install PCM at 79-point locations during the five-year program. This represents only 25% of the total number of points locations in Zone 1, but these locations accounted for 75% of the total point failures that had occurred in the 12 months prior to the analysis.

The MCA that was performed used the number of historical failures and a network criticality rating to determine the most suitable locations for points condition monitoring. This ensured that both failure likelihood and operational consequence were considered.

- Failure Rating (30% weighting)

  - Score derived from the ARTC Ellipse asset management system failure data.

- Criticality Rating (70% weighting)

  - Score derived from multiple factors including tonnage over the points (0.50 sub weighting), travel time (0.33) and grade of the turnout (0.17)

The point machines considered for further roll out are based on the final rating where the rating is more than 0.50.

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Officer Responsible:	Allison Boardman

Request Number 1:

Question 4:

(a) Given the need to maintain staffing levels for ANCO to date, what does ARTC see as the future path for network control opex, and realising savings compared to the manual system?

(b) Please provide the close-out report for the ANCO project when available and an indication of when that might be.

Advice:

(a) Given the need to maintain staffing levels for ANCO to date, what does ARTC see as the future path for network control opex, and realising savings compared to the manual system?

The targeted $1.2M per annum savings in the Hunter Valley Network Control Function (NCCN) as per the original business case for ANCO, has not been, and will not be realised as a result of the completion of the ANCO project.

As detailed in the 2021 submission, during the implementation of ANCO, it became evident to ARTC that the project required significant resources to support the transition to an automated planning tool. This involved intensive training regimes, increased data entry requirements as well as the further continuous improvement work required to utilise the new system efficiently to further embed broader supply chain opportunities.

[redacted]

The ANCO project, being a tool to enhance the planning and live decision making of train movements, has created efficiency gains for the customers via improved planning, flexibility, increased available network capacity and reduced train dwell. The original paper-based planning system limited the Network controller's decision making and view to what was occurring on their respective boards and any deviations of the original set plan resulted in delays, cancellations, and inefficiency within the supply chain. The ANCO project has delivered an automated, live planning and scheduling tool which is now able to provide information which considers events across the entirety of the network and enables supply chain participants to make informed decisions in real time to maximise network efficiency and minimise above rail costs.

ARTC highlight that whilst we acknowledge there have been no direct OPEX savings to ARTC itself, there has been significant benefits realised from the ANCO project (as detailed in the 2021 Compliance Submission), additional savings have been realised across the overall supply chain in the form of:

- The targeted cost avoidance (return and depreciation) has been realised with technology deferring the need for capacity enabling infrastructure loops.
- An 8% improvement in network productivity by a change to a dynamic operating mode, where trains are dynamically pathed to minimise dwell, and enable a reduction in train hours, translating into increased supply chain capacity from existing infrastructure. The technology has unlocked the ongoing opportunity to reduce cycle time which should enable to cost reduction to customers through above rail savings. This is not a controllable cost saving for ARTC but a direct benefit to customers.
- An increase in the efficiency of real time train planning and execution, enabling a 5% improved utilisation of the available track capacity resulting in an increase in saleable capacity (paths) for Pricing Zones 2 and 3.
- The move from an inefficient and archaic paper-based planning system to a live dynamic environment making the progression toward an advanced integrated supply chain possible.

[redacted]

(b) Please provide the close-out report for the ANCO project when available and an indication of when that might be.

The ANCO Steering Committee is scheduled to meet early September and it is anticipated the close out report will be available in Q4 2023.

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Submitted on:	08.08.2023
Cleared by:	Monica Ell
Officer Responsible:	Allison Boardman

Request Number 1:

Background:

We note that in the Compliance Submission $4.5million of expenditure on cloud-based software was reclassified from capex to business unit management costs.

Question 5:

(a) What was the effect of the reclassification on the regulatory asset base (RAB)?

(b) Can this be seen in ARTC's revenue model?

Advice:

(a) What was the effect of the reclassification on the regulatory asset base?

The $4.5 million of expenditure in business unit management costs relating to cloud-based software has never previously been classified as a Regulatory Asset (or included on the RAB) nor was ever intended to be classified as a Regulatory Asset (or included on the RAB). The initial expenditure was previously sitting in Work In Progress (WIP) on the ARTC balance sheet while the project was in progress with the intention to capitalise to the Corporate Asset Register once the software assets were respectively ready for use. Once capitalised on the Corporate Asset Register, the resulting Office Depreciation would have flowed through to operating costs per the provisions of HVAU Schedule I.

With the changing nature of how software is generally developed, managed, controlled and stored on the "cloud", ARTC undertook an independent review of the financial treatment of all its cloud-based software with an external accounting firm to determine the correct financial treatment. Through this review of each individual software application, it was determined that certain products could no longer be capitalised to the Corporate Asset Register but would be required to be written off in full as incurred. (Further detail on each application contained in the 2021 Compliance Return).

For clarity, this expenditure was not capitalised at any point onto the Regulatory Asset Base during 2021 or prior years.

(b) Can this be seen in ARTC's revenue model?

Given the above, the $4.5M is seen in the model by way of operating expenditure with this amount seen in Business Unit Management for 2021.

As stated above, the expenditure was never sitting on the Regulatory Asset Base and therefore you will not see any impact of this expenditure in the RAB for 2021 or prior years.

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Cleared by:	Monica Ell
Officer Responsible:	Allison Boardman

Request Number 1:

Question 6:

Can ARTC please consider which documents in the 2021 compliance submission marked as confidential can be published, either redacted or in full?

Advice:

For 2021, ACCC confirmed that ARTC isn't required to retrospectively work through all documents to assess confidentiality. The ACCC will reach out about any specific documents for ARTC to consider for the 2021 year. ARTC will also assess the responses to ACCC queries for 2021 for confidentiality. Going forward ARTC will assess each document on lodgement with the ACCC and provide reasoning if documents are considered confidential.

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Version	1.0
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Cleared by:	Monica Ell
Officer Responsible:	Allison Boardman

Request Number 1:

Background:

We note the performance indicators data that ARTC publishes on its website for each quarter as per Schedule D of the HVAU.

Question 7:

Can you please provide a spreadsheet that centralises all the HV performance indicator data published on ARTC's website as a historical series?

Advice:

Please refer to attached spreadsheet titled **"Request Number 1 - Question 7 KPI historical data".**

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Officer Responsible:	Allison Boardman

PUBLIC

Measure	Quarter	Zone 1 Up	Zone 2 Up	Zone 3 Up
Infrastructure Capacity Capability	Sep - 11	47.2	54.7	49.8
Infrastructure Capacity Capability	Dec - 11	47.2	54.7	49.8
Infrastructure Capacity Capability	Mar - 12	47.2	54.7	49.8
Infrastructure Capacity Capability	Jun - 12	47.2	54.7	49.8
Infrastructure Capacity Capability	Sep - 12	47.2	54.7	49.8
Infrastructure Capacity Capability	Dec - 12	47.2	54.7	49.8
Infrastructure Capacity Capability	Mar - 13	47.2	54.7	49.8
Infrastructure Capacity Capability	Jun - 13	47.2	54.7	49.8
Infrastructure Capacity Capability	Sep - 13	47.2	54.7	49.8
Infrastructure Capacity Capability	Dec - 13	47.2	54.7	49.8
Infrastructure Capacity Capability	Mar - 14	47.2	54.7	49.8
Infrastructure Capacity Capability	Jun - 14	47.2	54.7	57.2
Infrastructure Capacity Capability	Sep - 14	47.2	54.7	57.2
Infrastructure Capacity Capability	Dec - 14	47.2	54.7	57.2
Infrastructure Capacity Capability	Mar - 15	47.2	54.7	55.2
Infrastructure Capacity Capability	Jun - 15	47.2	54.7	55.2
Infrastructure Capacity Capability	Sep - 15	47.2	54.7	55.2
Infrastructure Capacity Capability	Dec - 15	47.2	54.7	55.2
Infrastructure Capacity Capability	Mar - 16	47.2	54.7	55.2
Infrastructure Capacity Capability	Jun - 16	47.2	54.7	55.2
Infrastructure Capacity Capability	Sep - 16	47.2	54.7	55.2
Infrastructure Capacity Capability	Dec - 16	47.2	54.7	55.2
Infrastructure Capacity Capability	Mar - 17	47.2	54.7	55.2
Infrastructure Capacity Capability	Jun - 17	47.2	54.7	55.2
Infrastructure Capacity Capability	Sep - 17	47.2	54.7	55.2
Infrastructure Capacity Capability	Dec - 17	47.2	54.7	55.2
Infrastructure Capacity Capability	Mar - 18	47.2	54.7	55.2
Infrastructure Capacity Capability	Jun - 18	47.2	54.7	55.2
Infrastructure Capacity Capability	Sep - 18	47.2	54.7	55.2
Infrastructure Capacity Capability	Dec - 18	47.2	54.7	55.2
Infrastructure Capacity Capability	Mar - 19	47.2	54.7	55.2
Infrastructure Capacity Capability	Jun - 19	47.2	54.7	55.2
Infrastructure Capacity Capability	Sep - 19	47.2	54.7	55.2
Infrastructure Capacity Capability	Dec - 19	47.2	54.7	55.2
Infrastructure Capacity Capability	Mar - 20	47.2	54.7	55.2
Infrastructure Capacity Capability	Jun - 20	47.2	54.7	55.2
Infrastructure Capacity Capability	Sep - 20	47.2	54.7	55.2
Infrastructure Capacity Capability	Dec - 20	47.2	54.7	55.2
Infrastructure Capacity Capability	Mar - 21	47.2	54.7	55.2
Infrastructure Capacity Capability	Jun - 21	47.2	54.7	55.2
Infrastructure Capacity Capability	Sep - 21	47.2	54.7	55.2
Infrastructure Capacity Capability	Dec - 21	47.2	54.7	55.2

Measure	Quarter	Zone 1 Up	Zone 2 Up	Zone 3 Up
Infrastructure Practical Capability	Sep - 11	41.1	51.0	45.4
Infrastructure Practical Capability	Dec - 11	46.0	54.7	42.9
Infrastructure Practical Capability	Mar - 12	44.9	52.4	37.0
Infrastructure Practical Capability	Jun - 12	42.2	50.5	47.5
Infrastructure Practical Capability	Sep - 12	44.2	53.4	42.2
Infrastructure Practical Capability	Dec - 12	42.9	54.0	40.8
Infrastructure Practical Capability	Mar - 13	46.5	51.3	34.0
Infrastructure Practical Capability	Jun - 13	47.0	51.5	43.0
Infrastructure Practical Capability	Sep - 13	46.5	49.1	38.6
Infrastructure Practical Capability	Dec - 13	45.7	48.3	39.8
Infrastructure Practical Capability	Mar - 14	47.2	50.4	39.5
Infrastructure Practical Capability	Jun - 14	41.6	49.2	21.5
Infrastructure Practical Capability	Sep - 14	38.4	50.9	26.1
Infrastructure Practical Capability	Dec - 14	45.3	53.6	35.5
Infrastructure Practical Capability	Mar - 15	45.6	53.5	22.8
Infrastructure Practical Capability	Jun - 15	44.5	53.5	25.2
Infrastructure Practical Capability	Sep - 15	44.6	53.5	27.3
Infrastructure Practical Capability	Dec - 15	43.0	53.8	29.9
Infrastructure Practical Capability	Mar - 16	45.4	54.7	25.3
Infrastructure Practical Capability	Jun - 16	47.2	54.7	26.6
Infrastructure Practical Capability	Sep - 16	43.7	54.1	22.7
Infrastructure Practical Capability	Dec - 16	40.6	53.1	30.8
Infrastructure Practical Capability	Mar - 17	40.1	53.1	24.4
Infrastructure Practical Capability	Jun - 17	45.2	52.8	30.2
Infrastructure Practical Capability	Sep - 17	40.2	54.1	23.6
Infrastructure Practical Capability	Dec - 17	41.6	51.7	23.0
Infrastructure Practical Capability	Mar - 18	41.6	51.7	23.0
Infrastructure Practical Capability	Jun - 18	41.2	52.1	34.8
Infrastructure Practical Capability	Sep - 18	38.3	53.5	32.2
Infrastructure Practical Capability	Dec - 18	40.5	52.1	34.8
Infrastructure Practical Capability	Mar - 19	36.8	50.9	28.0
Infrastructure Practical Capability	Jun - 19	37.0	54.7	26.3
Infrastructure Practical Capability	Sep - 19	39.1	53.6	42.4
Infrastructure Practical Capability	Dec - 19	45.1	52.7	41.4
Infrastructure Practical Capability	Mar - 20	41.6	50.9	36.4
Infrastructure Practical Capability	Jun - 20	44.0	54.2	38.1
Infrastructure Practical Capability	Sep - 20	45.3	53.5	41.9
Infrastructure Practical Capability	Dec - 20	44.3	54.0	41.2
Infrastructure Practical Capability	Mar - 21	36.8	53.5	30.1
Infrastructure Practical Capability	Jun - 21	38.6	52.3	37.0
Infrastructure Practical Capability	Sep - 21	38.4	52.8	36.9
Infrastructure Practical Capability	Dec - 21	40.8	52.0	37.2

Measure	Quarter	Zone 1	Zone 2	Zone 3
Scheduled Speed	Sep - 11	39.1	33.8	32.4
Scheduled Speed	Dec - 11	39.2	34.5	33.6
Scheduled Speed	Mar - 12	38.0	34.5	34.5
Scheduled Speed	Jun - 12	38.9	34.3	32.9
Scheduled Speed	Sep - 12	39.7	34.3	32.0
Scheduled Speed	Dec - 12	39.7	34.7	34.7
Scheduled Speed	Mar - 13	39.0	34.8	33.1
Scheduled Speed	Jun - 13	38.0	35.3	29.1
Scheduled Speed	Sep - 13	38.3	34.0	27.4
Scheduled Speed	Dec - 13	38.0	32.6	26.7
Scheduled Speed	Mar - 14	37.7	32.0	29.1
Scheduled Speed	Jun - 14	37.9	32.3	29.5
Scheduled Speed	Sep - 14	37.5	32.2	29.0
Scheduled Speed	Dec - 14	37.1	32.3	29.9
Scheduled Speed	Mar - 15	36.6	32.9	29.6
Scheduled Speed	Jun - 15	36.2	32.5	30.0
Scheduled Speed	Sep - 15	36.1	33.0	29.8
Scheduled Speed	Dec - 15	34.7	32.7	29.6
Scheduled Speed	Mar - 16	34.2	33.1	29.3
Scheduled Speed	Jun - 16	34.4	32.8	29.9
Scheduled Speed	Sep - 16	33.1	32.6	28.9
Scheduled Speed	Dec - 16	31.9	33.4	29.8
Scheduled Speed	Mar - 17	34.0	33.3	28.9
Scheduled Speed	Jun - 17	33.1	33.5	29.9
Scheduled Speed	Sep - 17	33.5	33.3	29.8
Scheduled Speed	Dec - 17	32.2	33.2	29.0
Scheduled Speed	Mar - 18	33.2	33.0	29.9
Scheduled Speed	Jun - 18	33.2	33.7	30.0
Scheduled Speed	Sep - 18	32.0	31.2	28.6
Scheduled Speed	Dec - 18	32.6	33.0	31.1
Scheduled Speed	Mar - 19	32.1	33.2	31.9
Scheduled Speed	Jun - 19	31.5	33.9	31.6
Scheduled Speed	Sep - 19	31.4	34.2	32.2
Scheduled Speed	Dec - 19	32.0	34.2	31.5
Scheduled Speed	Mar - 20	32.6	34.7	32.0
Scheduled Speed	Jun - 20	33.7	33.8	31.8
Scheduled Speed	Sep - 20	32.4	34.0	31.5
Scheduled Speed	Dec - 20	32.4	33.3	31.3
Scheduled Speed	Mar - 21	33.3	35.0	31.5
Scheduled Speed	Jun - 21	32.2	34.2	31.4
Scheduled Speed	Sep - 21	34.0	34.5	31.3
Scheduled Speed	Dec - 21	32.1	34.0	31.0

Measure	Quarter	Zone 1	Zone 2	Zone 3
Infrastructure Maintenance Paths Cancelled	Sep - 11	##########	74	204
Infrastructure Maintenance Paths Cancelled	Dec - 11	##########	84	106
Infrastructure Maintenance Paths Cancelled	Mar - 12	##########	398	351
Infrastructure Maintenance Paths Cancelled	Jun - 12	##########	404	955
Infrastructure Maintenance Paths Cancelled	Sep - 12	##########	484	1923
Infrastructure Maintenance Paths Cancelled	Dec - 12	##########	461	1455
Infrastructure Maintenance Paths Cancelled	Mar - 13	##########	353	92
Infrastructure Maintenance Paths Cancelled	Jun - 13	##########	421	0
Infrastructure Maintenance Paths Cancelled	Sep - 13	### #####	320	0
Infrastructure Maintenance Paths Cancelled	Dec - 13	### #####	147	61
Infrastructure Maintenance Paths Cancelled	Mar - 14	### #####	286	341
Infrastructure Maintenance Paths Cancelled	Jun - 14	##########	367	279
Infrastructure Maintenance Paths Cancelled	Sep - 14	##########	207	182
Infrastructure Maintenance Paths Cancelled	Dec - 14	927	423	291
Infrastructure Maintenance Paths Cancelled	Mar - 15	653	0	68
Infrastructure Maintenance Paths Cancelled	Jun - 15	1277	79	71
Infrastructure Maintenance Paths Cancelled	Sep - 15	1324	158	142
Infrastructure Maintenance Paths Cancelled	Dec - 15	932	121	118
Infrastructure Maintenance Paths Cancelled	Mar - 16	762	41	97
Infrastructure Maintenance Paths Cancelled	Jun - 16	1261	195	173
Infrastructure Maintenance Paths Cancelled	Sep - 16	515	43	147
Infrastructure Maintenance Paths Cancelled	Dec - 16	910	128	175
Infrastructure Maintenance Paths Cancelled	Mar - 17	544	41	229
Infrastructure Maintenance Paths Cancelled	Jun - 17	927	78	282
Infrastructure Maintenance Paths Cancelled	Sep - 17	912	173	185
Infrastructure Maintenance Paths Cancelled	Dec - 17	1024	162	190
Infrastructure Maintenance Paths Cancelled	Mar - 18	1047	178	150
Infrastructure Maintenance Paths Cancelled	Jun - 18	1110	172	38
Infrastructure Maintenance Paths Cancelled	Sep - 18	1172	226	211
Infrastructure Maintenance Paths Cancelled	Dec - 18	1445	205	88
Infrastructure Maintenance Paths Cancelled	Mar - 19	768	141	114
Infrastructure Maintenance Paths Cancelled	Jun - 19	820	203	169
Infrastructure Maintenance Paths Cancelled	Sep - 19	1540	216	168
Infrastructure Maintenance Paths Cancelled	Dec - 19	840	213	169
Infrastructure Maintenance Paths Cancelled	Mar - 20	937	214	166
Infrastructure Maintenance Paths Cancelled	Jun - 20	1239	223	155
Infrastructure Maintenance Paths Cancelled	Sep - 20	1050	273	212
Infrastructure Maintenance Paths Cancelled	Dec - 20	651	150	129
Infrastructure Maintenance Paths Cancelled	Mar - 21	796	154	132
Infrastructure Maintenance Paths Cancelled	Jun - 21	897	214	178
Infrastructure Maintenance Paths Cancelled	Sep - 21	803	158	169
Infrastructure Maintenance Paths Cancelled	Dec - 21	1077	231	171

Measure	Quarter	Actual	Planned	Variance
Coal Throughput	Sep - 11	32.7	29.5	3.2
Coal Throughput	Dec - 11	30.2	33.9	- 3.7
Coal Throughput	Mar - 12	29.9	33.0	- 3.1
Coal Throughput	Jun - 12	33.2	37.6	- 4.4
Coal Throughput	Sep - 12	34.7	38.4	- 3.7
Coal Throughput	Dec - 12	34.0	37.4	- 3.4
Coal Throughput	Mar - 13	34.0	38.1	- 4.1
Coal Throughput	Jun - 13	37.3	41.2	- 3.9
Coal Throughput	Sep - 13	38.4	41.2	- 2.8
Coal Throughput	Dec - 13	40.8	43.3	- 2.5
Coal Throughput	Mar - 14	38.6	42.0	- 3.4
Coal Throughput	Jun - 14	37.0	38.8	- 1.8
Coal Throughput	Sep - 14	41.1	43.8	- 2.8
Coal Throughput	Dec - 14	41.7	44.8	- 3.1
Coal Throughput	Mar - 15	39.8	42.7	- 2.9
Coal Throughput	Jun - 15	37.1	40.9	- 3.8
Coal Throughput	Sep - 15	41.1	44.1	- 3.1
Coal Throughput	Dec - 15	39.7	43.3	- 3.6
Coal Throughput	Mar - 16	39.0	43.0	- 4.0
Coal Throughput	Jun - 16	39.7	42.6	- 2.9
Coal Throughput	Sep - 16	40.6	44.8	- 4.2
Coal Throughput	Dec - 16	41.9	45.8	- 3.9
Coal Throughput	Mar - 17	40.2	45.6	- 5.3
Coal Throughput	Jun - 17	40.7	45.3	- 4.6
Coal Throughput	Sep - 17	40.7	44.9	- 4.2
Coal Throughput	Dec - 17	38.2	43.3	- 5.2
Coal Throughput	Mar - 18	38.4	42.6	- 4.2
Coal Throughput	Jun - 18	40.7	44.3	- 3.7
Coal Throughput	Sep - 18	40.8	44.5	- 3.7
Coal Throughput	Dec - 18	39.6	42.6	- 3.0
Coal Throughput	Mar - 19	39.6	42.6	- 3.0
Coal Throughput	Jun - 19	41.0	45.1	- 4.1
Coal Throughput	Sep - 19	42.6	45.5	- 2.9
Coal Throughput	Dec - 19	41.6	43.8	- 2.2
Coal Throughput	Mar - 20	40.7	44.4	- 3.8
Coal Throughput	Jun - 20	39.4	42.4	- 3.0
Coal Throughput	Sep - 20	39.5	42.9	- 3.3
Coal Throughput	Dec - 20	39.5	41.7	- 2.3
Coal Throughput	Mar - 21	38.0	41.4	- 3.3
Coal Throughput	Jun - 21	40.4	42.6	- 2.2
Coal Throughput	Sep - 21	45.9	49.0	- 3.1
Coal Throughput	Dec - 21	41.3	46.5	- 5.2

Measure	Quarter	Zone 1 Down	Zone 2 Down	Zone 3 Down
Infrastructure Capacity Capability	Sep - 11	67.1	58.8	51.5
Infrastructure Capacity Capability	Dec - 11	67.1	58.8	51.5
Infrastructure Capacity Capability	Mar - 12	67.1	58.8	51.5
Infrastructure Capacity Capability	Jun - 12	67.1	58.8	51.5
Infrastructure Capacity Capability	Sep - 12	67.1	58.8	51.5
Infrastructure Capacity Capability	Dec - 12	67.1	58.8	51.5
Infrastructure Capacity Capability	Mar - 13	67.1	58.8	51.5
Infrastructure Capacity Capability	Jun - 13	67.1	58.8	51.5
Infrastructure Capacity Capability	Sep - 13	67.1	58.8	51.5
Infrastructure Capacity Capability	Dec - 13	67.1	58.8	51.5
Infrastructure Capacity Capability	Mar - 14	67.1	58.8	51.5
Infrastructure Capacity Capability	Jun - 14	67.1	58.8	62.1
Infrastructure Capacity Capability	Sep - 14	67.1	58.8	62.1
Infrastructure Capacity Capability	Dec - 14	67.1	58.8	62.1
Infrastructure Capacity Capability	Mar - 15	67.1	58.8	71.5
Infrastructure Capacity Capability	Jun - 15	67.1	58.8	71.5
Infrastructure Capacity Capability	Sep - 15	67.1	58.8	71.5
Infrastructure Capacity Capability	Dec - 15	67.1	58.8	71.5
Infrastructure Capacity Capability	Mar - 16	67.1	58.8	71.5
Infrastructure Capacity Capability	Jun - 16	67.1	58.8	71.5
Infrastructure Capacity Capability	Sep - 16	67.1	58.8	71.5
Infrastructure Capacity Capability	Dec - 16	67.1	58.8	71.5
Infrastructure Capacity Capability	Mar - 17	67.1	58.8	71.5
Infrastructure Capacity Capability	Jun - 17	67.1	58.8	71.5
Infrastructure Capacity Capability	Sep - 17	67.1	58.8	71.5
Infrastructure Capacity Capability	Dec - 17	67.1	58.8	71.5
Infrastructure Capacity Capability	Mar - 18	67.1	58.8	71.5
Infrastructure Capacity Capability	Jun - 18	67.1	58.8	71.5
Infrastructure Capacity Capability	Sep - 18	67.1	58.8	71.5
Infrastructure Capacity Capability	Dec - 18	67.1	58.8	71.5
Infrastructure Capacity Capability	Mar - 19	67.1	58.8	71.5
Infrastructure Capacity Capability	Jun - 19	67.1	58.8	71.5
Infrastructure Capacity Capability	Sep - 19	67.1	58.8	71.5
Infrastructure Capacity Capability	Dec - 19	67.1	58.8	71.5
Infrastructure Capacity Capability	Mar - 20	67.1	58.8	71.5
Infrastructure Capacity Capability	Jun - 20	67.1	58.8	71.5
Infrastructure Capacity Capability	Sep - 20	67.1	58.8	71.5
Infrastructure Capacity Capability	Dec - 20	67.1	58.8	71.5
Infrastructure Capacity Capability	Mar - 21	67.1	58.8	71.5
Infrastructure Capacity Capability	Jun - 21	67.1	58.8	71.5
Infrastructure Capacity Capability	Sep - 21	67.1	58.8	71.5
Infrastructure Capacity Capability	Dec - 21	67.1	58.8	71.5

Measure	Quarter	Zone 1 Down	Zone 2 Down	Zone 3 Down
Infrastructure Practical Capability	Sep - 11	61.1	54.1	49.7
Infrastructure Practical Capability	Dec - 11	65.3	58.8	48.7
Infrastructure Practical Capability	Mar - 12	63.1	56.3	46.8
Infrastructure Practical Capability	Jun - 12	59.5	53.3	50.6
Infrastructure Practical Capability	Sep - 12	67.1	57.9	47.7
Infrastructure Practical Capability	Dec - 12	67.1	57.9	47.7
Infrastructure Practical Capability	Mar - 13	64.2	54.3	44.1
Infrastructure Practical Capability	Jun - 13	57.3	54.6	48.7
Infrastructure Practical Capability	Sep - 13	57.3	51.6	46.6
Infrastructure Practical Capability	Dec - 13	57.3	50.6	47.2
Infrastructure Practical Capability	Mar - 14	67.1	53.2	47.0
Infrastructure Practical Capability	Jun - 14	66.0	51.7	34.8
Infrastructure Practical Capability	Sep - 14	67.1	53.9	38.7
Infrastructure Practical Capability	Dec - 14	67.1	57.4	44.9
Infrastructure Practical Capability	Mar - 15	64.9	57.3	42.2
Infrastructure Practical Capability	Jun - 15	66.0	57.3	45.0
Infrastructure Practical Capability	Sep - 15	65.6	57.2	47.2
Infrastructure Practical Capability	Dec - 15	65.9	57.7	50.0
Infrastructure Practical Capability	Mar - 16	65.9	58.8	45.1
Infrastructure Practical Capability	Jun - 16	67.1	58.8	46.5
Infrastructure Practical Capability	Sep - 16	67.1	58.1	42.1
Infrastructure Practical Capability	Dec - 16	64.9	56.7	50.8
Infrastructure Practical Capability	Mar - 17	65.2	56.7	44.1
Infrastructure Practical Capability	Jun - 17	63.9	56.3	50.2
Infrastructure Practical Capability	Sep - 17	63.6	58.0	43.2
Infrastructure Practical Capability	Dec - 17	59.6	55.0	42.4
Infrastructure Practical Capability	Mar - 18	59.6	55.0	42.4
Infrastructure Practical Capability	Jun - 18	62.9	55.4	54.5
Infrastructure Practical Capability	Sep - 18	63.1	57.2	52.2
Infrastructure Practical Capability	Dec - 18	62.2	55.4	54.5
Infrastructure Practical Capability	Mar - 19	61.1	53.9	48.0
Infrastructure Practical Capability	Jun - 19	63.9	58.8	46.2
Infrastructure Practical Capability	Sep - 19	62.3	57.3	60.5
Infrastructure Practical Capability	Dec - 19	65.0	56.2	59.8
Infrastructure Practical Capability	Mar - 20	62.9	53.9	55.8
Infrastructure Practical Capability	Jun - 20	63.1	58.2	57.2
Infrastructure Practical Capability	Sep - 20	64.0	57.3	60.1
Infrastructure Practical Capability	Dec - 20	63.7	58.0	59.6
Infrastructure Practical Capability	Mar - 21	62.1	57.3	50.1
Infrastructure Practical Capability	Jun - 21	62.1	55.7	56.3
Infrastructure Practical Capability	Sep - 21	59.1	56.4	56.3
Infrastructure Practical Capability	Dec - 21	61.0	55.4	56.5

Measure	Quarter	Zone 1	Zone 2	Zone 3
Actual Speed	Sep - 11	28.4	30.0	29.3
Actual Speed	Dec - 11	27.7	30.1	28.3
Actual Speed	Mar - 12	26.1	29.7	27.3
Actual Speed	Jun - 12	27.0	28.3	27.8
Actual Speed	Sep - 12	29.3	29.3	25.2
Actual Speed	Dec - 12	30.1	30.7	29.2
Actual Speed	Mar - 13	30.2	30.9	28.5
Actual Speed	Jun - 13	32.1	30.6	27.7
Actual Speed	Sep - 13	30.7	30.1	27.2
Actual Speed	Dec - 13	32.1	29.9	24.6
Actual Speed	Mar - 14	32.1	30.3	28.4
Actual Speed	Jun - 14	33.2	31.0	28.8
Actual Speed	Sep - 14	31.7	30.3	28.1
Actual Speed	Dec - 14	32.0	30.8	28.5
Actual Speed	Mar - 15	32.1	31.3	28.0
Actual Speed	Jun - 15	27.3	28.0	27.7
Actual Speed	Sep - 15	30.8	30.7	27.0
Actual Speed	Dec - 15	30.7	30.5	28.4
Actual Speed	Mar - 16	28.6	29.6	26.9
Actual Speed	Jun - 16	30.3	31.0	27.5
Actual Speed	Sep - 16	30.0	30.5	26.5
Actual Speed	Dec - 16	28.3	30.4	27.9
Actual Speed	Mar - 17	29.0	29.6	26.4
Actual Speed	Jun - 17	28.3	30.4	26.5
Actual Speed	Sep - 17	28.7	30.0	27.4
Actual Speed	Dec - 17	27.2	30.1	25.9
Actual Speed	Mar - 18	26.7	28.0	26.8
Actual Speed	Jun - 18	27.8	28.8	27.4
Actual Speed	Sep - 18	26.7	26.6	25.8
Actual Speed	Dec - 18	27.3	28.0	28.3
Actual Speed	Mar - 19	28.4	28.7	29.8
Actual Speed	Jun - 19	23.8	29.1	28.8
Actual Speed	Sep - 19	26.9	30.4	30.9
Actual Speed	Dec - 19	29.1	31.1	30.8
Actual Speed	Mar - 20	27.3	29.3	29.0
Actual Speed	Jun - 20	28.6	28.7	28.7
Actual Speed	Sep - 20	27.8	28.1	29.1
Actual Speed	Dec - 20	29.6	29.0	28.2
Actual Speed	Mar - 21	27.2	31.5	27.6
Actual Speed	Jun - 21	27.4	29.6	26.9
Actual Speed	Sep - 21	28.2	28.7	28.4
Actual Speed	Dec - 21	26.1	23.5	25.8

Measure	Quarter	Zone 1	Zone 2	Zone 3
Track Quality Index	Sep - 11	20.3	26.0	27.6
Track Quality Index	Dec - 11	20.3	26.2	27.6
Track Quality Index	Mar - 12	20.9	26.2	28.2
Track Quality Index	Jun - 12	21.0	26.2	28.5
Track Quality Index	Sep - 12	21.2	26.0	28.5
Track Quality Index	Dec - 12	21.2	26.0	24.2
Track Quality Index	Mar - 13	19.3	24.0	25.9
Track Quality Index	Jun - 13	19.3	24.0	25.9
Track Quality Index	Sep - 13	19.1	23.9	25.1
Track Quality Index	Dec - 13	19.1	23.9	25.1
Track Quality Index	Mar - 14	19.1	23.2	28.1
Track Quality Index	Jun - 14	17.7	21.8	25.6
Track Quality Index	Sep - 14	17.9	21.7	23.7
Track Quality Index	Dec - 14	17.9	21.7	23.7
Track Quality Index	Mar - 15	18.6	22.7	25.6
Track Quality Index	Jun - 15	18.2	21.4	23.4
Track Quality Index	Sep - 15	19.0	20.4	24.4
Track Quality Index	Dec - 15	19.0	20.4	24.4
Track Quality Index	Mar - 16	18.9	21.4	26.2
Track Quality Index	Jun - 16	18.5	21.1	24.9
Track Quality Index	Sep - 16	18.6	20.8	23.2
Track Quality Index	Dec - 16	18.6	20.8	23.2
Track Quality Index	Mar - 17	19.0	22.5	24.5
Track Quality Index	Jun - 17	18.8	22.6	22.4
Track Quality Index	Sep - 17	19.4	22.0	21.7
Track Quality Index	Dec - 17	19.4	22.0	21.7
Track Quality Index	Mar - 18	19.5	22.0	23.5
Track Quality Index	Jun - 18	19.1	22.5	23.3
Track Quality Index	Sep - 18	19.3	22.7	21.4
Track Quality Index	Dec - 18	19.3	22.7	21.4
Track Quality Index	Mar - 19	21.1	22.4	24.6
Track Quality Index	Jun - 19	19.6	21.6	22.4
Track Quality Index	Sep - 19	19.7	21.5	22.2
Track Quality Index	Dec - 19	19.7	21.5	22.2
Track Quality Index	Mar - 20	20.1	21.6	25.0
Track Quality Index	Jun - 20	19.7	21.5	21.0
Track Quality Index	Sep - 20	19.9	21.9	20.3
Track Quality Index	Dec - 20	19.9	21.9	20.3
Track Quality Index	Mar - 21	20.2	22.5	21.0
Track Quality Index	Jun - 21	19.3	22.0	18.7
Track Quality Index	Sep - 21	19.8	22.5	19.9
Track Quality Index	Dec - 21	19.8	22.5	19.9

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Request Number 2:

Question 10:

Opex for 2021 includes $2.174m in expensed project costs for Phase 3 of Widden Creek Loop project. ARTC has provided the document 'HVAU 2021 Att 5.8.20 Expense Widden Creek Loop – RCG' which noted that $350,000 was previously expensed for Phase 1 and $1,680,000 for Phase 2. However, we understand that no expensed project costs have been included in ARTC's opex since 2014.

Could you please advise:

(a) when the latter costs were previously expensed,

(b) what category of opex or capex they were treated as in previous submissions?

Advice:

(a)

The Phase 1 and Phase 2 Expensed Projects expenditure of $2.035M in relation to the Widden Creek Loop project were expensed in the 2013 Compliance Return.

The ARTC 2012-2021 Hunter Valley Corridor Capacity Strategy, following industry consultation identified the requirement for a number of rail infrastructure projects, including the Widden Creek loop. This was in order to ensure sufficient capacity would be available to meet the industry coal demand forecasts at the time which included the PWCS T4 project.

Subsequent to the release of this Strategy and the commencement of the respective projects, the industry saw a significant reduction in coal volume forecasts which coincided with the announced deferment of the PWCS Terminal 4 development. Further, the achievement of operational efficiencies through the growth in train sizes all resulted in a reduced infrastructure requirement which led to the need for ARTC to reassess whether these projects were required to be deferred or cancelled.

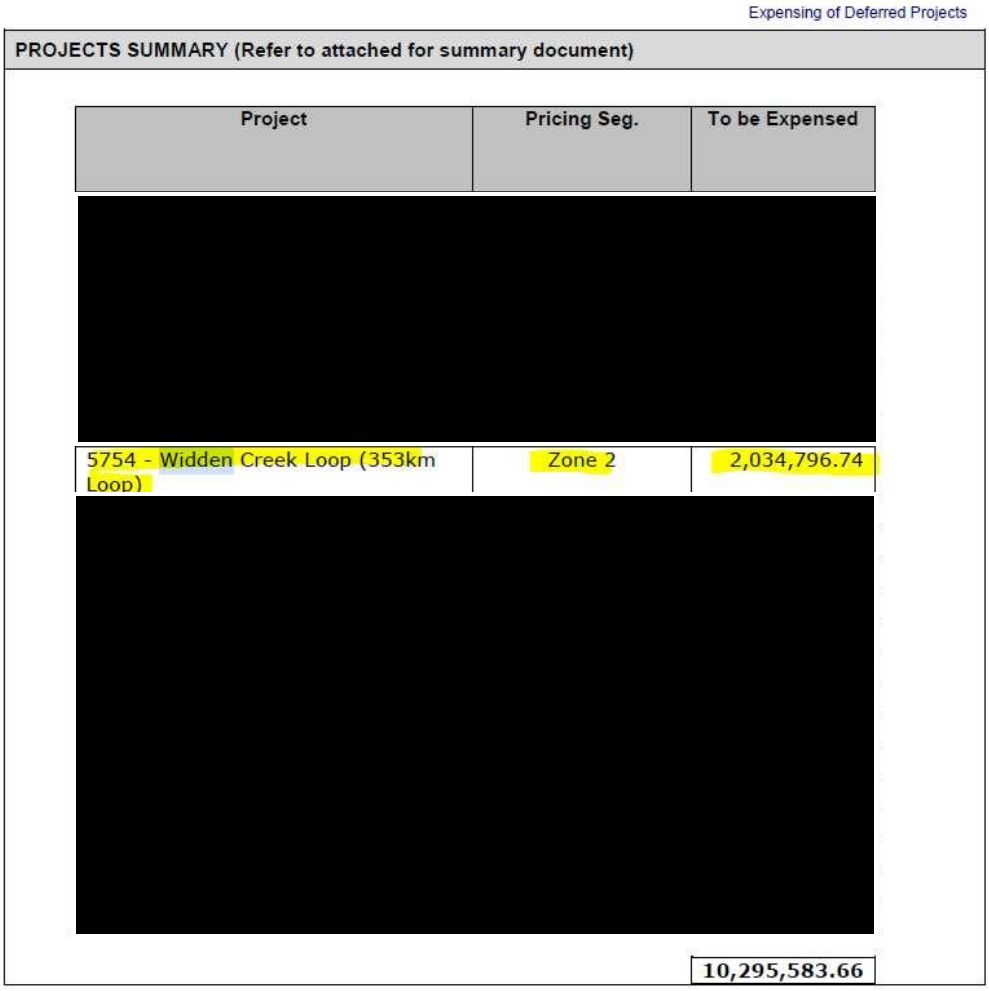
This is supported by ARTC's 2013 Compliance submission (attached) to the ACCC which states on page 21:

'a suite of projects were endorsed by the RCG prior to 2013 to enable the rail track capacity to match the additional capacity provided by T4. For each project, RCG endorsement is required to proceed to the next stage. For the T4 projects, the RCG did not endorse project advancement due to the deferral of the T4 project by PWCS and the capital spend was sought to be expensed in 2013'.

In the 2013 Compliance Submission, there was $10.3M of expensed projects included in Infrastructure Costs for the whole HV Network stemming from the cancellation of PWCS T4 and reduced capacity profiles received from customers.

Figure 1 below is the excerpt from the RCG Memo 'Expensing of Deferred Projects' (attached) which was provided to the RCG in February 2014 to provide further transparency and details the projects which are included in the Infrastructure Costs in the 2013 Compliance Submission. Project 5754 shows the Widden Creek Loop expenditure being $2.035M.

Figure 1:



Source: Page 6. RCG Submission - Expensing of Deferred Projects (February 2014)

This overall figure of $10.3M was broken further into Constrained and Unconstrained of which the Widden Creek Project was included in the Constrained.

Figure 2:

Expensing of Deferred projects by Network

Network	Expensed $	Expensed $'000
Constrained (Zone 1 and Zone 2)	$ 8,968,856	$ 8.97
Unconstrained (Zone 3)	$ 1,039,544	$ 1.04
Zone 4	$ 287,183	$ 0.29
Total	**$ 10,295,584**	**$ 10.30**

Figure 3 which can be found page 19 of the 2013 Compliance Submission details the amount included for Expense Projects for the Constrained Network of $8.97M which includes the $2.035 million relating to the deferral of the Widden Creek Loop project and forms part of the overall Network costs of $10.3M as per *Figure 2* above.

Figure 3:

	ARTC Total	ARTC Total
	December 2012	December 2013
millions	Actuals	Actuals
GTKs	GTK	GTK
Export	22,256	24,126
Domestic	1,456	1,707
Total	**23,712**	**25,834**
Revenue		
Total Revenue	**241.82**	**277.93**
Operating Costs		
Infrastructure Costs		
Variable	27.15	28.79
Fixed	23.82	29.06
Shared Maintenance	18.27	15.93
Total Maintenance Costs	69.23	73.78
Expensed Project Costs	1.50	8.97
Total Infrastructure	70.73	82.75
Network Control	9.30	9.27
Corporate Overheads	12.31	10.70
Total Operating Cost	**92.34**	**102.72**
Depreciation	54.57	70.19
Net Loss on Disposal	1.74	4.45
Total Cost	**148.65**	**177.36**
Profit/Loss	**93.17**	**100.56**
Total ROA	97.99	120.17
Full Economic Costs	**246.64**	**297.53**
Revenue - Costs	**-4.82**	**-19.60**
Average Asset Base	**1076.80**	**1320.52**

Table 7: 2013 CY Ceiling Test

Source: Page 19 2011 HVAU - Annual Compliance assessment 2013 (For publication)

In December 2018, Phase 3 (the Detailed Design) of the Widden Creek Loop Project was put up for reindorsement to ensure that the prospective volumes advised by Zone 2 Customers were met and to address the capacity constraints that were forecast at the time in Zone 2. The expensed projects in relation to the Widden Creek Loop in the 2021 Compliance Return relates to this Phase 3 of the project.

(b)

Expenditure in relation to Phase 1 and Phase 2 of the Widden Creek Loop project for the amount of $2.035M has never been capitalised onto the RAB. The total amount of $2,034,796.74 was expensed and included in operating expenditure Infrastructure Costs in the 2013 Compliance Assessment.

For ARTC Internal Use Only	
Version	1.0
Internal Reference	1
Submitted on:	14.08.2023
Cleared by:	Monica Ell
Officer Responsible:	Allison Boardman

Request Number 2:

Question 11:

For expenditure on full track reconstruction, the increase in actual scope in 2021 is reported as 33.7% in the response to our question 2 of our information request 1, but 22% in Attachment 1, p 24. Also, it appears to be around 33% in Figure 24 in *HVAU 2021 Att 5.3.2 HV Track Recon Strategy* (from approximately 1950 to 2600m).

Could you please advise whether the percentage in Attachment 1 is incorrect, or if there is something else at play here?

Advice:

ARTC have reviewed the information provided in the submission documents noted above regarding the Full Track Reconstruction activity and confirm that the information provided to the ACCC in response to Information Request 1, Question 2 was correct which is also consistent with *Figure 25* of the HVAU 2021 Att 5.3.2 HV Track Reconditioning and Upgrade Strategy.

In effect that means that the percentages for **SCOPE ONLY** provided in relation Track Reconditioning **for** this activity in the HVAU *Attachment 1 Hunter Valley Network Operating Costs* Submission were incorrect. The result is that an update is required to *page 24* and *page 25* with correct percentages in relation to year-on-year scope movement shown in red below.

2.3 Full Track Reconstruction

Page 24

Relative to 2020, the overall expenditure for track reconditioning in 2021 increased by 35% ($2.7m). This was due to an increase in overall scope of 33.7% year on year and by the extreme flooding events in March and November after years of a relatively stable track formation due to a prolonged drought. The postponement of closedowns due to the wet weather and COVID-19 created demobilisation and mobilisation costs as well additional costs associated with sourcing scarce resources during Local Government Area (LGA) shutdowns and expenditure caused by Government social distancing and isolation laws.

Page 25

In Zone 2, the costs for track reconditioning increased by 149% ($1.5m). This is directly in line with the 221.4% increase in scope compared to 2020. Track reconditioning costs per site in Zone 2 generally have higher costs than the other zones due to the difficult terrain, access issues and complexity of work. In 2021, additional costs were incurred at the Denman reconditioning site which included level crossing works and at Baerami where the track reconditioning project was substantially impacted by access issues resulting in triple handling of materials, additional rock hammering and the site required an alternate construction technique that utilises a rock mattress formation to manage ground water issues.

In Zone 3 costs decreased by 25% ($0.9m) whilst the scope increased 11.7% from 2020 to 2021. The variance in costs is driven largely by the complexity of sites completed in 2020 where track reconditioning works included complex sites such as Boggabri Bridge. A notable complex site that was completed in 2021 which created substantial maintenance focus was the track reconditioning in the Ardglen Tunnel.

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Cleared by:	Monica Ell
Officer Responsible:	Allison Boardman

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Request Number 5:

Question 15: 2021 Overhead Cost Allocation Model

(a) Regarding the 2021 overhead cost allocation model:

i. What is the difference between the 'Z1MCoal' and 'COAL100%' allocators? (the former is labelled as 'Pricing Zone 1 Coal (excluding Mains)', but it is unclear what this means)

ii. What is the Major Capital Projects allocation for? (there is a table for these allocations in the H2 tab but not in the H1 tab, even though it appears there are major projects in H1 as well?)

Advice:

(a)

(i)

Z1Mcoal allocator applies to Port Waratah & Maitland Provisioning Centres only. These provisioning centres primarily look coal network track infrastructure however also maintain a small number of track segments for the "mains" (Interstate track/ traffic). The Z1MCoal allocator is calculated by deducting the % of GTK's traversing the main lines in Zone 1 as a % of total of GTK traffic.

Z1Mcoal Allocator = (Total Zone 1 GTK – Mains GTK in Zone 1) / Total Zone 1 GTK

(ii)

The Major Projects allocation includes overhead activities associated with expansion and other significant major projects, including all capacity related infrastructure projects in ARTC including design, property management and project management.

By 2021 the Major Projects team was disbanded in line with the corridor capacity strategy now no longer requiring significant expansion capital going forward. The final costs were incurred in H1 2021 with no costs subsequently incurred in H2 2021 and future years.

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Submitted on:	26.09.2023
Cleared by:	Monica Ell
Officer Responsible:	Allison Boardman

Request Number 4:

Question 13: Cloud Based Software

Regarding the $4.5m cloud-based software expenditure being re-classified as Business Unit Management costs in ARTC's submission, we have the following questions:

(a) How were the software costs determined to be Business Unit Management costs (rather than, for example, Corporate Overheads)? What impact would classifying these costs as 'Corporate Overheads' have on their recovery from Hunter Valley access holders? (E.g. would it have impacted what portion of the $4.5m is attributable to Hunter Valley access holders?)

(b) What impact has classifying the software costs as operating expenditure, rather than corporate capital expenditure, had on how and when the costs are recovered from Hunter Valley access holders? (E.g. are the costs being recovered in one lump sum amount of $4.5m in 2021, instead of $X amount per year for X number of years)?

(c) Was all of the $4.5m incurred in 2021? Or has some of this expenditure been 'banked' from previous years and only been added/put forward for recovery from users in 2021? (i.e. was some of the $4.5m incurred in earlier years?)

- **a. Is there likely to be any reclassification of expenditure previously allocated as corporate capital expenditure in future years? Or should all expenditure for such cloud-based software be accounted for now, with future expenditure being allocated in accordance with the 'classification decision tree'?**

(d) ARTC noted in its submission that '*The decision tree ultimately evaluated whether ARTC has control of the software, whether the projects included an upgraded functionality a future economic benefit for ARTC will occur. The evaluation process often resulted in different components of the same project eventuating in a combination of both operating expenditure and capital classification*.' Can ARTC provide any further details/examples of how this decision tree classification process works? (E.g. where ARTC has control of the software, would this typically be capex/opex?; where the project involves future economic benefit, would this typically be capex/opex?; what are examples of projects that are a combination of capex and opex?, etc.)

Advice:

(a)

How were the software costs determined to be Business Unit Management costs (rather than, for example, Corporate Overheads)? What impact would classifying these costs as 'Corporate Overheads' have on their recovery from Hunter Valley access holders? (E.g. would it have impacted what portion of the $4.5m is attributable to Hunter Valley access holders?)

The software costs were incurred and commissioned by the Engineering Team in the Hunter Valley Business Unit and were therefore allocated as a Direct "H" cost to the HV in Business Unit Management (BUM) Costs in the Overhead Model.

BUM spend by the HV business unit is predominantly (nearly 100%) attributable to the HV Network and therefore allocated as such under step 1 of schedule I.

If in this specific case the engineering software costs were classed as OH rather than BUM, it will **also** be directly allocated to the HV in accordance Schedule I Step 1 as the HVAU specifies that where costs are identifiable to a specific corridor, those costs are directly attributed to that corridor. In summary, it is not whether a cost is categorized as BUM or OH which drives whether it is allocated directly as per step 1 or goes through further allocation in schedule I, it is the nature of the cost itself that determines the treatment.

The Step 2 allocator looks at the Cost Category of the Spend as contained in Schedule I of the HVAU (regardless of whether it is BUM or OH). In this case, as the costs are considered Engineering Services and the allocator is GTK, the treatment is the same under both BUM and OH classification's.

Cost category	Allocation method
Executive	Direct Stay-in-Business Costs
Finance	Direct Stay-in-Business Costs
Strategy & corporate development	Train kilometres
People	FTE
Insurance	Premium based
Safety accreditation	Track kilometres

Property	Track kilometres
Communications	Train kilometres
IT infrastructure and systems	FTE
Management of enterprise services	Direct Stay-in-Business Costs
Environment	Train kilometres
Engineering services	gtkm
Corporate safety	gtkm
Workplace health & safety	FTE
Risk	gtkm
Allowance for efficiency projects	Direct Stay-in-Business Costs

(b)

What impact has classifying the software costs as operating expenditure, rather than corporate capital expenditure, had on how and when the costs are recovered from Hunter Valley access holders? (E.g. are the costs being recovered in one lump sum amount of $4.5m in 2021, instead of $X amount per year for X number of years)?

In the event that Software is determined to be controlled by ARTC and will provide future economic benefits, it is capitalised once deemed available for use and depreciated on a straight-line method over 3 years.

(c)

Was all of the $4.5m incurred in 2021? Or has some of this expenditure been 'banked' from previous years and only been added/put forward for recovery from users in 2021? (i.e. was some of the $4.5m incurred in earlier years?)

In the 2021 Compliance return, a portion of the expenses relating to cloud-based software had cash outflows that originated in prior years. These projects were originally planned for capitalisation, which resulted in the previous year's expenses being recorded as Work in Progress (WIP) until the software was deemed ready for use. This accounting treatment aligns with the guidelines specified in AASB 116. It's important to note that these expenses were never incorporated into the capital register or subjected to depreciation. Subsequently, upon the determination that these projects did not meet the criteria for capitalisation, they were reclassified from WIP to operational expenses in 2021.

a. **Is there likely to be any reclassification of expenditure previously allocated as corporate capital expenditure in future years? Or should all expenditure for such cloud-based software be accounted for now, with future expenditure being allocated in accordance with the 'classification decision tree'?**

As of now, there have been no instances of reclassifying expenses previously allocated to **corporate capital expenditure**. Expenditures associated with cloud-based software in the 2021 Compliance Submission that were not yet ready for use were directly recorded in Work in Progress (WIP) at the time they were incurred and were not treated as capital expenditures. Once it was established that ARTC did not have control over these assets, the expenses were recognized and treated as operating costs.

Presently, all cloud-based software is accounted for in strict adherence to the classification framework at the time of project development and authorisation and undergoes annual audits conducted by our independent external auditors.

(d)

ARTC noted in its submission that '*The decision tree ultimately evaluated whether ARTC has control of the software, whether the projects included an upgraded functionality a future economic benefit for ARTC will occur. The evaluation process often resulted in different components of the same project eventuating in a combination of both operating expenditure and capital classification*.' Can ARTC provide any further details/examples of how this decision tree classification process works? (E.g. where ARTC has control of the software, would this typically be capex/opex?; where the project involves future economic benefit, would this typically be capex/opex?; what are examples of projects that are a combination of capex and opex?, etc.)

External independent advice from a Big 4 Accounting Firm was sought to develop and implement the decision tree matrix that ARTC has used to determine the accounting treatment for the cloud-based software.

Under Australian accounting standards, IT expenditure may be capitalised under either *AASB 116 Property, Plant and Equipment, AASB 16 Leases or AASB 138 Intangible Assets*. In all cases, in order to capitalise costs, the definition of an asset as defined in 4.2 of the Conceptual Framework for Financial Reporting needs to be met 'an asset is a **present economic resource controlled** by the entity as a result of past events.

In order for cloud-based software to be classified as **Capital,** it needs to both satisfy that:

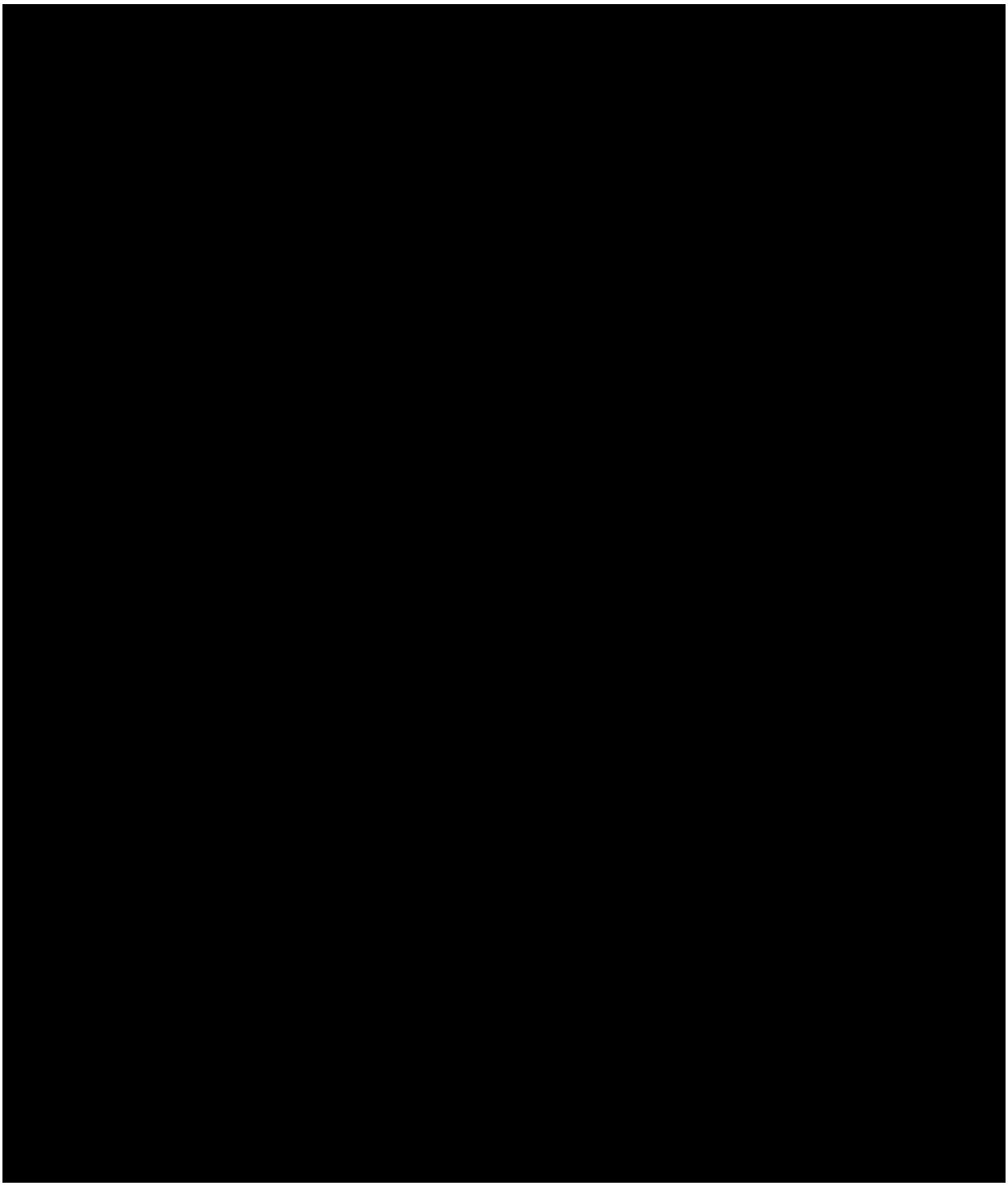
- Future Economic Benefits will be realised.
- ARTC controls the Asset.

The documentation and decision tree provided with the Submission is a great source of information to see the process steps of the decision tree and breaks the decision down into further components. We have reattached [redacted] the Excel version of the decision tree for your reference.

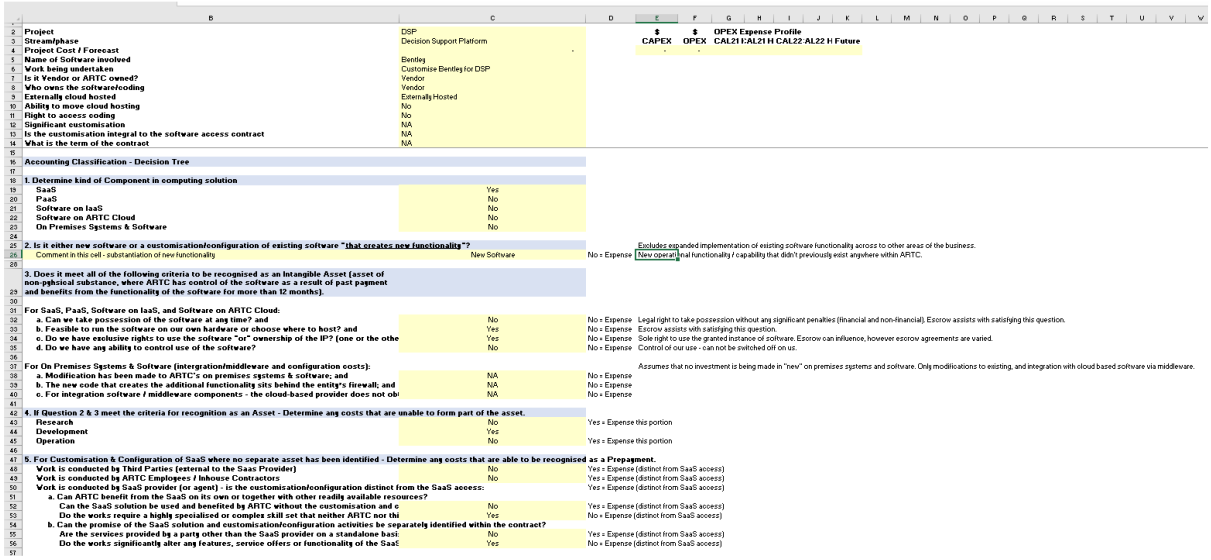
However, stepping through the process, the first determination is to determine what the nature of the computing solution is:

[redacted]

Once the nature of the computing solution is determined the project is evaluated further either Decision Tree 2 or Decision Tree 3 based on whether the Asset is Service Based (SaaS, PaaS or IaaS) or an On-premise system (on physical server) & Software.



ARTC have developed this Decision Tree into an Excel Workflow which is used to determine whether the project is Controlled by ARTC and whether there are future economic benefits.



Project	DSP		$ CAPEX	$ OPEX	OPEX Expense Profile CAL21 I:AL21 H CAL22 AL22 H Future
Streamphase	Decision Support Platform		-	-	
Project Cost / Forecast					
Name of Software involved	Bentley				
Work being undertaken	Customise Bentley for DSP				
Is it Vendor or ARTC owned?	Vendor				
Who owns the software/coding	Vendor				
Externally cloud hosted	Externally Hosted				
Ability to move cloud hosting	No				
Right to access coding	No				
Significant customisation	NA				
Is the customisation integral to the software access contract	NA				
What is the term of the contract	NA				
Accounting Classification - Decision Tree					
1. Determine kind of Component in computing solution					
SaaS	Yes				
PaaS	No				
Software on IaaS	No				
Software on ARTC Cloud	No				
On Premises Systems & Software	No				
2. Is it either new software or a customisation/configuration of existing software "that creates new functionality"?					Excludes expanded implementation of existing software functionality across to other areas of the business.
Comment in this cell - substantiation of new functionality	New Software		No = Expense	New operational functionality / capability that didn't previously exist anywhere within ARTC.	
3. Does it meet all of the following criteria to be recognised as an Intangible Asset (asset of non-physical substance, where ARTC has control of the software as a result of past payment and benefits from the functionality of the software for more than 12 months).					
For SaaS, PaaS, Software on IaaS, and Software on ARTC Cloud:					
a. Can we take possession of the software at any time? and	No		No = Expense	Legal right to take possession without any significant penalties (financial and non-financial). Escrow assists with satisfying this question.	
b. Feasible to run the software on our own hardware or choose where to host? and	Yes		No = Expense	Escrow assists with satisfying this question.	
c. Do we have exclusive rights to use the software "or" ownership of the IP? (one or the othe	Yes		No = Expense	Sole right to use the granted instance of software. Escrow can influence, however escrow agreements are varied.	
d. Do we have any ability to control use of the software?	No		No = Expense	Control of our use - can not be switched off on us.	
For On Premises Systems & Software (intergration/middleware and configuration costs):					Assumes that no investment is being made in "new" on premises systems and software. Only modifications to existing, and integration with cloud based software via middleware.
a. Modification has been made to ARTC's on premises systems & software; and	NA		No = Expense		
b. The new code that creates the additional functionality sits behind the entity*s firewall; and	NA		No = Expense		
c. For integration software / middleware components - the cloud-based provider does not ob	NA		No = Expense		
4. If Question 2 & 3 meet the criteria for recognition as an Asset - Determine any costs that are unable to form part of the asset.					
Research	No		Yes = Expense this portion		
Development	Yes				
Operation	No		Yes = Expense this portion		
5. For Customisation & Configuration of SaaS where no separate asset has been identified - Determine any costs that are able to be recognised as a Prepayment.					
Work is conducted by Third Parties (external to the Saas Provider)	No		Yes = Expense (distinct from SaaS access)		
Work is conducted by ARTC Employees / Inhouse Contractors	No		Yes = Expense (distinct from SaaS access)		
Work is conducted by SaaS provider (or agent) - is the customisation/configuration distinct from the SaaS access:			Yes = Expense (distinct from SaaS access)		
a. Can ARTC benefit from the SaaS on its own or together with other readily available resources?					
Can the SaaS solution be used and benefited by ARTC without the customisation and c	No		Yes = Expense (distinct from SaaS access)		
Do the works require a highly specialised or complex skill set that neither ARTC nor thi	Yes		No = Expense (distinct from SaaS access)		
b. Can the promise of the SaaS solution and customisation/configuration activities be separately identified within the contract?					
Are the services provided by a party other than the SaaS provider on a standalone basi	No		Yes = Expense (distinct from SaaS access)		
Do the works significantly alter any features, service offers or functionality of the SaaS	Yes		No = Expense (distinct from SaaS access)		

We have attached the Excel Sheet used for the determination of the treatment of the DSP as an example.

In relation to the information detailed from the 2021 submission "***The evaluation process often resulted in different components of the same project eventuating in a combination of both operating expenditure and capital classification***" this was referring to the different phases of the project when a capital asset is determined.

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Officer Responsible:	Allison Boardman

Project	DSP		
Stream/phase	Decision Support Platform		
Project Cost / Forecast	-		
Name of Software involved	Bentley		
Work being undertaken	Customise Bentley for DSP		
Is it Vendor or ARTC owned?	Vendor		
Who owns the software/coding	Vendor		
Externally cloud hosted	Externally Hosted		
Ability to move cloud hosting	No		
Right to access coding	No		
Significant customisation	NA		
Is the customisation integral to the software access contract	NA		
What is the term of the contract	NA		

Accounting Classification - Decision Tree

1. Determine kind of Component in computing solution

SaaS	Yes		
PaaS	No		
Software on IaaS	No		
Software on ARTC Cloud	No		
On Premises Systems & Software	No		

2. Is it either new software or a customisation/configuration of existing software "that creates new functionality"?

Comment in this cell - substantiation of new functionality	New Software	No = Expense	Excludes expanded implementation of existing software functionality across to other areas of the business.
Details on new functionality:			New operational functionality / capability that didn't previously exist anywhere within ARTC.

3. Does it meet all of the following criteria to be recognised as an Intangible Asset (asset of non-pyhsical substance, where ARTC has control of the software as a result of past payment and benefits from the functionality of the software for more than 12 months).

For SaaS, PaaS, Software on IaaS, and Software on ARTC Cloud:			
a. Can we take possession of the software at any time? and	No	No = Expense	Legal right to take possession without any significant penalties (financial and non-financial). Escrow assists with satisfying this question.
b. Feasible to run the software on our own hardware or choose where to host? and	Yes	No = Expense	Escrow assists with satisfying this question.
c. Do we have exclusive rights to use the software "or" ownership of the IP? (one or the other) and	Yes	No = Expense	Sole right to use the granted instance of software. Escrow can influence, however escrow agreements are varied.
d. Do we have any ability to control use of the software?	No	No = Expense	Control of our use - can not be switched off on us.
For On Premises Systems & Software (intergration/middleware and configuration costs):			Assumes that no investment is being made in "new" on premises systems and software. Only modifications to existing, and integration with cloud based software via middleware.
a. Modification has been made to ARTC's on premises systems & software; and	NA	No = Expense	
b. The new code that creates the additional functionality sits behind the entity's firewall; and	NA	No = Expense	
c. For integration software / middleware components - the cloud-based provider does not obtain IP rights over these componer	NA	No = Expense	

4. If Question 2 & 3 meet the criteria for recognition as an Asset - Determine any costs that are unable to form part of the asset.

Research	No	Yes = Expense this portion
Development	Yes	
Operation	No	Yes = Expense this portion

5. For Customisation & Configuration of SaaS where no separate asset has been identified - Determine any costs that are able to be recognised as a Prepayment.

Work is conducted by Third Parties (external to the Saas Provider)	No	Yes = Expense (distinct from SaaS access)
Work is conducted by ARTC Employees / Inhouse Contractors	No	Yes = Expense (distinct from SaaS access)
Work is conducted by SaaS provider (or agent) - is the customisation/configuration distinct from the SaaS access:		Yes = Expense (distinct from SaaS access)
a. Can ARTC benefit from the SaaS on its own or together with other readily available resources?		
Can the SaaS solution be used and benefited by ARTC without the customisation and configuratior	No	Yes = Expense (distinct from SaaS access)
Do the works require a highly specialised or complex skill set that neither ARTC nor third party pos	Yes	No = Expense (distinct from SaaS access)
b. Can the promise of the SaaS solution and customisation/configuration activities be separately identified within the contract?		
Are the services provided by a party other than the SaaS provider on a standalone basis?	No	Yes = Expense (distinct from SaaS access)
Do the works significantly alter any features, service offers or functionality of the SaaS solution?	Yes	No = Expense (distinct from SaaS access)

Request Number 5:

Question 15: 2021 Overhead Cost Allocation Model

(a) Regarding the 2021 overhead cost allocation model:

i. What is the difference between the 'Z1MCoal' and 'COAL100%' allocators? (the former is labelled as 'Pricing Zone 1 Coal (excluding Mains)', but it is unclear what this means)

ii. What is the Major Capital Projects allocation for? (there is a table for these allocations in the H2 tab but not in the H1 tab, even though it appears there are major projects in H1 as well?)

Advice:

(a)

(i)

Z1Mcoal allocator applies to Port Waratah & Maitland Provisioning Centres only. These provisioning centres primarily look coal network track infrastructure however also maintain a small number of track segments for the "mains" (Interstate track/ traffic). The Z1MCoal allocator is calculated by deducting the % of GTK's traversing the main lines in Zone 1 as a % of total of GTK traffic.

Z1Mcoal Allocator = (Total Zone 1 GTK – Mains GTK in Zone 1) / Total Zone 1 GTK

(ii)

The Major Projects allocation includes overhead activities associated with expansion and other significant major projects, including all capacity related infrastructure projects in ARTC including design, property management and project management.

By 2021 the Major Projects team was disbanded in line with the corridor capacity strategy now no longer requiring significant expansion capital going forward. The final costs were incurred in H1 2021 with no costs subsequently incurred in H2 2021 and future years.

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Officer Responsible:	Allison Boardman

Request Number 5:

Question 16:

Is full track reconstruction the only maintenance activity where works of 200 metres or more are considered capex? Or does this also apply to other maintenance activities?

Advice:

Yes.

ARTC confirm that the full track reconstruction activity is the only maintenance activity where works of 200 metres or more in length are treated as capital track upgrades and are included in the annual Sustaining Capital Program.

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Request Number 5:

Question 17:

Is turnout resurfacing just maintenance resurfacing that applies to turnouts only?

Advice:

Yes.

The turnout resurfacing (tamping) activity restores the geometric parameters of top, line, superelevation and curvature by mechanised on-track machinery to the “designed” condition of the track. It is the same as the maintenance resurfacing activity, with the key difference being the resurfacing of turnouts rather than straight sections of the track.

Turnout resurfacing work is carried out under the same contract as the maintenance resurfacing activity, however different machines are used to carry out each activity.

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