ACIL ALLEN

Verification and assurance of Inland Rail scope, design, delivery and cost

Summary

20 November 2025

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ACIL Allen is a leading independent economics, policy and strategy advisory firm, dedicated to helping clients solve complex issues.

Our purpose is to help clients make informed decisions about complex economic and public policy issues.

Our vision is to be Australia's most trusted economics, policy and strategy advisory firm. We are committed and passionate about providing rigorous independent advice that contributes to a better world.

Acknowledgements

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— Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts

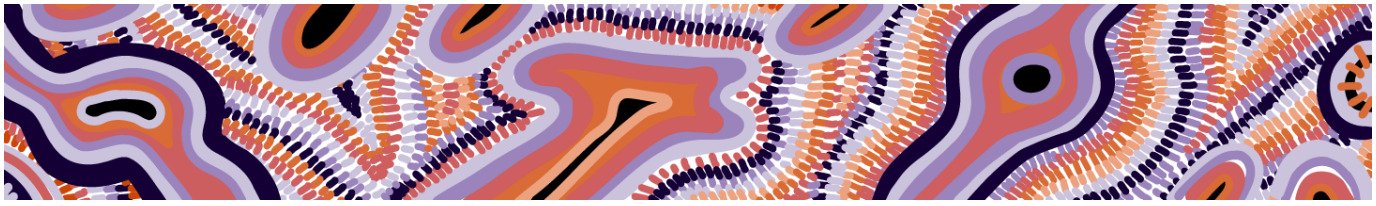
— Inland Rail Pty Ltd

— Australian Rail Track Corporation

Report to:

Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts

ACIL Allen acknowledges Aboriginal and Torres Strait Islander peoples as the Traditional Custodians of the land and its waters. We pay our respects to Elders, past and present, and to the youth, for the future. We extend this to all Aboriginal and Torres Strait Islander peoples reading this report.



Group, by Jarni McGuire

Summary

In late 2024, the Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts (the Department) engaged ACIL Allen to undertake an independent verification and assurance of the Inland Rail Project (IRP) scope, design, delivery schedule and cost estimation processes.

The IRP is being developed and built by Inland Rail Pty Ltd (IRPL). IRPL was established as a wholly owned subsidiary of the Australian Rail Track Corporation (ARTC) and from 1 May 2024 is formally responsible for the delivery of the IRP. The establishment of IRPL is in line with the Australian Government's response in April 2023 to the Independent Review of Inland Rail conducted by Dr Kerry Schott AO.

Consistent with the agreed scope of work with the Department, our verification and assurance has focused on the *processes and methodologies* of IRPL in planning and delivering the IRP. Our overarching goal is to assess the processes and methodologies of IRPL to determine whether they are fit-for-purpose and consistent with industry best practice. Our assessment was undertaken holistically, assessing the IRP as a whole, rather than merely on an aggregated section-by-section basis.

The Inland Rail Project

The IRP is a 1,600 km fast rail freight line connecting Melbourne to Brisbane. IRP will support double-stacked trains to facilitate more efficient and higher freight volumes. The IRP commenced in 2018 following the preparation of the 2015 Inland Rail business case. Some parts of the Inland Rail route are existing railway lines, so the construction is a combination of building new track and upgrading some existing track.

Construction of the IRP is divided into twelve (12) Sections, starting in Beveridge (VIC) and finishing in Kagaru (QLD). The current Approved Project Works (APW) provide IRPL funding to complete the four Sections between Beveridge and Parkes (southern sections), with a target date to be ready for the commencement of double-stacked operation from December 2027. Parkes to Narromine and Narromine to North Star Phase 1 have been completed.

The current APW also provide IRPL funding to secure the necessary environmental planning approvals between Narromine and Kagaru by December 2027, with earlier dates for some of the Sections, and to secure land for the relevant parts of the Inland Rail Corridor between Narromine and Kagaru by June 2028, with earlier dates for some Sections.

Most of the work south of Parkes involves upgrading existing and operating railway lines. A small Section of new track (39 km) will be constructed between Illabo and Stockinbingal in New South Wales. The upgrades are primarily improving clearances on existing tracks to support double-stacked trains (includes track slews and lowering, replacement and enhancement of bridges, underpasses and overpasses, moving utilities and signalling structures, and upgrading level crossings). The new line between Illabo and Stockinbingal bypasses the existing winding track at the Bethungra Spiral.

The Northern sections still to be constructed are predominantly greenfield developments involving the construction of new track, apart from parts of the line between North Star and the Queensland Border and some Sections between the Queensland Border and Gowrie, west of Toowoomba where new track to the Inland Rail Service Offering standard will be constructed within an existing rail corridor. The Queensland Sections will be dual-gauge track (standard and narrow), apart from the 7 km track connecting the North Star to NSW/QLD Border Section to the Queensland Rail South Western System. Several of the Northern sections have been subdivided into smaller Work packages to open/increase market access for contractors to tender for and construct the IRP.

The schedule and cost estimates developed by IRPL include provisions for the works needed to enable 1,800 metre double-stacked trains to travel between Stockinbingal to Parkes and the main East-West line at

Parkes, and between the Stockinbingal to Parkes and Parkes to Narromine Sections of the IRP (proposed Goobang Junction Link).

Figure 1 below shows the IRP track alignment for the twelve Sections.

Figure 1 Inland Rail alignment map

Source: Inland Rail Pty Ltd

IRPL updated estimate

In March 2025, IRPL provided updated schedules and cost estimates for the IRP in response to a request from the Department. The updated schedules and cost estimates are current as of December 2024. The update covers two scenarios (Target and Stretch), and for each scenario includes:

— scheduling for all activities to complete the IRP between Beveridge in Victoria and Kagaru in Queensland

— a cost estimate for all activities to complete the IRP (including activities required to deliver the proposed Goobang Junction Link)

— a risk assessment and contingency estimate for each package to be delivered

— an estimate of costs covering escalation based on the scheduled timing of each Work package and the IRP as a whole

— a project maturity assessment for each of the Work packages.

The core assumption behind the IRP schedule and cost estimates is:

— commencement of the respective delivery schedules from 30 June 2025

Other key assumptions in the development of the schedule and cost estimates are:

— IRPL's capacity to manage and deliver multiple projects concurrently

— market capacity to supply the required labour and materials

— supply chain capacity to handle and store materials.

The Stretch and Target scenarios were developed using the same methodology. The difference between the two scenarios lies in the time allocated for each Work package to achieve the release of the Request for Tender (RFT) milestones. The activities scheduled beyond the release of the RFT are the same for both scenarios. As the Target scenario is later, it involves more client costs for project delivery and higher contingency and escalation. Table 1 highlights the differences between the two scenarios.

Table 1 Key differences between the Stretch and Target scenario schedules

Project Aspect	Stretch scenario	Target scenario
Timing of project commencement	Notionally, 2 major RFTs are released every 3 months.	Notionally, 2 major RFTs are released every 6 months.
Mobilisation	Immediate mobilisation of the client team for Gowrie to Kagaru	12-month period for mobilisation of the client team and Environmental Impact Statement update for Gowrie to Kagaru
NSW environmental approval conditions	Biodiversity Offsets acquittal not a condition precedent for construction in NSW	Biodiversity Offsets acquittal is a condition precedent for construction in NSW
Estimated Total Cost of IRP	Estimate at Completion (P90) = $44.7 billion.	Estimate at Completion (P90) = $45.6 billion.
Estimated completion	Construction finished by December 2034. Completions finalised by June 2035	Construction finished by November 2035. Completions finalised by May 2036

Source: Inland Rail Pty Ltd

ACIL Allen notes that the core assumptions have not been met, and the schedule and cost estimation provided by IRPL are now subject to change. This is likely to result in an increase in the estimated cost due to the prolongation of the delivery of the IRP and resulting escalation, with consequential impacts (delay) to the forecast IRP completion dates.

Findings

Consistent with the agreed scope of work with the Department, our verification and assurance has focused on the processes and methodologies of IRPL in planning and delivering the IRP. Our overarching goal is to assess the processes and methodologies of IRPL to determine whether they are fit-for-purpose and consistent with industry best practice. Our assessment was undertaken holistically, assessing the IRP as a whole, rather than merely on an aggregated Section-by-Section basis.

Our findings are set out in the following sections.

IRPL processes and methodologies

The processes and methodologies used by IRPL in developing the schedules and cost estimates for the Stretch and Target scenarios are well documented and flow logically from the IRP scope through to preliminary and then detailed design. The detailed design was then used to develop a complete set of activities by Work package.

These activities were then costed based on Bill of Quantities and unit rates. Allowances for risk and contingency were added for each Work package through a qualitative risk identification process followed by quantitative modelling to calculate the risk contingency. Finally, the Work Package risk models were correlated to develop a consolidated risk profile for P50 and P90, with the P90 assessment used in the final cost estimate.

The activities were assembled into a schedule using a work breakdown structure. The timing of activities in the schedule was used to develop escalation for each Work package, which was added to the costs to determine the final cost estimate.

Finding 1 Verification of IRPL processes and methodologies

The processes and methodologies used by IRPL in developing the schedules and cost estimates for the IRP flow logically from the scope through preliminary and detailed design to detailed costed and scheduled activities and include appropriately calculated allowances for risk contingency and escalation.

The processes and methodologies used by IRPL are considered fit for purpose and consistent with industry best practice.

Project maturity

The maturity of cost estimates for building rail projects improves as the design and development progress, moving from conceptual and screening processes to detailed design and associated detailed unit rates and bill of quantities. ACIL Allen has provided a maturity assessment for each Section of IRP using the AACE98R-18 classification system (Table 2 below), with Class 1 as the most mature and Class 5 as the least mature.

Table 2 AACE98R-18 maturity assessment system

Project maturity class	Maturity level of project definition deliverables	End usage	Methodology	Expected Accuracy Range
Class 5	0% to 2% of the full project definition	Concept screening	Cost/length factors, parametric models, judgment, or analogy	Low: -20% to -50% High: +30% to +100%
Class 4	1% to 15% of the full project definition	Study or feasibility	Cost/length, factored or parametric models	Low: -15% to -30% High: +20% to +50%
Class 3	10% to 40% of the full project definition	Budget authorisation or control	Semi-detailed unit costs with assembly-level line items	Low: -10% to -20% High: +10% to +30%
Class 2	30% to 75% of the full project definition	Control or bid/tender	Detailed unit cost with forced detailed take-off	Low: -5% to -15% High: +5% to +20%
Class 1	65% to 100% of the full project definition	Check estimate or bid/tender	Detailed unit cost with detailed take-off	Low: -3% to -10% High: +3% to +15%

Note: The AACE High band represents the typical percentage variation at an 80% confidence interval of actual costs from the cost estimate after application of appropriate contingency (typically to achieve a 50% probability of project cost overrun versus underrun) for a given scope.

Source: AACE98R-18 Cost Estimate Classification System.

Finding 2 IRP maturity assessment

The Sections from Beveridge to Parkes are assessed as Class 1 or 2, as they are under contract to complete, are either in the detailed design or construction phases and have all key approvals in place. Funding has been approved for these Sections.

The Sections between Narromine to Kagaru are assessed as being less mature (Class 3 or 4). The Class 3 Sections have key approvals in place and are in the preliminary design phase. The Class 4 Sections are in various phases:

— Some have not yet received key approvals

— Some have approvals and are in the preliminary design phase.

The proposed Goobang Junction Link is assessed as Class 5, as it is based on a high-level desktop study.

ACIL Allen's assessment of the maturity of the Sections between Beveridge and Kagaru is shown in Table 3 below.

Table 3 IRP Maturity Assessment by Section/Work package

Section/Work package	Maturity	Comments
Beveridge to Albury	Class 2	Tranches 1 and 2 are in construction and detailed design stages, respectively. Costs are based on awarded delivery contracts, which were competitively procured. Final costs are subject to final design and planning approval processes and construction activities.
Albury to Illabo	Class 2	This Section is in the detailed design stage. Costs are based on an awarded delivery contract that was competitively procured. Final costs are subject to detailed design and planning approval processes and construction activities.
Illabo to Stockinbingal	Class 2	This Section is in detailed design stage. Costs are based on an awarded delivery contract that was competitively procured. Final costs are subject to detailed design and planning approval processes and construction activities.
Stockinbingal to Parkes	Class 1	This Section is in construction. Costs are based on an awarded delivery contract that was competitively procured. Final costs are subject to construction activities.
Proposed Goobang Junction Link	Class 5	IRPL has not provided a maturity estimate for this proposed Work package. The estimate was based on a high-level desktop study. ACIL Allen has assessed the maturity of this Work package as Class 5.
Parkes to Narromine	N/A	N/A - Construction has been completed for this Section.
Narromine to Narrabri	Class 3	IRPL has self-rated their estimate for this Section as a Class 3. This seems appropriate given the design maturity and estimating methodology used.
Narrabri to North Star: SP1 Work package	N/A	N/A - Construction has been completed for this Section.
Narrabri to North Star: SP2 and 2C Work packages	Class 4	IRPL has self-rated their estimate for this Section as a Class 4. This seems appropriate given the design maturity and estimating methodology used.
North Star to NSW/QLD Border	Class 3	IRPL has self-rated their estimate for this Section as a Class 3. This seems appropriate given the design maturity and estimating methodology used.
NSW/QLD Border to Gowrie	Class 4	IRPL has self-rated their estimate for this Section as a Class 4. This seem appropriate given the design maturity and estimating methodology used.
Gowrie to Kagaru (three Sections – Gowrie to Helidon, Helidon to Calvert, and Calvert to Kagaru)	Class 4	IRPL has not provided a maturity estimate for the three Sections. While The estimate is based on the preferred PPP bid, there are apparent solution uncertainties and limited visibility into the estimate. ACIL Allen has assessed the maturity assessment as Class 4.

Note: ACIL Allen acknowledges that funding for the Beveridge to Parkes Sections has been approved and can be classed as approved budget rather than estimates.

Source: AACE98R-18, Inland Rail Pty Ltd and ACIL Allen

Scope and Design

This report has focused on verifying and assuring the process for developing the IRP scope and design. The IRP scope is driven by the specifications in the IRP Development Agreement, Schedule 1, Project Scope. Review and verification of project-specific scope items and designs were not called to be included. The specifications were revised in 2023.

Finding 3 IRP scope

The current IRP scope is consistent with Schedule 1 of the IRP Development Agreement and is considered fit-for-purpose.

The Sections from NSW/QLD Border to Kagaru do not yet have key approvals. The majority of Sections between Narromine to the NSW/QLD Border have Primary approvals in place (Narrabri to North Star Phase 2 is at the final stage of the Primary approval process), but are likely to face pressure from New South Wales government departments, local councils and communities for additions or changes to items of scope (as has been the case for the Sections from Beveridge to Parkes).

Additional scope beyond freight requirements will potentially emerge during the approvals processes for Sections/Work packages (environmental and construction), where approvals have yet to be achieved.

IRPL has a detailed project development process, including six gated stages with design progressing through five stages from Concept Design to Detailed Design. During the Close Out and Operations Stage, documentation must be updated as built.

The Sections and Work packages across the IRP are at various design stages, from Reference Design to Detailed Design. The design for the Southern sections is mostly complete. Design for each Work package making up the Northern sections ranges from Reference Design (Newell Highway overpass as part of the Narrabri to North Star Phase 2 Work package) to Preliminary Design, where key approvals are in place.

IRPL has made significant provisions for design-related contingencies in the total cost estimates. This reflects contingencies for:

— environmental approvals
— community and stakeholder engagement
— interfaces with existing rail networks and operators, and other infrastructure owners
— lack of definition concerning ground conditions, geotechnical and hydrological assessments.

IRPL has not identified explicit design contingencies beyond Gowrie, as the Gowrie to Kagaru costings are based on the preferred PPP bid in 2022.

Finding 4 IRP design

IRPL has well-documented design processes that are fit-for-purpose and consistent with industry best practice. A significant design contingency allowance for the Sections from Narromine to Gowrie has been provided. There is no explicit design contingency for the Sections from Gowrie to Kagaru.

IRPL has established a process for value engineering on yet-to-be-finalised Sections. The process involves planning and selecting whole-of-life solutions to deliver the IRP objectives. This involves the input of all parties (project owner, designers, contractors, IRPL corporate), who make use of:

— A Value Management Register
— An Innovation Register

— A Lessons Learnt Register.

IRPL has advised that value engineering was applied, where possible, to the Southern sections (these Sections were well-advanced before the changes took effect, which limited opportunities to gain from the changes).

IRPL's TOTC model and schedule show that project-level value engineering scope initiatives have been included in some Work packages between Narromine and Kagaru. Further work is required to incorporate these changes into the Work packages north of Narromine.

Finding 5 Value engineering

IRPL has commenced the process of considering the application of value-engineering to some of the Northern sections' Work packages to incorporate scope initiatives that would allow narrower formation width, wider sleeper spacing, shallower ballast, increases to allowable gradients of 1:64 (from 1:80) and short-steep gradients, particularly to ramp up over rivers and roads.

IRPL intends to incorporate these changes into the Work packages as they progress through Preliminary Design and Detailed Design.

IRPL's latest total cost estimates suggest that the value engineering scope initiatives referred to above have been applied, where applicable, to some Sections.

Schedule

IRPL has provided a delivery schedule for the proposed Goobang Junction Link between the Stockinbingal to Parkes and the completed Parkes to Narromine Sections. IRPL has documented the process and methodology for developing and managing the delivery schedule. IRPL has stated that the delivery schedule phases the Design and Construct packages over time to smooth the overall IRPL and contractor resource profile.

IRPL's Prioritisation of the Work package sequence was based on:

— The Primary approvals status
— the anticipated completion of land acquisition
— the assessed level of engineering challenges to be resolved before engaging a contractor to undertake design and construction
— enhancing connectivity for the ARTC network and operational benefits for ARTC customers
— the earliest completion of Narromine to Gowrie and Narromine to Kagaru.

The timing of the package sequences was based on several factors, including:

— the assessed time required for IRPL to onboard the necessary personnel and service providers
— the assessed capacity of the contracting market to optimally respond to a given level of capital expenditure at a given time
— the assessed capacity of the Office of the Coordinator-General in Queensland to assess and approve the outstanding environmental and planning approvals for Gowrie to Kagaru.

The schedules for Beveridge to Parkes Sections have been developed with the entities contracted to undertake design and construction. IRPL entered contracts in each case after a competitive tendering process.

Finding 6 IRP schedule

IRPL has well-documented processes for developing and managing the IRP schedule, individual Sections, and Work packages. The process appears fit-for-purpose and consistent with industry best practice.

Although these processes are fit-for-purpose, the IRP schedules developed by IRPL for its scenarios as at December 2024 are based on the assumption that IRP delivery would commence from 30 June 2025. This assumption has lapsed and as such IRPL will need to update the scenarios and associated cost estimates at a future time.

Cost estimation

IRPL's total cost estimate was based initially on bill of quantities and unit rates. However, because of the varied maturity of each of the Sections/Work packages, different approaches were used by IRPL in developing the total cost estimate:

- Some Sections and Work packages have been completed, and the final out-turn cost is known.
- Some Sections and Work packages are under contract, and the final out-turn cost is based on contracted prices plus incurred and estimated-to-completion Client costs, contingencies and escalation.
- The proposed Goobang Junction Link is based on a high-level desktop study.
- Some Sections and Work packages (most between Narromine and Gowrie) are at various design stages, and the cost estimates are based directly on bill of quantities and unit rates.
- The work to be undertaken in and around Moree as part of Narrabri to North Star Phase 2 is a redesigned estimate based on an existing bill of quantities.
- Gowrie to Kagaru is based on escalating the preferred PPP bid (assumed to have included bill of quantities and unit rates) and developing a high-level contingency estimate.

IRPL's costing approach is based on five elements:

- **APW:** Costing **i**ncorporates all work up to December 2028 and is based on the approved budget, with no further estimating or review undertaken as part of IRPL's total cost estimate update.
- **Proposed Goobang Junction Link:** Costing for the proposed Goobang Junction Link is based on a high-level desktop study to establish a preferred link option.
- **Bottom-up calculation of Design and Construction costs:** Costing is based on a first principles estimate using expert estimation software standardised across the Work packages between Narromine and Gowrie. IRPL has stated that prevailing market rates for staff, labour, plant and materials have been incorporated in the estimate. The estimates have been developed using available design information, which, in some cases, is associated with value-engineering and adjustments for flood modelling and hydrological conditions (potentially impacting drainage and bridge spans).
- **Bottom-up calculation of Inland Rail Client costs:** Costing includes estimates for Client costs associated with Project Delivery costs, Materials (incl. Delivery) costs, Design Services costs and Land and Biodiversity costs.
- **Gowrie to Kagaru:** Costing is based on the 2022 estimate (including the tender price submission) derived from the preferred PPP bid in late 2022, with recalculation of escalation, based on the revised schedule.

Contingency is included at a Work package level for the Sections between Beveridge and Gowrie. For the three Sections between Gowrie and Kagaru, IRPL applied a top-down approach as the preferred PPP bid details were unavailable.

Escalation was applied to all Sections north of Narromine, consistent with the escalation factors supplied by Oxford Economics to IRPL in August 2024.

ACIL Allen's findings concerning the cost estimation process are set out below.

Finding 7 Unit rates

ACIL Allen considers that the unit rates used by IRPL in the development of the estimate are reasonable, consistent and fit -for -purpose across the various Work packages. Where there are variations, these can largely be explained by the complexity of the respective Work packages.

Finding 8 Contractor indirect costs

For Work packages between Narromine and Gowrie, the approach used to assign Contractor indirect costs using targets for Indirect Job Costs as a percentage of Direct Job Costs and specified allowances for Off-Site Indirects and Profit and Design costs based on design status, appears to be reasonable and fit -for -purpose for developing these costs for each Work package.

The specification of allowances for the Gowrie to Kagaru Work packages appears low for both Indirect Job Costs and Design costs when benchmarked against the approach used by IRPL for Narromine to Gowrie. Increasing these allowances to the minimum benchmark of other Work packages would add significantly to the Base cost estimate for those Work packages.

However, IRPL has stated that the Contractor cost used to develop the Gowrie to Kagaru cost estimate includes some contractor indirect costs, which are not separable from the offer amount. IRPL has stated that the allowance they have included is a provision on top of the allowance the Contractor is assumed to have already included.

Finding 9 Client costs

IRPL's approach to estimating Client costs appears to be a reasonable process for developing these costs for each Work package.

Costs for Sections south of Narromine are based on completed Work packages or commitments under the Approved Project Works to complete Work packages that are in progress.

For the Sections between Narromine and Gowrie, estimates of Client costs are based on a bottom-up process for activities to complete the delivery of the Sections, plus Client costs associated with activities under the current Approved Project Works.

For Gowrie to Kagaru, Client costs are based on the 2022 budget estimate, updated to 2024 and escalated based on the revised schedule.

ACIL Allen considers IRPL’s approach to estimating Client costs reasonable and fit for purpose.

Finding 10 Contingency

The process used for the Beveridge to Parkes Sections is considered fit for purpose, as they are part of the Approved Project Works and are under contract. The process used to develop the bottom-up risk assessments for Narromine to Gowrie appears reasonable and fit-for-purpose.

The contingency allowance appears low for the Gowrie to Kagaru Sections compared to the assessed maturity of these Sections. However, IRPL has stated that the preferred PPP bid used to develop the Gowrie to Kagaru cost estimates includes some contingency allowance, which is not separable from the offer amount. IRPL has stated that the allowance they have included is considered a conservative addition on top of the allowance the preferred bidder is assumed to have already included.

It is noted that IRPL is undertaking a bottom-up, discrete risk-by-risk analysis for the Gowrie to Kagaru Sections, similar to the process used for the Narromine to Gowrie Sections.

Finding 11 Escalation

IRPL applied escalation for the Approved Project Works Sections from Beveridge to Parkes as hardcoded numbers. The escalation for the three Sections between Albury and Parkes aligns with the November 2024 cost reports provided.

IRPL assigned additional escalation in the Approved Project Works to the Northern sections. The formulas assigning the escalation are hardcoded and are not supported with evidence.

For the Northern sections, the cost modelling analysis confirms IRPL used the Oxford Economics outputs, developed for IRP, as intended for the costs beyond the Approved Project Works.

The approach to escalation is considered fit-for-purpose.

Risk

The significant risks to the IRP are associated with one or more of the following factors:

- Delays to, or unfavourable conditions of, approval from statutory bodies, including for environmental, design, planning and construction works approvals.
- Pressure from state and local government agencies, local communities, environmental groups and private property owners to enhance or modify the scope or the design of various aspects of each Work package.
- Delays in access to parts of the alignment to undertake construction works.
- Unexpected technical matters.
- Timing for delivery of the IRP beyond the current APW.

Some of these factors will likely affect scope, design, or both and will have flow effects on the schedule and estimation of costs. Factors that directly impact the schedule will also flow to the estimation of costs through the impacts of prolongation and escalation.

Finding 12 Scope and design risk

Scope and design risks are primarily associated with gaining environmental and detailed design approvals and maintaining social licences with communities, interest groups and private property owners. Southern sections' experience provides examples of how these processes and interactions can add to or change the scope and design of parts of a Work package.

The most significant risk to scope and design is for the four Sections in Queensland, as they are still subject to Primary approval processes.

Finding 13 Schedule risk

The main schedule risks are delays in gaining environmental and detailed design approvals. An associated risk is land acquisition, as in some cases, compulsory acquisition depends on approvals. The most significant schedule risks are expected in each Work package's Pre-Construction phase. These include:

- settling agreements with and the policy settings of key state agencies and local governments
- securing outstanding environmental and planning approvals in the New South Wales N2NS Phase 2 Work packages and all Sections in Queensland, and the possible impacts of approval conditions set by the Commonwealth and the respective state agencies
- land acquisition in all Sections in Queensland
- timing for delivery of the IRP beyond the current Approved Project Works.

Several threshold issues for Gowrie to Kagaru require resolution and may cause significant delays in completing those Sections.

Finding 14 Cost estimation risk

IRPL developed risk and contingency measures for each Work package through a structured qualitative assessment to identify and address potential IRP risks. The most significant risks to the cost estimates are associated with:

- Delays to gaining approvals or unfavourable conditions of approval are likely to lead to changes in scope and design, and delays to schedule and will ultimately flow through to increases in cost estimates.
- Delays in accessing the alignment to undertake construction will likely cause increased mobilisation costs and other project costs as dependent activities are delayed.
- Unexpected technical matters: even with the best planning, unknown technical issues with a significant cost impact will potentially arise throughout the IRP.
- Timing and schedule for delivery of the IRP beyond the current Approved Project Works.
- Prolongation of the IRP delivery schedule.

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