

Snowy 2.0 Governance of Early Implementation

Snowy Hydro Limited

© Commonwealth of Australia 2022

ISSN 1036–7632 (Print)

ISSN 2203–0352 (Online)

ISBN 978-1-76033-735-3 (Print)

ISBN 978-1-76033-736-0 (Online)

Except for the content in this document supplied by third parties, the Australian National Audit Office logo, the Commonwealth Coat of Arms, and any material protected by a trade mark, this document is licensed by the Australian National Audit Office for use under the terms of a Creative Commons Attribution-NonCommercial-NoDerivatives 3.0 Australia licence. To view a copy of this licence, visit <http://creativecommons.org/licenses/by-nc-nd/3.0/au/>.

You are free to copy and communicate the document in its current form for non-commercial purposes, as long as you attribute the document to the Australian National Audit Office and abide by the other licence terms. You may not alter or adapt the work in any way.

Permission to use material for which the copyright is owned by a third party must be sought from the relevant copyright owner. As far as practicable, such material will be clearly labelled.

For terms of use of the Commonwealth Coat of Arms, visit the *It's an Honour* website at <https://www.pmc.gov.au/government/its-honour>.

Requests and inquiries concerning reproduction and rights should be addressed to:

Senior Executive Director
Corporate Management Group
Australian National Audit Office
GPO Box 707
Canberra ACT 2601

Or via email:

communication@anao.gov.au.



Canberra ACT
15 June 2022

Dear Mr President
Dear Mr Speaker

In accordance with the authority contained in the *Auditor-General Act 1997*, I have undertaken an independent performance audit in Snowy Hydro Limited. The report is titled *Snowy 2.0 Governance of Early Implementation*. Pursuant to Senate Standing Order 166 relating to the presentation of documents when the Senate is not sitting, I present the report of this audit to the Parliament.

Following its presentation and receipt, the report will be placed on the Australian National Audit Office's website — <http://www.anao.gov.au>.

Yours sincerely



Grant Hehir
Auditor-General

The Honourable the President of the Senate
The Honourable the Speaker of the House of Representatives
Parliament House
Canberra ACT

AUDITING FOR AUSTRALIA

The Auditor-General is head of the Australian National Audit Office (ANAO). The ANAO assists the Auditor-General to carry out his duties under the *Auditor-General Act 1997* to undertake performance audits, financial statement audits and assurance reviews of Commonwealth public sector bodies and to provide independent reports and advice for the Parliament, the Australian Government and the community. The aim is to improve Commonwealth public sector administration and accountability.

For further information contact:
Australian National Audit Office
GPO Box 707
Canberra ACT 2601

Phone: (02) 6203 7300
Email: ag1@anao.gov.au

Auditor-General reports and information about the ANAO are available on our website:
<http://www.anao.gov.au>

Audit team

Jacqueline Hedditch
Joshua Francis
Jake Farquharson
Corinne Horton

Contents

Summary and recommendations.....	7
Background	7
Conclusion	7
Supporting findings.....	8
Summary of entity response.....	9
Key messages from this audit for all Australian Government entities	9
Audit findings.....	11
1. Background	12
Introduction.....	12
Rationale for undertaking the audit	16
Audit approach	16
2. Governance frameworks	18
Does the Board have appropriate oversight over Snowy 2.0?	18
Have appropriate procurement and contract management frameworks been implemented?	24
3. Contract management.....	30
Did the development of the EPC contract support Snowy 2.0 outcomes?	30
Did the contract negotiation and execution demonstrate value for money?	37
Does Snowy Hydro Limited effectively monitor the contractor's performance?	41
4. Monitoring and reporting.....	49
Has Snowy Hydro Limited established arrangements to monitor the progress of Snowy 2.0?	49
Does Snowy Hydro Limited report to stakeholder entities and Ministers on the progress of Snowy 2.0?.....	51
Appendices	59
Appendix 1 Entity response	60
Appendix 2 Improvements observed by the ANAO	63
Appendix 3 Snowy 2.0 project timeline	64
Appendix 4 Top 12 Snowy 2.0 risks — ratings and transfer	65



Audit snapshot

Auditor-General Report No.33 2021–22

Snowy 2.0 Governance of Early Implementation



Why did we do this audit?

- ▶ To provide assurance to Parliament that Snowy Hydro Limited has appropriate arrangements in place to effectively deliver the Snowy 2.0 project.



Key facts

- ▶ Snowy 2.0 includes the construction of an underground power station and around 27 kilometres of tunnels between two reservoirs in the Snowy Mountains.
- ▶ Snowy Hydro Limited is using an engineer, procure and construct (EPC) contract to complete most of the Snowy 2.0 project.
- ▶ The EPC contracted sum is \$5.11 billion, which makes up more than 85 per cent of the total approved project costs.
- ▶ The EPC contracted schedule is for first power generation in 2024–25 and project completion in 2026–27.



What did we find?

- ▶ Snowy Hydro Limited's governance of the early implementation of Snowy 2.0 is effective.
- ▶ Snowy Hydro Limited has established effective governance frameworks to deliver Snowy 2.0.
- ▶ Snowy Hydro Limited has established appropriate arrangements to manage the Snowy 2.0 engineer, procure and construct (EPC) contract.
- ▶ Snowy Hydro Limited has established appropriate monitoring and reporting arrangements for Snowy 2.0.



What did we recommend?

- ▶ No recommendations are made to Snowy Hydro Limited.

\$1.38 billion

Australian Government's equity investment in Snowy Hydro Limited for Snowy 2.0.

\$5.11 billion

Contracted sum under the Snowy 2.0 engineer, procure and construct (EPC) contract.

350,000

Megawatt hours of storage Snowy 2.0 is expected to add to the National Electricity Market.

Summary and recommendations

Background

1. In December 2018, Snowy Hydro Limited made a final investment decision to proceed with Snowy 2.0. Snowy 2.0 is a pumped hydro project designed to add 2000 megawatts of on-demand generation and approximately 350,000 megawatt hours of large-scale storage to the National Electricity Market. Snowy 2.0 includes the construction of an underground power station and around 27 kilometres of tunnels within the Kosciuszko National Park in the Snowy Mountains region of New South Wales.
2. Snowy Hydro Limited is using an engineer, procure and construct (EPC) contract to complete most of the Snowy 2.0 project. The contracted sum under the EPC contract is \$5.11 billion. This makes up more than 85 per cent of the total Snowy 2.0 project cost approved by Snowy Hydro Limited.
3. Snowy Hydro Limited is an unlisted company incorporated under the *Corporations Act 2001*. On 29 June 2018, the Commonwealth became Snowy Hydro Limited's sole shareholder. Snowy Hydro Limited is subject to the *Public Governance, Performance and Accountability Act 2013* (PGPA Act) frameworks for Commonwealth companies and government-owned business enterprises (GBE).

Rationale for undertaking the audit

4. Snowy Hydro Limited has been provided an equity injection to a subscription cap of \$1.38 billion to proceed with the Snowy 2.0 project. Snowy Hydro Limited is financing the remainder of the project from debt funding. The audit provides assurance to Parliament that Snowy Hydro Limited has appropriate arrangements in place to effectively deliver Snowy 2.0.

Audit objective and criteria

5. The audit objective was to examine the effectiveness of Snowy Hydro Limited's governance arrangements for early implementation of Snowy 2.0, the expansion to the Snowy Hydro Scheme.
6. To form a conclusion against this objective, the following high-level audit criteria were adopted.
 - Have effective governance frameworks been established to deliver Snowy 2.0?
 - Are there appropriate arrangements to manage the Snowy 2.0 engineer, procure and construct (EPC) contract?
 - Does Snowy Hydro Limited effectively monitor and report on the progress of Snowy 2.0?

Conclusion

7. Snowy Hydro Limited's governance of the early implementation of Snowy 2.0 is effective.
8. Snowy Hydro Limited has established effective governance frameworks to deliver Snowy 2.0. These governance frameworks provide the Snowy Hydro Limited Board of Directors (the Board) with appropriate oversight, including the information required to inform

decision-making. The Snowy 2.0 risk management framework supports the ongoing oversight of risks. Procurement and contract management frameworks provide an appropriate basis for Snowy Hydro Limited's delivery of Snowy 2.0.

9. Snowy Hydro Limited has established appropriate arrangements to manage the Snowy 2.0 EPC contract. The EPC contract management arrangements have provided Snowy Hydro Limited with a sound basis for managing the performance of the EPC contractor. Snowy Hydro Limited should continue to implement these contract management arrangements over the life of the project.

10. Snowy Hydro Limited has established appropriate monitoring and reporting arrangements for Snowy 2.0. Reporting to the Board and the shareholder provides clear oversight of the progress of the project including identification and escalation of key risks. The project is exposed to significant risks, in particular those related to transmission network upgrades required for Snowy 2.0. Snowy Hydro Limited manages transmission risk within the existing regulatory framework, which includes engagement with government and industry stakeholders. Snowy Hydro Limited has implemented actions within the areas it can control.

Supporting findings

Governance frameworks

11. The Board has appropriate oversight of Snowy 2.0, including assurance over key assumptions of the business case. Snowy Hydro Limited established specific governance frameworks aligned with the risk and complexity of the project. These arrangements provide a clear framework for approval and ongoing management, including risk management, of the project. (See paragraphs 2.3 to 2.38)

12. Snowy Hydro Limited implemented appropriate procurement policies and procedures for Snowy 2.0. Snowy Hydro Limited supplemented its pre-existing procurement framework with a specific framework for the EPC procurement. These frameworks were supplemented by probity management mechanisms. Snowy Hydro Limited has established an appropriate contract management framework for Snowy 2.0. The Snowy 2.0 contract management framework builds on Snowy Hydro Limited's pre-existing framework to align with the scale and complexity of the project. Snowy Hydro Limited's quality of compliance reporting against the Snowy 2.0 Australian Industry Participation Plan was of an appropriate standard. Prior to March 2022, reporting against this plan did not meet the timeframes set under the *Australian Jobs Act 2013*. (See paragraphs 2.39 to 2.57)

Management of the engineer, procure and construct contract

13. Snowy Hydro Limited developed and executed an EPC contract that was designed to support Snowy 2.0 outcomes. This was achieved by assessing a range of contracting options to identify an approach best suited to successfully delivering the project and incorporating project deliverables and risk allocation into the contract. (See paragraphs 3.3 to 3.30)

14. Snowy Hydro Limited's approach to negotiation and execution of the EPC contract demonstrated value for money. Snowy Hydro Limited assessed bids from potential tenderers

against price and non-price factors and maintained competitive tension by involving more than one potential tenderer until the final decision. (See paragraphs 3.31 to 3.42)

15. Snowy Hydro Limited has established arrangements to effectively monitor the EPC contractor's performance against cost and schedule. This includes appropriately managing the EPC contract's monthly payment process. Contract management and control arrangements have been appropriately implemented. Snowy Hydro Limited also developed procedures to provide assurance over the contractor's activities in relation to workplace health and safety, quality and environmental management. (See paragraphs 3.43 to 3.67)

Monitoring and reporting

16. Snowy Hydro Limited has established appropriate arrangements to monitor the progress of Snowy 2.0. Monitoring arrangements include monthly progress reports from the contractor. Snowy Hydro Limited's use of an earned value management approach allows the contractor's performance to be measured against baseline figures. (See paragraphs 4.3 to 4.13)

17. Snowy Hydro Limited has implemented a strategy to engage with community and industry stakeholders throughout the life of Snowy 2.0. Snowy Hydro Limited regularly reports to shareholder departments and ministers on the progress of Snowy 2.0. This has included engagement on transmission network upgrades required for Snowy 2.0. (See paragraphs 4.14 to 4.48)

Summary of entity response

18. The proposed audit report was provided to Snowy Hydro Limited. Snowy Hydro Limited's summary response to the report is provided below. An extract of the proposed report was provided to Future Generation Joint Venture. Full entity responses are at Appendix 1.

Snowy Hydro welcomes the ANAO's audit findings that the Company's governance of the early implementation of the project is effective with no recommendations raised. The audit concluded that the Company has appropriate arrangements in place to govern, monitor and report on the project; including in relation to managing the contract with our Principal Contractor Future Generation JV. Snowy Hydro would like to acknowledge the highly rigorous yet constructive approach of the ANAO audit team at all times.

Key messages from this audit for all Australian Government entities

19. Below is a summary of key messages, including instances of good practice, which have been identified in this audit and may be relevant for the operations of other Australian Government entities.

Governance and risk management

- Active monitoring of project risks ensures that they remain current and visible to the entity and key stakeholders. When supplemented by a register of all project risks, grouping risks according to categories is one way for entities to focus on those that are most critical.

Procurement

- Early consultation processes can provide entities with opportunities to clarify a project's requirements, budget and schedule. Design modifications suggested during this process can

also achieve cost and time savings. This supports procurement outcomes that meet the entity's requirements and demonstrate value for money.

- Leveraging competitive tension supports entities to achieve value for money. This involves continuing negotiations with more than one potential tenderer until the final decision point. Potential benefits are maximised when entities adopt well-documented procurement and tender evaluation plans.

Contract management

- Entities should assess their internal capability to manage large-scale contracts. Where capability gaps exist, entities can benefit from identifying and filling these gaps before commencing procurement. This supports effective contract delivery by ensuring that the entity is appropriately resourced.
- Clear contract management frameworks ensure that entities are informed of a contractor's progress during the delivery of a major project. Linking contract payments to the achievement of key performance indicators establishes clear performance expectations of a contractor. If adopted, these provisions should be established early in a contract's lifecycle and supported by effective channels of communication and clear contract management frameworks.
- Entities should actively manage contracts according to established frameworks. This includes contract administration aligned to project deliverables within the contract. Where the contractor has not met the requirements of the contract, or has provided insufficient evidence to demonstrate achievement, entities should actively manage the performance of the contractor to ensure delivery.

Audit findings

1. Background

Introduction

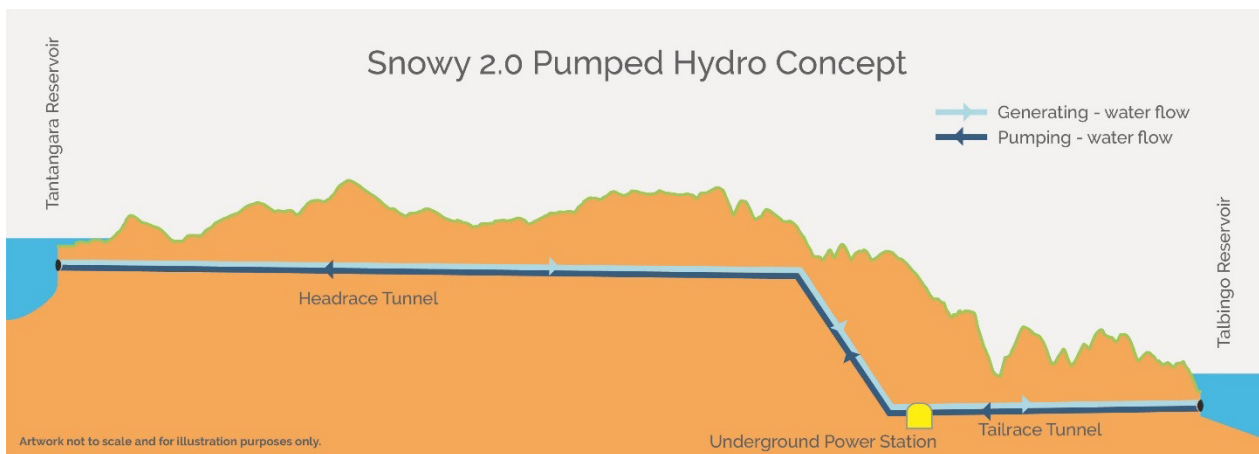
1.1 On 15 March 2017, Snowy Hydro Limited announced commencement of a feasibility study into expanding the pumped hydro-electric generation capacity¹ of the Snowy Mountains Hydro-electric Scheme.² This expansion project would become known as Snowy 2.0. Snowy Hydro Limited completed the feasibility study process in December 2017.

1.2 In December 2018, Snowy Hydro Limited made a final investment decision to proceed with Snowy 2.0. The engineer, procure and construct (EPC) contracted schedule is for first power generation in 2024–25 and project completion in 2026–27. Appendix 3 provides a timeline of key project milestones.

1.3 Snowy 2.0 includes the construction of an underground power station and around 27 kilometres of tunnels between Tantangara and Talbingo Reservoirs (Figure 1.1). The reservoirs and supporting infrastructure are within the Kosciuszko National Park in the Snowy Mountains region of New South Wales (Figure 1.2).

1.4 Snowy 2.0 is intended to provide an additional 2000 megawatts of renewable electricity generating capacity and approximately 350,000 megawatt hours of storage to the National Electricity Market (NEM).³

Figure 1.1: Snowy 2.0 pumped hydro concept



Source: Snowy Hydro Limited.

- 1 Pumped hydro-electricity generators use electricity at times of excess supply to pump water from a lower reservoir to a higher reservoir. Water stored in the higher reservoir is then used to generate electricity at times of peak electricity demand.
See Australian Renewable Energy Agency, *Hydropower/Pumped Hydro Energy Storage* [Internet], available from <https://arena.gov.au/renewable-energy/pumped-hydro-energy-storage/> [accessed 22 March 2022].
- 2 The Snowy Mountains Hydro-electric Scheme was built between 1949 and 1974. On completion, it consisted of seven power stations, 16 major dams, 80 kilometres of aqueducts and 145 kilometres of interconnected tunnels.
- 3 A watt is a unit of power that quantifies the rate of energy transfer. A megawatt is 1 million watts. A megawatt hour is one megawatt of power sustained for one hour.

Figure 1.2: Map of the Snowy Mountains Hydro-electric Scheme including Snowy 2.0

Source: Snowy Hydro Limited.

The National Electricity Market

1.5 The NEM connects power from electricity generators to large industrial energy users and local electricity distributors across Queensland, New South Wales, the Australian Capital Territory, Victoria, South Australia, and Tasmania.

1.6 The Australian Energy Market Operator (AEMO) has identified the NEM is in a period of change, moving from a centralised system dominated by large coal fired power stations to a decentralised system of renewable generators and energy storage resources.⁴

1.7 As part of the 2020 Integrated System Plan (ISP) published in July 2020, AEMO projected the NEM will require over 26 gigawatts of new variable renewable energy generation supported by up to 19 gigawatts of new dispatchable energy resources⁵ to replace coal fired electricity generation by 2040.⁶

1.8 In 2021, AEMO indicated the need for dispatchable resources may be greater than projected in the 2020 ISP. AEMO analysis indicates over 60 gigawatts of dispatchable capacity may be required by 2050 to efficiently support variable renewable energy.⁷

1.9 Meeting the demand for increased renewable energy generation and dispatchable energy storage was the basis of the decision to proceed with Snowy 2.0.⁸

Legislative structure, ownership and governance

1.10 Snowy Hydro Limited is an unlisted company incorporated under the *Corporations Act 2001*. On 29 June 2018, the Commonwealth of Australia (the Commonwealth) became Snowy Hydro Limited's sole shareholder. Snowy Hydro Limited also became a Commonwealth company on this date.⁹

1.11 The *Public Governance, Performance and Accountability Act 2013* (PGPA Act) frameworks for government-owned business enterprises (GBE) apply to Snowy Hydro Limited from this date.¹⁰ Chapter three of the PGPA Act sets out requirements with which Commonwealth companies are to comply to meet appropriate standards of public sector accountability.

4 Australian Energy Market Operator, *Power System Requirements* [Internet], July 2020, available from https://aemo.com.au/-/media/files/electricity/nem/security_and_reliability/power-system-requirements.pdf?la=en [accessed 22 March 2022].

5 Variable renewable energy produces energy intermittently instead of on demand. Variable renewable energy sources include wind, solar and tidal.
Dispatchable electricity sources include batteries and generators such as hydro-electricity and gas that can adjust the power output supplied to the electrical grid on demand.

6 The electricity system and markets in most Australian states and territories are governed by the *National Electricity (South Australia) Act 1996* which is known as the National Electricity Law. The AEMO is required to prepare, maintain and publish a plan for the development of the national transmission grid under section 49(2) of the *National Electricity (South Australia) Act 1996*.

Australian Energy Market Operator, *2020 Integrated System Plan* [Internet], 30 July 2020, available from <http://aemo.com.au/en/energy-systems/major-publications/integrated-system-plan-isp/2020-integrated-system-plan-isp> [accessed 22 March 2022].

7 Australian Energy Market Operator, *Draft 2022 Integrated System Plan* [Internet], 10 December 2021, available from <https://aemo.com.au/consultations/current-and-closed-consultations/2022-draft-isp-consultation> [accessed 22 March 2022].

The *Draft 2022 Integrated System Plan* was published as part of the 2022 Integrated System Plan's consultation process. AEMO expects to release the 2022 Integrated System Plan in June 2022.

8 Prime Minister, Minister for Energy, and Minister for Finance and the Public Service, *Media Release: Historic Snowy 2.0 plan approved* [Internet] 26 February 2019, available from <https://www.pm.gov.au/media/historic-snowy-20-plan-approved> [accessed 22 March 2022].

9 Prior to 2018, shareholdings in Snowy Hydro Limited were shared between the New South Wales Government (58 per cent), Victorian Government (29 per cent) and the Commonwealth of Australia (13 per cent).

10 *Public Governance, Performance and Accountability Rule 2014*, section 5(2)(h).

1.12 The Commonwealth's ownership interest in Snowy Hydro Limited is represented by two shareholder ministers: the Minister for Energy and Emissions Reduction, and the Minister for Finance. Shareholder ministers provide Snowy Hydro Limited guidance on purpose, role and activities through a Statement of Expectations.¹¹ Snowy Hydro Limited provides a dividend to the Commonwealth as the sole shareholder. The dividends were \$217.8 million in 2019–20 and \$122.7 million in 2020–21.

1.13 Internal governance of Snowy Hydro Limited is provided through its Board of Directors (the Board). The Snowy Hydro Limited Company Constitution requires that there must be a minimum of five and a maximum of nine Directors appointed to the Board. The Board has ultimate responsibility for the performance of the company and is accountable to the Commonwealth as Snowy Hydro Limited's sole shareholder and to the Parliament. The Board has delegated authority over the day-to-day management of Snowy Hydro Limited to the Chief Executive Officer.¹²

Delivery arrangements for Snowy 2.0

1.14 Snowy Hydro Limited is using an engineer, procure and construct (EPC) contract to complete most of the Snowy 2.0 project.¹³ The Snowy 2.0 EPC contract is based on the International Federation of Consulting Engineers' (FIDIC) 'Conditions of Contract for EPC/Turnkey Projects'.¹⁴ Under this type of contract, a lead contractor is responsible for engineering, procurement and construction activities required to build the infrastructure to the standards set out by Snowy Hydro Limited as the project owner.

1.15 In April 2019, Snowy Hydro Limited executed the Snowy 2.0 EPC contract with Future Generation Joint Venture as the lead contractor.¹⁵ The EPC contract includes one named subcontractor responsible for the electrical and mechanical work associated with hydro-electric power station elements of the project.¹⁶

1.16 The contracted sum under the EPC contract is \$5.11 billion. This makes up more than 85 per cent of the total Snowy 2.0 project cost approved by Snowy Hydro Limited. The electrical and mechanical element of the contract makes up around 15 per cent of the total contract sum of \$5.11 billion under the EPC contract.

11 These titles reflect the Australian Government administrative arrangements in place during the audit fieldwork phase.

Snowy Hydro Limited Statement of Expectations, [Internet], available from <https://www.snowyhydro.com.au/wp-content/uploads/2021/11/Statement-of-Expectations.pdf> [accessed 28 March 2022].

12 The Chief Executive Officer also holds the position of Managing Director and is a member of the Board.

13 Snowy Hydro Limited, *Annual Report 2018–19*, p. 40.

14 International Federation of Consulting Engineers (FIDIC), *EPC/Turnkey Contract 2nd Ed (2017 Silver Book)*, [Internet] available from <https://fidic.org/books/epcturnkey-contract-2nd-ed-2017-silver-book> [accessed 22 March 2022].

For further information on the different forms of FIDIC contracts, see International Federation of Consulting Engineers (FIDIC), *Which FIDIC Contract should I use?* [Internet], available from <https://fidic.org/node/149> [accessed 22 March 2022].

15 Future Generation Joint Venture is a joint venture between engineering companies Salini Impregilo S.p.A (now known as Webuild), Clough Projects Australia Pty Ltd and Lane Construction Corporation.

16 The named subcontractor is Voith Hydro. The EPC contract allows Future Generation Joint Venture to appoint subcontractors for other contracted deliverables.

1.17 Project costs not included in the EPC contract include early road works, environmental approvals and compliance, electricity grid connections, insurance, contingency and owner's costs. Owner's costs are Snowy Hydro Limited's costs of developing and managing the project, including employees and third-party advisors.

Rationale for undertaking the audit

1.18 Snowy Hydro Limited has been provided an equity injection to a subscription cap of \$1.38 billion to proceed with the Snowy 2.0 project.¹⁷ Snowy Hydro Limited is financing the remainder of the project from debt funding. The audit will provide assurance to Parliament that Snowy Hydro Limited has appropriate arrangements in place to effectively deliver the Snowy 2.0 project.

1.19 Under subsection 17(2) of the *Auditor-General Act 1997* (the Act), performance audits of GBEs such as Snowy Hydro Limited can be conducted only at the request of the Joint Committee of Public Accounts and Audit (JCPAA). The Auditor-General received this request from the JCPAA in August 2021.

Audit approach

Audit objective, criteria and scope

1.20 The objective of the audit was to examine the effectiveness of Snowy Hydro Limited's governance arrangements for early implementation of Snowy 2.0, the expansion to the Snowy Mountains Hydro-electric Scheme.

1.21 To form a conclusion against this objective, the following high-level audit criteria were adopted.

- Have effective governance frameworks been established to deliver Snowy 2.0?
- Are there appropriate arrangements to manage the Snowy 2.0 engineer, procure and construct (EPC) contract?
- Does Snowy Hydro Limited effectively monitor and report on the progress of Snowy 2.0?

1.22 The scope of the audit focused on Snowy Hydro Limited's governance arrangements during the early implementation of the Snowy 2.0 project including:

- Snowy 2.0 governance, procurement and contract management frameworks;
- contract management of the Snowy 2.0 EPC contract, including sample testing of monthly EPC payments; and
- monitoring and reporting on the Snowy 2.0 project, including internal and external performance reporting and advice to shareholder ministers.

1.23 The audit scope did not include the Commonwealth's purchase of New South Wales and Victoria's shares of Snowy Hydro Limited; shareholder approval of Snowy 2.0 and associated equity investment in Snowy Hydro Limited; Snowy Hydro Limited's other operations or projects;

¹⁷ The Department of the Environment and Energy was the party representing the Commonwealth when this equity subscription agreement was executed in April 2019. This role transferred to the Department of Industry, Science, Energy and Resources on 1 February 2020.

Commonwealth or state governments' environmental assessment processes; the appropriateness of the technical or feasibility assessments; or decisions by AEMO and other entities in relation to connections and transmission.

Audit methodology

1.24 The audit methodology involved examination of Snowy Hydro Limited documentation, a virtual site tour¹⁸ and meetings with Snowy Hydro Limited staff including demonstrations of Snowy 2.0 business processes. The audit team also met with:

- two shareholder departments: the Department of Industry, Science, Energy and Resources, and the Department of Finance; and
- the Australian Industry Participation Authority.

1.25 The audit was conducted in accordance with ANAO auditing standards at a cost to the ANAO of \$386,000.

1.26 The team members for this audit were Jacqueline Hedditch, Joshua Francis, Jake Farquharson and Corinne Horton.

18 Due to COVID-19 travel restrictions the audit team participated in a virtual site tour provided to the Snowy Hydro Board. A publicly accessible version of the site tour is available at <https://snowy2tour.snowyhydro.com.au/> [accessed 22 March 2022].

2. Governance frameworks

Areas examined

This chapter examines whether Snowy Hydro Limited has established effective governance frameworks to deliver Snowy 2.0.

Conclusion

Snowy Hydro Limited has established effective governance frameworks to deliver Snowy 2.0. These governance frameworks provide the Snowy Hydro Limited Board of Directors (the Board) with appropriate oversight, including the information required to inform decision-making. The Snowy 2.0 risk management framework supports the ongoing oversight of risks.

Procurement and contract management frameworks provide an appropriate basis for Snowy Hydro Limited's delivery of Snowy 2.0.

Areas for improvement

The ANAO suggested that Snowy Hydro Limited continue to focus on timely reporting against the Australian Industry Participation Plan.

2.1 Governance involves the systems and processes in place that shape, enable and oversee the management of an organisation.¹⁹ Company directors have an obligation to act with care and diligence under the *Corporations Act 2001*.²⁰ The *Public Governance, Performance and Accountability Act 2013* (the PGPA Act) requires Commonwealth companies 'meet high standards of governance, performance and accountability'.²¹

2.2 Effective governance arrangements for a project of Snowy 2.0's scale and complexity would be expected to include:

- appropriate oversight from the Board;
- implementation of procurement policies and procedures; and
- establishing appropriate contract management arrangements.

Does the Board have appropriate oversight over Snowy 2.0?

The Board has appropriate oversight of Snowy 2.0, including assurance over key assumptions of the business case. Snowy Hydro Limited established specific governance arrangements aligned with the risk and complexity of the project. These arrangements provide a clear framework for approval and ongoing management, including risk management, of the project.

2.3 The Statement of Expectations issued in 2018 states that 'the Board [of Snowy Hydro Limited] has ultimate responsibility for the performance of the Company and is accountable to the Government as its sole shareholder.' An updated Statement of Expectations published in 2021 specifies that the Board is accountable to ministers for: the performance of Snowy Hydro Limited; internal governance of Snowy Hydro Limited; setting strategic direction and culture; compliance

19 Australian National Audit Office, *Audit Insights: Board Governance* [Internet], 17 May 2019, available from <https://www.anao.gov.au/work/audit-insights/board-governance> [accessed 22 March 2022].

20 Section 180 of the *Corporations Act 2001*.

21 *Public Governance, Performance and Accountability Act 2013*, subsection 5(d).

with external governance frameworks; and timely, accurate and transparent provision of information.

Governance framework

2.4 The Snowy Hydro Limited Board Charter (the Board Charter) sets out that the role of the Board is to:

act in the best interests of Snowy Hydro; ensure that Snowy Hydro's business objectives are aligned with shareholder expectations; and guide and monitor Snowy Hydro's strategies, policies and performance to optimise performance and create shareholder value, while having regard to employee, community and other stakeholder interests.²²

2.5 The Department of Finance maintains a resource management guide for government-owned business enterprises (GBEs) in relation to board and corporate governance, financial governance and planning and reporting.²³ The guide provides the following guidance to GBEs in relation to the composition of the board:

GBE boards and any subsidiaries are to comprise directors with an appropriate mix of skills, who are to be appointed on the basis of their individual capacity to contribute to the board, having an appropriate balance of relevant skills (such as commerce, finance, accounting, law, marketing, workplace relations, management and other skills relevant to the GBE's operations) to enable them to contribute to the achievement of the GBE's objectives.²⁴

2.6 The Board's composition has changed since the December 2018 Snowy 2.0 final investment decision.²⁵ Five of the current members were appointed between March 2019 and August 2020.

2.7 Snowy Hydro Limited advised the ANAO that the changes in composition reflect the changing requirements of the company relating to the scale of the project. A 2019 internal review of the Board, initially scheduled for November 2018, was deferred until after the final investment decision to enable consideration of the specific skills required for Snowy 2.0. The review also considered the tenure of previous Board members.

2.8 Snowy Hydro Limited assessed the skills and experience of the Board members, in particular those joining the Board following the final investment decision, against its skills matrix. Snowy Hydro Limited found they are consistent with the skills matrix and provide coverage of the necessary skill areas.

2.9 The Board Charter states it will 'meet as required to facilitate the effective discharge of its duties and will generally meet at least ten times each year.' The Board met at least ten times in each calendar year 2018, 2019, 2020 and 2021. Snowy Hydro Limited advised the ANAO that in addition

22 Snowy Hydro Limited, *Board Charter* [Internet], 14 March 2018, available from <https://www.snowyhydro.com.au/about/corporate-governance/> [accessed 22 March 2022].

23 Department of Finance, *Resource Management Guide No. 126, Commonwealth Government Business Enterprise Governance and Oversight Guidelines* [Internet], Finance, available from <http://www.finance.gov.au/resource-management/governance/gbe/> [accessed 22 March 2022].

24 Department of Finance, *Resource Management Guide No. 126, Commonwealth Government Business Enterprise Governance and Oversight Guidelines* [Internet], Finance, available from <http://www.finance.gov.au/resource-management/governance/gbe/> [accessed 22 March 2022].

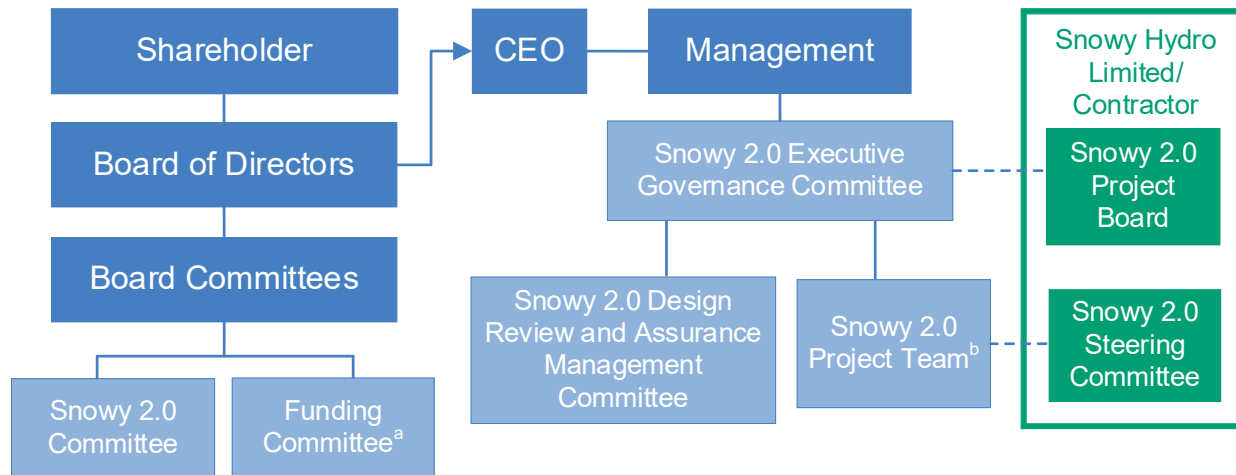
25 See paragraphs 2.14 to 2.26 for an overview of the final investment decision process.

to the Board's regular meeting schedule, two additional meetings in 2018 and four additional meetings in 2020 covered specific Snowy 2.0 matters or milestones.

Reporting structure

2.10 Snowy Hydro Limited has established specific governance arrangements for the Snowy 2.0 project. Figure 2.1 provides an overview of the Snowy 2.0 governance framework. The roles and responsibilities of all relevant committees are articulated in their respective charters. This includes appropriate reporting arrangements.²⁶

Figure 2.1: Snowy 2.0 project governance framework



Note a: The Snowy 2.0 Funding Committee has been inactive since the execution of the funding strategy.

Note b: The Snowy 2.0 Project Team is also referred to as the Owner's Team.

Source: ANAO presentation of Snowy Hydro Limited documentation.

Key decision points and assurance over assumptions

2.11 The Board established several key decision points for approval to progress with Snowy 2.0. The key decision points were the feasibility study, the final investment decision, and the notice to proceed. These decision points are discussed below. Appendix 3 provides an overview of all project milestones.

Feasibility study

2.12 In March 2017, Snowy Hydro Limited announced the proposed Snowy 2.0 project would commence with a feasibility study.²⁷ The purpose of the feasibility study was to determine whether Snowy 2.0 was technically feasible. The feasibility study also:

- provided a project cost estimate and timeframes;
- sought to establish a business case to support investment in Snowy 2.0²⁸;

²⁶ See Appendix 2 for improvements made to reporting arrangements during the audit.

²⁷ Snowy Hydro Limited engaged the services of several external advisors to support the development of the feasibility study.

²⁸ The business case for investment considered factors such as the relevance of Snowy 2.0 to, and projected changes within, the National Electricity Market (NEM).

- included an investment case, cost estimate and commercial and business analysis modelling; and
- outlined a range of further work required prior to the final investment decision.

2.13 The feasibility study was approved by the Board in December 2017.

Final investment decision

2.14 Following approval of the feasibility study, Snowy Hydro Limited commenced the final investment decision process (FID process). This included consideration of the final Snowy 2.0 business case.

2.15 The business case considered several scenarios, including a comparison of 'build' and 'do not build' scenarios, various outcomes relating to the Integrated System Plan, a downside case scenario, and other National Energy Market scenarios as modelled by an external provider.²⁹ The business case was approved by the Board on 21 November 2018.

2.16 The FID process also involved due diligence and preparatory work such as detailed assessment of project elements including health and safety, the business case and funding strategy, procurement and contracting, probity, technical design, environmental approvals, and risk management. Snowy Hydro Limited sourced opinions from external advisors to support these detailed assessments.³⁰

2.17 The FID process included re-examination of key assumptions set out in the feasibility study, including financing and cost modelling. These assumptions were set out in the funding strategy. The funding strategy provided analysis on financing Snowy 2.0 and the project's impact on Snowy Hydro Limited's credit rating.

Financing

2.18 The funding strategy sets out funding requirements against four capital expenditure scenarios³¹: a \$5.4 billion 'low case'; a \$5.9 billion 'base case'; a \$6.4 billion 'high case'; and a \$6.9 billion 'worst case'.

2.19 The final investment decision documentation also included correspondence from eight potential future financiers indicating their interest in providing debt facilities to Snowy Hydro Limited for the construction of Snowy 2.0. These financiers were provided with public and confidential information about Snowy 2.0 and engaged with both Snowy Hydro Limited and its financial adviser to develop a detailed understanding of the project.

2.20 Snowy Hydro Limited formed the view that collectively the correspondence indicated that the company would be able to secure more credit capacity than required.

29 Marsden, Jacob and Associates, *Modelling Snowy 2.0 in the NEM – Public Report*, 3 December 2018 [Internet], available from <https://www.snowyhydro.com.au/wp-content/uploads/2020/04/MJA-NEM-Study-Public-Report-3Dec2018.pdf> [accessed 22 March 2022].

30 Supporting opinions related to: the funding strategy; National Energy Market modelling; contractual and legal considerations; probity planning approval process and conditions; engineering design and geotechnical baselines; geotechnical investigations; risk management; insurance; cost and schedule estimation; and tender designs submitted by prospective contractors.

31 These scenarios included construction-related costs, non-construction related costs, cost escalation, client-retained risk costs and contingency.

Credit rating

2.21 The funding strategy further considered six commercial scenarios for their impact on Snowy Hydro Limited's credit rating, including assessment by S&P Global.³² These six scenarios were:

- 'base case' — a 'defensible and commercially robust base case for the consolidated Snowy hydro business including the funding of Snowy 2.0';
- 'National Electricity Market downside case' — a scenario that considers the implied value of capacity in the National Electricity Market being 15 per cent lower than base case and an average decrease of 25 per cent in the buy/sell net revenue for the duration of the modelled period³³;
- 'hydrology dry case' — a scenario that considers both immediate and long-lasting effects of less water inflows to the Snowy Mountains Hydro-electric Scheme resulting in a material reduction in Snowy Hydro Limited's access to water for hydro-electricity generation;
- 'capex downside case' — a scenario that considers a total capital expenditure that exceeds the base case by \$1.0 billion with no extension of the project delivery schedule;
- 'composite downside case' — a scenario that considers negative events in both Snowy Hydro Limited's existing business operations and the financing of Snowy 2.0; and
- "'Black swan'³⁴ downside case' — this scenario takes the composite downside case and adds the hydrology dry case.

2.22 Snowy Hydro Limited considers that a rating of BBB– or above is essential to continue operations. However, Snowy Hydro Limited prefers a BBB+ rating. The funding strategy outlined that Snowy Hydro Limited has maintained the same BBB+ credit rating since the company became an entity under the *Corporations Act 2001* in July 2002.

2.23 The funding strategy stated that 'under all of the scenarios S&P [Global] believes that Snowy Hydro will be able to maintain its satisfactory business risk profile.' Against all six scenarios, the credit rating organisation provided an indicative rating of BBB– or above.

2.24 Further, the strategy stated that the credit rating organisation 'concluded that Snowy Hydro is expected to maintain its investment grade credit rating under the base case as well as all of the downside scenarios.' On 30 June 2021, Snowy Hydro Limited retained its BBB+ rating.

Final investment decision approvals

2.25 On 12 December 2018, the Board reached a final investment decision and approved Snowy Hydro Limited to proceed with Snowy 2.0. Following Board approval and consistent with the requirements of Snowy Hydro Limited's constitution, a recommendation was presented to the shareholder ministers to approve the final investment decision. Shareholder approval was provided in February 2019.

2.26 The final investment decision approval provided for Snowy 2.0 to proceed in three stages:

32 For information on the credit rating process see S&P Global Ratings, *Intro to credit ratings* [Internet] available from <https://www.spglobal.com/ratings/en/about/intro-to-credit-ratings> [accessed 7 March 2022].

33 Electricity generators sell electricity and retailers buy electricity in the National Electricity Market.

34 A 'black swan' scenario is considered low probability however will have a high impact.

- early access road works involving upgrades to access roads to main access tunnel construction location;
- early works including exploratory works³⁵, design development and procurement of long lead time items; and
- all other works on the project, known as main works.³⁶

Notice to proceed

2.27 The final phase of the decision-making process was to issue the notice to proceed under the engineer, procure and construct (EPC) contract with the selected contractors.³⁷ The notice to proceed decision included reconsideration of the business case including finalising financing arrangements, as well as key risks and proposed treatments.

2.28 The Board approved the notice to proceed on 16 July 2020.³⁸ Shareholder approval was provided in August 2020.

2.29 Snowy Hydro Limited continues to utilise the governance framework outlined in Figure 2.1 above for the ongoing management of the Snowy 2.0 project. Details of ongoing management are discussed throughout Chapters Three and Four.

Risk management

2.30 GBE boards are responsible for managing risks.³⁹ The Board Charter states that the Board is responsible for ‘oversight and review of the principal risks facing Snowy Hydro, including ensuring that appropriate standards of accountability, risk management and corporate governance are in place’.

2.31 Snowy Hydro Limited determined the addition of a large, complex infrastructure project to its operations required adjustments to its business-as-usual risk management approach. A third-party provider was engaged to develop a project specific risk management framework for Snowy 2.0.

Risk assessment at final investment decision

2.32 Over 120 individual risks relevant to Snowy 2.0 were identified as part of the FID process. Snowy Hydro Limited assessed these individual risks for materiality and grouped them into 12 risk categories. These became known as the top 12 risks.⁴⁰

2.33 As outlined in Appendix 4, the top 12 risks were assigned:

35 The exploratory works investigated the ground conditions at the proposed location for Snowy 2.0.

36 The main works involve the development of the underground power station and tunnels linking the existing Tantangara and Talbingo Reservoirs.

37 A notice to proceed is a formal notification from a company to a contractor approving the commencement of work.

38 A notice to proceed for exploratory works was also issued in 2019.

39 Snowy Hydro Limited, as a corporate Commonwealth entity, is not required to comply with the Commonwealth Risk Management Policy. At the feasibility study stage, Snowy Hydro Limited identified *AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines* as the standard the project’s risk management framework is based on. This was reaffirmed at final investment decision.

40 One risk relating to planning and approvals was subsequently presented as two individual components for the purposes of the final investment decision.

- an inherent risk rating at final investment decision. This was the risk level at final investment decision without using mitigations to reduce the impact or severity. The top 12 risks at the final investment decision were assigned an inherent risk rating of 'Extreme' or 'High';
- a current risk rating at final investment decision. This considered the mitigations in place at final investment decision; and
- a target risk rating. This is the risk rating if all identified mitigations are actioned.

Ongoing risk management

2.34 Snowy Hydro Limited maintains a consolidated Snowy 2.0 risk register which includes both the top 12 risks and all active individual risks. As at March 2022, there are 135 active individual risks. Snowy Hydro Limited monitors the consolidated risk register. The top 12 risks are reviewed and reported monthly to governance committees. The project team reviews the individual risks on a six-weekly cycle. Snowy Hydro Limited has retired three key risks where the risk is no longer considered relevant (see Appendix 4).

2.35 Snowy Hydro Limited also reports on key risks to shareholder departments (see paragraphs 4.26 to 4.32).

Shared and transferred risk

2.36 Shared risk refers to risks that arise from objectives shared between multiple entities.⁴¹ Risk transfer is a risk management strategy that involves shifting of a risk from one party to another by using contractual arrangements to reach an agreement, such as the purchase of insurance policies and indemnities.⁴²

2.37 Snowy Hydro Limited assessed the top 12 risks to determine whether they were able to be shared with or transferred to the contractor, as well as the extent to which these risks were to be shared or transferred. Appendix 4 outlines the target extent of risk transfer and the key mechanisms adopted to facilitate this transfer.

2.38 Snowy Hydro Limited utilised the EPC contract as the key mechanism for formalising risk allocation and transfer arrangements. The EPC contract's risk allocation and transfer mechanisms are discussed further in paragraphs 3.25 to 3.30.

Have appropriate procurement and contract management frameworks been implemented?

Snowy Hydro Limited implemented appropriate procurement policies and procedures for Snowy 2.0. Snowy Hydro Limited supplemented its pre-existing procurement framework with a specific framework for the EPC procurement. These frameworks were supplemented by probity management mechanisms.

41 Australian Government, Comcover, *Comcover fact sheet – Shared risk* [Internet] available from <https://www.finance.gov.au/sites/default/files/2020-11/comcover-information-sheet-managing-shared-risk.pdf> [accessed 22 March 2022].

42 International Risk Management Institute, *Contractual risk transfer* [Internet], available from <https://www.irmi.com/term/insurance-definitions/contractual-risk-transfer> [accessed 22 March 2022].

Snowy Hydro Limited has established an appropriate contract management framework for Snowy 2.0. The Snowy 2.0 contract management framework builds on Snowy Hydro Limited's pre-existing framework to align with the scale and complexity of the project.

Snowy Hydro Limited's quality of compliance reporting against the Snowy 2.0 Australian Industry Participation Plan was of an appropriate standard. Prior to March 2022, reporting against this plan did not meet the timeframes set under the *Australian Jobs Act 2013*.

2.39 The shareholder ministers' Statement of Expectations requires that Snowy Hydro Limited:

- ensures the Snowy 2.0 procurement processes are open, transparent, competitive and reflect value for money⁴³; and
- take all appropriate actions to ensure the project is delivered on-time and on-budget in accordance with agreed parameters.⁴⁴

2.40 The Australian Government Contract Management Guide indicates that good contract management arrangements support the management of risk and achievement of value for money and procurement objectives.⁴⁵ Snowy Hydro Limited recognises the importance of effective contract management in both its existing contract management framework⁴⁶ and the framework established specifically for Snowy 2.0 contracts.⁴⁷

Snowy 2.0 procurement and contract management frameworks

2.41 The procurement and contract management frameworks for Snowy 2.0 built on Snowy Hydro Limited's pre-existing frameworks. Snowy Hydro Limited's pre-existing procurement policies and procedures were used for Snowy 2.0 procurements except for the EPC contract related procurement.⁴⁸ A specific procurement approach was developed for the EPC contract. The implementation of this EPC procurement framework is discussed in paragraphs 3.33 to 3.42.

43 This requirement has been included in each of the three versions of the Statement of Expectations issued in 2018, 2019 and 2021.
Snowy Hydro Limited, *Statement of Expectations – 28 October 2021* [Internet], Snowy Hydro, available from <https://www.snowyhydro.com.au/wp-content/uploads/2021/11/Statement-of-Expectations.pdf> [accessed 22 March 2022].

44 *ibid.* This requirement first appears in the October 2021 version.

45 The Australian Government Contract Management Guide is part of the Australian Government's *Public Governance, Performance and Accountability Act 2013* Resource Management Framework. It 'provides practical process guidance to support effective contract management at a practitioner level for Commonwealth entities.' The guide has been applied in this audit as a reference point for good contract management practices.

Department of Finance, *Australian Government Contract Management Guide*, December 2020, p. 1.

46 Snowy Hydro Limited's existing contract management framework is part of the procurement framework described in paragraphs 2.41 to 2.46.

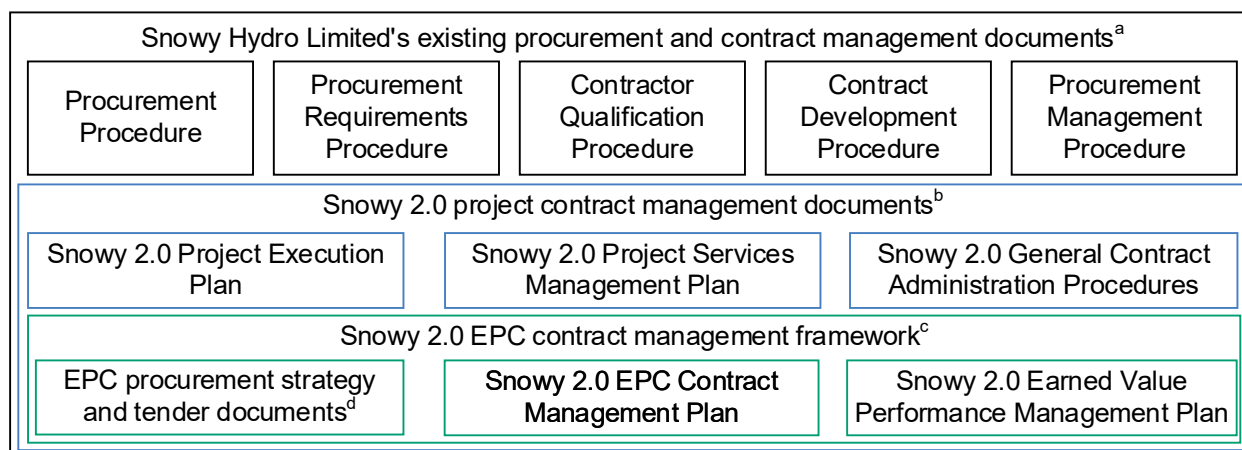
47 The Snowy 2.0 Feasibility Study states that Snowy Hydro Limited would 'establish a strong, capable and well-resourced project controls function to ensure price and schedule certainty'. The study stated project controls will include schedule management; financial management including cash flow, payments, indirect tax and other financial considerations; contract management including contract administration, change and claims management; cost management; and performance and progress reporting.

48 Other than a review of the procurement framework, analysis of non-EPC procurement activities was not part of this audit's scope. Procurements by Snowy 2.0 contractors, such as subcontracting by the lead EPC contractor are also not part of this audit's scope.

2.42 The Snowy 2.0 contract management approach builds on Snowy Hydro Limited's pre-existing framework. At the feasibility stage in 2017, Snowy Hydro Limited identified that its existing framework needed to be amended to appropriately manage contracts of the scope and complexity required. The final investment decision papers supporting the Board's December 2018 decision described the development and implementation of these amendments. This included developing Snowy 2.0 specific contract management policies, processes and systems.

2.43 Figure 2.2 provides an overview of key policy and procedural documents that make up the Snowy 2.0 procurement and contract management frameworks.

Figure 2.2: Key procurement and contract management framework documents



Note: Not all procurement and contract management framework documents reviewed during the audit are shown in this figure.

Note a: These are Snowy Hydro Limited's standard procurement and contract management framework documents. These existed prior to the Snowy 2.0 project.

Note b: These Snowy 2.0 contract management framework documents are relevant to all Snowy 2.0 contracts. These were developed in recognition of the additional risk and complexity of the Snowy 2.0 contract management compared to business-as-usual contract management at Snowy Hydro Limited.

Note c: The scale, risk and complexity of the Snowy 2.0 EPC contract compared to other Snowy 2.0 contracts requires additional EPC contract specific management plans.

Note d: These documents provided the framework for the procurement activities described in paragraphs 3.31 to 3.42.

Source: ANAO presentation of Snowy Hydro Limited documents.

2.44 Snowy Hydro Limited's procurement framework includes guidance related to achieving value for money, encouraging competition, ethics and probity, and effective contract management. This framework was in place at the commencement of the Snowy 2.0 project feasibility work in 2017.

2.45 Snowy Hydro Limited's 'Procurement Procedure' document sets out four procurement goals that are aligned with the CPRs.

- Acquire goods, equipment, services and/or works from external suppliers that meet the quality requirements of Snowy Hydro Limited.
- Achieve Snowy Hydro Limited's commercial outcomes.
- Undertake procurement within acceptable risk limits, including commercial risk to Snowy Hydro Limited's business, technical risk to plant and equipment, and risk of harm to employees, contractors or the environment.

- Undertake procurement with the most efficient use of time and resources.

2.46 Snowy Hydro Limited classifies its procurement activities for Snowy 2.0 into four categories (Table 2.1).⁴⁹

Table 2.1: Snowy 2.0 procurement categories

Snowy Hydro Limited category	Snowy Hydro Limited description	Proportion by count ^a	Proportion by value ^a
Competitive source	Multiple parties are involved in the procurement process.	7.4%	96.6%
Connections, licenses and agencies	Agreements with organisations such as government agencies, transport or electrical authorities.	3.1%	1.4%
Assignment under existing framework	Sourced through supplier panels with pre-negotiated rates and conditions.	60.6%	1.3%
Direct source	Agreements where a multi-party process was not undertaken, and the other categories do not apply.	28.9%	0.7%

Note a: Percentages calculated on a May 2022 data set.

Source: ANAO analysis of Snowy Hydro Limited data.

2.47 Snowy Hydro Limited's contract management framework covers the key elements of contract management as set out in the Australian Government Contract Management Guide. This includes mechanisms for contract governance, performance management, supplier relationship management, and contract administration. The implementation of EPC contract management activities under this framework is examined in paragraphs 3.33 to 3.67 and 4.4 to 4.13.

2.48 Snowy Hydro Limited's Snowy 2.0 contract register documents 323 contracts related to Snowy 2.0 (Table 2.2). The EPC contract described in paragraphs 1.14 to 1.17 is around 90 per cent of Snowy Hydro Limited's Snowy 2.0-related contract value and spend.

Table 2.2: Snowy 2.0 project contracts

Committed Value	Number of contracts	Total value committed (%)	Total spend to March 2022 (%)
Over \$100 million	1 ^a	92.3%	90.0%
\$20 million > \$99.9 million	7	5.2%	6.2%
\$1 million > \$19.9 million	27	1.7%	2.2%
\$100,000 > \$999,999	119	0.7%	1.0%
Up to \$99,999	169	0.1%	0.6%
Totals	323	100.0%	100.0%

Note a: This is the Snowy 2.0 EPC contract.

Source: ANAO analysis of Snowy Hydro Limited data set from May 2022.

49 Snowy Hydro Limited, *Statement of Expectations – 28 October 2021* [Internet], Snowy Hydro, available from <https://www.snowyhydro.com.au/wp-content/uploads/2021/11/Statement-of-Expectations.pdf> [accessed 22 March 2022].

Probity management

2.49 Those responsible for the governance of Commonwealth entities must promote the ethical management of public resources and establish and maintain appropriate systems relating to risk management and oversight and internal controls.⁵⁰ This includes policies and procedures regarding the management of conflicts of interest. Such policies and procedures should apply to all contractors, consultants and advisory bodies employed by, or associated with, the entity.⁵¹ Each Statement of Expectations issued by the shareholders confirms the need for these types of arrangements to be established for Snowy 2.0 procurement.⁵²

2.50 In relation to probity management for Snowy 2.0, Snowy Hydro Limited has implemented the following mechanisms.

- A Board-approved code of conduct policy. The code of conduct policy establishes that employees are accountable for declaring all actual, perceived or potential conflicts of interest and must declare any conflict of interest as soon as it arises.
- A procedure for declaring gifts and conflicts of interest. This procedure directs employees to disclose conflicts of interest in writing to their senior manager immediately upon their becoming aware of the actual or potential conflict of interest.
- Adopted the existing code of conduct policy and declaring gifts and conflicts of interest procedure for Snowy 2.0, supplemented by a Project Charter, which describes the required standards of behaviour relevant to the project.
- A conflict of interest register. This register includes declarations and evidence of oversight of potential conflicts related to the Snowy 2.0 project.

2.51 Nothing came to the ANAO's attention that the probity management mechanisms do not provide a sufficient basis to manage conflicts of interest.

Probity management in Snowy 2.0's engineer, procure and construct procurement

2.52 Snowy Hydro Limited identified the EPC procurement process as a high probity related risk for Snowy 2.0. To manage this risk, Snowy Hydro Limited required all personnel involved in the Snowy 2.0 tender assessment to confirm that they had read the relevant policies and did not have any conflicts with the policies or the listed contractors.⁵³ This was in addition to the established Snowy Hydro Limited procedure for declaring gifts and conflicts of interest which requires employees to declare actual or potential conflicts as they arise.

2.53 Snowy Hydro Limited engaged an external provider to undertake a review of probity management arrangements for the EPC procurement processes. This review did not identify any

50 Department of Finance, *Resource Management Guide 200 – Duties of Accountable Authorities* [Internet], 1 April 2021, available from <https://www.finance.gov.au/government/managing-commonwealth-resources/managing-risk-internal-accountability/duties/duties/duties-accountable-authorities-rmg-200> [accessed 22 March 2022].

51 Australian National Audit Office, *Audit Insights – Management of conflicts of interest in procurement activity and grants programs* [Internet], 29 June 2020, available from <https://www.anao.gov.au/work/audit-insights/management-of-conflicts-of-interest-in-procurement-activity-and-grants-programs> [accessed 22 March 2022].

52 Each of the three versions of the Statement of Expectations issued in 2018, 2019 and 2021 contain the statement 'SHL will ensure its procurement processes are open, transparent, competitive and reflect value for money'.

53 This included external advisors involved in the tender assessment process.

material probity risks which have not been identified, assessed and or mitigated by Snowy Hydro. A report documenting this probity review was included with the final investment decision material presented to the Board in December 2018.

Australian Industry Participation Plan

2.54 The *Australian Jobs Act 2013* requires proponents of major projects to submit an Australian Industry Participation Plan (AIP Plan) and submit AIP Plan compliance reports to the Australian Industry Participation Authority (AIP Authority).⁵⁴ Major projects are defined as projects with capital expenditure likely to exceed \$500 million.

2.55 Snowy Hydro Limited was largely compliant with the *Australian Jobs Act 2013*. Reporting to the AIP Authority was non-compliant with the required timeframes though the ANAO noted an improving trend in submission timeframes (Table 2.3).⁵⁵ The most recent report for the 24 June 2021 to 23 December 2021 period was submitted on time.

Table 2.3: Snowy Hydro Limited compliance with AIP Plan reporting timeframes

Period	Report due	Date of report	Overdue?
24 June 2019 – 23 December 2019	24 March 2020	27 November 2020	Yes: over 8 months
24 December 2019 – 23 June 2020	24 September 2020	12 March 2021	Yes: over 5 months
24 June 2020 – 23 December 2020	24 March 2021	27 May 2021	Yes: over 2 months
24 December 2020 – 23 June 2021	24 September 2021	14 October 2021	Yes: under 1 month
24 June 2021 – 23 December 2021	24 March 2022	24 March 2022	No

Source: ANAO analysis of AIP Plan reports against AIP Plan approval letter requirements.

2.56 Snowy Hydro Limited advised the ANAO that initially the principal EPC contractor required time to establish the monitoring and reporting framework necessary to meet reporting requirements. Snowy Hydro Limited withheld an amount of interim payment to the main EPC contractor in October 2020 as questions received from the AIP Authority required a response. Snowy Hydro Limited subsequently reported an improved level of engagement from the contractor, and the withheld payment was released.

2.57 Snowy Hydro Limited should continue to focus on the timeliness of compliance reporting to the AIP Authority. This will support ongoing transparency of its activities to provide opportunities for Australian industry to compete for work.

54 The AIP Authority is a statutory position established by the *Australian Jobs Act 2013*. The AIP Authority's role is to administer AIP plans, monitor compliance and report on AIP plan implementation. Refer to *Australian Jobs Act 2013*, including section 3, for legislative requirements for project proponents.

55 *Australian Jobs Act 2013* subsections 25(2) and (6).

3. Contract management

Areas examined

This chapter examines whether there are appropriate arrangements to manage the Snowy 2.0 engineer, procure and construct (EPC) contract.

Conclusion

Snowy Hydro Limited has established appropriate arrangements to manage the Snowy 2.0 EPC contract. The contract management arrangements have provided Snowy Hydro Limited with a sound basis for managing the performance of the contractor. Snowy Hydro Limited should continue to implement these contract management arrangements over the life of the project.

3.1 Contract management refers to the activities undertaken to manage the performance of a contract including achieving agreed outcomes and meeting key deadlines. Effective contract management requires development of a contract that supports the achievement of intended outcomes, selection of the most appropriate contractor, and ongoing monitoring of performance.

3.2 To assess whether Snowy Hydro Limited has appropriate arrangements to manage the Snowy 2.0 EPC contract⁵⁶, the ANAO examined whether:

- development of the EPC contract supported Snowy 2.0 outcomes;
- contract negotiation and execution demonstrated value for money; and
- Snowy Hydro Limited effectively monitors the contractor's performance.

Did the development of the EPC contract support Snowy 2.0 outcomes?

Snowy Hydro Limited developed and executed an EPC contract that was designed to support Snowy 2.0 outcomes. This was achieved by assessing a range of contracting options to identify an approach best suited to successfully delivering the project and incorporating project deliverables and risk allocation into the contract.

3.3 Snowy 2.0 was developed as a commercial business opportunity for Snowy Hydro Limited. The shareholder expects Snowy 2.0 to support the delivery of reliable, secure and affordable energy in Australia.⁵⁷ Contract arrangements for Snowy 2.0 need to deliver against quality, cost and time requirements to realise outcomes that will generate commercial value and meet shareholder expectations.

Assessment of contracting approaches

3.4 Snowy Hydro Limited articulated the following position as part of developing its Snowy 2.0 contracting strategy in 2017.

⁵⁶ This audit does not assess the contract management arrangements for any other contract related to Snowy 2.0.

⁵⁷ Snowy Hydro Limited, *Statement of Expectations – 28 October 2021* [Internet], Snowy Hydro, available from <https://www.snowyhydro.com.au/wp-content/uploads/2021/11/Statement-of-Expectations.pdf> [accessed 22 March 2022].

- Snowy Hydro Limited is the owner of the project, and ultimately responsible for its success or failure. This accountability cannot be delegated.
- Snowy Hydro Limited does not have the internal resources or capability to execute Snowy 2.0 without external contractors.
- Snowy Hydro Limited does not have the necessary systems in-house to control a project of this scale and complexity. It must either develop them or buy them in.
- Snowy Hydro Limited remains directly accountable for some aspects of the project, for example, stakeholder engagement, legal and regulatory, trading and portfolio considerations, though they may be supplemented with external expertise.

Selecting the primary contracting approach

3.5 Snowy Hydro Limited reviewed four potential contracting approaches during the feasibility stage in 2017.⁵⁸ Differences between the approaches included the contracting method to be used, the number of main contracts, and whether Snowy Hydro Limited would engage a contract management consultant or develop in-house contract management capability.

3.6 The preferred contracting approach identified was to:

- use the International Federation of Consulting Engineers' (FIDIC) 'Conditions of Contract for EPC/Turnkey Projects' contracting method to deliver Snowy 2.0 to Snowy Hydro Limited specified requirements as a turnkey solution for a contracted price⁵⁹;
- engage a single principal EPC contractor; and
- develop capability in Snowy Hydro Limited to manage the EPC contract.

3.7 This approach was the preferred option based on the risk management benefits and a contracted fixed price. The 2017 review concluded the EPC contract was the most advantageous in five of the eight assessment categories. These five categories were overhead costs, exposure to cost overruns, market attractiveness, exposure to execution and coordination risk, and exposure to technical integrity risk. The development of an 'Owner's Team'⁶⁰ would also separate the Snowy 2.0 project from Snowy Hydro Limited's existing operations.

3.8 The use of a single EPC contract managed by a Snowy Hydro Limited project team was endorsed by the Snowy Hydro Limited Board of Directors (the Board) at both the feasibility study approval in December 2017 and final investment decision in December 2018.

58 A summary of this review and consideration is publicly available in the Snowy 2.0 Feasibility Study. See Snowy Hydro Limited, *Snowy 2.0 Feasibility Study*, 2017, Chapter 11 — Project Execution and Planning, [Internet], available from <https://www.snowyhydro.com.au/snowy-20/documents/feasibility-study-chapters/> [accessed 22 March 2022].

59 A turnkey solution is built, supplied, or installed and ready to operate. Under the International Federation of Consulting Engineers' (FIDIC) 'Conditions of Contract for EPC/Turnkey Projects' approach this means the contractor is given the job to engineer, procure and construct the required works. Once ready for operation the contractor hands over the 'keys' to the owner so that it may operate the facility.

60 See Figure 2.1 above.

Project and contract deliverables

3.9 The aim of contract management is to ensure that all parties meet their obligations to deliver the objectives of the contract.⁶¹ A contract requires clearly documented deliverables if the contracting organisation is to achieve its outcomes. Clearly documented deliverables will include information about quality, cost and schedule. The Snowy 2.0 EPC contract incorporates clear deliverables in the recitals section at the highest level of the contract (see extract in the box below).

Extract from the Snowy 2.0 EPC contract's Formal Instrument of Agreement

Recitals:

- (a) The Employer [Snowy Hydro Limited] is developing the Project.
- (b) The Employer requires the Contractor to carry out the engineering, design, procurement, supply, construction, testing, commissioning and delivery actions for the Project, including intake structures, tunnels, caverns, shafts, access roads and camps as well as all plant and related structures, in accordance with the Programme and other provisions set out in the Contract.
- (c) The Contractor represents that it has the requisite expertise, professional skills, engineering, procurement, construction, commissioning and testing capabilities and all necessary resources to execute the whole of the Works in accordance with the Programme and other provisions set out in the Contract.
- (d) The Employer agrees to engage the Contractor to execute the Works in accordance with the Contract, and the Contractor accepts the engagement.

Source: EPC/Turnkey Contract for the execution of the Snowy 2.0 Pumped Hydro Electric Scheme Capacity Upgrade Project, executed 5 April 2019, Recitals section, page (i).

3.10 The statements outlined in Box 1 are supported by Clause 4.1 of the Snowy 2.0 EPC contract, which places general obligations on the contractor. In summary, these obligations require the contractor to deliver the project in accordance with the time, budget and specific design requirements established elsewhere in the contractual documentation. Table 3.1 outlines the key elements of the Snowy 2.0 EPC contract and how they define contract deliverables.

Table 3.1: Key Snowy 2.0 EPC contract elements

Contract element ^a	Summary
The Formal Instrument of Agreement	The overarching instrument which sets out all of the documents that comprise the contract as well as some high-level terms between the parties. The agreement is made up of 40 'Clauses' over 252 pages. 38 'Schedules' and eight 'Exhibits' are attached.
Contract Data set out at Schedule 1	Documents data on deliverables such as dates for completion of specific sections of work as well as the project overall, key payments, compensation and damages.

61 Department of Finance, *Australian Government Contract Management Guide*, 14 December 2020 version, page 6, [Internet] available from <https://www.finance.gov.au/government/procurement/contract-management-guide>, [accessed 22 March 2022].

Contract element ^a	Summary
Additional contract schedules – Geotechnical Baseline Report (GBR) Schedule, Daywork Schedule, Schedule of Payments and Schedule of Performance Guarantees	<p>The GBR schedule presents a baseline of anticipated subsurface conditions. This baseline sets the costs. Actual geotechnical conditions encountered are compared to the baseline and costs paid under the contract are adjusted to match the encountered conditions.</p> <p>The Day Work Schedule specifies the rates to be paid for various trades, activities and machinery. These rates are used to make claims under the Schedule of Payments.</p> <p>The Schedule of Payments sets out the total amount that can be claimed for payment items, and along with Rules of Credit define how these costs can be claimed.</p> <p>The Schedule of Performance Guarantees outlines general performance requirements as well as several specific performance measures determined to be critical. It also specifies the damages payable to Snowy Hydro Limited if these performance requirements are not met.</p>
Conditions of Contract and the Schedules other than those mentioned in the line above	These schedules include a range of information on contract deliverables, such as the contractor's Basis of Programme (Schedule 3) explaining how it will deliver the contracted works.
Employer's Requirements	<p>The document that 'describes the purpose(s) for which the Works are intended and specifies the scope, design and/or other performance, technical and evaluation criteria for the Works.'</p> <p>The Employers Requirements at Exhibit B of the Snowy 2.0 EPC contracts is made up of 59 documents over 1496 pages.</p>
Exhibits (other than the Employer's Requirements)	These exhibits include environmental and planning approvals, transmission connection related material and technical plans and drawings.

Note a: Presented in the contractual order of priority under the Formal Instrument of Agreement's Clause 1.5.

Source: ANAO review of Snowy 2.0 EPC contract documents.

Quality — EPC contract employer's requirements

3.11 Detailed requirements for the construction of Snowy 2.0 are outlined in the Employer's Requirements. The Employer's Requirements details the scope of work, including quality and technical specifications and Snowy Hydro Limited's expectations of the contractors for the project including commissioning⁶² and handover.

3.12 Snowy Hydro Limited commenced development of the Employer's Requirements during the feasibility study where key technical and operational requirements of Snowy 2.0 were outlined.

3.13 The Employer's Requirements were used to inform the procurement and contract negotiation process and were also refined as part of this process. This iterative approach was intended to ensure the Employer's Requirements were appropriately balanced.

3.14 The Employer's Requirements are included at Exhibit B of the EPC Contract.

⁶² Commissioning is defined as the transitional phase between construction completion and commercial operations.

Cost — EPC contract payment schedule

3.15 Snowy Hydro Limited controls the costs of the EPC contract through Clause 14 Contract Price and Payment and Schedule 10 Schedule of Payments. Clause 14 (b) states:

The Contractor acknowledges and agrees that, subject to the terms of the Contract, the Contract Price is:

- (i) a fixed and firm price that includes the Contractor's profit and overhead and all costs and expenses that the Contractor may incur in executing the Works and performing the Contractor's Activities and any of its other obligations under the Contract; and
- (ii) not subject to any adjustment, escalation or rise and fall, other than adjustments, additions and/or deductions in accordance with the Contract.

3.16 Schedule 10 of the EPC contract sets the payment items the EPC contractor can claim. The payment schedule has 319 payment items across 17 categories. These categories relate to:

- early works;
- main works;
- electrical and mechanical works;
- incentives and risk sharing; and
- escalation.

3.17 Each payment item includes identification of the work to be completed, a rule of credit describing the circumstances for payments to be released, and the total amount that can be claimed for that payment item.

3.18 Each payment item is linked to one of 14 rules of credit. The rules of credit reflect different circumstances that are required to be met for Snowy Hydro Limited to release payments for items.⁶³ Circumstances include when:

- design work is completed, materials have been purchased, or construction activities have been completed; or
- certain events have occurred, such as tunnel conditions that are different to the geotechnical baseline or situations triggering incentive or risk sharing payments.

3.19 The rules of credit recognise that some contracted costs may be variable within the amounts set in the payment schedule. For example, the rules of credit associated with the supply of materials⁶⁴ are that payments are made based on the amount of material used. Therefore, if less material is used than was estimated in the EPC contract, the amount paid will be less than the amount in the EPC payment schedule.

Development of EPC payment schedule

3.20 The EPC contract's costings and payment schedule were developed and refined through the feasibility and tendering processes. Snowy Hydro Limited commenced the cost estimate with its third-party engineering and costing advisors during the feasibility study stage. The costing and payment schedules were part of the competitive tender process. Snowy Hydro Limited's third-party

⁶³ See paragraphs 3.50 to 3.54 for further analysis of the payment process.

⁶⁴ An example is the materials for road construction and maintenance.

engineering and costing advisors continued to provide advice on the costing elements of bids during the tender assessment and approval.

3.21 The Board was provided advice on EPC contracting costing at its approvals of the feasibility study, final investment decision, and notice to proceed with main works decision.

Timeframes — EPC contract scheduling of works

3.22 The EPC contract includes clauses related to the scheduling of works, including Clause 8 Commencement Delays and Suspension and Clause 10 Employer's Taking Over. These clauses require the contractor to deliver the contracted works in line with timeframes set out in the contract schedules.

3.23 EPC contract Schedule 1 Contract Data sets key delivery dates for the taking over⁶⁵ of each section of work to Snowy Hydro Limited (Table 3.2). The contracted date for handover of the whole of the works is in fourth quarter of 2026–27.

Table 3.2: Period for completion of each section of work under the EPC contract

Section of work	Contracted period for completion ^a	Approved variation ^b
Cable yard and gas insulated switchyard	Q2 2024–25	Q4 2024–25
Intake structures and power waterway	Q2 2024–25	Q1 2025–26
Progressive commissioning of generators units 1 to 6	Q1 2025–26 to Q4 2025–26	Q2 2025–26 to Q2 2026–27
Power station	Q4 2025–26	Q2 2026–27
Whole of works	Q2 2026–27	Q4 2026–27

Note a: These periods reflect the dates in the executed EPC contract's programme from April 2019.

Note b: These periods reflect the varied approved completion dates as of February 2022. See paragraphs 3.55 to 3.60. Approved variations were less than six months.

Source: Snowy Hydro Limited documents.

3.24 The EPC contractor's detailed 217-page Basis of Programme document is included in the EPC contract as Schedule 3. This document lists milestones and expected completion dates for the detailed construction path leading to the delivery of the specified sections above. This programme is also used to support the management of the contractor's performance and monitoring of the progress of Snowy 2.0 overall.⁶⁶

Risk allocation and transfer

3.25 The Snowy 2.0 contract includes risk allocation and transfer mechanisms. The contractual arrangements requiring the contractor to deliver the contracted work to specified quality, cost and timeframes is a risk transfer mechanism. Allocation and transfer of risk is supported by the adoption

65 EPC contract clause 10 — Snowy Hydro Limited's taking over of the works, or section of the works, from the contractor occurs when:

- the relevant works are completed in accordance with the contract; and
- a Taking-over Certificate issued in accordance with the contract.

66 See paragraphs 3.43 to 3.67 for further analysis on monitoring EPC contractor performance and paragraphs 4.3 to 4.13 for the monitoring and reporting on the progress of Snowy 2.0 overall.

of a geotechnical baseline report (GBR) and schedule, and warranties and performance guarantees established in the EPC contract.

Geotechnical baseline report and schedule

3.26 Snowy Hydro Limited identified uncertainty of ground conditions and groundwater as one of the top 12 risks (see paragraphs 2.30 to 2.38 and Appendix 4). Snowy Hydro Limited and the contractor developed a GBR and associated payment schedule to provide a specific risk allocation mechanism between Snowy Hydro Limited and the contractor.⁶⁷

3.27 The use of the GBR is an example of risk allocation through contractual arrangements. Case study 1 provides an overview of the development of the GBR and its application in risk allocation.

Case study 1. Risk allocation through the geotechnical baseline report mechanism

During 2017 and 2018, geotechnical investigations established a baseline of expected geological conditions expected to be encountered during excavation of the tunnel system for Snowy 2.0. Investigations including drilling deep boreholes, surface mapping, laboratory and on-site testing.

The geotechnical baseline report (GBR) documented this baseline and was part of the tender material. The two civil tenderers were required to include expected tunnelling rates and costs based on the geological conditions set out in the GBR in their tenders. This allowed Snowy Hydro Limited to competitively assess the timing and costs of tunnelling through the expected geological conditions between the tenderers.

The GBR and its payment and timing schedule are incorporated in the EPC contract (see Table 3.1). This provides a risk allocation mechanism whereby Snowy Hydro Limited bears the risk related to the sub-surface conditions and the EPC contractor bears the risk of production rates and cost of excavation and support within the sub-surface conditions (see Appendix 4). Snowy Hydro Limited advised the Board that without the GBR the likely cost of the project would have increased significantly to allow the contractor to accept the risk associated with the variability of the geological conditions.

The EPC contract's GBR schedule documents 'classes' for expected ground conditions and associated tunnelling costs and times. This establishes agreed cost and time values for different underground conditions and a cost and time baseline for the planned tunnel route. If actual conditions vary to the expected conditions, the GBR ground condition classes establish pre-agreed variations to costs and time allowed under the contract. Actual geotechnical conditions encountered are compared to the baseline and costs paid and time allowed under the contract are increased or decreased to match the encountered conditions.

The GBR is operationalised into daily construction activities with regular data collection and assessment activities occurring against the GBR. This includes processes for both Snowy Hydro Limited and the contractor to agree on the assessments of actual ground conditions under the GBR. Any disagreement with the GBR assessment is addressed through the EPC contract dispute and arbitration clauses (see paragraphs 3.59 to 3.60).

⁶⁷ Geotechnics relates to the application of geological science in engineering.

The GBR forms part of the adjustable components of the overall contract price. The contractor submits a claim for works executed as part of the monthly claim process (see paragraphs 3.50 to 3.54).

Further reporting against the GBR occurs to the project governance committees including the Snowy 2.0 Committee, the Snowy 2.0 Executive Governance Committee and the Board (see paragraph 2.10).

Warranties and performance security

3.28 Snowy Hydro Limited's transfer of risk through the EPC contract is supported by warranties through testing and defect provisions and the requirement for the contractor to maintain performance security.

3.29 The EPC contract's testing and defect provisions allow Snowy Hydro Limited to confirm the works are delivered to the standards set in the Employer's Requirements and require actions to be taken if these standards are not met.

3.30 The performance security is a set of 'unconditional, irrevocable, fully enforceable unconditional insurance bonds payable on first demand'.⁶⁸ Ten different securities are required under the contract. This includes insurance bonds in relation to the performance of works and performance against several key functional specifications.

Did the contract negotiation and execution demonstrate value for money?

Snowy Hydro Limited's approach to negotiation and execution of the EPC contract demonstrated value for money. Snowy Hydro Limited assessed bids from potential tenderers against price and non-price factors and maintained competitive tension by involving more than one potential tenderer until the final decision.

3.31 The Commonwealth Procurement Rules contain a value for money principle.⁶⁹ Value for money includes both cost and non-cost factors. Competition is a key element of the Australian Government's procurement framework and helps deliver value for money. Each version of the Statement of Expectations issued by the shareholders required Snowy Hydro Limited to 'ensure its procurement processes are open, transparent, competitive and reflect value for money'.

68 Snowy 2.0 EPC Contract, Clause 4.2.1(d) and Schedule 1 — Contract Data, Part IV: Security Contract data. The specific values of the bonds are not presented for commercial sensitivity reasons.

69 Snowy Hydro Limited has not been prescribed as an entity subject to the Commonwealth Procurement Rules (CPRs) under section 105B of the PGPA Act and section 30 of the PGPA Rules. Snowy Hydro Limited designed its procurement process in accordance with the best practice and high standards of probity as described by the CPRs. However, the procurement approach was not designed to strictly comply with the CPRs. The ANAO has examined the procurement approach applied by Snowy Hydro Limited against the CPRs as a better practice standard.

Department of Finance, *Commonwealth Procurement Rules*, 14 December 2020 version, page 11, [Internet] available from <https://www.finance.gov.au/government/procurement/commonwealth-procurement-rules>, [accessed 22 March 2022].

3.32 The approach Snowy Hydro Limited adopted for contract negotiation and execution was integrated with the procurement approach outlined in paragraphs 2.41 to 2.45. This approach includes four procurement goals focused on achieving value for money.

Pre-tender submission

3.33 Snowy Hydro Limited's procurement and contract negotiations involved early and ongoing engagement with industry. This was supported by appropriate planning and timeframes. Table 3.3 provides an overview of Snowy Hydro Limited's EPC procurement activities prior to receiving tender submissions.

Table 3.3: Snowy 2.0 EPC procurement activities prior to tender submissions

Stage	Dates	Activities
Develop owner's capability	First half 2017	<ul style="list-style-type: none"> In-house engineering and project management team established. Specialist firms appointed as owner's engineer and schedulers. Capacity built to develop the material required to approach the market for the civil and electrical and mechanical work packages. This includes functional requirements, reference designs, cost and schedule estimates.
Expressions of Interest	June to July 2017	<ul style="list-style-type: none"> Industry briefing with 19 companies comprising 15 civil contractors and four electrical and mechanical suppliers. Expressions of interest (EOI) to progress to the tender stage were invited. 5 civil works and 4 electrical and mechanical works EOIs were received. EOIs assessed by Snowy Hydro Limited and owner's engineer, who recommended that 4 civil contractors and 4 electrical and mechanical contractors proceed. 1 potential civil contractor subsequently removed themselves from the process, meaning 3 civil contractors proceeded.
Early contractor consultation	July to December 2017	<ul style="list-style-type: none"> Potential tenderers provided feedback to support the feasibility study. This process was used to clarify project requirements and seek cost and time savings through design modifications.
Civil Request for qualifying bids	February to April 2018	<ul style="list-style-type: none"> Snowy 2.0 Governance Committee agreed to shortlist 2 civil contractors to progress to the civil tender phase in April 2018.
Electrical and mechanical Request for Information and Testing Phase	April to August 2018	<ul style="list-style-type: none"> All 4 electrical and mechanical tenderers built and tested models of their proposed hydro power generating units to inform Snowy Hydro Limited's design process and tender assessments. The outcome of these model tests was incorporated into the non-price evaluation of the electrical and mechanical works tender (see Table 3.4 below).

Source: ANAO presentation of information provided by Snowy Hydro Limited.

3.34 Snowy Hydro Limited's efforts to demonstrate value for money are evident in the pre-tender activities.

- Early contractor consultation provided an opportunity early in the process for Snowy Hydro Limited to develop its understanding of the project's requirements (quality), budget (costs) and schedule (time).
- An EOI process was used to shortlist potential tenders. This process assessed interested parties against delivery capability, capacity and contractor experience.
- During model tests of the proposed hydro power generating units, Snowy Hydro Limited assessed if electrical and mechanical tenders were of the required quality.

Tender issue and evaluation

3.35 The tender process for the EPC procurement occurred between May 2018 and January 2019. This involved issuing the civil works tender to two participants and the electrical and mechanical works tender to four participants in May 2018. Table 3.4 provides an overview of Snowy Hydro Limited's EPC procurement activities from the issue of tenders through to evaluation.

Table 3.4 : Snowy Hydro Limited's Snowy 2.0 EPC procurement activities — tender issue and evaluation

Stage	Dates	Activities
Establishment of Tender Evaluation Steering Committee (TESC) ^a	September 2018	<ul style="list-style-type: none"> • Responsibilities described in tender evaluation plan: decision making group to assess bids, provide direction on parameters for clarification and negotiation. • TESC responsible for setting up Specialist Evaluation Working Teams to evaluate tenders. These smaller teams, made up of 3–5 people each, were formed to evaluate price and non-price factors in greater detail and report back to the TESC. • Working teams reported to the TESC, which reported to the Snowy 2.0 Governance Committee weekly on progress.
Evaluation	October 2018 (electrical and mechanical) November 2018 to January 2019 (civil)	<ul style="list-style-type: none"> • Electrical and mechanical evaluation from October 2018, including initial assessment of bids resulting in a recommendation by the TESC that 2 tenderers be shortlisted. • Civil evaluation commenced November 2018. • Separate clarifications meetings held with 2 civil and 2 shortlisted electrical and mechanical tenderers.
Best and final offers	October 2018 (electrical and mechanical) December 2018 (civil)	<ul style="list-style-type: none"> • Invitation for best and final offers from 2 shortlisted electrical and mechanical tenderers in October 2018. • Clarification leading to civil best and final offers from both civil tenderers in December 2018. • Snowy Hydro Limited and third-party advisors completed a normalisation of best and final offers to inform final tender decisions.
Decision	November 2018 (electrical and mechanical); January 2019 (civil)	<ul style="list-style-type: none"> • Recommendation to the Board and decision on preferred electrical and mechanical tenderer on 7 November 2018. • Final evaluation of best and final offers and decision on preferred civil tenderer in January 2019.

Stage	Dates	Activities
Negotiations with successful tenderers	November 2018 to April 2019	<ul style="list-style-type: none"> Electrical and mechanical negotiations conducted in November and December 2018. Results provided to civil tenderer to inform EPC contract development to include the civil works and electrical and mechanical works packages in a single EPC contract. Contract negotiations with successful civil tenderer conducted from January to April 2019. On 5 April 2019, a single EPC contract was executed between Snowy Hydro Limited and successful tenderers.

Note a: The TESC comprised members of Snowy Hydro Limited's executive management and technical staff.

Source: ANAO presentation of information provided by Snowy Hydro Limited.

3.36 Snowy Hydro Limited assessed value for money during both tender evaluations. Prior to making a final decision for the civil EPC procurement, Snowy Hydro Limited compared the final bids and conducted a normalisation process. Snowy Hydro Limited also conducted a normalisation process for the electrical and mechanical procurement as part of the price evaluation.

3.37 The normalisation process was included in the tender evaluation plans and involved identifying and analysing the areas in which the bids were different. Where Snowy Hydro Limited determined that adjustments were required to allow for comparison of bids, cost or time was added or subtracted. This was informed by technical assessment of the bids and Snowy Hydro Limited worked with the owner's engineer and the main advisory firm to complete this process.⁷⁰

3.38 Factors considered by evaluators included the underlying assumptions of each bid, risk, and the practicality of designs. Where an element of a proposal was assessed as not fully delivering against the employer's requirements, additional cost or time was added to the proposal.

3.39 Quality was also considered during the evaluation of both tenders. The technical merit of both civil tenders was evaluated by the owner's engineer, and the first-placed tenderer achieved a higher score than the second-placed tenderer. The models developed by the electrical and mechanical tenderers were also tested and scored. The first-placed electrical and mechanical tenderer's model achieved the highest score.

3.40 Snowy Hydro Limited maintained competitive tension throughout the entire EPC procurement process by including more than one tenderer until the final decision point in both procurement processes. The second placed tenderers were retained as standby options during contract negotiations. In both procurements, the successful tenderer submitted a best and final offer that was lower than competing offers.

Contract execution

3.41 Following the evaluation process, Snowy Hydro Limited negotiated an EPC contract with the preferred civil and electrical and mechanical tenderers. This resulted in a single EPC contract

⁷⁰ The owner's engineer, SMEC Holdings Limited, provided ongoing technical advice to Snowy Hydro Limited from early in the project. The main advisory firm is Turner & Townsend, who developed the Snowy 2.0 project's budget and schedule.

incorporating the successful civil work package tenderer as the lead contractor and the successful electrical and mechanical work package tenderer as a named subcontractor.⁷¹

3.42 The Snowy 2.0 EPC contract was executed on 5 April 2019. This was followed by the notice to proceed with exploratory works in 2019 and main works in 2020.

Does Snowy Hydro Limited effectively monitor the contractor's performance?

Snowy Hydro Limited has established arrangements to effectively monitor the EPC contractor's performance against cost and schedule. This includes appropriately managing the EPC contract's monthly payment process. Contract management and control arrangements have been appropriately implemented. Snowy Hydro Limited also developed procedures to provide assurance over the contractor's activities in relation to workplace health and safety, quality and environmental management.

3.43 The importance of effectively monitoring contractor performance is recognised in both the Australian Government and Snowy Hydro Limited procurement and contract management frameworks.

3.44 The Snowy 2.0 feasibility study, documentation supporting the final investment decision and contract management framework documents identify that Snowy Hydro Limited needs to undertake the following activities to effectively monitor the EPC contractor's performance: schedule and cost management; contract administration; financial management⁷²; and performance and progress reporting.⁷³

Schedule and cost management

3.45 Snowy Hydro Limited's schedule and cost management activities for the Snowy 2.0 EPC contract are described in the Snowy 2.0 Earned Value Performance Management Plan.⁷⁴ This plan sets out 11 steps for managing the Snowy 2.0 project's schedule and costs. These steps and evidence of implementation are outlined in Table 3.5.

71 The lead contractor is Future Generation Joint Venture (FGJV). FGJV is a joint venture between three civil engineering entities – Salini Impregilo S.p.A. (now called Webuild S.p.A), Clough Projects Australia Pty Ltd and Lane Construction Corporation. Voith Hydro is a subcontractor to Future Generation Joint Venture, responsible for delivering the electrical and mechanical works.

72 Financial management includes activities such as cash flow, capitalisation of project expenditure, taxation and financial reporting. These activities were not specifically assessed in the audit as they are more linked to broader organisational processes and internal controls, rather than Snowy 2.0 project governance. Under section 98 of the PGPA Act, the Auditor-General has been responsible for auditing the financial statements of Snowy Hydro Limited and its subsidiaries since 2018–19. From 2019–20 the Auditor-General consented to act as the *Corporations Act 2001* auditor. Snowy Hydro Limited's annual reports include the Independent Auditor's Report on Snowy Hydro Limited's financial statements.

73 Performance and progress reporting is examined in paragraphs 4.4 to 4.13.

74 Earned value management is further examined in paragraphs 4.7 to 4.9.

Table 3.5: Snowy 2.0 Earned Value Performance Management Plan implementation

Step	Summary from Snowy 2.0 Earned Value Performance Management Plan	Evidence of implementation
1. Decompose the project	A work breakdown structure that records 'what' is being delivered by dividing Snowy Hydro Limited's Employer's Requirements into definable products or services.	The Employer's Requirements are described in paragraphs 3.11 to 3.14.
2. Assign responsibility	An organisational breakdown structure that records 'who' is responsible for delivering each product or service in the work breakdown structure.	To manage the work and organisational breakdown structures, Snowy Hydro Limited implemented costing and scheduling software designed for managing major construction projects.
3. Schedule the work	Schedule baselining, monitoring and reporting in a construction project schedule management information system to be used by both Snowy Hydro Limited and the contractors. The contractors are responsible for managing the schedule of their scope. Snowy Hydro Limited is responsible for tracking critical project milestones, assessing and validating contractors reported progress, and managing Snowy Hydro Limited's deliverables.	This scheduling supports the management of the contract schedule described in paragraphs 3.22 to 3.24.
4. Develop time-phased budget	Project budgets are to be assigned to a level of granularity that supports appropriate management.	Project budgeting activities support the management of the payment schedule described in paragraphs 3.15 to 3.21.
5. Assign objective measures of performance	The plan identifies methods for calculating progress. The plan states these measures are the Rules of Credit that are defined in contract.	The rules of credit are set in the EPC contract's schedule of payments described in paragraphs 3.15 to 3.21.
6. Set the performance measure baseline	Baselining the performance measures sets the reference point against which schedule and cost performance is measured and reported.	The EPC contract was baselined at notice to proceed decision in July 2020.
7. Authorise and perform the work	The plan states that for all work that is in scope, authorisation is required from the Project Director or their authorised delegate and that authorisation is required when budgeted work is committed, committed work is changed, budget reallocation is required, payment request are made, or performance deviates outside parameters.	The EPC contract management framework describes a range of process for authorising and approving works (see paragraphs 2.39 to 2.48).
8. Accumulate and report performance data	The plan outlines a range of performance reporting including earned value, cost and schedule metrics; monthly progress reporting from the contractor; and weekly, monthly and annual reporting from the Owner's Team to Project Director and Snowy Hydro Limited's management.	Performance reporting is described in paragraphs 4.4 to 4.13.

Step	Summary from Snowy 2.0 Earned Value Performance Management Plan	Evidence of implementation
9. Analyse project performance data	The plan outlines a range of performance analysis metrics and information that are to be assessed to monitor schedule and costs.	Performance reporting is described in paragraphs 4.4 to 4.13.
10. Take management action	Management action may be required in response to past or forecast cost or schedule variances. Potential actions identified in the plan include directions to accelerate or take remedial actions, authorise additional resources, changes in approach, scope change, directing work to be performed by others, or the relaxation of requirements, obligations or constraints.	See analysis of payments process at paragraphs 3.48 to 3.54 and variations at 3.55 to 3.60.
11. Maintain the baseline	Maintaining the baseline occurs by having change control processes to ensure that only approved changes are made to the baselined schedules and cost.	See analysis of variations at paragraphs 3.55 to 3.60.

Source: ANAO analysis of Snowy Hydro Limited documentation including the Snowy 2.0 Earned Value Performance Management Plan.

Contract administration

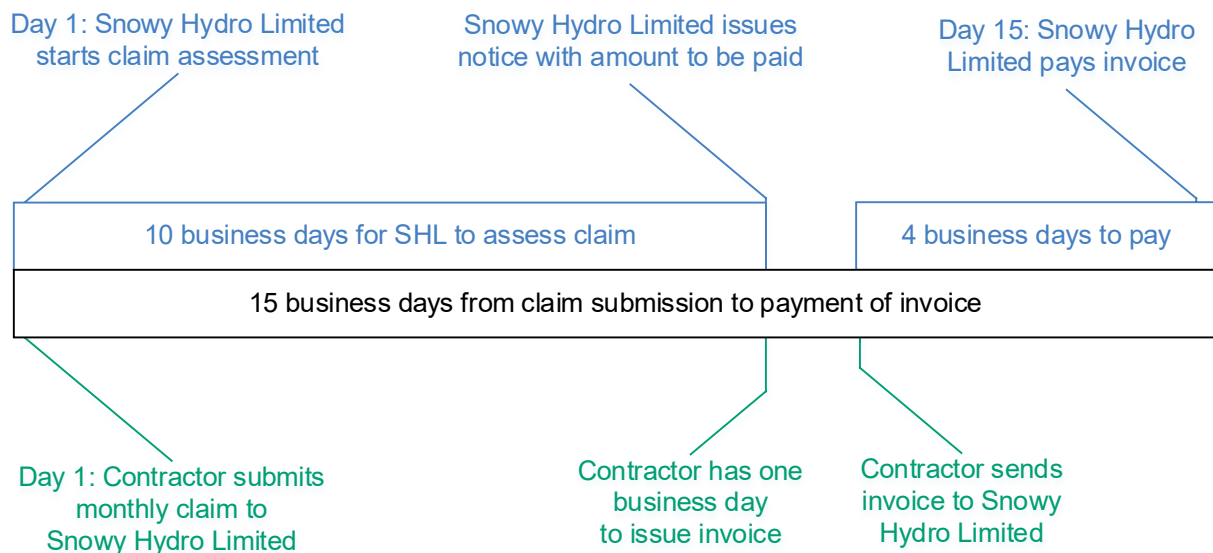
3.46 The Snowy 2.0 EPC Contract Management Plan and Snowy 2.0 General Contracts Administration Procedures describe how Snowy Hydro Limited undertakes Snowy 2.0 EPC contract administration activities.

3.47 Contract administration activities described in these documents include assessment and approval of payment claims; contract change control included variations, instructions and directions; communications with the contractor; delegations for contract management decisions; contractual risk management activities; and dispute management and resolution processes.

Monthly payment process

3.48 The monthly payment process is based on EPC contract Clause 14 — Price and Payment (Figure 3.1). The Snowy 2.0 EPC Contract Management Plan sets out the procedures and timing for this process.

Figure 3.1: Overview of monthly payment process



Source: ANAO figure based on Snowy Hydro Limited's documentation.

3.49 Snowy Hydro Limited's contract management framework sets a timeframe of 15 business days from the submission of the claim to the payment of the invoice. This process involves the following steps.

- (a) Once a month, the contractor submits a payment claim to Snowy Hydro Limited. This submission outlines the contractor's claimed payments for progress against the different EPC contract's payment schedule items.⁷⁵
- (b) Snowy Hydro Limited has 10 business days to assess the contractor's claimed progress against each payment schedule item's rule of credit as defined in the EPC contract.⁷⁶ This involves:
 - assessing whether appropriate evidence has been provided that each rule of credit has been met; and
 - the accountable individuals certifying the amount to be paid is due against the rule of credit.
- (c) The contractor receives a notice advising the amount Snowy Hydro Limited intends to pay based on assessed progress.
 - A delegate of the Board approves the amount assessed as eligible to be paid.
- (d) The contractor has one business day to issue Snowy Hydro Limited with invoices for the assessed payment amount.
- (e) Snowy Hydro Limited has four business days to make payment against the submitted invoices.

⁷⁵ See paragraphs 3.15 to 3.19.

⁷⁶ See paragraphs 3.9 to 3.24, including Table 3.1.

Review of monthly EPC payment process

3.50 The EPC contractor submitted 29 monthly payment submissions to Snowy Hydro Limited between April 2019 and September 2021.⁷⁷ Across these 29 monthly payment submissions, Snowy Hydro Limited's records show it has made \$1.114 billion in payments for 999 individual claims against EPC contract's payment schedule items.

3.51 The ANAO selected a representative sample of 15 EPC individual payment claims to assess Snowy Hydro Limited's compliance with its procedures for reviewing and approving these 999 claims. Analysis of this sample found:

- Snowy Hydro Limited appropriately documents the rationale and retained supporting evidence for approval against rules of credit⁷⁸; and
- there were some minor delays in meeting payment process timeframes. These minor delays are not considered a material issue. Based on the 15 samples reviewed and observation of the approval process for December 2022, challenges in meeting timeframes are due to the review of large and complex payment claims and supporting evidence to the standard required to appropriately hold the EPC contractor to account. Challenges in meeting set timeframes are not due to issues with the design of the procedures.

Claims by the EPC contractor exceed amount approved by Snowy Hydro Limited

3.52 Snowy Hydro Limited's assessment of the EPC contractor's monthly submissions led to a reduction in the amount paid compared to the amount claimed in all 11 monthly submissions reviewed (Figure 3.2).⁷⁹ Across the 11 monthly processes reviewed, Snowy Hydro Limited's actual amount paid was on average 57 per cent lower than the amount initially claimed by the EPC contractor.⁸⁰

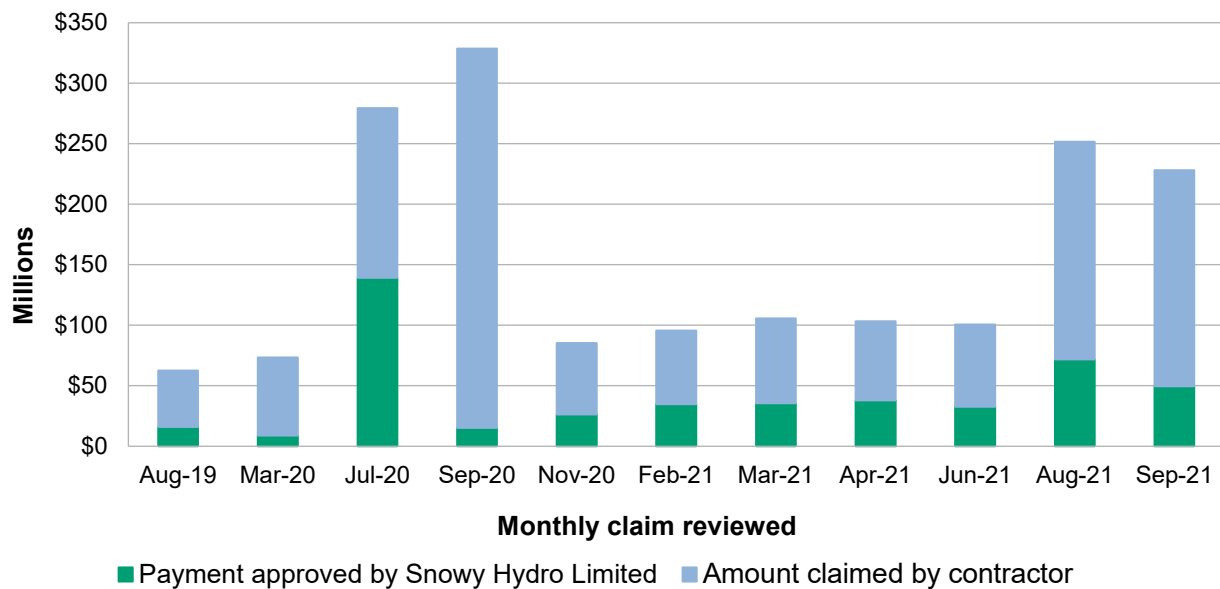
77 The EPC contract was executed in April 2019. The data set used for testing did not include a monthly claim for June 2020.

78 Based on the statistical sample tested, the ANAO has obtained a high level of assurance (95 per cent confidence level, five per cent confidence interval) that within the population of 999 EPC payment items, the exception rate for appropriately documenting and retaining supporting evidence for approval against rules of credit is less than one per cent.

79 The sample of 15 EPC individual payment claims relate to 11 monthly payment submissions. The months reviewed were August 2019, March 2020, July 2020 (two individual payment items), September 2020, November 2020, February 2021, March 2021, April 2021, June 2021 (two individual payment items), August 2021 and September 2021 (three individual payment items).

80 Snowy Hydro Limited advised that, although additional administration was required in the early stages of the project to manage the claims process, it was of the view that the contract management arrangements provide an appropriate framework for managing the payment process with the contractor.

Figure 3.2: Amounts claimed by contractor compared to amounts paid by Snowy Hydro Limited



Source: ANAO analysis of Snowy Hydro Limited documents.

3.53 Snowy Hydro Limited monitors the EPC contractor's performance and makes payments consistent with the EPC contract's rules of credit. Examples of where Snowy Hydro Limited's assessment payment claims resulted in a reduction of amounts paid include:

- Snowy Hydro Limited assessing the contractor is not entitled to receive payment for the items claimed⁸¹; and
- information the contractor presents in the claim sheets for calculating payment claims under the rules of credit does not contain the latest performance data.⁸²

3.54 Snowy Hydro Limited's contract management arrangements provide an effective framework for managing the payment process with the contractor. The complexity of the project and the consistent reduction in payments made compared to amount claimed highlights the importance of Snowy Hydro Limited continuing to effectively implement the monthly payment claims assessment and approval process.

Variations

3.55 The EPC contract includes quality, cost and time requirements. The EPC contractor is required to deliver against these requirements. Snowy Hydro Limited's EPC contract management framework recognises the importance of effectively managing requests for contract variations to ensure the delivery of Snowy 2.0 to the quality, cost and time standards set at final investment decision.

81 This is the cause of the largest reduction in sampled monthly payments. See September 2020 in Figure 3.2.

82 For example, not updating the actual start dates in payment calculations based on the commencement date of activities.

3.56 The EPC contract defines variations as any change to the Employer's Requirements, the works or the contractor's activities. Variations can be initiated by either party, including through claims raised by the contractor.

Term sheets

3.57 Snowy Hydro Limited advised the ANAO that as at February 2022 all material variations to the EPC contract have been executed.

- The first variation is effective as of 14 May 2020. The main outcome of this variation is the granting of an extension of time of 150 days to the principal EPC contractor and adjusting the schedule milestones. This extension of time is due to the impact of COVID-19 and delays caused by parties other than the principal EPC contractor.
- The second variation is effective as of 31 May 2021. This resolves matters arising from conditions placed on the project by environmental approvals completed after the EPC contract was executed. There are no extensions of time or changes to project cost.
- The third variation resolves claims related to costs incurred by the contractor due to COVID-19 up to 6 November 2020.

3.58 Other EPC contract change processes outside of these variations, such as activities under value engineering⁸³ or employer's instructions⁸⁴ clauses, have not been examined in this audit.

Dispute Avoidance/Adjudication Board

3.59 The EPC contract establishes a Dispute Avoidance/Adjudication Board (DAAB). The purpose of the DAAB is to facilitate the avoidance of disputes and act as a decision-making body where disputes arise. The DAAB is comprised of nominated legal experts intended to provide impartial advice. The cost of the DAAB is shared between Snowy Hydro Limited and the EPC contractor.

3.60 The DAAB has been used to provide guidance in the negotiations between the parties on the matter covered by the variation that came into effect in May 2021. This included facilitating five workshops between June and September 2020.

Assurance mechanisms

3.61 Snowy Hydro Limited developed a series of procedures and a supporting audit schedule to provide assurance over the EPC contractor's activities in relation to workplace health and safety (WHS), quality and environmental management.

3.62 Snowy Hydro Limited's audit program for the 2021–22 financial year includes 129 planned activities of which 61 were completed and two were ongoing as of December 2021. The program presents planned and completed WHS, quality and environmental audits.

Workplace health and safety assurance

3.63 Snowy Hydro Limited established a WHS assurance and surveillance procedure to provide assurance that the EPC contractor's systems, processes and compliance with legal requirements are fit-for-purpose. The procedure includes an inspection regime and a hazard rating scale based on risk.

83 The EPC contract includes a mechanism for the contractor to present ideas to improve the project's value.

84 The EPC contract includes a mechanism for Snowy Hydro Limited to instruct the contractor to undertake certain activities such as facilitating visits of third parties to the site.

3.64 The procedure allows for WHS assurance audits to be conducted internally or by an agreed third-party auditor. Snowy Hydro Limited provided evidence of two occasions where a third-party auditor has been engaged to assess the contractor's compliance with WHS laws.

Quality assurance

3.65 Snowy Hydro Limited developed a procedure and audit schedule to provide assurance over the quality of the EPC contractor's work. These quality assurance processes are designed to ensure that the contractor's activities align with the employer's requirements, relevant laws and regulations, and relevant documents.

3.66 As well as tracking the contractor's performance through a quality management system, on-site audits led by Snowy Hydro Limited and third-party audits are conducted. Snowy Hydro Limited developed a matrix to identify the greatest risks to the project's quality and used this to assign activities an audit frequency. Factors considered include financial consequence, design complexity and program sensitivity.

Environmental assurance

3.67 Snowy Hydro Limited developed checklists and a procedure to support the environmental inspection program. Inspections are intended to be scheduled and completed by a Snowy Hydro Limited environmental assurance advisor. The procedure allows for the advisor to note observations of non-compliance or areas for improvement including when an overall compliant assessment is made.

4. Monitoring and reporting

Areas examined

This chapter examines whether Snowy Hydro Limited effectively monitors and reports on the progress of Snowy 2.0.

Conclusion

Snowy Hydro Limited has established appropriate monitoring and reporting arrangements for Snowy 2.0. Reporting to the Snowy Hydro Limited Board of Directors (the Board) and the shareholder provides clear oversight of the progress of the project including identification and escalation of key risks. The project is exposed to significant risks, in particular those related to transmission network upgrades required for Snowy 2.0.

Snowy Hydro Limited manages transmission risk within the existing regulatory framework, which includes engagement with government and industry stakeholders. Snowy Hydro Limited has implemented actions within the areas it can control.

4.1 Successful implementation is underpinned by effective monitoring, review and evaluation processes. Effective monitoring collects timely and relevant information that allows progress to be tracked towards outcomes and adjustments made as necessary.⁸⁵

4.2 To assess whether Snowy Hydro Limited effectively monitors and reports on the progress of Snowy 2.0, the ANAO examined whether:

- arrangements to monitor the progress of Snowy 2.0 have been established; and
- Snowy Hydro Limited reports to stakeholder entities and ministers on the progress of Snowy 2.0.

Has Snowy Hydro Limited established arrangements to monitor the progress of Snowy 2.0?

Snowy Hydro Limited has established appropriate arrangements to monitor the progress of Snowy 2.0. Monitoring arrangements include monthly progress reports from the contractor. Snowy Hydro Limited's use of an earned value management approach allows the contractor's performance to be measured against baseline figures.

4.3 The engineer, procure and construct (EPC) contracted schedule is for first power generation in 2024–25 and project completion in 2026–27.

Monitoring framework

4.4 Snowy Hydro Limited identified core requirements of its monitoring framework as part of the feasibility study. Monitoring and reporting arrangements were subsequently established within

85 Australian National Audit Office, *Audit Insights: Performance Measurement and Monitoring – Developing Performance Measures and Tracking Progress* [Internet], 11 November 2020, available from <https://www.anao.gov.au/work/audit-insights/performance-measurement-and-monitoring-developing-performance-measures-and-tracking-progress> [accessed 22 March 2021].

the EPC contract and associated management plans. This includes information that Snowy Hydro Limited requires from the contractor.

4.5 The contractor is required to submit a monthly progress report which includes:

- the value of work performed and remaining expenditure forecast to project completion;
- planned progress compared to actual progress;
- an earned value report;
- a cash flow forecast;
- a risk, issues and opportunity register; and
- design related matters.

4.6 The monthly progress report aligns to the contract management arrangements outlined in Chapter Three and also informs reporting to governance bodies and to shareholder departments and ministers.

Earned value management

4.7 Snowy Hydro Limited has adopted the earned value management approach for measuring Snowy 2.0 performance and progress.⁸⁶

4.8 Earned value management is a measurement of:

the value of work accomplished in a given period against the planned value of work scheduled for that period and the actual cost of work accomplished. Differences in these values are measured in both cost and schedule variances. Positive variances indicate that project activities are costing less or are ahead of schedule. Negative variances indicate that project activities are costing more or are falling behind schedule.⁸⁷

4.9 The earned value management approach utilises the baseline schedule and budget outlined in paragraphs 3.15 to 3.24. This approach allows Snowy Hydro Limited to calculate a schedule performance index (SPI) and cost performance index (CPI) to assess contractor performance and overall progress. An index equal to or greater than one indicates a favourable condition.⁸⁸ In November 2021, a SPI of 0.99 and CPI of 1 were reported to the Board.⁸⁹

Status of the project against planned schedule and budget

4.10 Internal reporting to the Board as well as external reporting to shareholders includes reporting against both the baseline schedule as well as current timeframes. Delays resulting from approved changes to the EPC contract and risks to progress are clearly identified in reporting.

86 Standards Australia, *AS 4817-2019 Earned value management in project and programme management*, 3rd edition, Standards Australia, Sydney, 2019.

87 United States Government Accountability Office, *NASA: Earned Value Management Implementation across Major Spaceflight Projects Is Uneven*, GAO, Washington D.C., November 2012, p. 4.

88 Reichel, C. W. (2006). Earned value management systems (EVMS): "You too can do earned value management" Paper presented at PMI Global Congress 2006 — North America, Seattle, WA. Newtown Square, PA: Project Management Institute.

89 The reported SPI in November 2020, January 2021, March 2021, and May 2021 was 0.8. This reduced to 0.76 in July 2021 and increased to 0.98 in September 2021. The reported CPI has remained static at 1.00. The reported SPI in March 2022 was 0.71. This March 2022 reporting occurred after audit fieldwork was completed.

4.11 As outlined in paragraph 3.57, Snowy Hydro Limited and the EPC contractor agreed to a variation in May 2020 granting an extension of time of 150 days to the contracted whole of works completion date. This extension of time was due to the impact of the COVID-19 pandemic response and delays caused by parties other than the principal EPC contractor.

4.12 This 150-day extension of time variation is reflected in the project schedule outlined in Table 3.2. In November 2021, Snowy Hydro Limited reported to the Board that Snowy 2.0 is on track to meet this schedule with first power milestone in the fourth quarter of 2024–25 and whole of works commissioning in the fourth quarter of 2026–27.⁹⁰

4.13 The total project expenditure to date as at November 2021 is \$2.07 billion. This includes both EPC contract costs as well as other project costs not captured within the EPC contract. Snowy Hydro Limited's reporting indicates the budget is tracking in line with planned expenditure.

Does Snowy Hydro Limited report to stakeholder entities and Ministers on the progress of Snowy 2.0?

Snowy Hydro Limited has implemented a strategy to engage with community and industry stakeholders throughout the life of Snowy 2.0. Snowy Hydro Limited regularly reports to shareholder departments and ministers on the progress of Snowy 2.0. This has included engagement on transmission network upgrades required for Snowy 2.0.

4.14 Under the Statement of Expectations issued by the shareholder ministers, Snowy Hydro Limited is expected to foster and maintain working relationships with key stakeholders who may have a genuine interest in the project, including relevant Commonwealth, state and local government agencies, and Indigenous, community, business and environment groups.⁹¹

Stakeholder management and engagement

4.15 Snowy Hydro Limited developed a stakeholder strategy and engagement (the strategy) document as part of the final investment decision process. The strategy is available on the Snowy Hydro Limited website.⁹²

4.16 The strategy categorises stakeholders into four broad groups: government⁹³; the local community; industry groups; and the media.

4.17 Prior to the commencement of main construction activities, Snowy Hydro Limited was responsible for all stakeholder management. Snowy Hydro Limited transitioned to using the EPC

90 Reporting to the Board in March 2022 indicates further delays to the EPC schedule are likely and being considered with the contractor. Negotiations with the EPC contractor, including mitigants to address delays and any potential variations to contracted schedule, had not been finalised prior to completion of this audit.

91 Snowy Hydro Limited, *Statement of Expectations – 28 October 2021* [Internet], Snowy Hydro, available from <https://www.snowyhydro.com.au/wp-content/uploads/2021/11/Statement-of-Expectations.pdf> [accessed 22 March 2022].

92 Snowy Hydro Limited, *Stakeholder strategy and engagement* [Internet], Snowy Hydro, available from <https://www.snowyhydro.com.au/snowy-20/documents/> [accessed 22 March 2022]. This publicly available version has some minor differences from the internal version which forms part of the broader internal final investment decision documentation.

93 Snowy Hydro Limited defines the Government stakeholder as including departments, agencies, committees and parliamentarians across all parties and jurisdictions. As part of this audit, Snowy Hydro Limited's engagement with the Australian Government in its shareholder role is covered in paragraphs 4.26 to 4.32.

contractor's community and stakeholder engagement plan as the framework for stakeholder engagement during the construction phase. The EPC contractor assumed primary responsibility for engaging with the local community and industry, with ongoing engagement and reporting to Snowy Hydro Limited. Snowy Hydro Limited retained responsibility for engaging with government and the media.

4.18 The EPC contractor's community and stakeholder engagement plan was first issued in April 2019. Snowy Hydro Limited advised the ANAO that the plan is jointly updated by Snowy Hydro Limited and the contractor yearly and the final plan is signed off by Snowy Hydro Limited. The most recent review of the plan commenced in 2021.

4.19 Snowy Hydro Limited included a specific section on community and local content in each operational report across the period examined.⁹⁴ Examples of activities reported include Snowy Hydro Limited's 'Snowy 2.0 – powered by locals' campaign, which provides for local supplier involvement, and business and community forums held with local suppliers to provide project and procurement process updates.

4.20 Snowy Hydro Limited also includes local content in monthly shareholder reporting.⁹⁵ Reporting includes statistics on the amount spent in the Snowy Valley, Snowy Monaro and surrounding regional areas, details of business workshops held in the surrounding areas and engagement with the EPC contractor to track and increase local content.

Complaints management

4.21 A complaints resolution procedure (the procedure) that outlines the complaints management process is an annex to the stakeholder engagement plan. The procedure states that interactions with community members or stakeholders will be classed as enquiries, concerns or complaints.

- Enquiries — a request for general information.
- Concerns — something that makes a stakeholder upset or anxious.
- Complaints — an expression of dissatisfaction where a response or resolution is explicitly or implicitly expected.

4.22 In March 2022, Snowy Hydro Limited published a consolidated complaints register for the 2019 to 2022 calendar years. Table 4.1 provides the classifications of these complaints.⁹⁶

⁹⁴ Operational reporting is discussed in paragraph 4.32.

⁹⁵ See paragraphs 4.26 to 4.32 for analysis of shareholder reporting.

⁹⁶ Snowy Hydro Limited, *Snowy 2.0 Complaints Register* [Internet], Snowy Hydro, available from <https://www.snowyhydro.com.au/snowy-20/documents/> [accessed 22 March 2022].

Table 4.1: Complaints received relating to the Snowy 2.0 project

Classification	2019	2020	2021	2022	Total
Traffic management	3	7	3	2 ^a	15
Amenity ^b	0	0	1	0	1
Factory operations	0	0	1	0	1
Truck operations	0	0	1	0	1
Not classified ^c	0	0	1	0	1
Total	3	7	7	2	19

Note a: This includes one complaint still under investigation and not published as at March 2022.

Note b: This complaint related to concerns from an adjacent landholder relating to potential noise and other impacts.

Note c: This complaint deals with unauthorised contractor access to commercial property.

Source: ANAO analysis of Snowy Hydro Limited data.

4.23 The ANAO examined the number of complaints reported publicly on the Snowy Hydro Limited website in relation to the Snowy 2.0 against internal reporting. All complaints reported internally are recorded and published externally.

4.24 Complaints are reported and monitored at regular Snowy 2.0 team meetings, monthly progress reporting meetings with the contractor, as well as the 2.0 Project Advisory Committee.⁹⁷

4.25 Snowy Hydro Limited has implemented changes to processes and procedures as a result of concerns and complaints received.

- In response to concerns raised by small businesses at community information sessions relating to prequalification processes required in order to bid for work on the project, Snowy Hydro Limited reviewed procurement processes and removed the requirement to register on a global procurement portal for contracts less than \$400,000. This change to process was also outlined in Snowy Hydro Limited's Australian Industry Participation Plan compliance report for 24 December 2019 to 23 June 2020.⁹⁸
- Snowy Hydro Limited investigated complaints related to traffic management, which led to contractors and subcontractors reinforcing existing policies and procedures with drivers.

Reporting to shareholder departments and ministers

4.26 As outlined in paragraph 1.12, Snowy Hydro Limited is represented by two shareholder ministers: the Minister for Energy and Emissions Reduction, and the Minister for Finance.

4.27 The government's relationship with government business enterprises (GBEs) is similar to the relationship between a holding company and its subsidiaries, features of which include:

- a strong interest in the performance and financial returns of the GBE;
- reporting and accountability arrangements that facilitate active oversight by the shareholder;

⁹⁷ See paragraph 2.10 for analysis of governance committee arrangements.

⁹⁸ Compliance reporting against requirements of the Australian Jobs Act is discussed in paragraphs 2.54 to 2.56.

- action by the shareholder in relation to the strategic direction of its GBEs where it prefers a different direction from the one proposed;
- management autonomy balanced with regular reporting of performance to shareholders; and
- boards that are accountable to shareholders for GBE performance, and shareholders that are accountable to Parliament and the public.⁹⁹

4.28 The Statement of Expectations requires that Snowy Hydro Limited keep the government regularly informed of the project's progress.¹⁰⁰ Several specific reporting requirements are outlined in the Department of Finance guidance¹⁰¹ to GBEs as well as the Equity Subscription Agreement.¹⁰²

4.29 Snowy Hydro Limited has provided regular reporting to both shareholder departments and ministers throughout the planning and early implementation of Snowy 2.0, consistent with the conditions of the equity subscription agreement.

4.30 The ANAO examined reporting provided by Snowy Hydro Limited to shareholder departments following the publication of the 2019 Statement of Expectations. This included monthly briefings to shareholder departments from March 2019 to December 2021 and operational reporting provided every second month from August 2020, coinciding with shareholder approval of the notice to proceed with main works.

4.31 The monthly briefing consistently covers key areas including the project's status, key risks such as transmission, and financing. Additional content was also included in the briefing at milestones such as notice to proceed.

4.32 Operational reporting provided every second month is based on a template that evolved over the period examined. All reports contain a minimum level of content, covering areas such as health and safety, project milestones, risk, environmental metrics, and financial status. Additional information, such as COVID-19 mitigations, is included when the circumstance arises.

Management and escalation of risks to shareholders departments and ministers

4.33 Reporting against key risks is included as part of the monthly briefings to shareholder departments, as well as reporting to shareholder ministers every second month. Among this risk reporting, the risk relating to electricity transmission network upgrades has presented the highest ongoing risk and has been a consistent feature in all reports.

99 Department of Finance, *Government Business Enterprises – Governance arrangements* [Internet], Finance, available from <http://www.finance.gov.au/resource-management/governance/gbe/> [accessed 22 March 2022].

100 Snowy Hydro Limited, *Statement of Expectations – 28 October 2021* [Internet], Snowy Hydro, available from <https://www.snowyhydro.com.au/wp-content/uploads/2021/11/Statement-of-Expectations.pdf> [accessed 22 March 2022].

101 Department of Finance, *Resource Management Guide 126: Government Business Enterprises (GBEs)* [Internet], available from <https://www.finance.gov.au/publications/resource-management-guides/government-business-enterprises-gbes-rmg-126> [accessed 22 March 2022].

102 An Equity Subscription Agreement is used to formalise the terms of an investor's investment into a company. The Equity Subscription Agreement between Snowy Hydro Limited and the Commonwealth of Australia provides \$1.38 billion 'to fund the expansion of pumped-hydro capability of the Snowy Mountains Hydro-electric Scheme'.

4.34 As outlined in paragraph 3.3, the government's expectations are that Snowy 2.0 is both a commercial business opportunity for Snowy Hydro Limited and an infrastructure project that will deliver benefits to Australian electricity users. To achieve these desired outcomes, electricity transmission network capacity upgrades are required to allow Snowy 2.0 to provide its full energy storage and generation capacity to the National Electricity Market (NEM).¹⁰³

Transmission upgrades relevant to Snowy 2.0

4.35 The National Electricity Rules establish the framework for transmission network planning and expansion including upgrades to capacity.¹⁰⁴ Transmission Network Service Providers are responsible for building, maintaining, planning and operating the transmission network.¹⁰⁵

4.36 Entities responsible for proposing new electricity transmission infrastructure require regulatory approval from the Australian Energy Regulator.¹⁰⁶ The Regulatory Investment Test for Transmission (RIT-T) is the defined regulatory mechanism under the National Electricity Rules. The RIT-T requires NEM planners or Transmission Network Service Providers to undertake a public economic cost benefit analysis to identify a preferred option for regulatory approval. The RIT-T process involves public consultation. Electricity generators are stakeholders in the RIT-T process and can provide input as part of the consultation process.

4.37 The Australian Energy Market Operator (AEMO) Integrated System Plans¹⁰⁷ have identified 'actionable' electricity transmission projects. These are projects AEMO considers should be commenced to support the transformation in the National Electricity Market and provide consumer benefits in relation to electricity reliability, security and affordability.¹⁰⁸

4.38 Two actionable electricity transmission upgrade projects are directly relevant to Snowy 2.0 as they provide access to the NEM. These two projects are Humelink in New South Wales and the Victorian New South Wales Interconnector (VNI) West.¹⁰⁹ Table 4.2 provides a summary of these projects.

103 Upgrades to the transmission network in the immediate vicinity of the project to establish the initial link between Snowy 2.0 and the NEM are also required. These upgrades are required to commission the generators however will not provide the capacity to transmit Snowy 2.0's full generation capabilities to the broader network.

Also see Snowy Hydro Limited, *2017 Feasibility Study – Chapter 10: Transmission* [Internet], available from <https://www.snowyhydro.com.au/snowy-20/documents/feasibility-study-chapters/> [accessed 22 March 2022].

104 Australian Energy Market Commission, *Network planning* [Internet], available from <https://www.aemc.gov.au/energy-system/electricity/energy-system> [accessed 22 March 2022].

105 Transgrid is an example of a Transmission Network Service Provider. Snowy Hydro Limited is not a Transmission Network Service Provider.

106 This includes NEM planners such as AEMO and Transmission Network Service Providers. Snowy Hydro Limited is not a NEM planner or a Transmission Network Service Provider.

107 Integrated System Plans have been published in 2018, 2020 and a draft 2022 plan was released for consultation in 2021.

108 AEMO Draft 2022 Integrated System Plan, p. 8 and pp. 12–13.

109 These projects cannot commence until the Regulatory Investment Test for Transmission (RIT-T) approvals have been completed by TransGrid for HumeLink and AEMO for VNI West.

Table 4.2: Summary of Humelink and VNI West transmission upgrades

	Humelink	VNI West
Project description	500 kV transmission project that links the greater Sydney load centre with the Snowy Mountains Hydro-electric Scheme and Project EnergyConnect in South West NSW.	500 kV interconnector from a substation near Ballarat in Victoria to a new substation named Dinawan in South West New South Wales.
RIT-T preparer/s	AEMO and Transgrid	AEMO
RIT-T status ^a	Nearing completion	In progress, currently at stage one of three.
Targeted completion ^a	July 2026	July 2031
AEMO identified need ^b	<ul style="list-style-type: none"> • 'Increasing the transfer capacity and stability limits between the Snowy Mountains and major load centres of Sydney, Newcastle and Wollongong • Enabling greater access to lower cost generation to meet demand in these major load centres; and • Facilitating the development of renewable generation in high quality renewable resource areas in southern New South Wales, which will further lower the overall investment and dispatch costs in meeting New South Wales demand while also ensuring emissions targets are met at the lowest overall cost to consumers.' 	<ul style="list-style-type: none"> • 'Efficiently maintaining supply reliability in Victoria following the closure of further coal-fired generation and the decline in aging generator reliability – including mitigation of the risk that existing plant closes earlier than expected • Facilitating efficient development and dispatch of generation in areas with high quality renewable resources in Victoria and southern New South Wales through improved network capacity and access to demand centres, and • Enabling more efficient sharing of resources between NEM regions.'

Note a: AEMO's Draft 2022 Integrated System Plan, Table 7.

Note b: AEMO's Draft 2022 Integrated System Plan, p. 65 Humelink, VNI West p. 68.

Source: Australian Energy Market Operator Limited, *Draft 2022 Integrated System Plan December 2021: For the National Electricity Market*, version 1.0, 10 December 2021.

Consideration of transmission upgrade risks in Snowy 2.0 approvals

4.39 Consideration of the transmission upgrade risks to Snowy 2.0 was documented at each approval decision by Snowy Hydro Limited and the shareholder ministers. These were:

- Snowy Hydro Limited's approval of Snowy 2.0 Feasibility Study in December 2017;
- correspondence to Snowy Hydro Limited from Minister for the Environment and Energy in December 2017;
- shareholder minister's approval of final investment decision in February 2019;
- Snowy Hydro Limited's final investment decision in December 2018;
- Snowy Hydro Limited's notice to proceed decision in July 2020; and
- shareholder minister's approval of the notice to proceed decision in August 2020.

4.40 The Board identified the desired level of certainty on transmission upgrades had not been met at both the final investment decision or the notice to proceed decision. This risk was

communicated to the shareholder ministers at both decision points as part of the final investment decision and notice to proceed documentation.

4.41 The Commonwealth provided the Snowy Hydro Limited Directors with a deed of indemnity in relation to this matter at final investment decision in December 2018. This indemnified individual Directors against liability arising from taking the final investment decision without certainty in relation to transmission network upgrades. The deed of indemnity was extended to cover the notice to proceed decision in July 2020.

4.42 Snowy Hydro Limited advised the ANAO in October 2021 that:

The Board of Snowy Hydro was able to proceed with the Project through the key gates of Feasibility, Final Investment Decision and Notice to Proceed relying on undertakings from the Commonwealth provided in December 2017, February 2019 and August 2020 and Deeds of Indemnity in favour of directors provided at FID.

...

While there has been strong progress on both links, neither is formally committed at this stage and Snowy Hydro continues to rely on undertakings from the Commonwealth and Deeds of Indemnity in favour of directors.¹¹⁰

Actions by Snowy Hydro Limited to mitigate transmission upgrade risks

4.43 Snowy Hydro Limited provided the ANAO with evidence of more than 350 engagements with government and industry stakeholders between 2017 and 2022 relating to transmission upgrades.¹¹¹ This includes engagement with stakeholders such as AEMO, the Australian Energy Regulator, the Clean Energy Finance Corporation and Transgrid, among other energy sector related stakeholders.

4.44 Snowy Hydro Limited has considered a number of alternatives beyond relying on developments under the Integrated System Plan, such as alternate funding mechanisms for transmission upgrades and dedicated connection assets to bring forward the required connections into Victoria. These alternative options were considered and discussed with shareholder departments and ministers as part of regular reporting.

4.45 Snowy Hydro Limited advised the ANAO that these options have not been progressed for the following reasons.

- Continued assurances from shareholder ministers and supporting departments relating to progress under the Integrated System Plan provided a basis for expected timeframes and support risk management consistent with the assessment at final investment decision.
- Any potential expansion of Snowy Hydro Limited's activities to electricity transmission projects as outlined in paragraph 4.44 would be considered a significant business

110 Snowy Hydro Limited referred to correspondence from shareholder ministers acknowledging the transmission network upgrade risk and regulatory environment in which transmission upgrades occur as undertakings.

111 Snowy Hydro Limited provided evidence of a further 60 interactions with the Board relating to the transmission risk and updates on actions to address the risk.

initiative.¹¹² This would be beyond the scope of Snowy Hydro Limited operations as set by the shareholders through GBE governance arrangements.

Impact transmission upgrade risk Snowy 2.0

4.46 The timeframes for connection remain unclear, however, it is increasingly certain that the timeframes will exceed the planned commissioning timeframe for Snowy 2.0 (see Table 4.2 above). As such, Snowy Hydro Limited continues to assess the risk relating to transmission upgrades as 'extreme'. The uncertainty relating to the transmission upgrade projects is now expected to impact on the business case for Snowy 2.0 with the extent of this impact being examined.

4.47 In October 2021 Snowy Hydro Limited reported to shareholder ministers that:

The current base case transmission scenario, of HumeLink by 31 December 2026 and VNI West by 31 December 2027, delays transmission commissioning well past the forecast first power milestone in 2025. On this basis, the project will be unable to materially realise the pre-commissioning revenue of \$242 million, which will therefore be added to the project's cost base.

4.48 As part of the Board approved Strategic Corporate Plan for 2022 to 2031¹¹³, Snowy Hydro Limited presented an updated scenario analysis, whereby transmission connections were delayed as outlined in paragraph 4.47. These delays are further expected to impact on net revenue including pre-commissioning revenue. Snowy Hydro Limited advised the ANAO that the extent of this impact will be reviewed as part of the annual corporate planning process in June 2022.¹¹⁴



Grant Hehir
Auditor-General

Canberra ACT
15 June 2022

112 Department of Finance, *Resource Management Guide 126: Government Business Enterprises (GBEs)* [Internet], available from <https://www.finance.gov.au/publications/resource-management-guides/government-business-enterprises-gbes-rmg-126> [accessed 22 March 2022].

113 Snowy Hydro Limited maintains an internal corporate plan which includes more detail than the externally available corporate plan. This corporate plan is provided only to shareholder ministers and is not published externally. From 2019 this corporate plan covers a ten-year period. Prior versions of the plan covered a five-year period. As at March 2022, the Strategic Corporate Plan for 2022 to 2031 was not yet approved by the shareholder ministers.

114 The ANAO 2020–21 and 2021–22 financial statements audits identified capitalisation of work in progress for Snowy 2.0 as a Key Audit Matter. This involves consideration of Snowy Hydro Limited's assessment of the costs capitalised for Snowy 2.0. There were no significant or moderate audit findings. See Auditor-General Report No.14 2020–21 *Audits of the Financial Statements of Australian Government Entities for the Period Ended 30 June 2021*, paragraph 4.9.15 and Table 4.9.5, and Auditor-General Report No.32 2021–22 *Interim Report on Key Financial Controls of Major Entities*, paragraph 3.12.7 and Table 3.12.3.

Appendices

Appendix 1 Entity response



17 May 2022

Mr Grant Hehir
Auditor General
Australian National Audit Office
19 National Circuit
BARTON ACT 2600

By email

Dear Mr Hehir,

AUSTRALIAN NATIONAL AUDIT OFFICE s19 REPORT: SNOWY 2.0 GOVERNANCE OF EARLY IMPLEMENTATION

Thank you for the opportunity to respond to the Australian National Audit Office (ANAO)'s report on Snowy Hydro Limited (**Snowy Hydro** or **the Company**)'s governance of the early implementation of the Snowy 2.0 project.

Snowy Hydro welcomes the ANAO's findings that the Company's governance of the early implementation of the project is effective with no recommendations raised. Specifically, the audit concluded that SHL has appropriate arrangements in place to govern, monitor and report on the project; including in relation to managing the Engineering, Procurement & Construction contract with our Principal Contractor Future Generation JV.

From the outset, the Company established tailored governance arrangements to oversee the development and implementation of this critical infrastructure project. We acknowledge that the effectiveness of these arrangements have been independently assessed by the ANAO with no material exceptions identified.

Snowy Hydro would also like to acknowledge the highly rigorous yet constructive approach of the ANAO audit and the professionalism of the audit team, led by Corinne Horton, at all times over the course of the eight-month audit.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Paul Broad".

Paul Broad
Managing Director and CEO

Snowy Hydro Limited ABN 17 090 574 431
Lot 3, Pier 8/9 23 Hickson Rd Walsh Bay NSW 2000, GPO Box 4351 Sydney NSW 2001
Telephone: +61 2 9278 1888 www.snowyhydro.com.au



Date: 13 May 2022

Australian National Audit Office
38 Sydney Avenue
Forrest ACT 2603

Attention: Mr Grant Hehir
Auditor-General for Australia

Project: Snowy 2.0 Pumped Hydro Electric Scheme Capacity Upgrade

Subject: Re: Extract from Auditor-General Proposed Audit Report on Snowy 2.0 Governance of Early Implementation – Confidential

Reference: [1] Correspondence from Mr Grant Hehir (ANAO) to Mr Massimo Franceschi (FGJV) titled 'Extract from Auditor-General Proposed Audit Report on Snowy 2.0 Governance of Early Implementation' and dated 12 April 2022

Dear Mr Hehir,

Future Generation Joint Venture (FGJV) acknowledges receipt of the above-referenced correspondence from the Australian National Audit Office (ANAO) and the attached document titled 'FINAL s19 report extract – Snowy 2 Governance of Early Implementation.pdf' (Report Extract). FGJV appreciates the opportunity to review the Report Extract and provide this letter of reply and a summary of FGJV's response.

FGJV acknowledges and agrees that the monthly payment process is based on Clause 14 [Contract Price and Payment] of the EPC Contract. FGJV considers that the overview of the monthly payment process depicted in Figure 3.1 of the Report Extract accurately depicts the requirements of the EPC Contract.

The items permitted to be included in the monthly payment claim are not limited to payments referable to progress in execution of the Works, and also include (for example) amounts payable as adjustments to the Contract Price and other entitlements for Variations and Claims. Accordingly, the amount of each interim payment which is determined by Snowy Hydro Limited (SHL) to be due each month should not be based solely on an assessment of actual progress.

FGJV notes that one of the major underpayments highlighted in the report (September 2020) relates to the certification and payment of an Advance Payment under the EPC Contract that was claimed and paid in a subsequent period.

Other underpayments relate to different evaluation of the Works, Variations and Claims in which the parties had and/or have different positions in respect of FGJV's entitlements under the EPC Contract.

In these circumstances, FGJV has and will pursue the rejected Claims and Variations in accordance with the procedures set out in the EPC Contract. However, FGJV maintains that the EPC Contract requires SHL to make progressive payment against the Claims and Variations. The different views shared by FGJV and SHL in respect of the Claims and Variations will continue to result in material difference and reductions in the amounts paid by SHL compared with the amounts claimed by FGJV in its applications for interim payment.

Future Generation Joint Venture ABN 45 576 105 405

1

In this regard, FGJV does not agree with the observation in the Report Extract that the consistent reduction in payments made compared to amount claimed is a function of the effective implementation of the monthly payment claims assessment and approval process.

In summary, FGJV considers that the Report Extract accurately documents the monthly payment process. However, FGJV is concerned that the different interpretation of the Contract will continue to generate difference in the actual payments compared with the amounts claimed by FGJV.

Should you have any questions in relation to this letter of reply, please do not hesitate to contact the undersigned.

Yours sincerely,



Massimo Franceschi
Project Director & Contractor's Representative
Future Generation JV

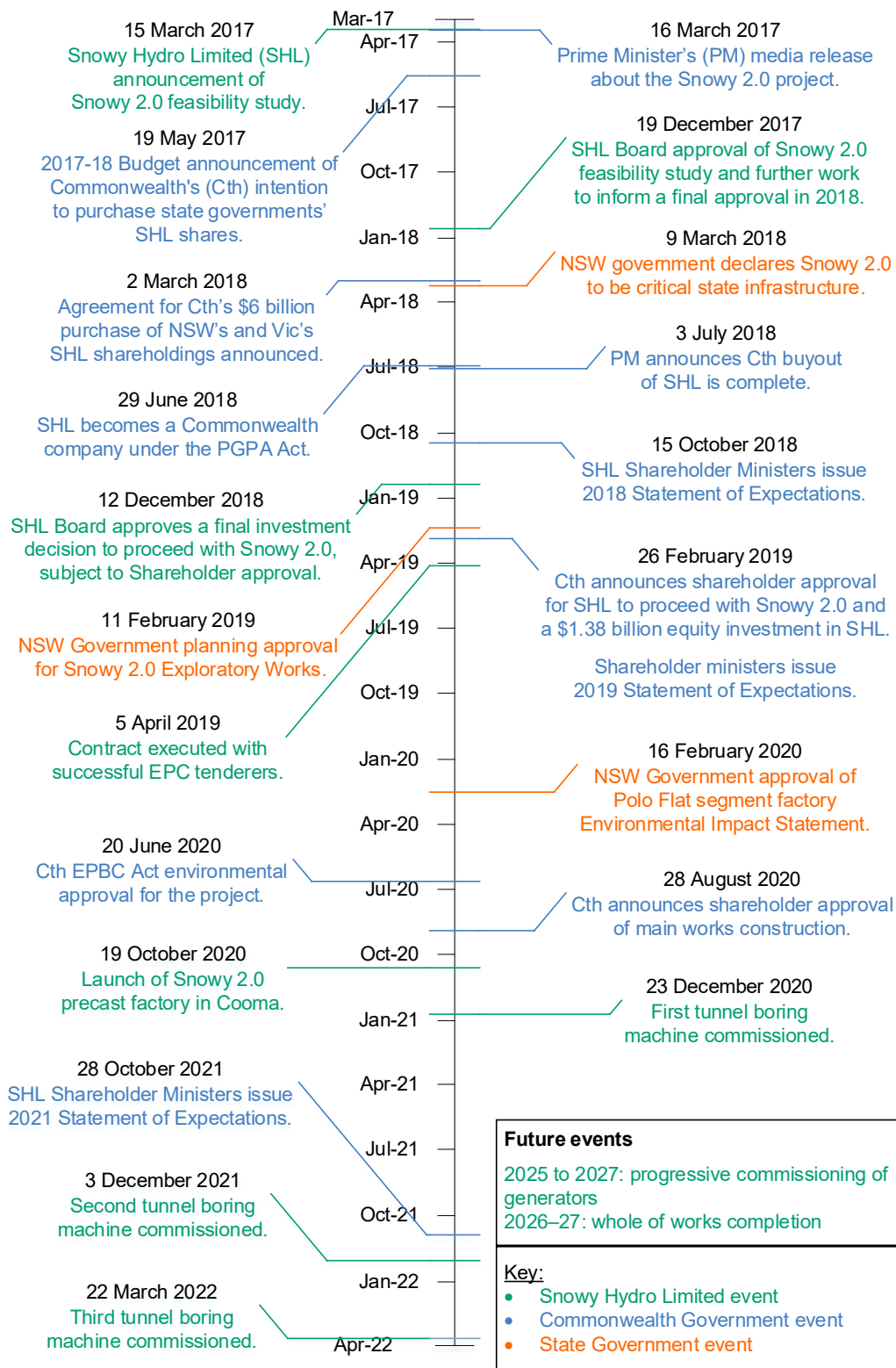
Copy to:

Ms Carla Jago, Australian National Audit Office
Ms Corinne Horton, Australian National Audit Office
Ms Jacqueline Hedditch, Australian National Audit Office
Mr Joshua Francis, Australian National Audit Office

Appendix 2 Improvements observed by the ANAO

1. The existence of independent external audit, and the accompanying potential for scrutiny improves performance. Improvements in administrative and management practices usually occur: in anticipation of ANAO audit activity; during an audit engagement; as interim findings are made; and/or after the audit has been completed and formal findings are communicated.
2. The Joint Committee of Public Accounts and Audit (JCPAA) has encouraged the ANAO to consider ways in which the ANAO could capture and describe some of these impacts. The ANAO's 2021–22 Corporate Plan states that the ANAO's annual performance statements will provide a narrative that will consider, amongst other matters, analysis of key improvements made by entities during a performance audit process based on information included in tabled performance audit reports.
3. Performance audits involve close engagement between the ANAO and the audited entity as well as other stakeholders involved in the program or activity being audited. Throughout the audit engagement, the ANAO outlines to the entity the preliminary audit findings, conclusions and potential audit recommendations. This ensures that final recommendations are appropriately targeted and encourages entities to take early remedial action on any identified matters during the course of an audit. Remedial actions entities may take during the audit include:
 - strengthening governance arrangements;
 - introducing or revising policies, strategies, guidelines or administrative processes; and
 - initiating reviews or investigations.
4. In this context, the below actions were observed by the ANAO during the course of the audit. It is not clear whether these actions and/or the timing of these actions were planned in response to proposed or actual audit activity. The ANAO has not sought to obtain assurance over the source of these actions or whether they have been appropriately implemented.
5. During the course of the audit, the ANAO observed Snowy Hydro Limited:
 - improved the clarity of reporting requirements in Snowy 2.0 related committee charters;
 - updated its internal monthly payment approval sheet and had the principal EPC contractor update their claim for payment document. These updates improved the presentation of the Goods and Services Tax (GST) amount for payment claims paid in Euros in approval documents;
 - reported to the Board in March 2022 that the project team was undertaking detailed cost and forecast reviews to monitor spending against the Corporate Plan; and
 - added a risk related to project resourcing to the Top Risk register in the March 2022 reporting.

Appendix 3 Snowy 2.0 project timeline



Source: ANAO presentation of Snowy Hydro Limited documents and Australian Government media releases.

Appendix 4 Top 12 Snowy 2.0 risks — ratings and transfer

Table A.1: Top 12 Snowy 2.0 risks — ratings and transfer

No.	Category and description	Inherent rating at FID ^a	Risk rating at FID ^a	Target rating at FID ^a	Rating at March 2022	Transfer to	Extent of transfer	Risk transfer mechanisms adopted
1	Safety: serious incident on Snowy 2.0	Extreme	High	Medium	High	EPC contractor	●	Able to be insured; transferred to the contractor with controls and KPIs incorporated into the EPC contract.
2	Delivery capability: inadequate organisational capability	Extreme	High	Medium	Medium	EPC contractor	◐	Not able to be insured; development of critical plans and documentation to implement the EPC contract arrangements.
3	Technical: inadequate design and construction; uncertainty of ground conditions and groundwater ^b	Extreme	Extreme	High	High	EPC contractor	●	Extensive and interactive tender process to refine tender proposals to meet requirements; development of a Geotechnical Baseline Report for contractual risk allocation; contractors required to be insured.
4	Interfaces: ineffective management of interfaces between Civil and electrical and mechanical packages	Extreme	Medium	Medium	High	EPC contractor	◐	Not able to be insured; extensive and interactive tender process to identify interface scenarios and risks; adopting a single EPC contract model with a principal contractor supports risk transfer to the contractor.
5	Procurement and Contracts: credibility and rigour of the procurement process is compromised	Extreme	Medium	Low	Not applicable ^f	Retained	○	Not able to be insured or transferred; implementation of procurement strategies and processes; review by external probity advisors.

No.	Category and description	Inherent rating at FID ^a	Risk rating at FID ^a	Target rating at FID ^a	Rating at March 2022	Transfer to	Extent of transfer	Risk transfer mechanisms adopted
6	Procurement and Contracts: poor contractor management	Extreme	High	High	High	EPC contractor	◐	Not able to be insured; extensive and interactive tender process and to communicate requirements; agreeing risk allocation through contract negotiation; establishment of Dispute Avoidance and Advisory Board.
7	Commercial: insufficient certainty of business case assumptions	Extreme	High	Medium	Medium	Retained	○	Not able to be insured; external advisors engaged to review key assumptions and provide modelling.
8	Transmission connections: transmission connections not delivered when needed ^c	Extreme	High	High	Extreme; High ^d	Retained	○	Engagement in regulatory process; indemnities for Directors sought — see Chapter Four for further detail.
9	Technical: inability to achieve or test fit-for-purpose technical outcomes	Extreme	High	Medium	High	EPC contractor	◐	Not able to be insured; technical design considered as part of procurement and contract negotiation process; commissioning, operations and management requirements integrated into EPC contract.
10A	Planning and approvals: tenure issues such as land access, leases or native title ^{c,e}	Extreme	High	High	Not applicable ^f	Retained	○	Retired ^g
10B	Planning and approvals: delays and/or onerous conditions ^{c,e}	Extreme	High	Medium	Not applicable ^f	Retained	○	Retired ^h

No.	Category and description	Inherent rating at FID ^a	Risk rating at FID ^a	Target rating at FID ^a	Rating at March 2022	Transfer to	Extent of transfer	Risk transfer mechanisms adopted
11	Corporate: inability to fund Snowy 2.0 or subsequent liquidity challenges for Snowy Hydro	Extreme	High	Medium	Not applicable ^f	Retained	○	Not able to be insured; external advisors engaged to review funding strategy.
12	Deliverability: significant force majeure or other events	Extreme	High	High ⁱ	High	Insurers	●	Able to be insured.

Legend: ○ No transfer; ◐ One quarter transferred; ◑ Half transferred; ◒ Three quarters transferred; ● Fully transferred.

Note a: Snowy Hydro Limited made the Snowy 2.0 final investment decision (FID) on 18 December 2018. See paragraphs 2.14 to 2.26.

Note b: Following the final investment decision, key risk 3 technical was separated into four sub-categories. Each sub-category had a risk rating of high in October 2021. The target risk rating for three of the four sub-categories is Medium. One sub-category — 'Quality does not meet Employer's Requirements' — has a target rating of Low.

Note c: Snowy Hydro Limited identified that the mitigation of these risks is largely outside its direct control. These risks are monitored by Snowy Hydro Limited to treat the risk to the extent possible.

Note d: Risk 8 transmission has two sub-categories. The risk related to deep transmission connections is rated at Extreme — see paragraphs 4.35 to 4.48. The risk related to shallow transmission connections is rated as High.

Note e: Risk 10 planning and approvals was split into two sub-categories at the time of the FID: 10A Tenure and 10B Approvals.

Note f: These risks have been retired.

Note g: This risk was retired in September 2019.

Note h: This risk was retired in September 2020.

Note i: Following the final investment decision, target rating for this risk has been re-assessed as Medium.

Source: Snowy Hydro Limited documentation.