

31 March 2022

The Chief Executive Officer

Dams Safety NSW  
4 Parramatta Square  
12 Darcy Street  
Parramatta NSW 2150

**By email:** [info@damsafety.nsw.gov.au](mailto:info@damsafety.nsw.gov.au)

**Attention:** Mr Chris Salkovic

Dear Chris,

**RE: Statement of Attestation on Snowy Hydro Annual Dams Safety Standards Report for the calendar year ending 31 December 2021**

Snowy Hydro Limited (**Snowy Hydro**) is a declared dam owner for the following 15 declared dams:

	Reportable Dams
1.	Eucumbene Dam
2.	Eucumbene Saddle Dam
3.	Geehi Dam
4.	Guthega Dam
5.	Island Bend Dam
6.	Jindabyne Dam

7.	Jounama Dam
8.	Khancoban Dam
9.	Murray 2 Dam
10.	Talbingo Dam
11.	Tantangara Dam
12.	Tooma Dam
13.	Tumut Pond Dam
14.	Tumut 2 Dam
15.	Tumut 3 Inlet Structure

Pursuant to the *Dams Safety Act 2015 (NSW)*, Snowy Hydro has provided 15 Annual Dam Safety Standards Report for the calendar year ending 31 December 2021 (**the reports**).

We note the reports must contain an attestation signed by the dam office holders.

As agreed between the Dam Safety Regulator and Snowy Hydro, we will provide one Statement of Attestation as an overall Statement of Attestation for the reports.

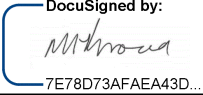
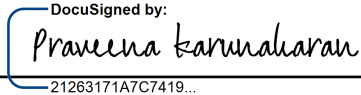
Please find **attached**:

1. Statement of Attestation for the reports signed by the dam owner's office holders.

### Statement of Attestation

As the office holders of the dam owner, we attest to the accuracy of the 15 Annual Dam Safety Standard Reports provided by Snowy Hydro for the calendar year ending 31 December 2021 and provide the following declaration.

Declared dam owner office holder(s) attesting to the accuracy of this report

Name and signature of declared dam owner office holder attesting to the accuracy of this report	Paul Broad 
Position of the declared dam owner office holder attesting to the accuracy of this report	Director
Name and signature of declared dam owner office holder attesting to the accuracy of this report	Praveena Karunaharan 
Position of the declared dam owner office holder attesting to the accuracy of this report	Company Secretary



## Murray 2 Dam

Snowy Hydro Limited

### Annual Dams Safety Standards Report

March 2022



Snowy Hydro Limited (**Snowy Hydro**) as a declared dam owner is required under the Dams Safety Regulation 2019 to publish an Annual Dam Safety Standards Report demonstrating Snowy Hydro Limited's compliance with the dam safety standards for the calendar year ending 31 December 2021.

Snowy Hydro attests to the accuracy of the report.

A separate report for each declared dam must be lodged with Dams Safety NSW by 31 March 2022.

### Section 1 – Declared dam identification details

Dam Name	Murray 2 Dam
Dam Owner	Snowy Hydro Limited

### Section 2 – Dams safety standards

#### Consequence category of dam – Regulation, Part 3

The dam consequence category is a rating of the impact that could potentially be caused if the dam failed. It must be assessed:

- within 6 months of the dam being declared
- at least once every 15 years
- after any significant change in the number of people likely to be affected by a dam failure
- or if required by Dams Safety NSW.

#### [Regulation, subclause 7\(2\)](#)

Dam consequence category	Sunny Day: <b>Low</b> Flood: <b>Significant</b>
Date of the last consequence category assessment by a competent person	1st August 2019
Has the number of people likely to be affected by a dam failure changed since the last consequence category review?	No
Competent Person:	Chriselyn Kavanagh (Senior Hydrologist, Hydrology & Risk Consulting or HARC)
How was this checked?	Reclamation Consequence Estimating Methodology

	(RCEM)* was used for PLL estimates
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\*Note: RCEM is empirical method for estimating potential loss of life (PLL)

### For extreme and high consequence dams only:

If the consequence category is Extreme, High A, High B, or High C, the consequence category assessment must be reviewed by an independent competent person

[Regulation, subclause 7\(4\)](#)

Date of last independent review of the consequence category assessment	1st August 2019
Name of independent reviewer	Peter Hill (Principal, HARC)

### Dams safety standard – Dam safety management system - Part 5

The dam safety management system provides a comprehensive and integrated system to manage all aspects of foreseeable risks relating to dam failure. It is designed to be used by the dam owner to ensure, as far as reasonably practicable, the safety of people and property is not put at risk from the dam.

[Regulation Part 5](#)

### Documenting the dam safety management system

Is the dam safety management system fully documented?	Yes
If not, what percentage of the dam safety management system documentation is complete?	N/A
How did you confirm this percentage?	N/A
Does the dam safety management system apply to more than one dam?	Yes

### Documenting the dam safety management system

Is the dam safety management	Yes
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system fully implemented for this dam?	
If not, what percentage of the dam safety management system is implemented?	N/A
How did you confirm this percentage?	N/A

### Dam safety management system review

The declared dam owner must ensure the dam safety management system is reviewed each year to ensure it remains effective.

[Regulation, clause 17](#)

Date of last safety management system review	6 October 2021
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### Assessment of societal and individual risk rating

The owner of a declared dam (other than a proposed dam) must use the risk management framework to produce a written report on all foreseeable risks to the dam:

- at least once every 5 years
- when a major change to the dam is proposed, and
- when required by Dams Safety NSW.

[Regulation, subclause 15 \(1\)](#)

Date of last risk report	1st March 2019
Individual risk rating of the dam	$9.2 \times 10^{-9}$
Societal risk rating of the dam	$4.6 \times 10^{-8}$
Date of next planned risk report	by 1st February 2023

## Other safety requirements – Part 6

### Incident reporting

The declared dam owner must report incidents that happen at or in relation to the dam to Dams Safety NSW.

[Regulation, clause 19](#)

Number of incidents during the 2021 calendar year	0
Topic/subject of each incident(s)	N/A

### Safety review

The declared dam owner must ensure a competent person conducts a safety review at least once every 15 years, and as soon as practicable after:

- a deficiency or weakness in the dam is identified
- there is a change in the accepted technology or methods used in one of the relevant specialties or design criteria for dams
- the dam consequence category changes, or
- it is required by Dams Safety NSW.

[Regulation, clause 20](#)

Date of last safety review <a href="#">(Regulation, subclause 20(2))</a>	1st June 1992 (SMEC)  As the dam was previously categorised as low in consequence and there were no legislative requirements to undertake a safety review, a safety review was not undertaken in 2007.  However, it was subject to our standard routine surveillance practices.
Planned date for next safety review	1st February 2023 (In progress)

### For extreme and high consequence dams only

If the consequence category is Extreme, High A, High B, or High C, the safety review must be reviewed by an independent competent person

[Regulation, subclause 20\(6\)](#)





Name of independent reviewer	Murray DSR Peer Reviewers: Peter Darling (Chief Technical Principal - Dams, Snowy Mountains Engineering Consultants or SMEC) Mark Eggers (Principal, Pells Sullivan Meynink)
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### Notification of significant changes to the dam

Before making any significant change to the configuration of the declared dam that may affect the safety of the dam, the dam owner must inform Dams Safety NSW of the proposed change in writing.

[Regulation, clause 21](#)

Has any significant change to the configuration of the dam been made during the 2021 calendar year?	No
If yes, describe the change	N/A
Is any significant change to the configuration of the dam planned?	No
If yes, describe the change and when is it planned to happen?	N/A

### Emergency exercises

The declared dam owner must ensure that staff who are involved in the operation of the dam undertake emergency exercises at least once every 3 years.

[Regulation, clause 22](#)

Date of last 'theoretical classroom' emergency exercise ( <a href="#">Regulation, subclause 22(1)</a> )	28th October 2021 (Murray Region)
Planned date of next 'theoretical classroom' emergency exercise	by 28th October 2024 (Murray Region)

**For extreme or high consequence dams only**

The declared dam owner must ensure that staff who are involved in operating the dam undertake practical emergency exercises at least once every 5 years, where possible including relevant agencies identified in the emergency plan.

[Regulation, subclauses 22 \(3\) and 22 \(4\)](#)

Date of last practical emergency exercise	N/A. There was no regulatory requirement to perform a 'practical' exercise before regulations came into effect on 1st November 2021. However, a routine testing regime has now been established including practical emergency exercises.
Planned date of next practical emergency exercise	by 23rd October 2023 (Murray Region)

**Attestation**

Refer to Snowy Hydro's Statement of Attestation for Annual Dams Safety Standards Report.





## Talbingo Dam

Snowy Hydro Limited

### Annual Dams Safety Standards Report

March 2022



Snowy Hydro Limited (**Snowy Hydro**) as a declared dam owner is required under the Dams Safety Regulation 2019 to publish an Annual Dam Safety Standards Report demonstrating Snowy Hydro Limited's compliance with the dam safety standards for the calendar year ending 31 December 2021.

Snowy Hydro attests to the accuracy of the report.

A separate report for each declared dam must be lodged with Dams Safety NSW by 31 March 2022.

### Section 1 – Declared dam identification details

Dam Name	Talbingo Dam
Dam Owner	Snowy Hydro Limited

### Section 2 – Dams safety standards

#### Consequence category of dam – Regulation, Part 3

The dam consequence category is a rating of the impact that could potentially be caused if the dam failed. It must be assessed:

- within 6 months of the dam being declared
- at least once every 15 years
- after any significant change in the number of people likely to be affected by a dam failure
- or if required by Dams Safety NSW.

#### [Regulation, subclause 7\(2\)](#)

Dam consequence category	Sunny Day: <b>Extreme</b> Flood: <b>Extreme</b>
Date of the last consequence category assessment by a competent person	1st May 2021
Has the number of people likely to be affected by a dam failure changed since the last consequence category review?	No
Competent Person:	David Stephens, (Senior Hydraulic Modeller, Hydrology & Risk Consulting or HARC)
How was this checked?	HEC-LifeSim

	* V2 was used for PLL estimates
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\*Note: LifeSim is an agent-based system for estimating potential loss of life (PLL) with the fundamental intent to simulate population redistribution during an evacuation

### For extreme and high consequence dams only:

If the consequence category is Extreme, High A, High B, or High C, the consequence category assessment must be reviewed by an independent competent person

[Regulation, subclause 7\(4\)](#)

Date of last independent review of the consequence category assessment	August 2019
Name of independent reviewer	Peter Hill (Director, HARC)

### Dams safety standard – Dam safety management system - Part 5

The dam safety management system provides a comprehensive and integrated system to manage all aspects of foreseeable risks relating to dam failure. It is designed to be used by the dam owner to ensure, as far as reasonably practicable, the safety of people and property is not put at risk from the dam.

[Regulation Part 5](#)

### Documenting the dam safety management system

Is the dam safety management system fully documented?	Yes
If not, what percentage of the dam safety management system documentation is complete?	N/A
How did you confirm this percentage?	N/A
Does the dam safety management system apply to more than one dam?	Yes

## Documenting the dam safety management system

Is the dam safety management system fully implemented for this dam?	Yes
If not, what percentage of the dam safety management system is implemented?	N/A
How did you confirm this percentage?	N/A

## Dam safety management system review

The declared dam owner must ensure the dam safety management system is reviewed each year to ensure it remains effective.

[Regulation, clause 17](#)

Date of last safety management system review	6 October 2021
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## Assessment of societal and individual risk rating

The owner of a declared dam (other than a proposed dam) must use the risk management framework to produce a written report on all foreseeable risks to the dam:

- at least once every 5 years
- when a major change to the dam is proposed, and
- when required by Dams Safety NSW.

[Regulation, subclause 15 \(1\)](#)

Date of last risk report	1st December 2021
Individual risk rating of the dam	$5.6 \times 10^{-6}$
Societal risk rating of the dam	$3.8 \times 10^{-3}$
Date of next planned risk report	by 1st September 2022

## Other safety requirements – Part 6

### Incident reporting

The declared dam owner must report incidents that happen at or in relation to the dam to Dams Safety NSW.

[Regulation, clause 19](#)

Number of incidents during the 2021 calendar year	0
Topic/subject of each incident(s)	N/A

### Safety review

The declared dam owner must ensure a competent person conducts a safety review at least once every 15 years, and as soon as practicable after:

- a deficiency or weakness in the dam is identified
- there is a change in the accepted technology or methods used in one of the relevant specialties or design criteria for dams
- the dam consequence category changes, or
- it is required by Dams Safety NSW.

[Regulation, clause 20](#)

Date of last safety review ( <a href="#">Regulation, subclause 20(2)</a> )	1st February 2013 (URS)
Planned date for next safety review	1st September 2022 (In progress)

### For extreme and high consequence dams only

If the consequence category is Extreme, High A, High B, or High C, the safety review must be reviewed by an independent competent person

[Regulation, subclause 20\(6\)](#)

Name of independent reviewer	Graeme Bell (Dam Engineering Consultant, University of NSW or UNSW) Mark Foster (Director, Dam Consulting Services) Alan Moon (Engineering Geologist Consultant, UNSW)
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### Notification of significant changes to the dam

Before making any significant change to the configuration of the declared dam that may affect the safety of the dam, the dam owner must inform Dams Safety NSW of the proposed change in writing.

[Regulation, clause 21](#)

Has any significant change to the configuration of the dam been made during the 2021 calendar year?	No
If yes, describe the change	N/A
Is any significant change to the configuration of the dam planned?	No
If yes, describe the change and when is it planned to happen?	N/A

### Emergency exercises

The declared dam owner must ensure that staff who are involved in the operation of the dam undertake emergency exercises at least once every 3 years.

[Regulation, clause 22](#)

Date of last 'theoretical classroom' emergency exercise ( <a href="#">Regulation, subclause 22(1)</a> )	2nd July 2020 (Lower Tumut Region)
Planned date of next 'theoretical classroom' emergency exercise	by 2nd July 2023 (Lower Tumut Region)

**For extreme or high consequence dams only**

The declared dam owner must ensure that staff who are involved in operating the dam undertake practical emergency exercises at least once every 5 years, where possible including relevant agencies identified in the emergency plan.

[Regulation, subclauses 22 \(3\) and 22 \(4\)](#)

Date of last practical emergency exercise	29th May 2018
Planned date of next practical emergency exercise	by 29th May 2023 (Lower Tumut Region)

**Attestation**

Refer to Snowy Hydro's Statement of Attestation for Annual Dams Safety Standards Report.



## Geehi Dam

Snowy Hydro Limited

### Annual Dams Safety Standards Report

March 2022



Snowy Hydro Limited as a declared dam owner is required under the Dams Safety Regulation 2019 to publish an Annual Dam Safety Standards Report demonstrating Snowy Hydro Limited's compliance with the dam safety standards for the calendar year ending 31 December 2021.

Snowy Hydro attests to the accuracy of the report.

A separate report for each declared dam must be lodged with Dams Safety NSW by 31 March 2022.

### Section 1 – Declared dam identification details

Dam Name	Geehi Dam
Dam Owner	Snowy Hydro Limited

### Section 2 – Dams safety standards

#### Consequence category of dam – Regulation, Part 3

The dam consequence category is a rating of the impact that could potentially be caused if the dam failed. It must be assessed:

- within 6 months of the dam being declared
- at least once every 15 years
- after any significant change in the number of people likely to be affected by a dam failure
- or if required by Dams Safety NSW.

#### [Regulation, subclause 7\(2\)](#)

Dam consequence category	Sunny Day: <b>High B</b> Flood: <b>High B</b>
Date of the last consequence category assessment by a competent person	1st August 2019
Has the number of people likely to be affected by a dam failure changed since the last consequence category review?	No
Competent Person:	David Stephens (Senior Hydraulic Modeller, Hydrology & Risk Consulting or HARC)
How was this checked?	Reclamation Consequence Estimating Methodology



	(RCEM)* was used for PLL estimates.
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\*Note: RCEM is empirical method for estimating potential loss of life (PLL)

### For extreme and high consequence dams only:

If the consequence category is Extreme, High A, High B, or High C, the consequence category assessment must be reviewed by an independent competent person

[Regulation, subclause 7\(4\)](#)

Date of last independent review of the consequence category assessment	1st August 2019
Name of independent reviewer	Peter Hill (Principal, HARC)

### Dams safety standard – Dam safety management system - Part 5

The dam safety management system provides a comprehensive and integrated system to manage all aspects of foreseeable risks relating to dam failure. It is designed to be used by the dam owner to ensure, as far as reasonably practicable, the safety of people and property is not put at risk from the dam.

[Regulation Part 5](#)

### Documenting the dam safety management system

Is the dam safety management system fully documented?	Yes
If not, what percentage of the dam safety management system documentation is complete?	N/A
How did you confirm this percentage?	N/A
Does the dam safety management system apply to more than one dam?	Yes

### Documenting the dam safety management system

Is the dam safety management system fully implemented for this dam?	Yes
If not, what percentage of the dam safety management system is implemented?	N/A
How did you confirm this percentage?	N/A

### **Dam safety management system review**

The declared dam owner must ensure the dam safety management system is reviewed each year to ensure it remains effective.

[Regulation, clause 17](#)

Date of last safety management system review	6 October 2021
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### **Assessment of societal and individual risk rating**

The owner of a declared dam (other than a proposed dam) must use the risk management framework to produce a written report on all foreseeable risks to the dam:

- at least once every 5 years
- when a major change to the dam is proposed, and
- when required by Dams Safety NSW.

[Regulation, subclause 15 \(1\)](#)

Date of last risk report	1st March 2019
Individual risk rating of the dam	$1.1 \times 10^{-7}$
Societal risk rating of the dam	$6.4 \times 10^{-6}$
Date of next planned risk report	by 1st February 2023

## Other safety requirements – Part 6

### Incident reporting

The declared dam owner must report incidents that happen at or in relation to the dam to Dams Safety NSW.

[Regulation, clause 19](#)

Number of incidents during the 2021 calendar year	0
Topic/subject of each incident(s)	N/A

### Safety review

The declared dam owner must ensure a competent person conducts a safety review at least once every 15 years, and as soon as practicable after:

- a deficiency or weakness in the dam is identified
- there is a change in the accepted technology or methods used in one of the relevant specialties or design criteria for dams
- the dam consequence category changes, or
- it is required by Dams Safety NSW.

[Regulation, clause 20](#)

Date of last safety review <a href="#">(Regulation, subclause 20(2))</a>	<p>Snowy Hydro completed the last safety review on 1st November 1987 (Peter J Burgess).</p> <p>As there was no regulatory obligation to produce dam safety reviews prior to the 2019 dam safety regulations, Snowy Hydro did not conduct a safety review in 2002.</p> <p>However, it was subject to our standard routine surveillance practices.</p>
Planned date for next safety review	1st February 2023 (In progress)

### For extreme and high consequence dams only

If the consequence category is Extreme, High A, High B, or High C, the safety review must be reviewed by an independent competent person

[Regulation, subclause 20\(6\)](#)

Name of independent reviewer	Murray DSR Peer Reviewers: Peter Darling (Chief Technical Principal - Dams, Snowy Mountains Engineering Consultants or SMEC) Mark Eggers (Principal, Pells Sullivan Meynink or PSM)
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### Notification of significant changes to the dam

Before making any significant change to the configuration of the declared dam that may affect the safety of the dam, the dam owner must inform Dams Safety NSW of the proposed change in writing.

[Regulation, clause 21](#)

Has any significant change to the configuration of the dam been made during the 2021 calendar year?	No
If yes, describe the change	N/A
Is any significant change to the configuration of the dam planned?	No
If yes, describe the change and when is it planned to happen?	N/A

### Emergency exercises

The declared dam owner must ensure that staff who are involved in the operation of the dam undertake emergency exercises at least once every 3 years.

[Regulation, clause 22](#)

Date of last 'theoretical classroom' emergency exercise ( <a href="#">Regulation, subclause 22(1)</a> )	28th October 2021 (Murray Region)
Planned date of next 'theoretical classroom' emergency exercise	28th October 2024 (Murray Region)

**For extreme or high consequence dams only**

The declared dam owner must ensure that staff who are involved in operating the dam undertake practical emergency exercises at least once every 5 years, where possible including relevant agencies identified in the emergency plan.

[Regulation, subclauses 22 \(3\) and 22 \(4\)](#)

Date of last practical emergency exercise	N/A. There was no regulatory requirement to perform a 'practical' exercise before regulations came into effect on 1st November 2021. However, a routine testing regime has now been established including practical emergency exercises.
Planned date of next practical emergency exercise	by 23rd October 2023 (Murray Region)

**Attestation**

Refer to Snowy Hydro's Statement of Attestation for Annual Dams Safety Standards Report.





## Khancoban Dam

Snowy Hydro Limited

### Annual Dams Safety Standards Report

March 2022

Snowy Hydro Limited (**Snowy Hydro**) as a declared dam owner is required under the Dams Safety Regulation 2019 to publish an Annual Dam Safety Standards Report demonstrating Snowy Hydro Limited's compliance with the dam safety standards for the calendar year ending 31 December 2021.

Snowy Hydro attests to the accuracy of the report.

A separate report for each declared dam must be lodged with Dams Safety NSW by 31 March 2022.

### Section 1 – Declared dam identification details

Dam Name	Khancoban Dam
Dam Owner	Snowy Hydro Limited

### Section 2 – Dams safety standards

#### Consequence category of dam – Regulation, Part 3

The dam consequence category is a rating of the impact that could potentially be caused if the dam failed. It must be assessed:

- within 6 months of the dam being declared
- at least once every 15 years
- after any significant change in the number of people likely to be affected by a dam failure
- or if required by Dams Safety NSW.

#### [Regulation, subclause 7\(2\)](#)

Dam consequence category	Sunny Day: <b>High C</b> Flood: <b>Significant</b>
Date of the last consequence category assessment by a competent person	1st August 2019
Has the number of people likely to be affected by a dam failure changed since the last consequence category review?	No
Competent Person:	Chriselyn Kavanagh (Senior Hydrologist, Hydrology and Risk Consulting or HARC)
How was this checked?	Reclamation Consequence Estimating Methodology

	(RCEM)* was used for PLL estimates
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\*Note: RCEM is empirical method for estimating potential loss of life (PLL)

### For extreme and high consequence dams only:

If the consequence category is Extreme, High A, High B, or High C, the consequence category assessment must be reviewed by an independent competent person

[Regulation, subclause 7\(4\)](#)

Date of last independent review of the consequence category assessment	1st August 2019.
Name of independent reviewer	Peter Hill (Director, HARC)

### Dams safety standard – Dam safety management system - Part 5

The dam safety management system provides a comprehensive and integrated system to manage all aspects of foreseeable risks relating to dam failure. It is designed to be used by the dam owner to ensure, as far as reasonably practicable, the safety of people and property is not put at risk from the dam.

[Regulation Part 5](#)

### Documenting the dam safety management system

Is the dam safety management system fully documented?	Yes
If not, what percentage of the dam safety management system documentation is complete?	N/A
How did you confirm this percentage?	N/A
Does the dam safety management system apply to more than one dam?	Yes



## Documenting the dam safety management system

Is the dam safety management system fully implemented for this dam?	Yes
If not, what percentage of the dam safety management system is implemented?	N/A
How did you confirm this percentage?	N/A

## Dam safety management system review

The declared dam owner must ensure the dam safety management system is reviewed each year to ensure it remains effective.

[Regulation, clause 17](#)

Date of last safety management system review	6 October 2021
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## Assessment of societal and individual risk rating

The owner of a declared dam (other than a proposed dam) must use the risk management framework to produce a written report on all foreseeable risks to the dam:

- at least once every 5 years
- when a major change to the dam is proposed, and
- when required by Dams Safety NSW.

[Regulation, subclause 15 \(1\)](#)

Date of last risk report	1st March 2019
Individual risk rating of the dam	$8.4 \times 10^{-7}$
Societal risk rating of the dam	$3.0 \times 10^{-6}$
Date of next planned risk report	by 1st February 2023

## Other safety requirements – Part 6

### Incident reporting

The declared dam owner must report incidents that happen at or in relation to the dam to Dams Safety NSW.

[Regulation, clause 19](#)

Number of incidents during the 2021 calendar year	0
Topic/subject of each incident(s)	N/A

### Safety review

The declared dam owner must ensure a competent person conducts a safety review at least once every 15 years, and as soon as practicable after:

- a deficiency or weakness in the dam is identified
- there is a change in the accepted technology or methods used in one of the relevant specialties or design criteria for dams
- the dam consequence category changes, or
- it is required by Dams Safety NSW.

[Regulation, clause 20](#)

Date of last safety review <a href="#">(Regulation, subclause 20(2))</a>	<p>Snowy Hydro completed the last safety review on 1st June 1991 (Peter J Burgess).</p> <p>As there was no regulatory obligation to produce dam safety reviews prior to the 2019 dam safety regulations, Snowy Hydro did not conduct a safety review in 2006.</p> <p>However, it was subject to our standard routine surveillance practices.</p>
Planned date for next safety review	1st February 2023

### For extreme and high consequence dams only

If the consequence category is Extreme, High A, High B, or High C, the safety review must be reviewed by an independent competent person

[Regulation, subclause 20\(6\)](#)





Name of independent reviewer	Murray DSR Peer Reviewers: Peter Darling (Chief Technical Principal - Dams, Snowy Mountains Engineering Consultants or SMEC) Mark Eggers (Principal, Pells Sullivan Meynink or PSM)
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### Notification of significant changes to the dam

Before making any significant change to the configuration of the declared dam that may affect the safety of the dam, the dam owner must inform Dams Safety NSW of the proposed change in writing.

[Regulation, clause 21](#)

Has any significant change to the configuration of the dam been made during the 2021 calendar year?	No
If yes, describe the change	N/A
Is any significant change to the configuration of the dam planned?	No
If yes, describe the change and when is it planned to happen?	N/A

### Emergency exercises

The declared dam owner must ensure that staff who are involved in the operation of the dam undertake emergency exercises at least once every 3 years.

[Regulation, clause 22](#)

Date of last 'theoretical classroom' emergency exercise ( <a href="#">Regulation, subclause 22(1)</a> )	28th October 2021 (Murray Region)
Planned date of next 'theoretical classroom' emergency exercise	by 28th October 2024 (Murray Region)

**For extreme or high consequence dams only**

The declared dam owner must ensure that staff who are involved in operating the dam undertake practical emergency exercises at least once every 5 years, where possible including relevant agencies identified in the emergency plan.

[Regulation, subclauses 22 \(3\) and 22 \(4\)](#)

Date of last practical emergency exercise	N/A. There was no regulatory requirement to perform a 'practical' exercise before regulations came into effect on 1st November 2021. However, a routine testing regime has now been established including practical emergency exercises.
Planned date of next practical emergency exercise	by 23rd October 2023 (Murray Region)

**Attestation**

Refer to Snowy Hydro's Statement of Attestation for Annual Dams Safety Standards Report.



## Tumut 3 Inlet Structure

Snowy Hydro Limited

### Annual Dams Safety Standards Report

March 2022

Snowy Hydro Limited (**Snowy Hydro**) as a declared dam owner is required under the Dams Safety Regulation 2019 to publish an Annual Dam Safety Standards Report demonstrating Snowy Hydro Limited's compliance with the dam safety standards for the calendar year ending 31 December 2021.

Snowy Hydro attests to the accuracy of the report.

A separate report for each declared dam must be lodged with Dams Safety NSW by 31 March 2022.

### Section 1 – Declared dam identification details

Dam Name	Tumut 3 Inlet Structure
Dam Owner	Snowy Hydro Limited

### Section 2 – Dams safety standards

#### Consequence category of dam – Regulation, Part 3

The dam consequence category is a rating of the impact that could potentially be caused if the dam failed. It must be assessed:

- within 6 months of the dam being declared
- at least once every 15 years
- after any significant change in the number of people likely to be affected by a dam failure
- or if required by Dams Safety NSW.

#### [Regulation, subclause 7\(2\)](#)

Dam consequence category	Sunny Day: <b>High A</b> Flood: <b>Extreme</b>
Date of the last consequence category assessment by a competent person	1st May 2021
Has the number of people likely to be affected by a dam failure changed since the last consequence category review?	No
Competent Person:	David Stephens (Senior Flood Modeller, Hydrology & Risk Consulting or HARC)
How was this checked?	HEC-LifeSim



	* V2 was used for PLL estimates
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\*Note: LifeSim is an agent-based system for estimating potential loss of life (PLL) with the fundamental intent to simulate population redistribution during an evacuation

### For extreme and high consequence dams only:

If the consequence category is Extreme, High A, High B, or High C, the consequence category assessment must be reviewed by an independent competent person

[Regulation, subclause 7\(4\)](#)

Date of last independent review of the consequence category assessment	1st May 2021
Name of independent reviewer	Peter Hill (Director, HARC)

### Dams safety standard – Dam safety management system - Part 5

The dam safety management system provides a comprehensive and integrated system to manage all aspects of foreseeable risks relating to dam failure. It is designed to be used by the dam owner to ensure, as far as reasonably practicable, the safety of people and property is not put at risk from the dam.

[Regulation Part 5](#)

### Documenting the dam safety management system

Is the dam safety management system fully documented?	Yes
If not, what percentage of the dam safety management system documentation is complete?	N/A
How did you confirm this percentage?	N/A
Does the dam safety management system apply to more than one dam?	Yes

### Documenting the dam safety management system

Is the dam safety management	Yes
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system fully implemented for this dam?	
If not, what percentage of the dam safety management system is implemented?	N/A
How did you confirm this percentage?	N/A

### Dam safety management system review

The declared dam owner must ensure the dam safety management system is reviewed each year to ensure it remains effective.

[Regulation, clause 17](#)

Date of last safety management system review	6 October 2021
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### Assessment of societal and individual risk rating

The owner of a declared dam (other than a proposed dam) must use the risk management framework to produce a written report on all foreseeable risks to the dam:

- at least once every 5 years
- when a major change to the dam is proposed, and
- when required by Dams Safety NSW.

[Regulation, subclause 15 \(1\)](#)

Date of last risk report	1st December 2021
Individual risk rating of the dam	$3.2 \times 10^{-5}$
Societal risk rating of the dam	$1.3 \times 10^{-3}$
Date of next planned risk report	by 1st September 2022

### Other safety requirements – Part 6

#### Incident reporting

The declared dam owner must report incidents that happen at or in relation to the dam to Dams Safety NSW.

[Regulation, clause 19](#)

Number of incidents during the	0
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2021 calendar year	
Topic/subject of each incident(s)	NA

### Safety review

The declared dam owner must ensure a competent person conducts a safety review at least once every 15 years, and as soon as practicable after:

- a deficiency or weakness in the dam is identified
- there is a change in the accepted technology or methods used in one of the relevant specialties or design criteria for dams
- the dam consequence category changes, or
- it is required by Dams Safety NSW.

### [Regulation, clause 20](#)

Date of last safety review <a href="#">(Regulation, subclause 20(2))</a>	16th July 1991 (Peter J Burgess)  As there was no regulatory obligation to produce dam safety reviews prior to the 2019 dam safety regulations, Snowy Hydro did not conduct a safety review in 2006.  However, it was subject to our standard routine surveillance practices.
Planned date for next safety review	1st September 2022 (In progress)

### For extreme and high consequence dams only

If the consequence category is Extreme, High A, High B, or High C, the safety review must be reviewed by an independent competent person

### [Regulation, subclause 20\(6\)](#)

Name of independent reviewer	Graeme Bell (Dam Engineering Consultant UNSW) Mark Foster (Director, Dam Consulting Services) Alan Moon (Engineering Geologist Consultant, UNSW)
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### Notification of significant changes to the dam

Before making any significant change to the configuration of the declared dam that may affect the safety of the dam, the dam owner must inform Dams Safety NSW of the proposed change in writing.

[Regulation, clause 21](#)

Has any significant change to the configuration of the dam been made during the 2021 calendar year?	No
If yes, describe the change	N/A
Is any significant change to the configuration of the dam planned?	No
If yes, describe the change and when is it planned to happen?	N/A

### Emergency exercises

The declared dam owner must ensure that staff who are involved in the operation of the dam undertake emergency exercises at least once every 3 years.

[Regulation, clause 22](#)

Date of last 'theoretical classroom' emergency exercise <a href="#">(Regulation, subclause 22(1))</a>	2nd July 2020 (Lower Tumut Region)
Planned date of next 'theoretical classroom' emergency exercise	by 2nd July 2023 (Lower Tumut Region)

### For extreme or high consequence dams only

The declared dam owner must ensure that staff who are involved in operating the dam undertake practical emergency exercises at least once every 5 years, where possible including relevant agencies identified in the emergency plan.

[Regulation, subclauses 22 \(3\) and 22 \(4\)](#)

Date of last practical emergency exercise	29th May 2018
Planned date of next practical emergency exercise	by 29th May 2023 (Lower Tumut Region)



## Attestation

Refer to Snowy Hydro's Statement of Attestation for Annual Dams Safety Standards Report.





## Jounama Dam

Snowy Hydro Limited

### Annual Dams Safety Standards Report

March 2022

Snowy Hydro Limited (**Snowy Hydro**) as a declared dam owner is required under the Dams Safety Regulation 2019 to publish an Annual Dam Safety Standards Report demonstrating Snowy Hydro Limited's compliance with the dam safety standards for the calendar year ending 31 December 2021.

Snowy Hydro attests to the accuracy of the report.

A separate report for each declared dam must be lodged with Dams Safety NSW by 31 March 2022.

### Section 1 – Declared dam identification details

Dam Name	Jounama Dam
Dam Owner	Snowy Hydro Limited

### Section 2 – Dams safety standards

#### Consequence category of dam – Regulation, Part 3

The dam consequence category is a rating of the impact that could potentially be caused if the dam failed. It must be assessed:

- within 6 months of the dam being declared
- at least once every 15 years
- after any significant change in the number of people likely to be affected by a dam failure
- or if required by Dams Safety NSW.

#### Regulation, subclause 7(2)

Dam consequence category	Sunny Day: <b>High C</b> Flood: <b>Low</b>
Date of the last consequence category assessment by a competent person	1st July 2020
Has the number of people likely to be affected by a dam failure changed since the last consequence category review?	No
Competent Person:	Erin Hughes & Albert Shen (Flood Hydrologists, HARC)
How was this checked?	Itinerant PLL only estimated using exposure and fatality factors*

\*Note: The inundation area downstream of Jounama dam comprises Blowering reservoir and its rim. Thus potential loss of life (PLL) assessment is based on knowledge of typical area usage.

### For extreme and high consequence dams only:

If the consequence category is Extreme, High A, High B, or High C, the consequence category assessment must be reviewed by an independent competent person

[Regulation, subclause 7\(4\)](#)

Date of last independent review of the consequence category assessment	1st July 2020
Name of independent reviewer	David Stephens (Senior Flood Modeller, HARC)

### Dams safety standard – Dam safety management system - Part 5

The dam safety management system provides a comprehensive and integrated system to manage all aspects of foreseeable risks relating to dam failure. It is designed to be used by the dam owner to ensure, as far as reasonably practicable, the safety of people and property is not put at risk from the dam.

[Regulation Part 5](#)

### Documenting the dam safety management system

Is the dam safety management system fully documented?	Yes
If not, what percentage of the dam safety management system documentation is complete?	N/A
How did you confirm this percentage?	N/A
Does the dam safety management system apply to more than one dam?	Yes



## Documenting the dam safety management system

Is the dam safety management system fully implemented for this dam?	Yes
If not, what percentage of the dam safety management system is implemented?	N/A
How did you confirm this percentage?	N/A

## Dam safety management system review

The declared dam owner must ensure the dam safety management system is reviewed each year to ensure it remains effective.

[Regulation, clause 17](#)

Date of last safety management system review	6th October 2021
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## Assessment of societal and individual risk rating

The owner of a declared dam (other than a proposed dam) must use the risk management framework to

produce a written report on all foreseeable risks to the dam:

- at least once every 5 years
- when a major change to the dam is proposed, and
- when required by Dams Safety NSW.

[Regulation, subclause 15 \(1\)](#)

Date of last risk report	1st March 2019
Individual risk rating of the dam	0
Societal risk rating of the dam	$7.5 \times 10^{-8}$
Date of next planned risk report	1st September 2022

## Other safety requirements – Part 6

### Incident reporting

The declared dam owner must report incidents that happen at or in relation to the dam to Dams Safety NSW.

[Regulation, clause 19](#)

Number of incidents during the 2021 calendar year	1
Topic/subject of each incident(s)	Failure of Spillway Gate AUTO Control.

### Safety review

The declared dam owner must ensure a competent person conducts a safety review at least once every 15 years, and as soon as practicable after:

- a deficiency or weakness in the dam is identified
- there is a change in the accepted technology or methods used in one of the relevant specialties or design criteria for dams
- the dam consequence category changes, or
- it is required by Dams Safety NSW.

[Regulation, clause 20](#)

Date of last safety review <a href="#">(Regulation, subclause 20(2))</a>	<p>Snowy Hydro completed the last safety review on 1st May 1991 (Peter J Burgess).</p> <p>As there was no regulatory obligation to produce dam safety reviews prior to the 2019 dam safety regulations, Snowy Hydro did not conduct a safety review in 2006.</p> <p>However, it was subject to our standard routine surveillance practices.</p>
Planned date for next safety review	By 1st September 2022 (In progress)

### For extreme and high consequence dams only



If the consequence category is Extreme, High A, High B, or High C, the safety review must be reviewed by an independent competent person [Regulation, subclause 20\(6\)](#)

Name of independent reviewer	Graeme Bell (Dam Engineering Consultant, UNSW) Mark Foster (Director, Dam Consulting Services) Alan Moon (Engineering Geologist Consultant, UNSW)
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### Notification of significant changes to the dam

Before making any significant change to the configuration of the declared dam that may affect the safety of the dam, the dam owner must inform Dams Safety NSW of the proposed change in writing.

[Regulation, clause 21](#)

Has any significant change to the configuration of the dam been made during the 2021 calendar year?	No
If yes, describe the change	N/A
Is any significant change to the configuration of the dam planned?	No
If yes, describe the change and when is it planned to happen?	N/A

### Emergency exercises

The declared dam owner must ensure that staff who are involved in the operation of the dam undertake emergency exercises at least once every 3 years.

[Regulation, clause 22](#)

Date of last 'theoretical classroom' emergency exercise ( <a href="#">Regulation, subclause 22(1)</a> )	2nd July 2020 (Lower Tumut Region)
Planned date of next 'theoretical classroom' emergency exercise	2nd July 2023 (Lower Tumut Region)

**For extreme or high consequence dams only**

The declared dam owner must ensure that staff who are involved in operating the dam undertake practical emergency exercises at least once every 5 years, where possible including relevant agencies identified in the emergency plan.

[Regulation, subclauses 22 \(3\) and 22 \(4\)](#)

Date of last practical emergency exercise	29th May 2018
Planned date of next practical emergency exercise	by 29th May 2023 (Lower Tumut Region)

**Attestation**

Refer to Snowy Hydro's Statement of Attestation for Annual Dams Safety Standards Report.



## Tooma Dam

Snowy Hydro Limited

### Annual Dams Safety Standards Report

March 2022



Snowy Hydro Limited (**Snowy Hydro**) as a declared dam owner is required under the Dams Safety Regulation 2019 to publish an Annual Dam Safety Standards Report demonstrating Snowy Hydro Limited's compliance with the dam safety standards for the calendar year ending 31 December 2021.

Snowy Hydro attests to the accuracy of the report.

A separate report for each declared dam must be lodged with Dams Safety NSW by 31 March 2022.

### Section 1 – Declared dam identification details

Dam Name	Tooma Dam
Dam Owner	Snowy Hydro Limited

### Section 2 – Dams safety standards

#### Consequence category of dam – Regulation, Part 3

The dam consequence category is a rating of the impact that could potentially be caused if the dam failed. It must be assessed:

- within 6 months of the dam being declared
- at least once every 15 years
- after any significant change in the number of people likely to be affected by a dam failure
- or if required by Dams Safety NSW.

#### Regulation, subclause 7(2)

Dam consequence category	Sunny Day: <b>High C</b> Flood: <b>High C</b>
Date of the last consequence category assessment by a competent person	1st August 2019
Has the number of people likely to be affected by a dam failure changed since the last consequence category review?	No
Competent Person:	Hench Wang (Hydrologist, Hydrology & Risk Consulting or HARC)
How was this checked?	Reclamation Consequence Estimating Methodology



	(RCEM)* was used for PLL estimates
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\*Note: RCEM is empirical method for estimating potential loss of life (PLL)

### For extreme and high consequence dams only:

If the consequence category is Extreme, High A, High B, or High C, the consequence category assessment must be reviewed by an independent competent person

[Regulation, subclause 7\(4\)](#)

Date of last independent review of the consequence category assessment	1st August 2019
Name of independent reviewer	Peter Hill (Principal, Hydrology & Risk Consulting or HARC)

### Dams safety standard – Dam safety management system - Part 5

The dam safety management system provides a comprehensive and integrated system to manage all aspects of foreseeable risks relating to dam failure. It is designed to be used by the dam owner to ensure, as far as reasonably practicable, the safety of people and property is not put at risk from the dam.

[Regulation Part 5](#)

### Documenting the dam safety management system

Is the dam safety management system fully documented?	Yes
If not, what percentage of the dam safety management system documentation is complete?	N/A
How did you confirm this percentage?	N/A
Does the dam safety management system apply to more than one dam?	Yes

## Documenting the dam safety management system

Is the dam safety management system fully implemented for this dam?	Yes
If not, what percentage of the dam safety management system is implemented?	N/A
How did you confirm this percentage?	N/A

## Dam safety management system review

The declared dam owner must ensure the dam safety management system is reviewed each year to ensure it remains effective.

[Regulation, clause 17](#)

Date of last safety management system review	6 October 2021
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## Assessment of societal and individual risk rating

The owner of a declared dam (other than a proposed dam) must use the risk management framework to produce a written report on all foreseeable risks to the dam:

- at least once every 5 years
- when a major change to the dam is proposed, and
- when required by Dams Safety NSW.

[Regulation, subclause 15 \(1\)](#)

Date of last risk report	1st March 2019
Individual risk rating of the dam	$2.6 \times 10^{-7}$
Societal risk rating of the dam	$8.2 \times 10^{-6}$
Date of next planned risk report	by 1st February 2023

## Other safety requirements – Part 6

### Incident reporting

The declared dam owner must report incidents that happen at or in relation to the dam to Dams Safety NSW.

[Regulation, clause 19](#)

Number of incidents during the 2021 calendar year	0
Topic/subject of each incident(s)	N/A

### Safety review

The declared dam owner must ensure a competent person conducts a safety review at least once every 15 years, and as soon as practicable after:

- a deficiency or weakness in the dam is identified
- there is a change in the accepted technology or methods used in one of the relevant specialties or design criteria for dams
- the dam consequence category changes, or
- it is required by Dams Safety NSW.

[Regulation, clause 20](#)

Date of last safety review <a href="#">(Regulation, subclause 20(2))</a>	22 January 2015 (URS)
Planned date for next safety review	by 22 January 2030

### For extreme and high consequence dams only

If the consequence category is Extreme, High A, High B, or High C, the safety review must be reviewed by an independent competent person

[Regulation, subclause 20\(6\)](#)

Name of independent reviewer	Nil
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### Notification of significant changes to the dam

Before making any significant change to the configuration of the declared dam that may affect the safety of the dam, the dam owner must inform Dams Safety NSW of the proposed change in writing.

[Regulation, clause 21](#)

Has any significant change to the configuration of the dam been made during the 2021 calendar year?	No
If yes, describe the change	N/A
Is any significant change to the configuration of the dam planned?	No
If yes, describe the change and when is it planned to happen?	N/A

### Emergency exercises

The declared dam owner must ensure that staff who are involved in the operation of the dam undertake emergency exercises at least once every 3 years.

[Regulation, clause 22](#)

Date of last 'theoretical classroom' emergency exercise <a href="#">(Regulation, subclause 22(1))</a>	28th October 2021 (Murray Region)
Planned date of next 'theoretical classroom' emergency exercise	by 28th October 2024 (Murray Region)

**For extreme or high consequence dams only**

The declared dam owner must ensure that staff who are involved in operating the dam undertake practical emergency exercises at least once every 5 years, where possible including relevant agencies identified in the emergency plan.

[Regulation, subclauses 22 \(3\) and 22 \(4\)](#)

Date of last practical emergency exercise	N/A. There was no regulatory requirement to perform a 'practical' exercise before regulations came into effect on 1st November 2021. However, a routine testing regime has now been established including practical emergency exercises.
Planned date of next practical emergency exercise	by 23rd October 2023 (Murray Region)

**Attestation**

Refer to Snowy Hydro's Statement of Attestation for Annual Dams Safety Standards Report.





# Tantangara Dam

Snowy Hydro Limited

## Annual Dams Safety Standards Report

March 2022



Snowy Hydro Limited (**Snowy Hydro**) as a declared dam owner is required under the Dams Safety Regulation 2019 to publish an Annual Dam Safety Standards Report demonstrating Snowy Hydro Limited's compliance with the dam safety standards for the calendar year ending 31 December 2021.

Snowy Hydro attests to the accuracy of the report.

A separate report for each declared dam must be lodged with Dams Safety NSW by 31 March 2022.

### Section 1 – Declared dam identification details

Dam Name	Tantangara Dam
Dam Owner	Snowy Hydro Limited

### Section 2 – Dams safety standards

#### Consequence category of dam – Regulation, Part 3

The dam consequence category is a rating of the impact that could potentially be caused if the dam failed. It must be assessed:

- within 6 months of the dam being declared
- at least once every 15 years
- after any significant change in the number of people likely to be affected by a dam failure
- or if required by Dams Safety NSW.

#### Regulation, subclause 7(2)

Dam consequence category	Sunny Day: <b>High A</b> Flood: <b>High B</b>
Date of the last consequence category assessment by a competent person	20th June 2014
Has the number of people likely to be affected by a dam failure changed since the last consequence category review?	No
Competent Person:	Chriselyn Meneses (SKM)
How was this checked?	Reclamation Consequence Estimating Methodology (RCEM) and Graham (1999)*



\*Note: The Graham (1999) method determines potential loss of life (PLL) based on an empirical relationship derived between actual flood consequences caused by dam failure

### For extreme and high consequence dams only:

If the consequence category is Extreme, High A, High B, or High C, the consequence category assessment must be reviewed by an independent competent person

[Regulation, subclause 7\(4\)](#)

Date of last independent review of the consequence category assessment	20th June 2014
Name of independent reviewer	David Stephens (SKM)

### Dams safety standard – Dam safety management system - Part 5

The dam safety management system provides a comprehensive and integrated system to manage all aspects of foreseeable risks relating to dam failure. It is designed to be used by the dam owner to ensure, as far as reasonably practicable, the safety of people and property is not put at risk from the dam.

[Regulation Part 5](#)

### Documenting the dam safety management system

Is the dam safety management system fully documented?	Yes
If not, what percentage of the dam safety management system documentation is complete?	N/A
How did you confirm this percentage?	N/A
Does the dam safety management system apply to more than one dam?	Yes

### Documenting the dam safety management system

Is the dam safety management system fully implemented for this dam?	Yes
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If not, what percentage of the dam safety management system is implemented?	N/A
How did you confirm this percentage?	N/A

### **Dam safety management system review**

The declared dam owner must ensure the dam safety management system is reviewed each year to ensure it remains effective.

[Regulation, clause 17](#)

Date of last safety management system review	6 October 2021
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### **Assessment of societal and individual risk rating**

The owner of a declared dam (other than a proposed dam) must use the risk management framework to

produce a written report on all foreseeable risks to the dam:

- at least once every 5 years
- when a major change to the dam is proposed, and
- when required by Dams Safety NSW.

[Regulation, subclause 15 \(1\)](#)

Date of last risk report	1st March 2019
Individual risk rating of the dam	$3.5 \times 10^{-12}$
Societal risk rating of the dam	$6.4 \times 10^{-10}$
Date of next planned risk report	1st February 2023

## Other safety requirements – Part 6

### Incident reporting

The declared dam owner must report incidents that happen at or in relation to the dam to Dams Safety NSW.

[Regulation, clause 19](#)

Number of incidents during the 2021 calendar year	0
Topic/subject of each incident(s)	N/A

### Safety review

The declared dam owner must ensure a competent person conducts a safety review at least once every 15 years, and as soon as practicable after:

- a deficiency or weakness in the dam is identified
- there is a change in the accepted technology or methods used in one of the relevant specialties or design criteria for dams
- the dam consequence category changes, or
- it is required by Dams Safety NSW.

[Regulation, clause 20](#)

Date of last safety review <a href="#">(Regulation, subclause 20(2))</a>	1st November 2018 (GHD)
Planned date for next safety review	by 1st November 2033

### For extreme and high consequence dams only

If the consequence category is Extreme, High A, High B, or High C, the safety review must be reviewed by an independent competent person

[Regulation, subclause 20\(6\)](#)

Name of independent reviewer	Brian Cooper (Director, Brian Cooper Consulting)
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### Notification of significant changes to the dam

Before making any significant change to the configuration of the declared dam that may affect the safety of the dam, the dam owner must inform Dams Safety NSW of the proposed change in writing.

[Regulation, clause 21](#)

Has any significant change to the configuration of the dam been made during the 2021 calendar year?	No
If yes, describe the change	N/A
Is any significant change to the configuration of the dam planned?	No
If yes, describe the change and when is it planned to happen?	N/A

### Emergency exercises

The declared dam owner must ensure that staff who are involved in the operation of the dam undertake emergency exercises at least once every 3 years.

[Regulation, clause 22](#)

Date of last 'theoretical classroom' emergency exercise ( <a href="#">Regulation, subclause 22(1)</a> )	4th December 2019 (Upper Tumut Region)
Planned date of next 'theoretical classroom' emergency exercise	by 4th December 2022 (Upper Tumut Region)



**For extreme or high consequence dams only**

The declared dam owner must ensure that staff who are involved in operating the dam undertake practical emergency exercises at least once every 5 years, where possible including relevant agencies identified in the emergency plan.

[Regulation, subclauses 22 \(3\) and 22 \(4\)](#)

Date of last practical emergency exercise	4th December 2019
Planned date of next practical emergency exercise	by 4th December 2024 (Upper Tumut Region Practical)

**Attestation**

Refer to Snowy Hydro’s Statement of Attestation for Annual Dams Safety Standards Report.





# Tumut Pond Dam

Snowy Hydro Limited

## Annual Dams Safety Standards Report

March 2022



Snowy Hydro Limited as a declared dam owner is required under the Dams Safety Regulation 2019 to publish an Annual Dam Safety Standards Report demonstrating Snowy Hydro Limited's compliance with the dam safety standards for the calendar year ending 31 December 2021.

Snowy Hydro attests to the accuracy of the report.

A separate report for each declared dam must be lodged with Dams Safety NSW by 31 March 2022.

### Section 1 – Declared dam identification details

Dam Name	Tumut Pond Dam
Dam Owner	Snowy Hydro Limited

### Section 2 – Dams safety standards

#### Consequence category of dam – Regulation, Part 3

The dam consequence category is a rating of the impact that could potentially be caused if the dam failed. It must be assessed:

- within 6 months of the dam being declared
- at least once every 15 years
- after any significant change in the number of people likely to be affected by a dam failure
- or if required by Dams Safety NSW.

#### Regulation, subclause 7(2)

Dam consequence category	Sunny Day: <b>High C</b> Flood: <b>High C</b>
Date of the last consequence category assessment by a competent person	1st August 2019
Competent Person:	James Woolley (Hydrologist, Hydrology & Risk Consulting or HARC)
Has the number of people likely to be affected by a dam failure changed since the last consequence category review?	No
How was this checked?	The Graham (2008) method for itinerant PLL on roads*

\*Note: The Graham (1999) method determines potential loss of life (PLL) based on an empirical relationship derived between actual flood consequences caused by dam failure.

### **For extreme and high consequence dams only:**

If the consequence category is Extreme, High A, High B, or High C, the consequence category assessment must be reviewed by an independent competent person

[Regulation, subclause 7\(4\)](#)

Date of last independent review of the consequence category assessment	1st August 2019
Name of independent reviewer	Peter Hill (Director, HARC)

### **Dams safety standard – Dam safety management system - Part 5**

The dam safety management system provides a comprehensive and integrated system to manage all aspects of foreseeable risks relating to dam failure. It is designed to be used by the dam owner to ensure, as far as reasonably practicable, the safety of people and property is not put at risk from the dam.

[Regulation Part 5](#)

### **Documenting the dam safety management system**

Is the dam safety management system fully documented?	Yes
If not, what percentage of the dam safety management system documentation is complete?	N/A
How did you confirm this percentage?	N/A
Does the dam safety management system apply to more than one dam?	Yes

### **Documenting the dam safety management system**



Is the dam safety management system fully implemented for this dam?	Yes
If not, what percentage of the dam safety management system is implemented?	N/A
How did you confirm this percentage?	N/A

### **Dam safety management system review**

The declared dam owner must ensure the dam safety management system is reviewed each year to ensure it remains effective.

[Regulation, clause 17](#)

Date of last safety management system review	6 October 2021
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### **Assessment of societal and individual risk rating**

The owner of a declared dam (other than a proposed dam) must use the risk management framework to produce a written report on all foreseeable risks to the dam:

- at least once every 5 years
- when a major change to the dam is proposed, and
- when required by Dams Safety NSW.

[Regulation, subclause 15 \(1\)](#)

Date of last risk report	1st March 2019
Individual risk rating of the dam	0
Societal risk rating of the dam	0
Date of next planned risk report	by 1st February 2023

## Other safety requirements – Part 6

### Incident reporting

The declared dam owner must report incidents that happen at or in relation to the dam to Dams Safety NSW.

[Regulation, clause 19](#)

Number of incidents during the 2021 calendar year	1
Topic/subject of each incident(s)	Uncontrolled Spillway Gate Opening

### Safety review

The declared dam owner must ensure a competent person conducts a safety review at least once every 15 years, and as soon as practicable after:

- a deficiency or weakness in the dam is identified
- there is a change in the accepted technology or methods used in one of the relevant specialties or design criteria for dams
- the dam consequence category changes, or
- it is required by Dams Safety NSW.

[Regulation, clause 20](#)

Date of last safety review <a href="#">(Regulation, subclause 20(2))</a>	1st April 1989 (SMEC)  As there was no regulatory obligation to produce dam safety reviews prior to the 2019 dam safety regulations, Snowy Hydro did not conduct a safety review in 2004.  However, it was subject to our standard routine surveillance practices.
Planned date for next safety review	1st February 2023 (In progress)

### For extreme and high consequence dams only

If the consequence category is Extreme, High A, High B, or High C, the safety review must be reviewed by an independent competent person

[Regulation, subclause 20\(6\)](#)

Name of independent reviewer	Peer reviewers for the Upper Tumut DSRs: Richard Rodd (Dam Engineering Consultant, Richard Rodd & Associates) Mark Eggers (Principal, Pells Sullivan Meynink or PSM)
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**Notification of significant changes to the dam**

Before making any significant change to the configuration of the declared dam that may affect the safety of the dam, the dam owner must inform Dams Safety NSW of the proposed change in writing.

[Regulation, clause 21](#)

Has any significant change to the configuration of the dam been made during the 2021 calendar year?	No
If yes, describe the change	N/A
Is any significant change to the configuration of the dam planned?	No
If yes, describe the change and when is it planned to happen?	N/A

**Emergency exercises**

The declared dam owner must ensure that staff who are involved in the operation of the dam undertake emergency exercises at least once every 3 years. [Regulation, clause 22](#)

Date of last 'theoretical classroom' emergency exercise <a href="#">(Regulation, subclause 22(1))</a>	4th December 2019 (Upper Tumut Region)
Planned date of next 'theoretical classroom' emergency exercise	by 4th December 2022 (Upper Tumut Region)

**For extreme or high consequence dams only**

The declared dam owner must ensure that staff who are involved in operating the dam undertake practical emergency exercises at least once



every 5 years, where possible including relevant agencies identified in the emergency plan.  
[Regulation, subclauses 22 \(3\) and 22 \(4\)](#)

Date of last practical emergency exercise	N/A. There was no regulatory requirement to perform a 'practical' exercise before regulations came into effect on 1st November 2021. However, a routine testing regime has now been established including practical emergency exercises.
Planned date of next practical emergency exercise	by 4th December 2024 (Upper Tumut Region Practical)

**Attestation**

Refer to Snowy Hydro’s Statement of Attestation for Annual Dams Safety Standards Report.





## Tumut 2 Dam

Snowy Hydro Limited

### Annual Dams Safety Standards Report

March 2022



Snowy Hydro Limited (**Snowy Hydro**) as a declared dam owner is required under the Dams Safety Regulation 2019 to publish an Annual Dam Safety Standards Report demonstrating Snowy Hydro Limited's compliance with the dam safety standards for the calendar year ending 31 December 2021.

Snowy Hydro attests to the accuracy of the report.

A separate report for each declared dam must be lodged with Dams Safety NSW by 31 March 2022.

### Section 1 – Declared dam identification details

Dam Name	Tumut 2 Dam
Dam Owner	Snowy Hydro Limited

### Section 2 – Dams safety standards

#### Consequence category of dam – Regulation, Part 3

The dam consequence category is a rating of the impact that could potentially be caused if the dam failed. It must be assessed:

- within 6 months of the dam being declared
- at least once every 15 years
- after any significant change in the number of people likely to be affected by a dam failure
- or if required by Dams Safety NSW.

#### Regulation, subclause 7(2)

Dam consequence category	Sunny Day: <b>Significant</b> Flood: <b>Significant</b>
Date of the last consequence category assessment by a competent person	1st August 2019
Has the number of people likely to be affected by a dam failure changed since the last consequence category review?	No
Competent Person:	James Woolley (Hydrologist, Hydrology & Risk Consulting or HARC)
How was this checked?	Graham (2018) method to estimate itinerant PLL on roads*

\*Note: The Graham (1999) method determines potential loss of life (PLL) based on an empirical relationship derived between actual flood consequences caused by dam failure

### For extreme and high consequence dams only:

If the consequence category is Extreme, High A, High B, or High C, the consequence category assessment must be reviewed by an independent competent person

[Regulation, subclause 7\(4\)](#)

Date of last independent review of the consequence category assessment	1st August 2019
Name of independent reviewer	Peter Hill (Director, HARC)

### Dams safety standard – Dam safety management system - Part 5

The dam safety management system provides a comprehensive and integrated system to manage all aspects of foreseeable risks relating to dam failure. It is designed to be used by the dam owner to ensure, as far as reasonably practicable, the safety of people and property is not put at risk from the dam.

[Regulation Part 5](#)

### Documenting the dam safety management system

Is the dam safety management system fully documented?	Yes
If not, what percentage of the dam safety management system documentation is complete?	N/A
How did you confirm this percentage?	N/A
Does the dam safety management system apply to more than one dam?	Yes

### Documenting the dam safety management system

Is the dam safety management	Yes
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system fully implemented for this dam?	
If not, what percentage of the dam safety management system is implemented?	N/A
How did you confirm this percentage?	N/A

### Dam safety management system review

The declared dam owner must ensure the dam safety management system is reviewed each year to ensure it remains effective.

[Regulation, clause 17](#)

Date of last safety management system review	6 October 2021
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### Assessment of societal and individual risk rating

The owner of a declared dam (other than a proposed dam) must use the risk management framework to produce a written report on all foreseeable risks to the dam:

- at least once every 5 years
- when a major change to the dam is proposed, and
- when required by Dams Safety NSW.

[Regulation, subclause 15 \(1\)](#)

Date of last risk report	1st March 2019
Individual risk rating of the dam	0
Societal risk rating of the dam	$2.0 \times 10^{-8}$
Date of next planned risk report	by 1st February 2023

## Other safety requirements – Part 6

### Incident reporting

The declared dam owner must report incidents that happen at or in relation to the dam to Dams Safety NSW.

[Regulation, clause 19](#)

Number of incidents during the 2021 calendar year	0
Topic/subject of each incident(s)	N/A

### Safety review

The declared dam owner must ensure a competent person conducts a safety review at least once every 15 years, and as soon as practicable after:

- a deficiency or weakness in the dam is identified
- there is a change in the accepted technology or methods used in one of the relevant specialties or design criteria for dams
- the dam consequence category changes, or
- it is required by Dams Safety NSW.

[Regulation, clause 20](#)

Date of last safety review <a href="#">(Regulation, subclause 20(2))</a>	<p>Snowy Hydro completed the last safety review on 1st July 1991 (Peter J Burgess).</p> <p>As there was no regulatory obligation to produce dam safety reviews prior to the 2019 dam safety regulations, Snowy Hydro did not conduct a safety review in 2006.</p> <p>However, it was subject to our standard routine surveillance practices.</p>
Planned date for next safety review	1st February 2023 (In progress)

### For extreme and high consequence dams only

If the consequence category is Extreme, High A, High B, or High C, the safety review must be reviewed by an independent competent person

[Regulation, subclause 20\(6\)](#)

Name of independent reviewer	Peer reviewers for the Upper Tumut DSRs: Richard Rodd (Dam Engineering Consultant, Richard Rodd & Associates) Mark Eggers (Principal, Pells Sullivan Meynink or PSM)
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**Notification of significant changes to the dam**

Before making any significant change to the configuration of the declared dam that may affect the safety of the dam, the dam owner must inform Dams Safety NSW of the proposed change in writing.

[Regulation, clause 21](#)

Has any significant change to the configuration of the dam been made during the 2021 calendar year?	No
If yes, describe the change	N/A
Is any significant change to the configuration of the dam planned?	No
If yes, describe the change and when is it planned to happen?	N/A

**Emergency exercises**

The declared dam owner must ensure that staff who are involved in the operation of the dam undertake emergency exercises at least once every 3 years.

[Regulation, clause 22](#)

Date of last 'theoretical classroom' emergency exercise <a href="#">(Regulation, subclause 22(1))</a>	4th December 2019 (Upper Tumut Region)
Planned date of next 'theoretical classroom' emergency exercise	by 4th December 2022 (Upper Tumut Region)





**For extreme or high consequence dams only**

The declared dam owner must ensure that staff who are involved in operating the dam undertake practical emergency exercises at least once every 5 years, where possible including relevant agencies identified in the emergency plan.

[Regulation, subclauses 22 \(3\) and 22 \(4\)](#)

Date of last practical emergency exercise	1 January 2017 (Upper Tumut)
Planned date of next practical emergency exercise	by 4th December 2024 (Upper Tumut Region Practical)

**Attestation**

Refer to Snowy Hydro’s Statement of Attestation for Annual Dams Safety Standards Report.



# Eucumbene Saddle Dam

Snowy Hydro Limited

## Annual Dams Safety Standards Report

March 2022



Snowy Hydro Limited (**Snowy Hydro**) as a declared dam owner is required under the Dams Safety Regulation 2019 to publish an Annual Dam Safety Standards Report demonstrating Snowy Hydro Limited's compliance with the dam safety standards for the calendar year ending 31 December 2021.

Snowy Hydro attests to the accuracy of the report.

A separate report for each declared dam must be lodged with Dams Safety NSW by 31 March 2022.

### Section 1 – Declared dam identification details

Dam Name	Eucumbene Dam
Dam Owner	Snowy Hydro Limited

### Section 2 – Dams safety standards

#### Consequence category of dam – Regulation, Part 3

The dam consequence category is a rating of the impact that could potentially be caused if the dam failed. It must be assessed:

- within 6 months of the dam being declared
- at least once every 15 years
- after any significant change in the number of people likely to be affected by a dam failure
- or if required by Dams Safety NSW.

#### Regulation, subclause 7(2)

Dam consequence category	Sunny Day: <b>High B</b> Flood: <b>High B</b>
Date of the last consequence category assessment by a competent person	1st August 2019
Has the number of people likely to be affected by a dam failure changed since the last consequence category review?	No
Competent Person:	David Stephens (Senior Hydraulic Modeller, Hydrology & Risk Consulting or HARC)
How was this checked?	Reclamation Consequence Estimating Methodology

	(RCEM)* was used for PLL estimates
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\*Note: RCEM is empirical method for estimating potential loss of life (PLL)

### For extreme and high consequence dams only:

If the consequence category is Extreme, High A, High B, or High C, the consequence category assessment must be reviewed by an independent competent person

[Regulation, subclause 7\(4\)](#)

Date of last independent review of the consequence category assessment	1st August 2019
Name of independent reviewer	Peter Hill (Principal, HARC)

### Dams safety standard – Dam safety management system - Part 5

The dam safety management system provides a comprehensive and integrated system to manage all aspects of foreseeable risks relating to dam failure. It is designed to be used by the dam owner to ensure, as far as reasonably practicable, the safety of people and property is not put at risk from the dam.

[Regulation Part 5](#)

### Documenting the dam safety management system

Is the dam safety management system fully documented?	Yes
If not, what percentage of the dam safety management system documentation is complete?	N/A
How did you confirm this percentage?	N/A
Does the dam safety management system apply to more than one dam?	Yes

### Documenting the dam safety management system

Is the dam safety management system fully implemented for this dam?	Yes
If not, what percentage of the dam safety management system is implemented?	N/A
How did you confirm this percentage?	N/A

### **Dam safety management system review**

The declared dam owner must ensure the dam safety management system is reviewed each year to ensure it remains effective.

[Regulation, clause 17](#)

Date of last safety management system review	06 October 2021
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### **Assessment of societal and individual risk rating**

The owner of a declared dam (other than a proposed dam) must use the risk management framework to produce a written report on all foreseeable risks to the dam:

- at least once every 5 years
- when a major change to the dam is proposed, and
- when required by Dams Safety NSW.

[Regulation, subclause 15 \(1\)](#)

Date of last risk report	1st March 2019
Individual risk rating of the dam	$1.8 \times 10^{-7}$
Societal risk rating of the dam	$3.6 \times 10^{-6}$
Date of next planned risk report	by 1st March 2024



## Other safety requirements – Part 6

### Incident reporting

The declared dam owner must report incidents that happen at or in relation to the dam to Dams Safety NSW.

[Regulation, clause 19](#)

Number of incidents during the 2021 calendar year	0
Topic/subject of each incident(s)	N/A

### Safety review

The declared dam owner must ensure a competent person conducts a safety review at least once every 15 years, and as soon as practicable after:

- a deficiency or weakness in the dam is identified
- there is a change in the accepted technology or methods used in one of the relevant specialties or design criteria for dams
- the dam consequence category changes, or
- it is required by Dams Safety NSW.

[Regulation, clause 20](#)

Date of last safety review ( <a href="#">Regulation, subclause 20(2)</a> )	1st December 2019 (GHD)
Planned date for next safety review	1st December 2034

### For extreme and high consequence dams only

If the consequence category is Extreme, High A, High B, or High C, the safety review must be reviewed by an independent competent person

[Regulation, subclause 20\(6\)](#)

Name of independent reviewer	Graeme Bell (Dam Engineering Consultant, University of NSW or UNSW)
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### Notification of significant changes to the dam

Before making any significant change to the configuration of the declared dam that may affect the safety of the dam, the dam owner must inform Dams Safety NSW of the proposed change in writing.

[Regulation, clause 21](#)

Has any significant change to the configuration of the dam been made during the 2021 calendar year?	No
If yes, describe the change	N/A
Is any significant change to the configuration of the dam planned?	No
If yes, describe the change and when is it planned to happen?	N/A

### Emergency exercises

The declared dam owner must ensure that staff who are involved in the operation of the dam undertake emergency exercises at least once every 3 years.

[Regulation, clause 22](#)

Date of last 'theoretical classroom' emergency exercise ( <a href="#">Regulation, subclause 22(1)</a> )	7th December 2020 (Kosciuszko Region)
Planned date of next 'theoretical classroom' emergency exercise	by 7th December 2023 (Kosciuszko Region)

**For extreme or high consequence dams only**

The declared dam owner must ensure that staff who are involved in operating the dam undertake practical emergency exercises at least once every 5 years, where possible including relevant agencies identified in the emergency plan.

[Regulation, subclauses 22 \(3\) and 22 \(4\)](#)

Date of last practical emergency exercise	17 February 2022 (Kosciuszko Region)
Planned date of next practical emergency exercise	by 17th February 2027 (Kosciuszko Region)

**Attestation**

Refer to Snowy Hydro's Statement of Attestation for Annual Dams Safety Standards Report.



# Eucumbene Dam

Snowy Hydro Limited

## Annual Dams Safety Standards Report

March 2022



Snowy Hydro Limited (**Snowy Hydro**) as a declared dam owner is required under the Dams Safety Regulation 2019 to publish an Annual Dam Safety Standards Report demonstrating Snowy Hydro Limited's compliance with the dam safety standards for the calendar year ending 31 December 2021.

Snowy Hydro attests to the accuracy of the report.

A separate report for each declared dam must be lodged with Dams Safety NSW by 31 March 2022.

### Section 1 – Declared dam identification details

Dam Name	Eucumbene Dam
Dam Owner	Snowy Hydro Limited

### Section 2 – Dams safety standards

#### Consequence category of dam – Regulation, Part 3

The dam consequence category is a rating of the impact that could potentially be caused if the dam failed. It must be assessed:

- within 6 months of the dam being declared
- at least once every 15 years
- after any significant change in the number of people likely to be affected by a dam failure
- or if required by Dams Safety NSW.

#### Regulation, subclause 7(2)

Dam consequence category	Sunny Day: <b>Extreme</b> Flood: <b>Extreme</b>
Date of the last consequence category assessment by a competent person	1st August 2019
Has the number of people likely to be affected by a dam failure changed since the last consequence category review?	No
Competent Person:	David Stephens (Senior Hydraulic Modeller, Hydrology & Risk Consulting or HARC)
How was this checked?	Reclamation Consequence Estimating Methodology



	(RCEM)* was used for PLL estimates
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\*Note: RCEM is empirical method for estimating potential loss of life (PLL)

### For extreme and high consequence dams only:

If the consequence category is Extreme, High A, High B, or High C, the consequence category assessment must be reviewed by an independent competent person

[Regulation, subclause 7\(4\)](#)

Date of last independent review of the consequence category assessment	1st August 2019
Name of independent reviewer	Peter Hill (Principal, HARC)

### Dams safety standard – Dam safety management system - Part 5

The dam safety management system provides a comprehensive and integrated system to manage all aspects of foreseeable risks relating to dam failure. It is designed to be used by the dam owner to ensure, as far as reasonably practicable, the safety of people and property is not put at risk from the dam.

[Regulation Part 5](#)

### Documenting the dam safety management system

Is the dam safety management system fully documented?	Yes
If not, what percentage of the dam safety management system documentation is complete?	N/A
How did you confirm this percentage?	N/A
Does the dam safety management system apply to more than one dam?	Yes

### Documenting the dam safety management system

Is the dam safety management system fully implemented for this dam?	Yes
If not, what percentage of the dam safety management system is implemented?	N/A
How did you confirm this percentage?	N/A

### **Dam safety management system review**

The declared dam owner must ensure the dam safety management system is reviewed each year to ensure it remains effective.

[Regulation, clause 17](#)

Date of last safety management system review	6 October 2021
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### **Assessment of societal and individual risk rating**

The owner of a declared dam (other than a proposed dam) must use the risk management framework to produce a written report on all foreseeable risks to the dam:

- at least once every 5 years
- when a major change to the dam is proposed, and
- when required by Dams Safety NSW.

[Regulation, subclause 15 \(1\)](#)

Date of last risk report	1st March 2019
Individual risk rating of the dam	$1.3 \times 10^{-6}$
Societal risk rating of the dam	$2.8 \times 10^{-4}$
Date of next planned risk report	by 1st March 2024

## Other safety requirements – Part 6

### Incident reporting

The declared dam owner must report incidents that happen at or in relation to the dam to Dams Safety NSW.

[Regulation, clause 19](#)

Number of incidents during the 2021 calendar year	0
Topic/subject of each incident(s)	N/A

### Safety review

The declared dam owner must ensure a competent person conducts a safety review at least once every 15 years, and as soon as practicable after:

- a deficiency or weakness in the dam is identified
- there is a change in the accepted technology or methods used in one of the relevant specialties or design criteria for dams
- the dam consequence category changes, or
- it is required by Dams Safety NSW.

[Regulation, clause 20](#)

Date of last safety review ( <a href="#">Regulation, subclause 20(2)</a> )	1st December 2018 (GHD)
Planned date for next safety review	1st December 2033

### For extreme and high consequence dams only

If the consequence category is Extreme, High A, High B, or High C, the safety review must be reviewed by an independent competent person

[Regulation, subclause 20\(6\)](#)

Name of independent reviewer	Graeme Bell (Dam Engineering Consultant, University of NSW or UNSW)
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### Notification of significant changes to the dam

Before making any significant change to the configuration of the declared dam that may affect the safety of the dam, the dam owner must inform Dams Safety NSW of the proposed change in writing.

[Regulation, clause 21](#)

Has any significant change to the configuration of the dam been made during the 2021 calendar year?	No
If yes, describe the change	N/A
Is any significant change to the configuration of the dam planned?	No
If yes, describe the change and when is it planned to happen?	N/A

### Emergency exercises

The declared dam owner must ensure that staff who are involved in the operation of the dam undertake emergency exercises at least once every 3 years.

[Regulation, clause 22](#)

Date of last 'theoretical classroom' emergency exercise ( <a href="#">Regulation, subclause 22(1)</a> )	7th December 2020 (Kosciuszko Region)
Planned date of next 'theoretical classroom' emergency exercise	by 7th December 2023 (Kosciuszko Region)

**For extreme or high consequence dams only**

The declared dam owner must ensure that staff who are involved in operating the dam undertake practical emergency exercises at least once every 5 years, where possible including relevant agencies identified in the emergency plan.

[Regulation, subclauses 22 \(3\) and 22 \(4\)](#)

Date of last practical emergency exercise	17th February 2022 (Kosciuszko Region)
Planned date of next practical emergency exercise	by 17th February 2027 (Kosciuszko Region)

**Attestation**

Refer to Snowy Hydro's Statement of Attestation for Annual Dams Safety Standards Report.





# Jindabyne Dam

Snowy Hydro Limited

## Annual Dams Safety Standards Report

March 2022

Snowy Hydro Limited (**Snowy Hydro**) as a declared dam owner is required under the Dams Safety Regulation 2019 to publish an Annual Dam Safety Standards Report demonstrating Snowy Hydro Limited's compliance with the dam safety standards for the calendar year ending 31 December 2021.

Snowy Hydro attests to the accuracy of the report.

A separate report for each declared dam must be lodged with Dams Safety NSW by 31 March 2022.

### Section 1 – Declared dam identification details

Dam Name	Jindabyne Dam
Dam Owner	Snowy Hydro Limited

### Section 2 – Dams safety standards

#### Consequence category of dam – Regulation, Part 3

The dam consequence category is a rating of the impact that could potentially be caused if the dam failed. It must be assessed:

- within 6 months of the dam being declared
- at least once every 15 years
- after any significant change in the number of people likely to be affected by a dam failure
- or if required by Dams Safety NSW.

#### Regulation, subclause 7(2)

Dam consequence category	Sunny Day: <b>High A</b> Flood: <b>High A</b>
Date of the last consequence category assessment by a competent person	1st August 2019
Has the number of people likely to be affected by a dam failure changed since the last consequence category review?	No
Competent Person:	David Stephens (Senior Hydraulic Modeller, Hydrology & Risk Consulting or HARC)
How was this checked?	Reclamation Consequence Estimating Methodology

	(RCEM)* was used for PLL estimates
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\*Note: RCEM is empirical method for estimating potential loss of life (PLL)

### For extreme and high consequence dams only:

If the consequence category is Extreme, High A, High B, or High C, the consequence category assessment must be reviewed by an independent competent person

[Regulation, subclause 7\(4\)](#)

Date of last independent review of the consequence category assessment	1st August 2019
Name of independent reviewer	Peter Hill (Director, HARC)

### Dams safety standard – Dam safety management system - Part 5

The dam safety management system provides a comprehensive and integrated system to manage all aspects of foreseeable risks relating to dam failure. It is designed to be used by the dam owner to ensure, as far as reasonably practicable, the safety of people and property is not put at risk from the dam.

[Regulation Part 5](#)

### Documenting the dam safety management system

Is the dam safety management system fully documented?	Yes
If not, what percentage of the dam safety management system documentation is complete?	N/A
How did you confirm this percentage?	N/A
Does the dam safety management system apply to more than one dam?	Yes

### Documenting the dam safety management system

Is the dam safety management system fully implemented for this dam?	Yes
If not, what percentage of the dam safety management system is implemented?	N/A
How did you confirm this percentage?	N/A

### Dam safety management system review

The declared dam owner must ensure the dam safety management system is reviewed each year to ensure it remains effective.

[Regulation, clause 17](#)

Date of last safety management system review	6 October 2021
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### Assessment of societal and individual risk rating

The owner of a declared dam (other than a proposed dam) must use the risk management framework to produce a written report on all foreseeable risks to the dam:

- at least once every 5 years
- when a major change to the dam is proposed, and
- when required by Dams Safety NSW.

[Regulation, subclause 15 \(1\)](#)

Date of last risk report	1st March 2019
Individual risk rating of the dam	$7.4 \times 10^{-7}$
Societal risk rating of the dam	$2.9 \times 10^{-5}$
Date of next planned risk report	by 1st July 2022

## Other safety requirements – Part 6

### Incident reporting

The declared dam owner must report incidents that happen at or in relation to the dam to Dams Safety NSW.

[Regulation, clause 19](#)

Number of incidents during the 2021 calendar year	0
Topic/subject of each incident(s)	N/A

### Safety review

The declared dam owner must ensure a competent person conducts a safety review at least once every 15 years, and as soon as practicable after:

- a deficiency or weakness in the dam is identified
- there is a change in the accepted technology or methods used in one of the relevant specialties or design criteria for dams
- the dam consequence category changes, or
- it is required by Dams Safety NSW.

[Regulation, clause 20](#)

Date of last safety review <a href="#">(Regulation, subclause 20(2))</a>	<p>Snowy Hydro completed the last safety review on 21st December 1987 (Peter J Burgess).</p> <p>As there was no regulatory obligation to produce dam safety reviews prior to the 2019 dam safety regulations, Snowy Hydro did not conduct a safety review in 2002.</p> <p>However, it was subject to our standard routine surveillance practices.</p>
Planned date for next safety review	1st July 2022 (In progress)

### For extreme and high consequence dams only

If the consequence category is Extreme, High A, High B, or High C, the safety review must be reviewed by an independent competent person

[Regulation, subclause 20\(6\)](#)





Name of independent reviewer	Richard Frost (Senior Technical Director, GHD)
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### Notification of significant changes to the dam

Before making any significant change to the configuration of the declared dam that may affect the safety of the dam, the dam owner must inform Dams Safety NSW of the proposed change in writing.

[Regulation, clause 21](#)

Has any significant change to the configuration of the dam been made during the 2021 calendar year?	No
If yes, describe the change	N/A
Is any significant change to the configuration of the dam planned?	No
If yes, describe the change and when is it planned to happen?	N/A

### Emergency exercises

The declared dam owner must ensure that staff who are involved in the operation of the dam undertake emergency exercises at least once every 3 years.

[Regulation, clause 22](#)

Date of last 'theoretical classroom' emergency exercise <a href="#">(Regulation, subclause 22(1))</a>	7th December 2021 (Kosciuszko Region)
Planned date of next 'theoretical classroom' emergency exercise	by 7th December 2023 (Kosciuszko Region)

**For extreme or high consequence dams only**

The declared dam owner must ensure that staff who are involved in operating the dam undertake practical emergency exercises at least once every 5 years, where possible including relevant agencies identified in the emergency plan.

[Regulation, subclauses 22 \(3\) and 22 \(4\)](#)

Date of last practical emergency exercise	17th February 2022 (Kosciuszko Region)
Planned date of next practical emergency exercise	by 17th February 2027 (Kosciuszko Region)

**Attestation**

Refer to Snowy Hydro's Statement of Attestation for Annual Dams Safety Standards Report.



## Guthega Dam

Snowy Hydro Limited

### Annual Dams Safety Standards Report

March 2022



Snowy Hydro Limited (**Snowy Hydro**) as a declared dam owner is required under the Dams Safety Regulation 2019 to publish an Annual Dam Safety Standards Report demonstrating Snowy Hydro Limited's compliance with the dam safety standards for the calendar year ending 31 December 2021.

Snowy Hydro attests to the accuracy of the report.

A separate report for each declared dam must be lodged with Dams Safety NSW by 31 March 2022.

### Section 1 – Declared dam identification details

Dam Name	Guthega Dam
Dam Owner	Snowy Hydro Limited

### Section 2 – Dams safety standards

#### Consequence category of dam – Regulation, Part 3

The dam consequence category is a rating of the impact that could potentially be caused if the dam failed. It must be assessed:

- within 6 months of the dam being declared
- at least once every 15 years
- after any significant change in the number of people likely to be affected by a dam failure
- or if required by Dams Safety NSW.

#### Regulation, subclause 7(2)

Dam consequence category	Sunny Day: <b>High C</b> Flood: <b>High B</b>
Date of the last consequence category assessment by a competent person	1st August 2019
Has the number of people likely to be affected by a dam failure changed since the last consequence category review?	No
Competent Person:	David Stephens (Senior Hydraulic Modeller, Hydrology & Risk Consulting or HARC)
How was this checked?	Reclamation Consequence Estimating Methodology



	(RCEM)* was used for PLL estimates..
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\*Note: RCEM is empirical method for estimating potential loss of life (PLL)

### For extreme and high consequence dams only:

If the consequence category is Extreme, High A, High B, or High C, the consequence category assessment must be reviewed by an independent competent person

[Regulation, subclause 7\(4\)](#)

Date of last independent review of the consequence category assessment	1st August 2019
Name of independent reviewer	Peter Hill (Director, HARC)

### Dams safety standard – Dam safety management system - Part 5

The dam safety management system provides a comprehensive and integrated system to manage all aspects of foreseeable risks relating to dam failure. It is designed to be used by the dam owner to ensure, as far as reasonably practicable, the safety of people and property is not put at risk from the dam.

[Regulation Part 5](#)

### Documenting the dam safety management system

Is the dam safety management system fully documented?	Yes
If not, what percentage of the dam safety management system documentation is complete?	N/A
How did you confirm this percentage?	N/A
Does the dam safety management system apply to more than one dam?	Yes

### Documenting the dam safety management system

Is the dam safety management system fully implemented for this dam?	Yes
If not, what percentage of the dam safety management system is implemented?	N/A
How did you confirm this percentage?	N/A

### **Dam safety management system review**

The declared dam owner must ensure the dam safety management system is reviewed each year to ensure it remains effective.

[Regulation, clause 17](#)

Date of last safety management system review	6 October 2021
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### **Assessment of societal and individual risk rating**

The owner of a declared dam (other than a proposed dam) must use the risk management framework to produce a written report on all foreseeable risks to the dam:

- at least once every 5 years
- when a major change to the dam is proposed, and
- when required by Dams Safety NSW.

[Regulation, subclause 15 \(1\)](#)

Date of last risk report	1st March 2019
Individual risk rating of the dam	$1.2 \times 10^{-5}$
Societal risk rating of the dam	$6.2 \times 10^{-4}$
Date of next planned risk report	by 1st July 2022

## Other safety requirements – Part 6

### Incident reporting

The declared dam owner must report incidents that happen at or in relation to the dam to Dams Safety NSW.

[Regulation, clause 19](#)

Number of incidents during the 2021 calendar year	0
Topic/subject of each incident(s)	N/A

### Safety review

The declared dam owner must ensure a competent person conducts a safety review at least once every 15 years, and as soon as practicable after:

- a deficiency or weakness in the dam is identified
- there is a change in the accepted technology or methods used in one of the relevant specialties or design criteria for dams
- the dam consequence category changes, or
- it is required by Dams Safety NSW.

[Regulation, clause 20](#)

Date of last safety review <a href="#">(Regulation, subclause 20(2))</a>	There was no regulatory obligation to produce dam safety reviews prior to the 2019 dam safety regulations.  Therefore, it did not require a dam safety review. However, it was subject to our standard routine surveillance practices.
Planned date for next safety review	1st July 2022 (In progress)

### For extreme and high consequence dams only

If the consequence category is Extreme, High A, High B, or High C, the safety review must be reviewed by an independent competent person

[Regulation, subclause 20\(6\)](#)

Name of independent reviewer	Richard Frost (Senior Technical Director, GHD)
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### Notification of significant changes to the dam

Before making any significant change to the configuration of the declared dam that may affect the safety of the dam, the dam owner must inform Dams Safety NSW of the proposed change in writing.

[Regulation, clause 21](#)

Has any significant change to the configuration of the dam been made during the 2021 calendar year?	No
If yes, describe the change	N/A
Is any significant change to the configuration of the dam planned?	No
If yes, describe the change and when is it planned to happen?	N/A

### Emergency exercises

The declared dam owner must ensure that staff who are involved in the operation of the dam undertake emergency exercises at least once every 3 years.

[Regulation, clause 22](#)

Date of last 'theoretical classroom' emergency exercise ( <a href="#">Regulation, subclause 22(1)</a> )	7th December 2021 (Kosciuszko Region)
Planned date of next 'theoretical classroom' emergency exercise	by 7th December 2023 (Kosciuszko Region)

**For extreme or high consequence dams only**

The declared dam owner must ensure that staff who are involved in operating the dam undertake practical emergency exercises at least once every 5 years, where possible including relevant agencies identified in the emergency plan.

[Regulation, subclauses 22 \(3\) and 22 \(4\)](#)

Date of last practical emergency exercise	17th February 2022 (Kosciuszko Region)
Planned date of next practical emergency exercise	by 17th February 2027 (Kosciuszko Region)

**Attestation**

Refer to Snowy Hydro's Statement of Attestation for Annual Dams Safety Standards Report.





## Island Bend Dam

Snowy Hydro Limited

### Annual Dams Safety Standards Report

March 2022



Snowy Hydro Limited (**Snowy Hydro**) as a declared dam owner is required under the Dams Safety Regulation 2019 to publish an Annual Dam Safety Standards Report demonstrating Snowy Hydro Limited's compliance with the dam safety standards for the calendar year ending 31 December 2021.

Snowy Hydro attests to the accuracy of the report.

A separate report for each declared dam must be lodged with Dams Safety NSW by 31 March 2022.

### Section 1 – Declared dam identification details

Dam Name	Island Bend Dam
Dam Owner	Snowy Hydro Limited

### Section 2 – Dams safety standards

#### Consequence category of dam – Regulation, Part 3

The dam consequence category is a rating of the impact that could potentially be caused if the dam failed. It must be assessed:

- within 6 months of the dam being declared
- at least once every 15 years
- after any significant change in the number of people likely to be affected by a dam failure
- or if required by Dams Safety NSW.

#### [Regulation, subclause 7\(2\)](#)

Dam consequence category	Sunny Day: <b>Significant</b> Flood: <b>High C</b>
Date of the last consequence category assessment by a competent person	1st August 2019
Has the number of people likely to be affected by a dam failure changed since the last consequence category review?	No
Competent Person:	David Stephens (Senior Hydraulic Modeller, Hydrology & Risk Consulting or HARC)
How was this checked?	Reclamation Consequence Estimating Methodology

	(RCEM)* was used for PLL estimates.
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\*Note: RCEM is empirical method for estimating potential loss of life (PLL)

### For extreme and high consequence dams only:

If the consequence category is Extreme, High A, High B, or High C, the consequence category assessment must be reviewed by an independent competent person

[Regulation, subclause 7\(4\)](#)

Date of last independent review of the consequence category assessment	1st August 2019
Name of independent reviewer	Peter Hill (Director, HARC)

### Dams safety standard – Dam safety management system - Part 5

The dam safety management system provides a comprehensive and integrated system to manage all aspects of foreseeable risks relating to dam failure. It is designed to be used by the dam owner to ensure, as far as reasonably practicable, the safety of people and property is not put at risk from the dam.

[Regulation Part 5](#)

### Documenting the dam safety management system

Is the dam safety management system fully documented?	Yes
If not, what percentage of the dam safety management system documentation is complete?	N/A
How did you confirm this percentage?	N/A
Does the dam safety management system apply to more than one dam?	Yes

### Documenting the dam safety management system

Is the dam safety management system fully implemented for this dam?	Yes
If not, what percentage of the dam safety management system is implemented?	N/A
How did you confirm this percentage?	N/A

### **Dam safety management system review**

The declared dam owner must ensure the dam safety management system is reviewed each year to ensure it remains effective.

[Regulation, clause 17](#)

Date of last safety management system review	6 October 2021
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### **Assessment of societal and individual risk rating**

The owner of a declared dam (other than a proposed dam) must use the risk management framework to produce a written report on all foreseeable risks to the dam:

- at least once every 5 years
- when a major change to the dam is proposed, and
- when required by Dams Safety NSW.

[Regulation, subclause 15 \(1\)](#)

Date of last risk report	1st March 2019
Individual risk rating of the dam	$3.2 \times 10^{-6}$
Societal risk rating of the dam	$1.4 \times 10^{-5}$
Date of next planned risk report	by 1st July 2022

## Other safety requirements – Part 6

### Incident reporting

The declared dam owner must report incidents that happen at or in relation to the dam to Dams Safety NSW.

[Regulation, clause 19](#)

Number of incidents during the 2021 calendar year	1
Topic/subject of each incident(s)	Spillway gate closure during high inflow event.

### Safety review

The declared dam owner must ensure a competent person conducts a safety review at least once every 15 years, and as soon as practicable after:

- a deficiency or weakness in the dam is identified
- there is a change in the accepted technology or methods used in one of the relevant specialties or design criteria for dams
- the dam consequence category changes, or
- it is required by Dams Safety NSW.

[Regulation, clause 20](#)

Date of last safety review <a href="#">(Regulation, subclause 20(2))</a>	There was no regulatory obligation to produce dam safety reviews prior to the 2019 dam safety regulations.  Therefore, it did not require a dam safety review. However, it was subject to our standard routine surveillance practices.
Planned date for next safety review	1st July 2022 (In progress)

### For extreme and high consequence dams only

If the consequence category is Extreme, High A, High B, or High C, the safety review must be reviewed by an independent competent person

[Regulation, subclause 20\(6\)](#)

Name of independent reviewer	Richard Frost (Senior Technical Director, GHD)
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### Notification of significant changes to the dam

Before making any significant change to the configuration of the declared dam that may affect the safety of the dam, the dam owner must inform Dams Safety NSW of the proposed change in writing.

[Regulation, clause 21](#)

Has any significant change to the configuration of the dam been made during the 2021 calendar year?	No
If yes, describe the change	N/A
Is any significant change to the configuration of the dam planned?	No
If yes, describe the change and when is it planned to happen?	N/A

### Emergency exercises

The declared dam owner must ensure that staff who are involved in the operation of the dam undertake emergency exercises at least once every 3 years.

[Regulation, clause 22](#)

Date of last 'theoretical classroom' emergency exercise ( <a href="#">Regulation, subclause 22(1)</a> )	7th December 2021 (Kosciuszko Region)
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**For extreme or high consequence dams only**

The declared dam owner must ensure that staff who are involved in operating the dam undertake practical emergency exercises at least once every 5 years, where possible including relevant agencies identified in the emergency plan.

[Regulation, subclauses 22 \(3\) and 22 \(4\)](#)

Date of last practical emergency exercise	17th February 2022 (Kosciuszko Region)
Planned date of next practical emergency exercise	by 17th February 2027 (Kosciuszko Region)

**Attestation**

Refer to Snowy Hydro's Statement of Attestation for Annual Dams Safety Standards Report.

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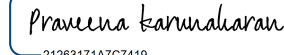
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Certified Delivered	Security Checked	31-Mar-22   09:25
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Operating Systems:	Windows2000? or WindowsXP?
Browsers (for SENDERS):	Internet Explorer 6.0? or above
Browsers (for SIGNERS):	Internet Explorer 6.0?, Mozilla FireFox 1.0, NetScape 7.2 (or above)
Email:	Access to a valid email account
Screen Resolution:	800 x 600 minimum

Enabled Security Settings:	<ul style="list-style-type: none"> <li>• Allow per session cookies</li> <li>• Users accessing the internet behind a Proxy Server must enable HTTP 1.1 settings via proxy connection</li> </ul>
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