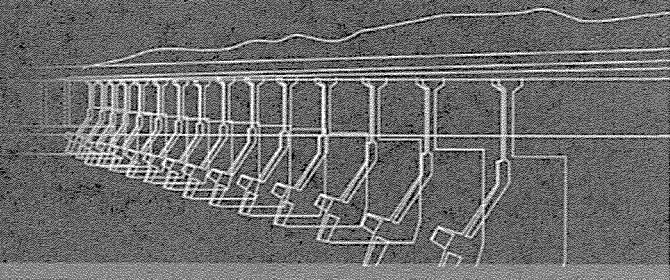


Annual Dams Safety Standards Report 2021



This report demonstrates the declared dam owner's compliance with the dam safety standards set out in the Dams Safety Regulation 2019 (the Regulation). It covers the named declared dam for the calendar year ending 31 December 2021.

The dam owner (the office holder at the end of this report) 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	Tumbarumba Dam
Dam owner	Snowy Valleys Council

Section 2 - Dams safety standards

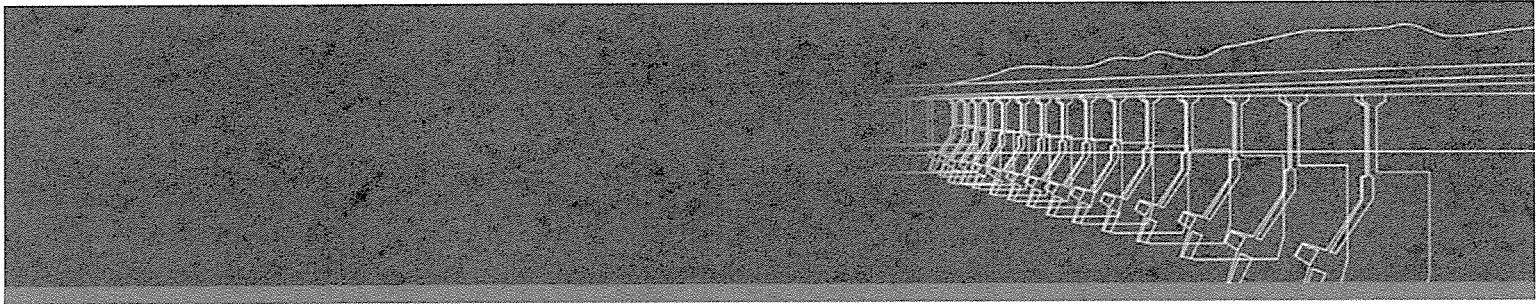
Consequence category of dam - Regulation, Part 3

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	High C
Date of the last consequence category assessment by a competent person	April 2008
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?	No new development within the PMF floodline



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	No independent review was carried out as it was not required at the time the dambreak and CCA was completed (2008).
Name of independent reviewer (must be a competent person)	It will have to be completed at the next revision, which will be on 2023.

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](#)

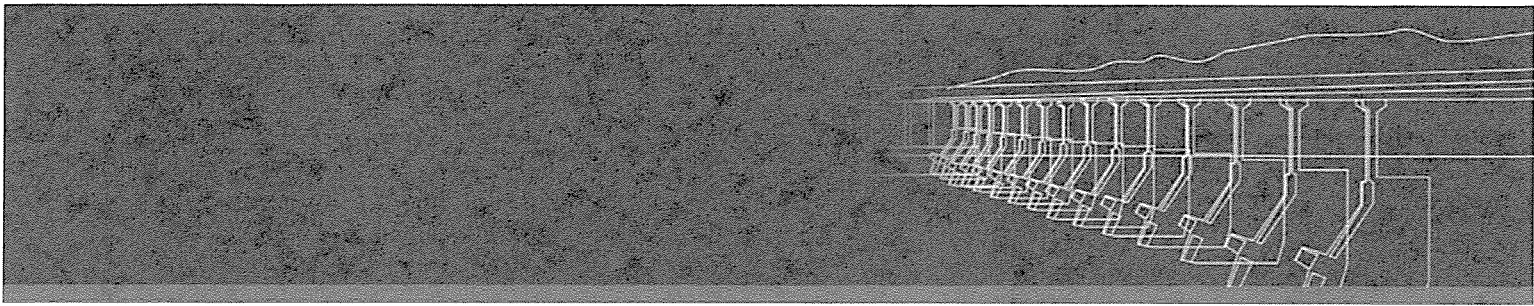
Documenting the dam safety management system

Is the dam safety management system fully documented?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If not, what percentage of the dam safety management system documentation is complete?	50
How did you confirm this percentage? (eg draft review, version approved)	Draft Format for Review
Does the dam safety management system apply to more than one dam?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Documenting the dam safety management system

Is the dam safety management system fully implemented for this dam?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If not, what percentage of the dam safety management system is implemented?	50
How did you confirm this percentage? (eg internal audit, key staff statements)	Consultant prepared draft, which is presently under review by key staff.





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	New DSMS is in Progress
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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	June 2016
Individual risk rating of the dam	4.582E-06 per annum
Societal risk rating of the dam	Falls below the line for existing dams
Date of next planned risk report	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)	Note: On 22/09/2021 an Earthquake of M5.8 - 6.0 with epicentre near Mansfield, VIC was felt but no reportable damage was sustained to the dam.





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 (Regulation, subclause 20(2))	The safety of the dam is presently being assessed
Planned date for next safety review	2037

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 (must be a competent person)	Norm Himsley
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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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If yes, describe the change	Need for changes or upgrades to the dam is presently being assessed. Dams Safety NSW will be advised in due course if changes are required.
Is any significant change to the configuration of the dam planned?	See above
If yes, describe the change and when it is planned to happen	



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 (Regulation, subclause 22(1))	21/10/2021
Planned date of next 'theoretical classroom' emergency exercise	11/2024

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	First Practical Emergency Exercise is planned for 3/2026
Planned date of next practical emergency exercise	3/2026 First Exercise

Design and construction

This section is for dams in the design/construction/commissioning/decommissioning phase

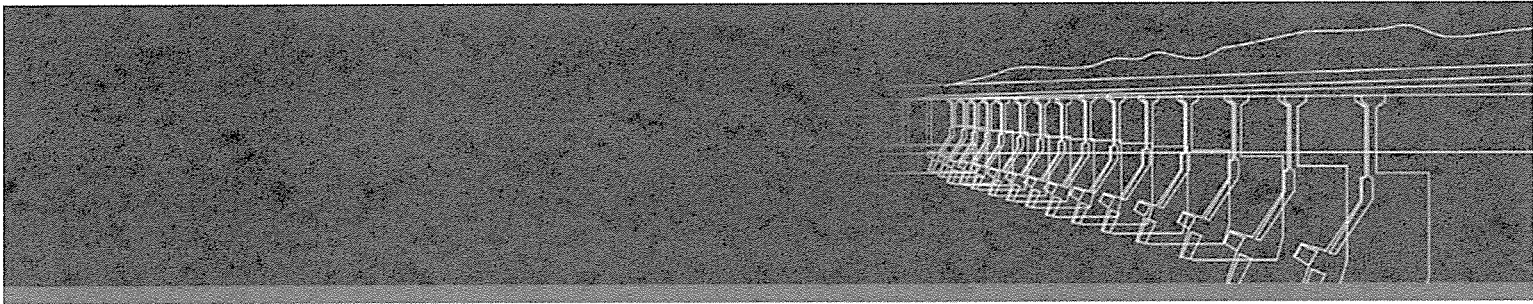
Dam safety management system for design and construction

Does the dam safety management system cover dam design and construction? Regulation, clause 12(3)	Need for DSMS to cover Dam Design to be established once outcomes of the study to establish need for upgrades is concluded.
Was the risk management framework used to prepare a risk report at the dam design stage? Regulation, clause 15(2)	Yes, progressing with GHD for the dam upgrade design.

Certain work must be carried out by a person subject to a quality management system

[Regulation, subclause 23\(1\)](#)

How have you ensured that design and construction are carried out by a person subject to an AS ISO 9001:2016 quality management system?	Certification reviewed.
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A competent person must check work involving dam design

Regulation, clause 24

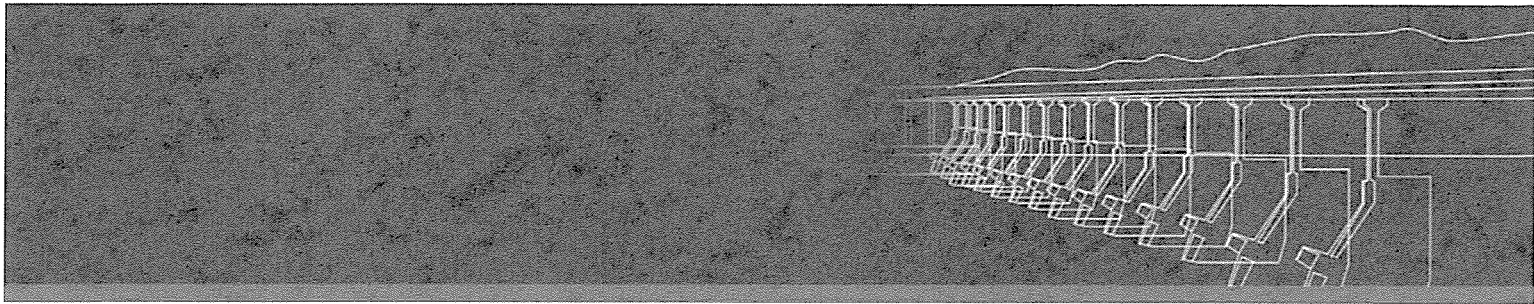
For extreme or high consequence dams, provide the name of the independent person who checked the design (Regulation, clause 24)	Norman Himsley FIEAust CPEng APEC Engineer IntPE(Aus)
For dams still in an early design phase, have you planned independent competent person design checks/ reviews?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Attestation

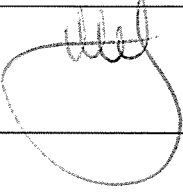
This attestation must be signed by the dam owner office holder(s) as follows:

Dam owner	Attesting office holder(s)
Local council	General Manager
Company	<ul style="list-style-type: none"> • 2 directors, or • 1 director and 1 company secretary • The combined director and company secretary (Where there is only 1 director)
Statutory state-owned corporation	Chief Executive Officer or Managing Director responsible for managing the operation of the statutory state-owned corporation in accordance with the general policies and specific directions of the board
Statutory corporation	Corporation with 2 or more members: <ul style="list-style-type: none"> • President, chairperson or another principal officer of the corporation Sole corporation <ul style="list-style-type: none"> • The person who constituted the constitution • The person managing the affairs of the corporation
Government department	Secretary
Individual	Individual



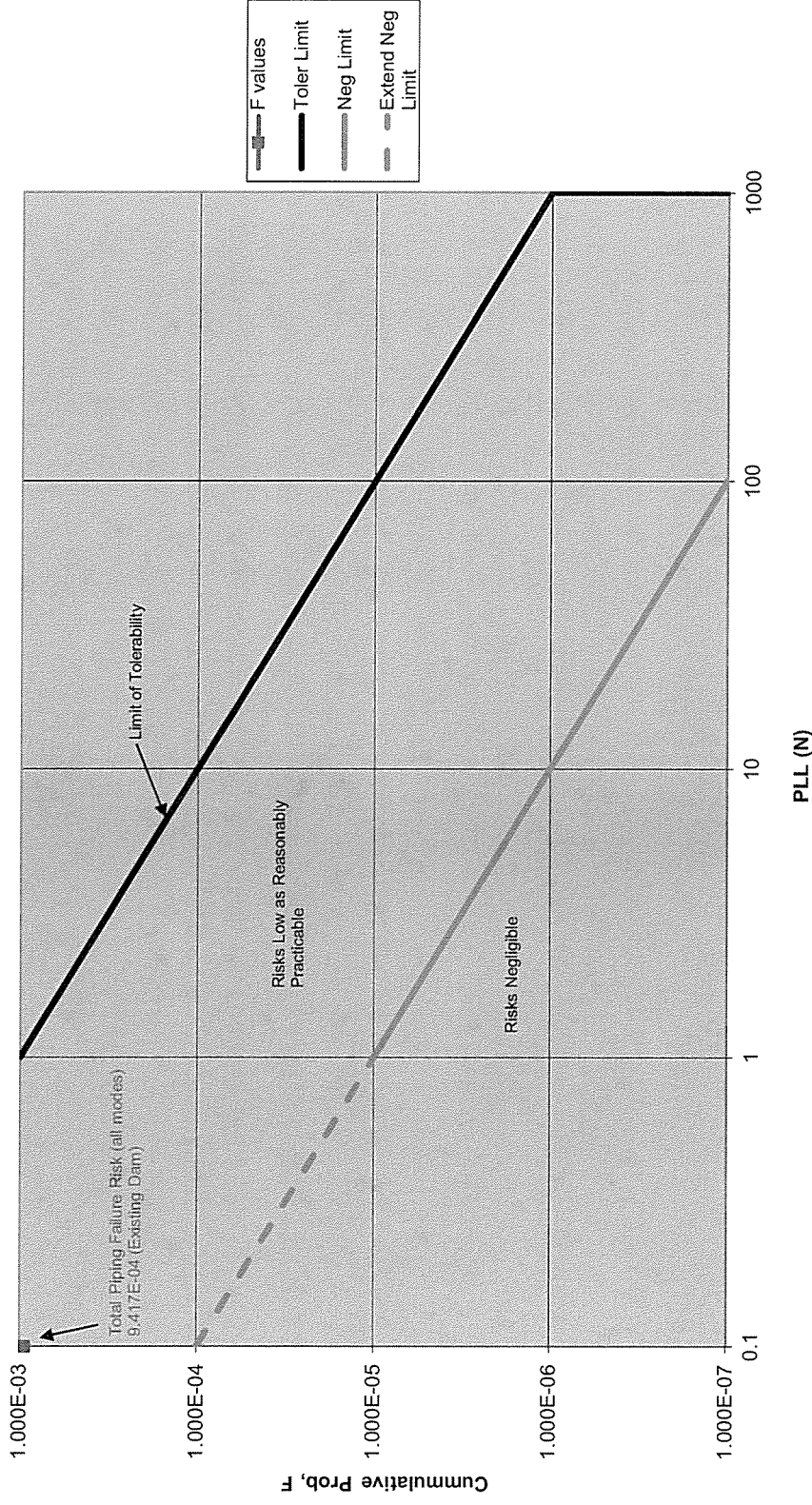


Declared dam owner office holder(s) attesting to the accuracy of this report

Name and signature of declared dam owner office holder attesting to the accuracy of this report	Matthew Hyde
Position of the declared dam owner office holder attesting to the accuracy of this report	CEO, Snowy Valleys Council
Name and signature of declared dam owner office holder attesting to the accuracy of this report	 Matthew Hyde.
Position of the declared dam owner office holder attesting to the accuracy of this report	CEO - SVC.



Tumbarumba Dam Societal Risk Plot (Indicative) - Existing Dam



Tumbarumba Dam - Individual Risk Assessment (Piping) - Indicative

Failure type	Load Scenario	Annual Prob Failure	Fatality Rate (Weighted)	Exposure Factor (Weighted)	Individual Risk (per annum)
Piping	All modes	9.42E-04	0.0060	0.817	4.582E-06

Individual Risk < 1.000 E-04 per annum acceptable for existing dams

OKAY

Certificate of Approval

This is to certify that the Management System of:

The GHD Group Pty Ltd

Level 15, 133 Castlereagh Street, Sydney, NSW, 2000, Australia

Comprising

GHD S.A., Chile
GHD Limited, New Zealand
GHD Australia Pty Ltd, Australia
GHD Pty Ltd, Australia & Philippines
GHD Woodhead Architecture Pty Ltd, Australia
GHD Global Pty Ltd, Qatar & United Arab Emirates
Gutteridge Haskins and Davey Limited, United Kingdom
GHD Livgunn Ltd, United Kingdom
GHD (PNG) Ltd
GHD (Fiji) Pte Limited
Remediation & Contracting Services Pty Ltd
has been approved by Lloyd's Register to the following standards:

ISO 9001:2015

Approval number(s): ISO 9001 – 0048072

This certificate is valid only in association with the certificate schedule bearing the same number on which the locations applicable to this approval are listed.

The scope of this approval is applicable to:

Management, Engineering, Environmental, Design, Planning and Architectural services provided to the global markets of Water, Environment, Transportation, Energy & Resources and Property & Buildings.



Luis Cunha

Area Operations Manager - SAMEA
Issued by: Lloyd's Register Quality Assurance Limited

