



# **Paradise Dam** Commission of Inquiry

REPORT

Queensland Government response  
May 2020

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## Introduction

Queensland's dams play a vital role in sustaining the life and prosperity of our state. Whether their purpose is for drinking water, irrigation, flood mitigation or any other use, Queenslanders should expect their dams meet high standards for safety and security.

Where it becomes apparent those standards have not been met, it is essential that we take action: both to remedy the problem and to ensure those mistakes are not repeated.

When it became clear that serious problems existed with Paradise Dam, the Paradise Dam Commission of Inquiry was initiated to find the root cause of those problems and identify lessons that should be learned. Following their investigation it is incumbent on us to act, to ensure that the community can be confident in the safety and security of every new dam built in Queensland.

The Queensland Government welcomes the findings of the Paradise Dam Commission of Inquiry and thanks the Commissioners for their report and recommendations.

## Background

Paradise Dam is located 80 kilometres south west of Bundaberg in the Burnett River. Through a series of investigations and the development of subsequent technical reports between 2013 and 2019, issues with the dam's structural condition started to become known. These investigations began following unexpectedly severe damage to the dam and erosion of the river bed immediately downstream of the dam apron following the January 2013 flood, and culminated in the discovery in 2019 of concerns about the stability of the dam wall under extreme weather conditions.

The Paradise Dam Commission of Inquiry was established by the Queensland Government to examine the root causes of structural and stability concerns surrounding the dam. This was to help determine if, and to what extent, the governance, processes and systems involved in the design, construction or commissioning of the dam contributed to stability and structural concerns identified in engineering and technical studies.

The Commission was established by Order in Council on 6 December 2019 with the appointment of John Byrne AO RFD as Chair and Commissioner, and Emeritus Professor John Carter AM as Commissioner.

The Commission delivered its report as required by the Terms of Reference to the Minister and Premier on 30 April 2020. It includes eight recommendations for ensuring that future Queensland dams are designed, constructed and commissioned to acceptable standards.

## Independent inquiry recommendations and Queensland Government response

The Queensland Government welcomes the findings of the Paradise Dam Commission of Inquiry and accepts, in full or in principle, all eight recommendations.

The Queensland Government's response to the recommendations is provided below.

## Independent verification of critical design parameters

Independent inquiry recommendation	Queensland Government response
<p>1. The materials used to construct a dam and the dam as-built should be subjected to inspection and physical testing to confirm the values adopted for critical design parameters. It is preferable that those responsible for the dam's design and construction organise and oversee such testing.</p>	<p>The Queensland Government accepts this recommendation.</p>

## Independent technical review and peer review

Independent inquiry recommendation	Queensland Government response
<p>2. The commission encourages consideration by the Regulator of mandating the independent technical review of referable dam projects.</p>	<p>The Queensland Government accepts this recommendation.</p>
<p>3. The panel or body established to conduct the independent technical review should have the authority to co-opt others with appropriate expertise to conduct peer review of matters beyond the collective expertise of the panel members or where obtaining additional views is considered advisable.</p>	<p>The Queensland Government accepts this recommendation in principle.</p> <p>The Queensland Government will consult with industry to determine how best to give practical effect to the recommendation while ensuring that outcomes are achievable for all future referable dam project proponents.</p>
<p>4. Matters for review should include but may not be limited to regulatory, safety and operational requirements, the principal components of the dam and its critical design parameters.</p>	<p>The Queensland Government accepts this recommendation.</p>
<p>5. The Regulator should consider how best to ensure the independence of the persons chosen to conduct peer reviews and whether guidelines to assist and direct those in peer reviewing dam projects would be useful.</p>	<p>The Queensland Government accepts this recommendation.</p>

## Downstream protection

Independent inquiry recommendation	Queensland Government response
6. The designer of a dam should give proper consideration to the erosive force of water and the capacity of the riverbed to withstand such force. This may include testing and simulation using computational and hydraulic modelling, as well as geotechnical investigations (and the interaction between those disciplines).	The Queensland Government accepts this recommendation.

## Monitoring compliance

Independent inquiry recommendation	Queensland Government response
7. The Regulator should consider suitable means of routinely monitoring compliance with conditions of development permits and other approval relating to the construction of dams, including by audits and checks during construction.	The Queensland Government accepts this recommendation.

## Model for dam delivery

Independent inquiry recommendation	Queensland Government response
8. To the extent practicable, the entity that is ultimately to own or operate the dam after its commissioning should have an opportunity to influence its design and construction; and if there is an alliance, preferably as part of that structure.	The Queensland Government accepts this recommendation.

## Implementing the recommendations

The Commission has conducted a thorough investigation and recommended stronger independent review, testing, better integration of geotechnical and hydraulic engineering, more rigorous compliance checks, and a better delivery model to guide decisions in design and construction.

Implementing these recommendations swiftly will help us to ensure that the community can be confident in the safety and security of every new dam built in Queensland.

Our next step will be to find the most effective ways to give practical effect to the Commission's recommendations. In the coming weeks we will work with industry and other stakeholders whose involvement will be essential to the success of these changes to develop an action plan for implementing the Commission's recommendations for the benefit of future dam projects and the wider community. This will be released mid-year 2020.