Basic Details

Publish Date

07 May 2026

Case ID#

3364

Title

Subsurface defect arising from buried redundant construction materials

Nation

Wales

Regulator Reference No.

82

Legal Status

Statutory

Reservoir Type

Impounding

Reservoir Capacity

10 - 24,999m3

Year of Construction

2010 - 2029

Main Construction Type

Earth fill embankment

Dam Height

2 - 4.99 metres

Dam Flood Category

A

Hazard Class

High-risk reservoir

Reservoir Use

- Flood risk management

Owner Type

Public body

Incident Details

Date & Time of Incident

19 February 2026 - 12:00

Date Incident Closed

26 March 2026

Observations that Caused the Incident to be Declared

- Deformation or instability of embankment or dam wall (slumps, cracks, depressions, etc.)

Describe the Incident

A ground defect was identified adjacent to a reservoir spillway following visual inspection, indicating potential subsurface instability. Investigation confirmed the presence of buried redundant construction materials dating from earlier works, which had enabled water retention and localised ground saturation. While no immediate loss of reservoir safety occurred, the issue represented a credible risk that required investigation and remedial action.

Supporting Photos



Causes and Impacts

Natural Processes which Initiated or Contributed to the Incident

- Other natural process (describe below)

Main Contributing Factors to the Incident Occurring

Dam Factors

- Other dam factors (describe below)

External Factors

- Human error

Shortcomings

- Construction shortcoming
- Human error

Root Cause of the Incident

The root cause was a construction shortcoming during the 2016 reservoir works, where redundant temporary pipes were left buried within the embankment and not identified or removed.

Impacts on the Reservoir

- None - near miss

Supporting Photos

No images provided.

Supporting Contributions and Studies

Human Factors which Influenced the Incident

During construction, some non-designed materials remained within the embankment, reflecting limitations in site oversight and quality assurance at the time. Early routine inspections did not initially recognise the potential significance of the observed defect.

Instrumentation at the Reservoir

No specific instrumentation was associated with detecting this issue. The defect was identified through visual inspection and followed up with CCTV surveys and targeted excavation.

Was Instrumentation Effective?

Not Applicable

Assistance by External Parties and Impacts on Downstream Population

Specialist contractors were engaged to carry out CCTV inspections and excavation works. There were no downstream impacts, and no emergency response or downstream notification was required.

Summary of Studies or Investigations Undertaken

Investigations included CCTV surveys of buried features, excavation to expose redundant pipes, review of construction records and historical photographs, and site inspections by the Supervising Engineer.

Supporting Photos

No images provided.

Lessons Learnt

Lesson 1

That constant vigilance is required during construction or remedial works to ensure the designs are completed to a high standard, and that undue activities are not completed without wider consultation with the designer and QCE. Waste management is a key activity and the transfer certificates should be kept as a record of what was taken from site.

Lesson 2

Site supervision of reservoir construction is important to maintaining high standards of reservoir safety. It wouldn't have guaranteed the pipes would not have been buried, but would minimise the likelihood of the activity being completed.

Lesson 3

The vigilance of monitoring, early proactive investigations and interventions have remedied a potential problem with the dam structure that would manifest over many years.

Lesson 4

Closing Comments

Supporting Photos

No images provided.

Information provided has been sent from reservoir owners and engineers, and cleansed of personal information by the enforcement authority. We cannot guarantee the accuracy of the data, but if you find an error please contact the relevant enforcement authority.