# **Basic Details**

Erosion during overflowing from water flowing over piles and onto embankment

**Publish Date** 

Case ID#

3119

Title

**Nation** 

Public body

02 September 2025

# England Regulator Reference No. 309 **Legal Status** Statutory **Reservoir Type** Non-impounding **Reservoir Capacity** 10 - 24,999m3 **Year of Construction** 1950 - 1969 **Main Construction Type** Earth fill embankment **Dam Height** 5 - 9.99 metres **Dam Flood Category Hazard Class** High-risk reservoir Reservoir Use Other **Owner Type**

# **Incident Details**

#### **Date & Time of Incident**

26 June 2007 - 12:00

#### **Date Incident Closed**

Not provided

#### Observations that Caused the Incident to be Declared

• Dam or embankment overflowing or overtopping

#### **Describe the Incident**

In one case, a flood storage reservoir overflowed because its capacity was exceeded. In the other, a river overflowed the defences surrounding it and water flowed into the adjacent flood storage reservoir. In both cases, the embankments had been raised with steel sheet piles. When the water overflowed the sheet piles it dropped vertically onto the earth embankment below causing erosion.

# **Supporting Photos**

No images provided.

# **Causes and Impacts**

#### Natural Processes which Initiated or Contributed to the Incident

Not provided

# **Main Contributing Factors to the Incident Occurring**

### **Dam Factors**

• Deterioration of materials

# **External Factors**

None

# **Shortcomings**

• No apparent shortcoming

#### **Root Cause of the Incident**

#### Impacts on the Reservoir

External erosion

# **Supporting Photos**

No images provided.

# **Supporting Contributions and Studies**

#### **Human Factors which Influenced the Incident**

#### Instrumentation at the Reservoir

There is no instrumentation.

#### Was Instrumentation Effective?

Not Applicable

#### Assistance by External Parties and Impacts on Downstream Population

None

# Summary of Studies or Investigations Undertaken

The cause of the damage is known. It will be appropriate to carry out localised site investigations (trial pitting) to determine the length of the piles and whether or not water has passed through or beneath them. Investigations should also be carried out to determine the extent of previously reported corrosion of the piles. The remedial scheme must take into account that overtopping of sheet piles in the crest of an earth embankment causes erosion and a suitable design detail should be engineered to ensure that, when the remediation measures are completed, it does not happen again. The undertaker should look at other of their sites where there are sheet piles driven into earth embankments and satisfy themselves of their integrity against damage from overtopping.

# **Supporting Photos**

No images provided.

# **Lessons Learnt**

# **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.