

E.J. Beardmore Dam gate operation

E.J. Beardmore Dam is a zoned earth and rock fill embankment dam with a concrete spillway and 12 vertical lift gates.

The spillway gates are designed to be opened manually using a gate hoist. When the storage level reaches full supply level (FSL) of 207.12m AHD, the gates will be opened to allow excess water to pass through the dam. The gates continue to be opened as the storage continues to rise and then lower as inflows reduce.

The spillway gates under flood conditions cannot be opened until the Jack Taylor Weir gates have been opened to allow a natural flow of water downstream.

The gates operate this way to protect the integrity of the dam structure from water rising above the FSL and minimise the risk of the dam 'overtopping'.

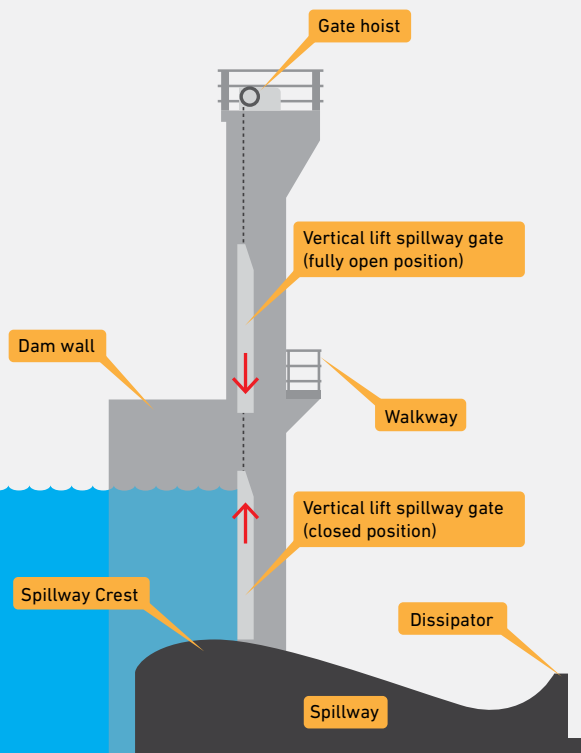
Simplified schematic showing the gate operation of E.J. Beardmore Dam

Upstream gauging stations are monitored to assess the magnitude of dam inflows and a detailed chart is used as a guide to incrementally open the gates as required to safely pass the inflows through the dam.

A hoist is used to open and close the vertical lift gates.

Gate 3 is opened first followed by gates 2 and 4, followed by gates 1 and 5, until all 12 gates are opened when flows reach 40,040ML/day.

The gates continue to be opened incrementally to minimise downstream erosion until outflows match inflows and the storage level stabilises.



Cross-section of E.J. Beardmore Dam (looking towards the left bank), showing a gate in the open and closed positions.