



BOARD OF DIRECTORS
Humboldt Bay Municipal Water District
March 12, 2026

ITEM NO. 5.6

ITEM: Discuss and Consider Declaration of Emergency and Authorization for Emergency Procurement of Commercial Dive Services — R.W. Matthews Dam Slide Gate Failure

PRESENTED BY: Michiko Mares, General Manager

TYPE of ITEM: ACTION

TYPE of ACTION: Roll Call Vote

Recommendation

Staff recommend the Board discuss and consider:

- Approval of Resolution declaring that an emergency condition exists at the R.W. Matthews Dam intake structure;
- Authorization for the General Manager to procure commercial dive services on an emergency basis without competitive bidding, consistent with Public Contract Code provisions for emergency work;
- Authorization of an initial expenditure of up to \$215,000 from the capital reserve fund for emergency dive services (inspection and repair of slide gate operating system); and

Discussion

Incident Summary

On March 3, 2026, during a Division of Safety of Dams (DSOD) field inspection at R.W. Matthews Dam, the hydraulic slide gate at the intake structure failed while being operated to the closed position. The gate is currently stuck in a partially open position and cannot be operated in either direction.

In response, the District's Situation Evaluation Committee has been activated as required by the District's Emergency Action Plan (EAP) for a "High Flow or Non-Failure Emergency." The required agencies have been notified that the slide gate malfunction is considered a non-failure emergency condition which requires an increased level of monitoring and operations. Regular updates are being provided to state and federal agencies as District staff troubleshoot the slide gate operating system.

Technical Findings

District staff have conducted diagnostic testing of the hydraulic system and determined the following:

- The hydraulic power unit (HPU) at the headhouse is functional. The system deadheads at approximately 1,190 psi (trip-off pressure) when isolated at the pump.
- Both the feed and return hydraulic lines (two 3/4-inch marine hoses inside a shared 3-inch stainless steel conduit running 900 feet down the dam face) are unable to transmit pressure to the gate actuator.
- Camera inspection of the conduit from the headhouse to the waterline showed no evidence of hydraulic fluid leakage, suggesting the failure is in the submerged portion of the conduit run or is an internal hose failure.

Why This Is an Emergency

The District has lost the ability to control or shut off flow from Ruth Lake through the intake. This eliminates the District's emergency shutoff capability. The partially open gate may be subject to cavitation damage from high-velocity flow. There is no stop log structure or alternative closure mechanism at the intake. The District cannot dewater the penstock to access the hydraulic system for repair without first isolating the intake underwater. Ruth Lake is the sole primary water supply reservoir for approximately 90,000 Humboldt County residents.

Proposed Approach

Staff proposes engaging a commercial dive contractor to perform the following work in phases:

Phase 1 — Underwater Inspection: A commercial dive team will perform a comprehensive underwater inspection at approximately 105 feet depth, including: visual inspection and video documentation of the slide gate to confirm gate position and assess condition of the gate plate, sole plate, guide channels, and seating surfaces; inspection of the hydraulic operating cylinder and associated piping connections; inspection of the 3-inch stainless steel conduit along the dam face from the waterline to the intake structure for damage, deformation, or separation; inspection of both trash rack assemblies to document condition and confirm frame dimensions for temporary bulkhead fabrication; and a general condition assessment of the concrete intake structure face. The contractor will deliver a written inspection report with HD video and photographs within 48 hours of dive completion. Estimated cost: \$25,000–\$50,000.

Phase 2 — Slide Gate Operator Room Entry, Inspection, and Repair: Based on Phase 1 findings, the contractor will perform permit-required confined space entry into the slide gate operator room in accordance with Cal/OSHA Title 8, Section 5157. Based on the Phase 1 Inspection, the scope may include: inspection and repair or replacement of the hydraulic fluid manifold, including all valves, fittings, seals, and porting; disconnection, removal, and replacement of both 3/4-inch marine hydraulic hoses within the 3-inch stainless steel conduit; purging and cleaning of the conduit; rebuild or replacement of the hydraulic operating cylinder as warranted; inspection of the slide gate, guide channels, and seating surfaces for cavitation damage; and inspection of the vent system. Following repairs, the contractor will pressure test the complete hydraulic system, bleed the system, and cycle the slide gate through a minimum of three full open/close

cycles to verify normal travel pressure of approximately 500 psi mid-stroke and system trip-off at approximately 1,190 psi. Estimated cost: \$50,000–\$100,000.

Alternatives

The alternative to not approving the emergency procurement would leave the District without the ability to close or control the slide gate at Ruth Lake. The non-failure emergency condition would continue indefinitely, the partially open gate would remain at risk of cavitation damage, and the District would not have emergency shutoff capability at its primary water supply reservoir. Delaying action increases the risk of further damage to the gate and intake infrastructure.

Fiscal Analysis

Total estimated cost for Phases 1 through 3 of the dive services is \$215,000. This expenditure was not anticipated in the current fiscal year budget. Staff recommends funding from the District's capital reserve fund as an unplanned emergency infrastructure repair. The cost of the hydraulic line and manifold replacement will be included in the Phase 2 scope. Staff will report back to the Board with actual costs following completion of the work

Environmental Requirements

Emergency repair of existing infrastructure. All work will comply with applicable environmental regulations including spill prevention and containment at Ruth Lake. No discharge of hydraulic fluid or contaminants will be permitted.

Exhibits/Attachments

Attachment 1 – Resolution 2026-03 Declaration of Emergency at the R.W. Matthews Dam