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PROJECT CASE STUDY: Decommissioning and Rehabilitation Requirements Review of a Tailings Storage Facility

SGM Environmental Pty Limited (SGME) did a site review of a tailings storage facility (TSF) and decant cells to determine their requirements for decommissioning and rehabilitation

Site description: Tailings, including coarse and fine rejects, have been deposited into the TSF of the coal handling and preparation plant (CHPP) since operation started in 2000. Tailings have been managed via four decant cells that allow them to dry and solidify before co-disposal with coal rejects. Deposition of tailings into the TSF ceased in 2012 prior to the mine going into care and maintenance. In 2017, as part of the annual inspection, the TSF was described as being unsaturated with no water ponding.

The problem: The TSF was considered 'high risk' under the requirements of the Environmental Authority with a consequence category of 'high C' based on the provisions of the Australian National Committee on Large Dams. Noting that the TSF had been decommissioned and capped, but the capping had not been assessed against the Environmental Authority.

The decant cells required relocation and resizing to accommodate changed mining conditions.

What SGME did: The review determined the capped TSF residual risk and assessed the proposed plans to modify the decant cells.

SGME gave essential actions that needed to be priorities and also gave recommendations for future capping design so it would meet the Environmental Authority. Other recommendations included an approval pathway to relocate the decant cells and expectations related to the draft progressive rehabilitation and closure plan guideline.

