Attachment 8A - Muja Power Station FAD Cell Stage 2C – Conceptual Site Model Table

Context: The Muja Power Station FAD is an existing facility that has been assessed and approved on at least seven previous occasions under Part 5, Division 3 of the EP Act. This Application applies only to an embankment uplift, buttress and rock ring decant. No changes to the Model will result from the proposed construction activities.

Source / Activities	Potential emissions, pollutants, or contaminants of concern	Potential pathway	Potential receptors	Potential impacts	Proposed controls and contingencies	Reference source
FAD Cell 2 (deposition of tailings)	FAD Cell 2 supernatant potentially containing concentrations of substances with environmental significance.	Seepage / infiltration.	Underlying groundwater (20 mBGL) is of low salinity	Groundwater contamination to the west and southwest	Groundwater modelling, underdrainage, monitoring bores and recovery bores, specified management triggers and contingency actions.	Muja TSF Dams Management Plan (2024)
			Groundwater saline, no groundwater users identified within 5km (State Forest)	Public health impacts unlikely (within State Forest)		N/A
		Groundwater mounding, no surface seepage expression identified	Native vegetation adjacent to FAD and southern ephemeral creek line No natural surface water located within 500 m north, west and south of the southern embankment of the FAD Cell 2.	Reduced surface water quality, and ecosystem disturbance (vegetation health).		Muja TSF Dams Management Plan (2024)
FAD pipeline delivery pipeline failure in surface V-notch trench.	Fly ash or decant water pipelines potentially containing concentrations of substances with environmental significance	Direct discharge to containment. Infiltration into soil or groundwater in pipeline corridor	Native vegetation adjacent to pipeline corridor	Impact to soils, and short term reduced surface water runoff quality and ecosystem disturbance.	Telemetry, pipeline auto cut-offs, routine visual inspections/monitoring. Clean up response, reporting, spill containment measures	Muja TSF Dams Management Plan (2024)
				Reduced vegetation health, and potential loss of vegetation in some areas.	Siting of infrastructure, appropriate vegetation monitoring	

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Stormwater shed from FAD spillway and embankments following extreme storm events	Sediment-laden runoff. Potentially contaminated stormwater from embankments.	Overtopping of southern perimeter storm collection system. Overland runoff into ephemeral drainage system through State Forest	Ephemeral south flowing drainage line immediately south of Cell 1 embankment	Reduced seasonal surface water quality, and ecosystem disturbance.	Stormwater infrastructure, diversion drains, trenches, monitoring	
			Native vegetation adjacent to the storage	Reduced vegetation health.	Vegetation monitoring and flora health surveys as needed	
Overtopping of FAD Cell/s due to insufficient freeboard capacity following extreme storm event.	Fly ash potentially containing concentrations of substances with environmental significance	Unplanned direct discharge of tailings into the near storage environment.	Underlying groundwater of low salinity (20 mBGL)	Reduced groundwater quality and impacts to State Forest. near the FAD	Managing water balance, maintaining adequate FAD freeboard, water recovery measures, monitoring groundwater levels	Muja TSF Dams Management Plan (2024)
			Surface water down gradient of the FAD southern spillway - Cells 1 and 2	Reduced vegetation health (specifically low shrubs and ground cover), and or potential loss of vegetation in some areas.		
Dust lift-off from the FAD beach	Dust (dried tailings) potentially containing unfavourable materials.	Windblown dust transport through air then deposition.	Native vegetation adjacent to FAD Storages	Potential impact to health of native vegetation from dust deposition and / or dust containing toxic material deposited on soil	Dust monitoring program, contingency measures (dust suppression, ceasing dust generating activities where safe and practicable)	Muja TSF Dams Management Plan (2024)
		Air/wind dispersion, dust inhalation, contamination of drinking water (roof runoff into rainwater tanks used for water supply). Contamination of home-grown food (from contamination of soil in residents' vegetable gardens, chickens feeding on ground in residents' properties). Amenity impacts from dust soiling surfaces around residents' properties	Nearby residents (>5,900 m away) Separation distance such that residents not realistically considered sensitive receptors	Public health / amenity impacts	Separation distance such that residents not realistically considered sensitive receptors	Muja TSF Dams Management Plan (2024)