

Water Use and Quality Control

A. Intent

The intent of this standard is to ensure efficient, safe and sustainable use and protection of water resources and ecosystems in and around Rio Tinto Operations. This requires an understanding of the water resources, their spatial and temporal interrelationships, their ownership in the region and the needs of key catchment stakeholders. This provides the basis for the development of an integrated and strategic approach to water management that promotes the maintenance or improvement of water quality, upstream and downstream, minimisation of fresh water use and the maximisation of reuse and recycling.

B. Scope

This standard is applicable to all Rio Tinto Business Units and managed operations from exploration/development through to closure. It covers all activities connected to water abstraction, dewatering, transport, storage, usage (potable and process), and direct/indirect discharge, involving surface water (including runoff), impounded water and ground water.

Other relevant documents are:

- Environmental Management System Standard
- Acid Rock Drainage Prediction and Control Standard
- Rio Tinto Closure Standard (under preparation)
- Hazardous Materials and Contamination Control Standard
- Mineral Waste Management Standard
- Annual S & E Survey Guidelines
- Water Use and Quality Control Guidance Note

C. Requirements

Rio Tinto Business Units and/or managed Operations are required to:

1.0 *Planning*

- 1.1 Develop, document and maintain an appropriate knowledge of the biotic and abiotic characteristics of surface and groundwater resources in which the operation works. This includes characterisation of climatic, limnological, hydrological, hydro-chemical and hydro-geological systems.
- 1.2 Develop and maintain an appropriate understanding of the cumulative demands and impacts being placed on water resources and ecosystems in the catchments in which the operations work. This must include understanding the current and future water requirements of key upstream and downstream users and stakeholders, and the regime and quality required to maintain ecosystem integrity.
- 1.3 Develop and maintain an appropriate 'site water balance', including solute balances, detailing all water inputs, uses, outputs and losses.

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- 1.4 Employ environmental aspects identification and change management procedures to ensure that new developments, existing activities and facilities and substantive changes to existing facilities do not degrade the upstream and downstream quality, function, use and integrity of 'natural' water ecosystems (including ephemeral streams).
- 1.5 Develop internal criteria on water abstraction, dewatering, effluent/discharge or water quality when government regulations are absent or incomplete to ensure protection of water resources. The criteria must have formal approval from the operations MD and be in line with internationally accepted criteria, guidelines and methodologies.
- 1.6 Develop targets to drive improvements in on-site and off-site water management. Progress towards the targets must be supported by suitable sets of actions.
- 1.7 Develop and implement a Water Management Plan that consolidates the acquired knowledge about the water resources and ecosystems and the actions required to comply with the intent of this Standard and with all regulations and requirements of the pertinent authorities. The Plan must be reviewed at least every four years or more frequently when operational or environmental conditions so dictate.

2.0 Implementation and Operation

- 2.1 Assign clear responsibilities and accountabilities for on-site and off-site water management. Responsibilities must include progressing the Water Management Plan and its associated targets.
- 2.2 Design, construct and manage water withdrawal, storage, treatment and discharge facilities using current best practice. In the design phase conduct a risk assessment to identify and correct any potential failure scenarios. Ensure that construction meets regulatory requirements and addresses all the identified hazards/risks. Ensure that operation of the facility conforms to approved design criteria and operational procedures and that precautionary measures are put in place to protect freshwater ecosystems.
- 2.3 Prepare emergency preparedness and response procedures for the following:
 - a. Drought;
 - b. Flood;
 - c. Failures of large water retention structures;
 - d. Unplanned effluent discharges.

This should be coordinated and compatible with the similar requirements for large waste storage facilities as contained in the Mineral Waste Management Standard.

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3.0 Performance Measurement

- 3.1 Maintain safety inspection procedures, including the detailed verification of all identified hazards, for all major water storage facilities. These requirements should be compatible with the major waste storage facilities inspection and signoff requirements detailed in the Mineral Waste Management Standard.
- 3.2 Implement a monitoring program to:
- a. Support operational control;
 - b. Verify compliance with targets and legal requirements;
 - c. Update on-site water balances and off-site catchment models;
 - d. Assess impact on the environment;
 - e. Assess, where appropriate, cumulative impacts of the operation on the catchment and other users;
 - f. Meet reporting requirements.

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