



IGO GROUP ENVIRONMENT STANDARD 4

WATER MANAGEMENT

INDEPENDENCE GROUP

DOCUMENT APPROVAL FOR USE

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CONTENTS

1.	PURPOSE	2
2.	APPLICATION.....	2
3.	RISK ASSESSMENT	2
4.	WATER BALANCE.....	2
5.	WATER MANAGEMENT PLAN.....	2
6.	DRINKING WATER	3
7.	CONSTRUCTION, DESIGN AND OPERATION	3
8.	INSPECTIONS & MONITORING	4
9.	REPORTING.....	4
10.	RESPONSIBILITIES.....	4
11.	RELATED DOCUMENTS	4

1. PURPOSE

IGO is committed to the responsible management of water to mitigate adverse impacts on local and regional water resources to preserve human health, the environment and the community. This standard details IGO's requirements for the efficient, safe and sustainable use and protection of water resources in and around our operations.

2. APPLICATION

This standard shall apply to all IGO managed mine sites and operations that are licenced to extract or utilise surface and ground water. This standard applies to all activities relating to water abstraction (ground and surface), dewatering, usage (including consumption), storage, treatment and discharge directly associated with construction, mining, mineral beneficiation and exploration.

To the extent that a law may exceed this standard or specify other requirements, the law shall prevail. However, this document defines the minimum standard required and as such may impose a higher standard than may be required in some jurisdictions.

3. RISK ASSESSMENT

The impact to water resources must be considered in Operational Enterprise and Health & Safety Risk Assessments. As applicable, risk assessments should be undertaken for abstraction, use (including consumption), storage and discharge of water during both project prefeasibility and feasibility studies, during operations whenever there are material changes to water use, as part of the care and maintenance process, and as part of closure planning.

For further information refer to Group Safety Standard 12 – Operational and Project Risk Management.

For further guidance, refer to the Australian Government's National Water Quality Management Strategy (NWQMS).

4. WATER BALANCE

All operations shall develop and maintain a comprehensive site water balance that includes:

- All inflows, inventory storage, usage and outflows
- Key infrastructure on site, such as (but not limited to) processing plant, mine, tailings storage facility, dams and camp, and
- Threats to and opportunities for site water supply

The water balance must be maintained and updated minimum monthly.

5. WATER MANAGEMENT PLAN

A project or site Water Management Plan (the plan) must be developed in accordance with this standard and applicable statutory obligations. The plan must include the following as a minimum:

- Baseline surface and groundwater hydrology and geochemical characteristics;

- The identification of significant risks and controls (including supply, waste water disposal, storm water management) (Section 3);
- A summary of the statutory obligations related to the site's abstraction, use, storage and discharge of water.
- A summary of the water balance (Section 4);
- An assessment of bore field performance (if applicable) and expected life
- Contingency arrangements in the event that the primary water supply becomes unavailable;
- Identification of the other users and uses of the water resource (i.e. third parties and environmental uses), or parties or environmental receptors potentially impacted on by the sites disposal or discharge of water (or process solutions);
- Water management improvement objectives and targets;
- Inspection and monitoring requirements to confirm conformance to plan (and or relevant licence conditions); and,
- Emergency planning.

Water Management Plans must be developed and maintained in conjunction with long-term operational plans and be regularly reviewed and updated.

6. DRINKING WATER

All sites using onsite or self-managed water abstraction or collection systems for human consumption must develop and implement a risk-based drinking water management plan. The plan shall include a regular monitoring program to ensure drinking water safety as required by relevant statutory obligations.

In the absence of specific statutory requirements (or statutory requirements applying a lower standard), the Australian Drinking Water Guidelines (ADWG) 2011 shall be adhered to as the IGO standard.

7. CONSTRUCTION, DESIGN AND OPERATION

A risk-based approach to design, construction and operation of water abstraction, storage, treatment and discharge facilities must be adopted. The management of water resources should prioritise:

- Water use optimisation through reuse and efficiency measures, and
- Mitigation of environmental and social water impacts.

Beyond this general guidance, as a minimum standard, IGO requires that:

- Water abstraction, dewatering activities, and effluent water quality meets relevant standards and regulatory requirements and maintains the security and quality of surface and groundwater resources and minimises the impact on other users and or environmental receptors.
- Design of water infrastructure must account for expected flows including significant storm events relevant to site location. In the absence of statutory requirements, or accepted design

standards, and as a minimum requirement, all IGO stormwater facilities must be designed to accommodate a 24hr one in one-hundred-year storm water flow event.

- Water containing acidic solutions, chemicals or metals must be managed 'on site' to protect people and the environment.

8. INSPECTIONS & MONITORING

All IGO mine sites shall establish and conform to the inspection and monitoring requirement specified in the site's Water Management Plan. All IGO mine sites shall periodically verify or otherwise conform with this standard, licences and other applicable regulatory requirements. In circumstances where non-compliance is identified, sites must undertake appropriate remedial action.

9. REPORTING

Significant incidents and non-compliances, and associated corrective actions, shall be recorded in INX.

10. RESPONSIBILITIES

It is the responsibility of the:

- General Manager to ensure that their operation conforms to this standard and all relevant statutory obligations. GMs must ensure their operation maintains an up to date water management plan.
- Exploration Project Manager to ensure that their exploration team conforms with this standard and any additional statutory obligations
- The Senior Site or Exploration Environmental Advisor must ensure a water management plan is developed and maintained and that water monitoring, data analysis and reporting conforms to this standard and any additional statutory obligations.

11. RELATED DOCUMENTS

This standard shall be viewed with reference to the following IGO documentation where relevant:

- IGO Group Safety Standard 12 – Operational and Project Risk Management
- IGO Group Safety Standard 3 – Personal Risk Management
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC) 2000
- Australian Drinking Water Guidelines (ADWG) 2011
- Australian Guidelines for Water Recycling: Managing Health and Environmental Risks
- Minerals Council of Australia: Water Accounting Framework