

Comparison of current Australian Standard with updated ISO standard

Current Australian Standard	AS 3778.2.2 - 2001	Measurement of water flow in open channels Part 2.2 General _ Establishment and operation of a gauging station
Updated ISO Standard	ISO 18365:2013	Hydrometry – Selection, establishment and operation of a gauging station

High-level comment on differences

The overview is based using the ISO standard as the basis that the Australian standards are reviewed against. The layout of each document differs considerably and has had to be reviewed section by section while ensuring that the intent of the content is matching although the terminology and description differs. Generally, the contents of the Australian Standard AS3778.2.2 – 2001 are covered in the more recently published ISO 18365.

The more recently released and updated ISO 18365 standard should be adopted as the Australian standard with modifications. It makes sense to combine the two Australian Standards into one. However, extracting the relevant parts to ensure that the best of the Australian Standard and the ISO standard are included will have to be completed carefully.

The Australian Standard AS 3778.2.2-2001 still refers to old and within reason redundant technology such as magnetic tapes and Servomanometer and servo beam balances as examples. Leaving this terminology in the Australian Standard will add complexity for young hydrographers to digest without any real benefit. Australian Standard has more detail in regard to making clear recommendations regarding the construction of nonstandardized measuring structures. I believe the vast majority of gauging stations do not have standardised measuring structures.

Reviewer recommendation

I recommend that the technical committee

- ***accept the updated ISO in full to combine and replace the two current Australian Standards (AS 3778.2.1 and AS3778.2.2)***

(This recommendation was reached following further discussion with Working Group members)

Certain existing material in the Australian Standards noted in the table below (and in the review of AS 3778.2.1) should be incorporated in the WaMSTeC National Industry Guidelines for hydrometric monitoring, possibly *NI GL 100.02 Site Establishment and Operations*.

Detailed summary of differences

The table below outlines in more detail a summary of the differences between the current Australian Standard under review and the relevant updated ISO standard and includes reviewer comment where relevant.

Column 1: Identifies the number and name of the section in the current Australian Standard

Column 2: Classification of the change for that section. Classified as either:

- **No change (green shading)** – The updated ISO is the same as the current Australian Standard.
- **Minor change (blue shading)** – Changes that have minimal impact on the outcome, including
 - minor format, style or heading changes
 - minor additions, removals or changes to a few words or clauses
 - addition or exclusion of more detailed explanation
 - very minor changes to steps or processes.
- **Significant change (orange shading)** – Changes that have a moderate to major impact on the outcome, such as
 - Changes to requirements
 - Significant changes to calculations, steps or processes.

Column 3: More detail to describe the change, and comment from the reviewer (enough detail for the consideration of AHA and WaMSTeC members in their review).

Text colour is used in this column as follows:

- **Black text** – More detailed explanation of the changes and reviewer comment. **Specific reviewer comment on the changes highlighted in yellow.**
- **Blue text** – reference to information included in the updated ISO that is not in the current Australian Standard
- **Red text** – reference to information included in the current Australian Standard that is not in the updated ISO.

Section (AS section number)	Classification of change AS to ISO	More detail and comment on changes in the updated ISO
The AS does not have ISO section 4.1 Requirements		The requirements are a simple overview in point form that is needed for a site. It does take into consideration the objective of the site rather than the practical aspects of capturing the data.
The AS standard introduces gauging early in the Document Section 2. Methods of Measurement		The ISO standard does not mention stream flow measurement until the table in Appendix A
The AS standard has a good introduction under Section 3 Principles of Measurement		The ISO standard details via the table A.1 information about the best method of gauging in the Notes table attached to Table A.1