

Title	Construct, apply, evaluate and store hydrometric rating curves		
Level	5	Credits	20

Purpose	<p>This unit standard is intended for people who will construct rating curves from data that they or others may have collected.</p> <p>People credited with this unit standard are able to: construct, evaluate and extrapolate rating curves; and apply, evaluate and store rating curves to derive a continuous river flow record.</p>
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Classification	Water Industry > Field Hydrology
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Available grade	Achieved
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Guidance Information

- 1 Rating curves must be constructed in accordance with:
 - National Environmental Monitoring Standards (NEMS);
 - organisational procedures.
 The complete list of NEMS can be found on the NEMS website www.nems.org.nz.
- 2 Hydrometric data includes water level, streamflow and rainfall time series data.
- 3 The candidate must construct and apply rating curves for a minimum of two sites with differing controls, at least one of which must be a site with shifting control.
- 4 The candidate must work with at least 20 gaugings and demonstrate a minimum of four changes in rating.
- 5 Definitions

Data refers to statistical measurements or observations, and the term *information* is data in context.

Metadata describes data in detail. It has information about how, when, and by whom certain data was collected and the data format.

Organisational procedures refer to the policies and procedures set out in a verbal or written form by the employer or organisation. Procedures must be consistent with current legislative requirements and manufacturer's recommendations or instructions where relevant.

Outcomes and performance criteria

Outcome 1

Construct, evaluate and extrapolate rating curves.

Performance criteria

- 1.1 Select and evaluate gauging and related data.
- Range related data may include but is not limited to – cross-sections, hydrographs, field notes, processing metadata.
- 1.2 Fit graphical or mathematical curves to the gauging data to appropriately describe the hydraulic relation between water levels and flow.
- 1.3 Evaluate curve fit, including consideration of bias.
- 1.4 Extrapolate curves to encompass the full range of water levels recorded.
- 1.5 Confirm or revise existing curves, or fit new curves for correctly detected change in the relation as new data comes to hand.
- 1.6 Correctly file the curve(s).

Outcome 2

Apply, evaluate and store rating curves to derive a continuous river flow record.

Performance criteria

- 2.1 Determine appropriate periods of applicability for the curves and periods of transition between curves.
- 2.2 Compile metadata and apply to the rating curves.
- 2.3 Apply the rating curves to the unrated time-series.
- 2.4 Evaluate the resulting rated discharge series.
- 2.5 Store all curves, attributes and metadata.

Planned review date	31 December 2024
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	21 May 2015	31 December 2022
Review	2	24 October 2019	N/A

Consent and Moderation Requirements (CMR) reference	0232
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact the Primary Industry Training Organisation standards@primaryito.ac.nz if you wish to suggest changes to the content of this unit standard.