Australian Government

Inspector-General of Water Compliance

An inquiry into the measurement of non-urban water take in the Murray–Darling Basin

Terms of Reference

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1. I, the Honourable Troy Grant, Inspector–General of Water Compliance (**Inspector–General**), have, on my own initiative, pursuant to section 239AA of the *Water Act 2007* (Cth) (the **Water Act**) and for the purpose of performing the functions referred to in paragraphs 215C(1)(a) to (c) of the Water Act, decided to conduct an inquiry into the measurement of non-urban water take in the Murray–Darling Basin (the **Basin**).

2. In performing the functions referred to in paragraphs 215C(1)(a) to (c) of the Water Act, my inquiry will examine the performance of functions and exercise of powers by Commonwealth agencies, the performance of obligations by Basin State agencies, and the implementation of relevant commitments by both, under Part 2 of the Water Act, the Basin Plan 2012 (Cth) (the **Basin Plan**), and the Murray–Darling Basin Compliance Compact (the **Compliance Compact**) entered into in June 2018. My inquiry will also examine implementation by Basin State agencies of commitments under the Intergovernmental Agreement on a National Water Initiative entered into in June 2004 (the **NWI**), to the extent that it relates to Basin water resources.

Background

3. Accurate measurement of water take is fundamental to the effective operation of the Murray–Darling Basin sustainable diversion limit (**SDL**) framework established under the Water Act and the Basin Plan. SDLs define the maximum long-term average quantities of surface water and groundwater that may be taken for consumptive use, with Basin States responsible for determining, recording and accounting for water take under accredited water resource plans (**WRPs**). As WRPs allow water take to be measured directly, estimated, or derived through modelling, the integrity of measurement is critical to SDL accounting, compliance assessment and overall confidence in Basin water management.

4. Chapter 6 of the Basin Plan sets the long-term average sustainable diversion limits for each SDL resource unit and the method by which compliance with those limits is assessed. The reliability of this accounting depends on the integrity of the underlying water take data, which is addressed under Chapter 10. Chapter 10 establishes obligations relating to water resource plans, including how water take is to be measured and recorded under accredited plans.

5. The Murray–Darling Basin Compliance Compact, entered into in June 2018 by the Commonwealth and Basin State governments, is for the purposes of paragraph 215C(1)(c) of the Water Act, an agreement referred to in subsection 215C(3) of the Water Act. The Compliance Compact includes commitments by Basin governments to commence metering of all take under water entitlements, with provision for clearly articulated and published exemptions; require new and replacement meters to comply with the relevant Australian standard for non-urban water meters; roll out telemetry for the automated reporting of water take; publish metering policies and implementation plans, and report annually on implementation progress.

6. The NWI, entered into in June 2004, is for the purposes of paragraph 215C(1)(c) of the Water Act an agreement referred to in subsection 215C(3) of the Water Act, to the extent that it relates to Basin water resources. The NWI establishes the national framework for non-urban water metering, water resource accounting and data collection standards, including commitments to develop national meter specifications and meter standards, to benchmark and consolidate water accounting systems, to improve data collection coordination, and to develop national guidelines for open reporting on metered water use.

The Australian Government has signed the National Water Agreement (**NWA**), which replaces the NWI for the Commonwealth, but it has not been signed by any State or Territory. The NWI applies to Basin States that are signatories to it until the new NWA is signed by all states and territories. The NWI accordingly reaches Basin State agencies under s215C(1)(c) but no longer reaches the Commonwealth.

7. As State and Territory governments accede to the NWA over time, the NWI will cease to apply in those jurisdictions. The 2023-24 NWA is not an agreement referred to in subsection 215C(3) of the Water Act.

8. The rationale for an independent, system-wide assessment of measurement arrangements is also supported by:

    a. The Inspector–General's 2026 'Murray–Darling Basin Compliance Compact Stocktake Report' found that metering reforms have not been delivered on time nor as intended across the Basin, with significant variation in both metering coverage and telemetry implementation between jurisdictions, and inconsistent approaches to the definition and treatment of high-risk take. Beyond coverage and accuracy, the Stocktake identified that further attention is required to modelling and estimation practices, accounting and reconciliation, and the transparency of the policies and arrangements governing water take measurement across the Basin.

    b. The Productivity Commission's 2024 National Water Reform inquiry similarly found that most jurisdictions are not on track to meet their commitments to meter all water entitlements and ensure new and replacement meters meet the relevant Australian standard, with the Commission recommending jurisdictions accelerate their metering rollouts and improve annual reporting on metering compliance.

    c. The Inspector–General's Metering Report Cards, which publish information provided by Basin State jurisdictions about progress in metering implementation. While these report cards demonstrate progress, they rely on jurisdiction-reported information without independent verification.

Terms of Reference

9. Pursuant to section 239AB of the Water Act, I determine that the terms of reference for this inquiry are to inquire into, and to make findings and recommendations in relation to the measurement of non-urban water take, including measurement of environmental water use, in the Murray–Darling Basin, including:

    a. the performance of functions and exercise of powers by agencies of the Commonwealth, and the performance of obligations by agencies of the Basin States, in relation to the measurement, recording and reporting of non-urban water take under the Water Act, Basin Plan and accredited Basin State water resource plans, and

    b. the implementation by agencies of the Commonwealth and the Basin States of commitments under the Compliance Compact, and by Basin State agencies of commitments under the NWI (to the extent that it relates to Basin water resources), relating to the measurement, accuracy, timeliness and transparency of water take.

10. The inquiry will examine these matters across three interconnected themes: coverage and methodology, accuracy and reliability, and timeliness and transparency. The inquiry is concerned solely with water take measurement arrangements. It will not examine SDL accounting or compliance practices, except where the adequacy of measurement directly bears on those processes.

a. Coverage and methodology

The inquiry will assess the extent to which metering, estimation and modelling are used to determine non-urban water take across the Basin, and whether current approaches produce accurate, reliable and consistent measurement data. This includes:

i. current rates of metering coverage across the Basin, progress against Basin State metering commitments, material gaps in coverage, the extent of unmeasured take, and barriers to improvement

ii. the elements of non-urban water take, specifically focussed on actual take, that are determined through modelling or estimation rather than direct measurement; the governance (including processes and practices in relation to approval, ongoing verification and change management) arrangements applying to the use of those models; and the transparency and comparability of modelling methods and outputs across the Basin

iii. the extent and outcomes from the contribution of Commonwealth funding to improvements in metering and modelling across the Basin.

b. Accuracy and reliability

The inquiry will assess whether meters used to measure non-urban water take meet applicable accuracy standards and produce reliable results in practice. This includes:

i. consistency with the relevant Australian standard for non-urban water meters, including how compliance is demonstrated through validation, certification and maintenance records

ii. the availability of suitably qualified personnel to undertake meter installation, maintenance and validation work

iii. risks arising from meter performance, validation, maintenance, asset condition and telemetry performance

iv. risks to the integrity of meter and telemetry data

c. Timeliness and transparency

The inquiry will assess the extent to which non-urban water take is measured and transmitted in a timely manner, and the transparency of the data, policies, rules and arrangements governing measurement. This includes:

i. the coverage of telemetry across the Basin, the telemetry requirements set out in Basin State metering and measurement frameworks, and the methods used to collect and record meter data where telemetry is not in place

ii. progress in telemetry implementation across the Basin and against Basin State telemetry commitments, including the outcomes achieved for the timeliness and completeness of water take data

iii. the transparency and accessibility of Basin State metering policies, rules and implementation arrangements including to water users, regulators and the public.

Exclusions

11. To avoid duplication, this inquiry will not examine in detail the licensing or measurement of floodplain harvesting or overland flow take. The Inspector–General conducted an audit of the management of overland flow harvesting in the Lower Balonne, and a further audit of floodplain harvesting measurement arrangements in New South Wales is planned for 2026-27. Floodplain harvesting and overland flow measurement will continue to be subject to the Inspector–General's oversight through these and other mechanisms.

12. In examining modelling and estimation, the inquiry will not re-perform, independently validate, or provide assurance over hydrological models.

Legislative Powers

13. In accordance with subsection 239AB(2) of the Water Act, the legislative powers of the Commonwealth that support the exercise by me of the powers in subsections 239AC(2) and 239AD(2) of the Water Act in relation to this inquiry are:

    a. the power of the Parliament to make laws with respect to trade and commerce with other countries, and among the States (within the meaning of subsection 51(i) of the Constitution)

    b. the power of the Parliament to make laws with respect to postal, telegraphic, telephonic, and other like services (within the meaning of paragraph 51(v) of the Constitution)

    c. the power of the Parliament to make laws with respect to census and statistics (within the meaning of paragraph 51(xi) of the Constitution)

    d. the power of the Parliament to make laws with respect to weights and measures (within the meaning of paragraph 51(xv) of the Constitution)

    e. the power of the Parliament to make laws with respect to foreign corporations, and trading or financial corporations formed within the limits of the Commonwealth (within the meaning of subsection 51(xx) of the Constitution)

    f. the power of the Parliament to make laws with respect to external affairs (within the meaning of subsection 51(xxix) of the Constitution), as it relates to giving effect to Australia's obligations under relevant international agreements (as defined in subsection 4(1) of the Water Act)

    g. the executive power read together with the express incidental power (section 61 and paragraph 51(xxxix) of the Constitution)

    h. the power of the Parliament to make laws with respect to matters in respect of which the Constitution makes provision until the Parliament otherwise provides (within the meaning of subsection 51(xxxvi) of the Constitution), together with section 96 of the Constitution (financial assistance to States)

    i. the power of the Parliament to make laws for the government of any territory to which section 122 of the Constitution applies.

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