



December 2008

Information sheet 1

Integrated Water Cycle Management – helping local water utilities provide better services

What is IWCM?

Integrated Water Cycle Management (IWCM) helps local water utilities to manage urban water services collectively, not as individual components, saving resources and improving services to ratepayers. The three components of urban water - potable water, sewage and stormwater - share common issues, as well as individual problems. IWCM is assisting local councils/utilities to understand how best to integrate water services to provide for their communities and plan for future growth.

Cost effective and efficient water management needs to consider the entire water cycle - from catchment to the tap - including recycling, stormwater use and rainwater tanks. IWCM also considers the necessary regulatory and legislative requirements, as well as the community's needs and wishes, through the establishment of a Project Reference Group (PRG).

What are the benefits?

Managing urban water services in a collective manner using the IWCM process will help achieve:

- more efficient and reliable water services
- defined service levels through consultation
- pricing that promotes environmental, business and supply sustainability
- versatility of service provision
- greater ownership by the community of urban water service issues and a voice in solving problems
- more equitable provision of water services to all users
- minimised adverse environmental impacts

How is it done?

There are two main steps in the IWCM process - evaluation and strategy.

Step 1. The IWCM Evaluation

Utilities start by reviewing existing information and data on their urban water supply and related catchment activities. The evaluation focuses on the utility's targets - requirements, obligations and objectives.

Issues are identified by comparing targets against actual performance at a catchment, water resources and urban water supply system level. If the review finds that the water utility's action in providing urban water supply across all components - potable water, sewage and stormwater - has met or exceeds previously set targets, the utility has completed its IWCM process until the next six year review.

Step 2. The IWCM Strategy

If there are issues that have not been addressed by existing actions or formally adopted plans, utilities move to the second step in the process. This involves identifying the best options to address all issues, based on suitable technology, resourcing and community acceptance. Possible scenarios are



compared and ranked on the basis of their environmental, social and economic impacts. This step is the development of an IWCM Strategy.

How long will it take?

The time taken to complete the IWCM process will depend on the needs of the particular urban water services, availability of data and utility resources. Delays may result from a lack of suitable information being held by the utility or council, or in completing each step of the process. To minimise delays, the Department of Water and Energy (DWE) requires each utility undertaking IWCM to collect and make available all its relevant data before starting the process. As well, the utility is required to provide a fortnightly progress report.

What help is available?

In the first instance, utilities considering undertaking IWCM should contact the DWE regional water utility officer in their area to discuss the IWCM process. DWE provides technical support for all IWCM studies and financial support towards the first completed IWCM Evaluation and IWCM Strategy. Contact details and further information is provided on www.dwe.nsw.gov.au.

What will it cost?

The cost will be similar to other detailed planning studies undertaken by the utility. The cost will vary depending upon size, complexity of the system, works required and availability of relevant information. Funding from DWE is provided towards the following IWCM process components:

- IWCM Evaluation - including analytical methods employed
- IWCM Strategy - including development and analysis
- Community consultation
- IWCM Evaluation and Strategy document production.

Funding is not available for data collection which is considered part of normal utility business. Other non-funded activities include:

- accurate assessment of non revenue water
- bulk water meter accuracy assessment
- customer use analysis
- daily water and effluent production
- amendments or revisions of Local Environmental Plans (LEPs)
- security/reliability of supply (safe yield) of existing sources
- development plans
- asset management plans
- population projections in line with Australian Bureau of Statistics (to 30 years)
- preparation of historical water use records
- drought management plans
- strategic business plans
- trade waste policies
- plans of existing water supply and sewerage infrastructure
- collection of other existing data and plans from external sources (eg. soil maps, vegetation plans, hazard area maps, land use maps, water quality and flow data, acid soil and salinity plans, and Catchment Management Authority action plans)
- collating data for use in the IWCM studies.

Why is identifying IWCM issues so important?

Identifying IWCM issues is the important link between developing targets and achieving them. IWCM provides water utilities with a clear understanding of where and how broader catchment activities impact on urban water service delivery and vice versa.

The IWCM process identifies which issues are directly or indirectly related to urban water service delivery and assists the utility in devising steps to address areas of operation not meeting the appropriate standards.

An example of a directly related matter would be where the utility had a legislative target such as licence compliance, or had control over the activity, such as asset management, infrastructure planning and microbiological contamination of the drinking water supply. An example that is indirectly related to the utility's activities could be high turbidity in runoff from the catchment, or total water availability where the utility has neither targets nor control.

Issues identified under this process which are not the responsibility of the water utility, should be referred to the relevant authority. The primary role of the utility is to provide appropriate and sustainable urban water services to its customers in the most cost efficient and environmentally safe manner. Water utilities must focus on addressing issues relevant to their responsibilities and control. IWCM studies have found the following common urban water issues:

- High non revenue water (up to 40%)
- Inaccurate bulk water meters
- Uncertain population growth and demographic projections
- Limitations to traditional water sources
- Limited customer data and understanding of usage
- Data held was not in an easily usable format
- Uncertainty in sustainable water yield from the catchment or a bulk water supplier
- Targets related to contractual agreements not clearly defined, eg bulk water supply

Regular reviews, at least every six years, of the IWCM Strategy are required to ensure utilities are aware of any changing circumstances and develop appropriate solutions to cope with these changes. Actions developed under the IWCM process also need to be monitored to ensure they are achieving the desired results and that new issues are being identified and considered.

Who is involved in the IWCM process?

The utility, council(s), State Government agencies, major water users, Catchment Management Authorities (CMAs), industry, commerce and the broad community all need to participate in the Project Reference Group (PRG). The role of the PRG is to agree on the IWCM issues, discuss required levels of service and assess the social, environmental and economic impacts that would result from any adopted IWCM strategy. The PRG provides essential stakeholder involvement and transparency in the IWCM process. After broad community consultation on the draft IWCM Strategy, the utility would then finalise and adopt the IWCM Strategy and implement the agreed actions.

The PRG membership is designed to encourage ownership by having members which include stakeholders related to both the identified problems and solutions. Technical specialists may also form part of the PRG if the relevant expertise is not available locally. IWCM is a whole-of-government process with expert and technical advice being provided by a range of NSW agencies when and where required.

Further information

For further information, or to discuss any aspect of the Integrated Water Cycle Management process, please contact your nearest regional Water Utility Officer of the Department of Water and Energy. Contact details can be found on the 'Contact Us' page of www.dwe.nsw.gov.au. For more general IWCM inquiries or information email watercycle@dwe.nsw.gov.au.

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