

Total Resource Management Design Identifies Ways to Increase Potable Water in Drought-stricken Region

Sustainable Solutions

Client

Actew and ActewAGL

Location

Canberra, Australia



CH2M HILL partnered with Australian Capital Territory Energy and Water Corporation (Actew) and joint venture Actew/Australian Gas Light Company (ActewAGL) to identify options for sustainably managing the City of Canberra's water supply, including salt management in drought-affected water sources.

Actew/AGL is Australia's first multi-utility to offer electricity, natural gas, water, and wastewater services. In service to this client, CH2M HILL conducted four interrelated studies and designs as part of a Total Resource Management (TRM) investigation. The team developed dynamic simulation models of the watersheds and public water utilities, pilot-tested water reuse technologies, designed a reuse and salt management treatment system, and investigated domestic salt management opportunities. The investigations identified ways for ActewAGL to:

- Add 25-50 million liters (7-13 million gallons) of potable water per day to the city's supply, which can help sustain the city's economy
- Lower salt contamination of the Murrumbidgee River and reduce salt load to improve agricultural water uses in the Murray Darling River Basin
- Reduce operating energy and chemical usage
- Reduce solids production and greenhouse gas emissions

Sustainable Components

- CH2M HILL applied the latest sustainability tools to analyze and recommend salt management and reuse options.
- Sustainability was a major component of the TRM design process, which included triple-bottom-line accounting to track the environmental, social, and economic benefits of each design option.
- As a result of the investigation, the city has options to better sustain its water requirements while improving water quality for downstream agricultural use as it determines which programs to implement.
- This proactive approach to resource management and drought issues can also provide greater economic security for the City of Canberra and the regional farming community.

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