

Water Use and Waste Management: Research project portfolio for 2007/08

THRUST 2: WATER SUPPLY AND TREATMENT TECHNOLOGY		
Title (New projects indicated by *)	Contractor	Term
Programme 1: Drinking water treatment technology		
An investigation into alternative methods to clean filter media in rapid gravity sand filters to ensure optimal performance and quality of the filtrate	Rand Water	01/04/04 – 31/12/07
Biological filtration of iron & manganese from groundwater	Umgeni Water	01/04/04 – 31/03/07
Development of enhanced floating media separation for drinking water production and pre-treatment in rural water supply	University Stellenbosch	01/04/04 – 31/03/07
The defouling of membranes by moving magnetic dipole polymer beads, containing nano magnetic particles, in a scouring motion across the membrane using external magnetic fields.	University of Stellenbosch	01/04/05 – 31/03/08
Development of improved local anti-fouling spiral wrap membranes	University of Stellenbosch	01/04/05 – 31/03/08
The generation of design parameters for the use of the limestone teeter bed reactor for potable water stabilisation and the treatment of cape coloured waters	RG Batson	01/04/05 – 31/03/07
Operational strategies for the cost-effective use of ozone in water treatment	Umgeni Water	01/04/05 – 31/03/07
*Development of 3 durable and reliable wave-energy reverse osmosis pumps	The Impact Free Water Group	01/04/07 – 31/03/10
*Two-stage reclamation of filter backwash water at treatment plants using source water with high algal content	University of Pretoria	01/04/07 – 31/03/09
Programme 2: Water treatment technology for rural communities		
The testing of a membrane technology unit for the removal of nitrate, chloride, phosphate and sulphate pollutants from groundwater	University North West	01/04/04 – 31/12/07
Enabling water fluoridation in small drinking water treatment plants	Umgeni Water	01/04/04 – 31/03/07
Improving the efficiency of disinfection in small drinking water treatment plants	University Fort Hare	01/04/04 – 31/03/07
Assessment of the occurrence and key causes of drinking-water quality failures within non-metropolitan distribution networks in South Africa, and guidelines for the practical management thereof	Emanti Management	01/04/05 – 31/03/07
The development of immersed membrane microfiltration systems for the treatment of rural waters and industrial waters	Durban Institute of Technology	01/04/05 – 31/03/08
A manual and training aids for operation and maintenance on small water treatment plants.	CD Swartz	01/04/05 – 31/03/08
Compliance of non-metropolitan South African potable water providers with accepted drinking water quality and management guidelines and norms	University of Fort hare	01/03/06 – 31/03/09
*A management information tool for the efficient operation and maintenance of small water treatment plants	Swartz Eng	01/04/07 – 31/03/09
Programme 3: Drinking water quality		
New detections methods for EDCs	University Stellenbosch	01/04/04 – 31/03/08
On-line real-time enzymatic biosensor system for the rapid detection of faecal contamination of water intended for drinking purposes	Rhodes University	01/04/05 – 31/03/07
National standards for water and wastewater treatment chemicals	Umgeni Water	01/04/05 – 31/12/07
Determination of the specific origin of contaminating bacteria in drinking water of rural households by elucidating the contamination pathway using amplified fragment length polymorphism (AFLP)	CSIR	01/04/05 – 31/03/07
*Investigation of the distribution and diversity of South African toxic freshwater cyanobacteria with special reference to analysis of the neurotoxin BMAA and molecular genetic methods for microcystin screening	NMMU	01/04/07 – 31/03/09
*Situation and gap analysis of water quality testing in South Africa.	Jeffares & Green	01/04/07 – 31/03/09
Programme 4: Water distribution and distribution systems		
Grouted lining systems for the renovation of old steel pipelines and the design of new pipelines	Rand Water	01/04/03 – 30/09/08
The status and use of drinking water conservation and savings devices in the domestic and commercial environments in South Africa	Partners in Development	01/04/05 – 31/03/07
Assessment of the feasibility of using a dual water reticulation system in South Africa	University of Witwatersrand	01/04/06 – 31/03/08
Investigation of the state of plumbing used in South Africa	University of Johannesburg	01/04/06 – 31/03/08
*Inverse transients to determine deficiencies in pipelines	University of Pretoria	01/04/07 – 31/03/10
*Guidelines on how to determine and reduce apparent losses	Conward Consulting	01/04/07 – 31/03/09