



WATER RESEARCH COMMISSION

FETWATER BUSINESS PLAN TEMPLATE 2015/16 – 2016/17

PROPOSAL DETAILS

KSA	10
Thematic Area	Water Use Services and Sanitation
Proposer	Dr R S Mckenzie
Proposal Title	Capacity Building for Water Infrastructure – Business Plan Preparation & Network Training
Proposal Number	
Start Date	01 April 2015
End Date	31 March 2017



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA



ORGANISATIONS

Lead organization

Organization Name	WRP Consulting Engineers
SMME	NO
Department/Component	
Contributions	
Postal Address	PO Box 1522, Brooklyn Square
City	Pretoria
Postal Code	0075
Physical Address	Block 5, Greenpark Estate
City	Groenkloof, Pretoria
Postal Code	0181
BEE Certificate	Scanned in Appendix A, original provided on request
Tax Clearance Certificate	Scanned in Appendix A, original provided on request
Company Registration Certificate	Scanned in Appendix A, original provided on request
Bank Account Confirmation Letter	Scanned in Appendix A, original provided on request

Contract Signatory

Title	Dr
Initials	RS
First Name	Ronald
Last Name	Mckenzie
Gender	Male
Race	White
Nationality	UK
Citizenship	UK - SA Permanent Resident
Country of Origin	UK
Email Address	ronniem@wrp.co.za
Telephone Number	012 346 3496
Physical Address	Block 5, Greenpark Estate
City	Groenkloof, Pretoria
Postal Code	0181

Participating Organizations

Organization Name	TBA
Department	
Contributions	
Contact Details	
Address	
City	
Postal Code	

Organization Name	UP
Department/Component	
Contributions	
Contact Details	
Address	
City	
Postal Code	

Organization Name	TBA
Department/Component	
Contributions	
Contact Details	
Address	
City	
Postal code	

PROJECT TEAM

Project team member details

Organisation	
Role	
Title	Dr
Initials	K
First Name	Kevin
Surname	Wall
ID/Passport Number	
Gender	
Race	
Nationality	
Citizenship	
Country of Origin	
Relevant Years of Experience	
Qualifications	
Email Address	

Organisation	
Role	
Title	Prof
Initials	SJ
First Name	S J
Surname	van Vuuren
ID/Passport Number	
Gender	
Race	
Nationality	
Citizenship	
Country of Origin	
Relevant Years of Experience	
Qualifications	
Email Address	

Organisation	
Role	
Title	Mr
Initials	A
First Name	Abel
Surname	Magange
ID/Passport Number	
Gender	
Race	
Nationality	
Citizenship	
Country of Origin	
Relevant Years of Experience	
Qualifications	
Email Address	

RATIONALE

Motivation

Considerable time, effort and money has been spent on the initial two phases of the FETWater Programme which is aimed at creating a framework for skills development in the water sector in South Africa. Various job/occupation clusters were identified during the first two phases and a number of assessments and reports were produced to assist with the development of suitable training materials. For various reasons, few accredited training courses were actually developed or presented and this has been an issue that raised some concerns moving into Phase 3 of the project.

Following the FETWater National Planning Workshop, held on 22-23 January 2015, it was agreed that the following 6 components of the water chain would be considered during Phase 3 of the programme namely:

- Water Resource Planning
- Regulatory Requirements
- Water Monitoring and Assessment
- Institutional Management and Water Governance
- Water Resource Infrastructure
- Water Infrastructure Network.

Under each component approximately 4 to 6 job/occupation clusters were identified, each of which was considered as an important position requiring dedicated and accredited training. Ideally, the FETWater Programme should try to address all 6 jobs/occupations in each of the 6 components – i.e. up to 30 different occupations/jobs. In view of the limited budget, however, it was clear that to try and develop up to 36 different occupational training courses was simply not possible. Instead, it was agreed that a single occupation would be identified in each component and that the effort of each team would be to develop an accredited course for that single job/occupation. In this manner, it is hoped that Phase 3 of the programme will result in a real deliverable from each of the 6 components rather than simply a selection of reports and recommendations. It was acknowledged that it may not be possible to create full and accredited training courses for all 6 components, however, it is intended to try and develop as many as possible and maximizing the benefit of the available funds.

One of the important outcomes of the initial workshop was – the need to introduce the Qualification Development Facilitation activity as a pillar to all the networks to align with quality Council for Trades and Occupations (QCTO) to promote ‘demand-driven approach’ as opposed to the ‘supply-driven approach’ adopted during previous phases to ensure sustainability and succession of FETWater Phase III beyond 2017 for effective implementation of NWRS II.

South Africa is currently running through a deep crisis in the Energy Sector. It is already identified that the second crisis, South Africa is going to face, in no time, is in the Water Sector. Reasons are well established and understood by the government and the water sector stakeholders.

Though government has come up with huge funds to face the challenges, it is identified that the organisational capacity to utilise the water sector funds through execution of projects and O&M with sufficient control over quality product delivery from the services providers is far behind. This demands immediate and appropriate intervention in development of ‘Project Management and Infrastructure O&M Skills’ of the managers of the managing government departments and local government institutions. It is worth noting here that government grant funds for water sector are mainly channelled through DWS and MIG under various programmes.

This specific project proposal relates to the last of the 6 components mentioned above, namely Water Use and Sanitation. This component of the water sector is one of the most challenging in the country due to the problems being experienced in virtually every town city or metro in the country. Years of poor maintenance coupled with a lack of expertise and mentoring has left many towns and cities unable to provide even the most basic level of support to the water supply and sanitation for the communities. Water shortages and poor water quality are becoming a serious threat to the country and in many areas; the water being supplied to the residents is no longer fit for purpose. In most of the large cities and metros, the quality of the water supplied is still of a high

standard and in most cases is potable. In many of the smaller towns and cities, however, the water being supplied is already of a poor quality due to some level of intermittent supply resulting in contamination of the water which creates a potential health hazard.

This project proposal effectively provides a 'Business Plan' or proposal for the 'Water Infrastructure Network' and the specific job/occupation that has been prioritised is that of a "Water Infrastructure Network Practitioner":

Outputs/Outcomes and Expected Impact

The output from the proposed project is a set of training modules which are accredited by SETA and can be presented around the country to create suitably qualified candidates in the occupation of "Water Use Services: Operator or Monitor. This job description may be altered during the initial phase of the project as it has yet to be confirmed. Such confirmation will be one of the first tasks to be undertaken and will involve input from the Municipalities since they will ultimately be the organisations that define the need and employ the candidates after they have received the training.

OBJECTIVES

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The objectives outlined in this draft Business Plan will involve the following:

- 1: Identification of suitable qualification for the " Water Infrastructure Network Practitioner"
- 2: Review and assessment of available courses and qualifications
- 3: Identify requirements to create formal training courses
- 4: Workshop and refine the requirements of the training materials with the key group members
- 5: Restructure and refine the training materials as necessary
- 6: Proceed with the accreditation process
- 7: Identify suitable training facilities and discuss with the owner organisations
- 8: Identify possible funding organisations and arrange discussions
- 9: Present training to first round of candidates

ACTIVITIES

The following methodology will be followed in the development of the Business Plan:

1: Identification of suitable qualification for the “ Water Infrastructure Network Practitioner”

Before any training materials can be developed it is necessary to clearly identify the target qualification and discuss with relevant Municipalities to ensure that the proposed qualification will be of value. Most of the Municipalities are fully aware of the shortfalls in their personnel and can assist in developing the framework for the qualification to be developed as part of this project.

2: Review and assessment of available courses and qualifications

A number of courses have already been developed and some training materials are available in the public domain or within the SETA's. It is important to identify the status quo of such courses and qualifications before trying to create a new course or qualification which may already exist either fully or in part. Various specialists involved with such training have been contacted to discuss the availability of training materials and the registration of existing courses etc. From the initial discussions, it is evident that considerable material exists and some training materials have been developed and presented. It is important to realise that in some cases, the training materials may be part of a University or private training company in which cases they are the property of a private organisation and are not in the public domain. In such cases, the organisation or company may be willing to provide certain training modules at a cost and in other cases it may be necessary to develop the courses from scratch which will obviously result in greater costs. Where possible, existing materials in the public domain will be sourced and they will be modified where necessary. This is considered the most appropriate form of developing the necessary materials and will be more cost effective.

3: Identify requirements to create formal training courses

Discussions will be held with the project team and other relevant individuals and organisations to define the needs of the training courses so that a structured process can be agreed which can ultimately lead to the development of a complete set of training courses. Some of the courses may be available either freely or at a cost while others may have to be developed from scratch. Each module required will be defined and a budget and time-frame will be allocated to the development of the module. This task is effectively the detailed TOR for the remainder of the project.

4: Workshop and refine the requirements of the training materials with the key group members

This task will involve refining the proposals developed under Item 3 in association with the interested and affected parties such as Municipalities and SETAs. There is little point in moving forward with the development of the training courses without the approval and support of the accreditation organisation and the funding organisation (WRC). It is envisaged that this task will take the form of workshops and active discussions with the various organisations. The end deliverable from Task 4 will be an agreed structure to the training needed for the Water Reticulation Practitioner.

5: Restructure and refine the training materials as necessary

This task will involve the final refinement and development of the training materials needed for the proposed occupation. This is one of the key tasks as it will involve the development and refinement of each module which must be completed to a stage where it is reviewed by the accreditation organisation. It is anticipated that each module will be provided in written form and supported by a powerpoint presentation. The deliverables will be the written documentation on each module and a powerpoint presentation for each module.

6: Proceed with the accreditation process

Having developed the training materials, each module must be submitted to the accreditation authority for accreditation. This can be a time consuming and iterative process and will rely on the active support and co-operation of the accreditation organisation.

7: Identify suitable training facilities and discuss with the owner organisations

Presenting the training will involve working together with the training centres and Municipalities to find suitable venues and suitable trainers to provide the training. Having completed preliminary discussions with one or two municipalities, it appears that there are training facilities in most of the large cities and Metros. It is anticipated that the municipalities will co-operate with this process as they are the main recipients of the courses etc.

8: Identify possible funding organisations and arrange discussions

Funding is a key issue as the available funds from DWS and the WRC are too small to really make any significant impact on the problems throughout South Africa. There are,

however, many local and international organisations which are trying to help in the training and capacity building market. It is hoped that the initial funding will act as seed funding or a catalyst to enable the training modules and subsequent presentation of the training modules to candidates. This task will hopefully result in a greater budget where real progress and training can eventually be provided.

9: Present training to first round of candidates

The end result from this project is the successful presentation of properly accredited training courses to candidates who can thereafter obtain gainful employment in a municipality. This is the main objective of the project and the success or failure of the project will rest on whether or not the project can show real candidates who have achieved a formal qualification.

DELIVERABLES

	Title	Description	Target Date	Amount (R)
0	Advance		01/06/2015	
1	Progress Report 1	Identification of suitable qualification for the " Water Infrastructure Network Practitioners – including set up group and hold initial group meeting	30/09/2015	100 000
2	Progress Report 2	<ul style="list-style-type: none"> Review and assessment of available courses and qualifications : Identify requirements to create formal training courses Workshop and refine the requirements of the training materials with the key group members 	30/01/2016	280 000
3	Progress Report 3	<ul style="list-style-type: none"> Develop, restructure and refine the training materials as necessary Proceed with the accreditation process Identify suitable training facilities and discuss with the owner organisations Identify possible funding organisations and arrange discussions 	30/09/2016	1 000 000
4	Final Report	<ul style="list-style-type: none"> Present training to first round of candidate 	30/01/2017	300 000
Total budget				1 680 000

PRODUCTS

Title/Name	Target Group	Application

BUDGET

Human Resource Costs

Project Team Member	Financial Year	Remuneration Rate (R/day)	Days/Year	Amount (R)
Mckenzie, RS	2015/16	R3 000	60	180 000
Jordan, M	2015/16	R2 500	60	150 000
Wegelin, W	2015/16	R 3000	35	105 000
Makola, Connie	2015/16	R1 000	40	40 000
Mongange, A	2015/16	R 2500	50	125 000
Support to A Mongange (colleague)	2015/16	R2 500	50	125 000
Prof van Vuuren	2015/16	R3 000	10	30 000
Dr K Wall	2015/16	R3 000	10	30 000
Mckenzie, RS	2016/17	R3 000	60	180 000
Jordan, M	2016/17	R2 500	60	150 000
Wegelin, W	2016/17	R 3000	35	105 000
Makola, Connie	2015/16	R1 000	40	40 000
Mongange, A	2016/17	R 2500	50	125 000
Support to A Mongange (colleague)	2016/17	R2 500	50	125 000
Prof van Vuuren	2016/17	R3 000	10	30 000
Dr K Wall	2016/17	R3 000	10	30 000
TOTAL (excluding VAT) – Subtotal F				R 1 530 000.00
TOTAL (excluding VAT) – Subtotal F				R 1 530 000.00

Travelling Expenses (International Conferences, Symposia, Seminars, Workshops & Meetings)

Item	Motivation	Financial Year	Amount (R)
		2015/2016	50000
		2016/2017	50000
Total travel			100 000

Dissemination/Uptake Activity expenses

Expense Item	Financial Year	Amount (R)
Venue Hire etc	2015/2016	25 000
Venue Hire etc	2016/2017	25 000
Total		50 000

Summary

Fin. Year	HR	Travelling	Dissemination	Total	Deliverables
2014/15					
2015/16	765 000	50 000	25 000	840 000	
2016/17	765 000	50 000	25 000	840 000	
Total	1 530 000	100 000	50 000	1 680 000	

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TRAINING DISSEMINATION AND UPTAKE

The Project Team includes several individuals who have considerable experience in developing and presenting SETA accredited training courses. In addition, the team includes two companies, both of which have developed and presented many training courses throughout South Africa and in over 20 countries worldwide. The proposed project team therefore includes a blend of specialists from both the academic and the private sectors.

Brief CV details for the Network Coordinator

Name :	R S McKenzie	
Date of birth :	1958	
Nationality :	British	
Profession :	Civil Engineer	
Position in firm :	Managing Director	
Specialisation :	Water Resource Planning and Water Demand Man	
Years of experience :	30+	
Academic qualifications :	PhD, University of Strathclyde	1983
	BSc (Hons) University of Strathclyde, UK	1979
	Diploma (Computer Science), UNISA	1989
Professional membership	P.Eng, MICE, FSAICE, C.Eng, FIWA, WISA, IMESA	



APPLICABLE EXPERIENCE

Ronnie Mckenzie has a wide experience in Water Demand Management, Hydrology, Water Resource Planning, Management and Operation. He has been involved in the analysis of many water resource systems throughout the Republic of South Africa and elsewhere in Southern Africa. He was responsible for the development of the Royalty Hydrology for the Lesotho Highlands Water Project and introduced the Burst and Background Estimate methodology for leakage management to SA as well as the principles of advanced pressure control. He has developed many packages to assist water utilities manage their leakage including SANFLOW, PRESMAC, BENCHLEAK, ECONOLEAK, and AQUALITE. He was responsible for the initiation and development of the Khayelitsha and Sebokeng Pressure Management Projects and has provided specialist support to various international organisations including GiZ, the United Nations, European Union and the World Bank.

KEY PROJECTS AND EXPERIENCE

- Development of Zednet remote flow and pressure logging system for use in SA 2007 - 2014
- Assessment of Non Revenue Water for whole of SA through the WRC : Specialist support 2006 - 2014
- Johannesburg WDM Training Project : Pressure Management Concepts and implementation 2012 - 2014
- Tshwane WDM Specialist Support – Management and technical support 2005 - 2014
- Wadeville Bulk meter enhancement project : Technical and management support 2012 - 2014
- Emfuleni Water Leakage Reduction Project: Specialist and management support 2012 - 2014
- WDM Case study review for WRC 2012 - 2013
- WDM Strategy for Addis Ababa for World Bank Institute 2006
- Management of the Orange River Integrated Water Resources Management Plan for GiZ 2004 – 2011
- Development of AQUALITE Water Audit software for Water Research Commission 2006 – 2008
- WDM Assessment for the Vaal River System Analysis area of supply 2005 – 2008
- WDM support for Rustenburg – strategy and management of implementation 2005 – 2007
- Development of Sebokeng/Evaton Public Private Partnership – plus support on management etc 2005 – 2010
- WDM specialist support and training to the Metropolitan Water Association of Thailand 2004 – 2007
- Specialist WDM support to the Water for Asian Cities Project for UN Habitat in India 2005 – 2006
- Specialist support to Wide Bay Water in Australia on WDM and training 2003 – 2008
- Development of AQUALIBRE Water Audit Model for leading UK water utility 2003 – 2006
- Assessment of WDM interventions in the Vaal River Basin for DWAF 2005 – 2007
- Lesotho Lowlands Water Project: hydrology and water resource analysis 2003 – 2004
- Independent auditor for EU funded project to consolidate 12 small water utilities in Kosovo, concentrating on development and monitoring of selected Performance Indicators. 2002 – 2004
- Development of Leakage Benchmarking software for water utilities in Australia and South Africa. 2000 – 2014
- Initiator and project manager for the Khayelitsha Pressure management project. 2000 – 2002
- Country review of South African surface water resources for the World Bank 1996 – 1997
- Training and transfer of technology to various individuals in the fields of hydrology, system analysis and Water Demand Management. Training has been provided by Ronnie in Australia, 1985 - 2014

Botswana, Brazil, Ethiopia, India, Kosovo, Lesotho, Malawi, Namibia, New Zealand, Puerto Rico, Qatar, Saudi Arabia, South Africa, Thailand, UK, USA and Zambia,

PUBLICATIONS and COURSES

Ronnie Mckenzie has been author, co-author and/or presenter of numerous papers, publications and courses on Water Resources Management and Water Demand Management. Has presented training courses in many parts of South Africa as well as in Australia, Botswana Ethiopia, India, Lesotho, Namibia, New Zealand, Qatar, Thailand and the USA. He has won many national or international awards for best conference presentation. In 2008 he was recognised by the South African Government when he won the inaugural Ministerial Award for services to South Africa in the field of Water Demand Management. He is a fellow of the International Water Association and of the South African Institute of Civil Engineering.