



Challenge Title: Cost-effective and simultaneous conversion of grey water and seawater into industrial water

Challenge ID: CAS_C00002 | Published: 01-07-2014 | Deadline: 03-10-2014 (extended)

Helpdesk: Mangena Mhlabunzima | Phone: 0608300458 | Email: support@connectandsolve.co.za



Challenge Owner: Eastern Cape Industrial Development Zone.

Business Opportunity: The possible procurement of a technology or capability for the cost-effective conversion of both grey water and seawater into industrial water that can be distributed to industrial users.

Solution Maturity: Solution must be ready for deployment or in an advance prototype stage.

Delivery Timelines: Please note the timelines as listed in the Phases section.

Reward: In the event of identifying an appropriate technology or capability, the Industrial Development Zone will in accordance with its Supply Chain Management (SCM) policies procure the relevant technology or services.

Challenge Statement:

The Eastern London Industrial and Development Zone (ELIDZ), a state-owned company based in the Eastern Cape Province of the Republic of South Africa, invites interested parties with innovative solutions to respond with proposals pertaining to a technology or capability for the cost-effective conversion of both grey water and seawater into industrial water that can be distributed to industrial users.

Background:

The East London Industrial Development Zone is world-class purpose-built industrial zone with a high demand for industrial water. The coastal location and elevation of the industrial development zone requires a capability to manage high volumes of grey and seawater.

It is envisaged that an appropriate technology and/or capability should be able to cope with a throughput of 30 litres per second; split 75%/25% between seawater and grey water. Ultimately this may go up as high as 300 litres per second (with associated changes to the split between seawater and grey water).

One of the key considerations is the ability to meet throughputs varying between 30 and 300 litres per second. Technologies and/or capabilities should therefore be scalable from 30 to 300 litres per second.

The pricing model is of critical importance in determining whether the industrial water delivered to industrial clients is priced at less than 50% of the current standard water rate in the Eastern Cape, and as such:

- ❖ The capital and/or installation and maintenance cost of the appropriate solution must be included in the overall pricing model (total life-cycle costing);
- ❖ An added advantage would be an ability to provide potable water to domestic households at a rate of at least 20% lower than the current standard water tariffs in the Eastern Cape;
- ❖ A crucial design requirement would be the use of corrosion resistant materials to meet the environment and climatic demands of the Eastern Cape Province.

Key Specifications:

The critical requirements are stated below:

- ❖ Appropriate documentation specifying the standards used and how the solution will help attain the stated outputs;
- ❖ The cost of delivery of industrial water at the entry point to industrial clients has to be at least 50% lower than the current standard water tariff in the Eastern Cape; and in the event of domestic supply, at least 20% of the current standard water tariff;
- ❖ The lifecycle of the proposed solution, with specific reference to the material specifications, must ensure at least a minimum resistance to corrosion; and
- ❖ Information outlining material corrosion parameters and criteria across the full life cycle of all components of the solution must be provided.
- ❖ The challenge owner is willing to accept simulated results (obtained either through/in a small-scale physical model or through a mathematical model), provided that these can be substantiated and validated.

Solution Not of Interest:

Any solution that **does not focus** on the simultaneous treatment of grey water and seawater **will not be considered**; and neither will solutions or technologies harmful to the environment, people, animals and energy-intensive solutions or technologies.

Evaluation Criteria:

The proposals received will be evaluated against the following criteria:

- ❖ Simplicity and ease of implementation;
- ❖ Respondents must be the owners of the IP or must state their relationship with the IP owner;
- ❖ Economic cost-effectiveness;
- ❖ Scalability to meet throughputs varying between 30 and 300 litres per second;
- ❖ Acceptable design criteria for industrial (and ultimately maybe potable) water standards, as prescribed by the Department of Water Affairs guidelines which can be accessed at www.dwa.gov.za/dir_ws/dwqr and an ability to deal with high levels of salinity and corrosion.

DISCLAIMER STATEMENT

By submitting a response you represent that the response does not and will not be deemed to contain any confidential information of any kind whatsoever. The East London Industrial Development Zone SOC Ltd (ELIDZ) or its representatives will not be held liable for loss of any IP. You also acknowledge that ELIDZ STP Connect & Solve; the ELIDZ and its representatives reserve the sole and absolute right and discretion to act upon all, some, or none of the responses received for this challenge.