

REQUEST # 67356

Seeking Expertise and Systems for Integrated Water and Waste Management

RESPONSE DUE DATE: [July 22, 2011](#)

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SOLUTION PROVIDER HELP DESK

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Opportunity

Licensing, contract research, proof of concept leading to industrial scale, joint development, supplier or service agreement, consulting engagement

Timeline

Consulting: Needed within 3 months
Technology: Proof of concept within 24 months

Financials

Consulting: Consulting/advisory opportunities
Technology: Proof of concept funding commensurate with proposed activity, according to sponsor's normal commercial agreement

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REQUEST FOR PROPOSAL DESCRIPTION

NineSigma, representing **Eskom Holdings SOC Limited, South Africa, a large scale electrical utility, seeks consultants and/or technology to address improved water utilization and management for industrial processes.**

Ideal **consultants** will have:

- Expertise and experience in one or more of the following areas of interest:
 - Integrated water management and accounting
 - Environmentally sustainable water management
 - Zero discharge water management
 - Reducing water intake by closed loop water utilization
 - Reducing waste generation from water treatment
 - Brine utilization, neutralization, management
 - Mine drainage recovery to cooling water
- Experience working with regulatory agencies
 - Regulatory compliance and water accounting
- Willingness to serve on a Scientific Advisory Board with others who respond to this request
- An awareness of the water limitations of South Africa and Eskom

Successful **technology** will address one or more of the following:

- Optimize utilization of water resources
 - Minimize the quantity of fresh water necessary to operate the industrial process
- Improve water quality while reducing or eliminating waste generation from water treatment
 - Address presence of organic matter, microbiological control
- Render wastes from existing water treatment (with reverse osmosis membranes) as benign material

Any **technology** must:

- Be compatible with harsh operating parameters including but not limited to:
 - Large volume of water
 - The doubling effect on concentrations of elements with evaporation
 - Deteriorating initial water quality (hardness, organic matter, microbiological growth)
 - High evaporation rates due to climate
- Have sound economic value

BACKGROUND

Eskom uses a substantial quantity of water in the generation of electricity for South Africa. Processes include cooling, steam generation dust control, potable water production and sewage treatment.

Eskom recognizes that water is a precious resource and that they need to play a leading role in managing its use.

While Eskom has made good progress to reduce water use, they recognize the need to further develop a water demand management strategy to enhance water quality and security and promote efficient usage and conservation.

POSSIBLE APPROACHES

Possible technology approaches may include, but are not limited to:

- Non-chemical water treatment
- Waste neutralization methods
- Effective treatment of cooling water
- Waste management and minimization

APPROACHES NOT OF INTEREST

The following approaches are not of interest:

- Systems that not designed for harsh operating conditions
- UV or ozone for cooling water treatment

ANTICIPATED PROJECT PHASES OR PROJECT PLAN

Phase 1 – Proof of concept

Demonstrate technology at client site using client's water stream

Phase 1 – Optimization

Pilot scale system to optimize operating parameters and performance

APPROPRIATE RESPONSES TO THIS REQUEST

Responses from **companies** (small to large), **academic researchers**, other **research institutes**, **consultants**, **venture capitalists**, **entrepreneurs**, or **inventors** are welcome. For example:

I am a **representative** from a **company or academia** with deep understanding of water management issues and technology, and I am available for consulting.

I am a **representative** from a **company or academia** focused on technology for water management, water quality, or waste neutralization.

I am a **representative** from a **company or academia** that can provide a partial solution that will permit development of a robust system.

I am a **representative** from a **company or academia** with technology which should provide a solution ready for testing and transfer to commercial use.

I am a **representative** from a **company or academia** with technology which should provide a solution but that requires further research and development to ready it for transfer to commercial use.

RESPONDING TO THIS REQUEST

Appropriate responses will use the appropriate response template and address the following:

For **consulting**, individuals and organizations are asked to provide a one-page synopsis of their expertise and work history. This should include examples, and where applicable, experience in working with industry or regulatory/authoritative bodies, as well as a list of languages spoken.

In addition to this one-page document, please provide (via the [Consultant Response Template](#)):

- Name and contact information
- CV
- Areas of expertise
- Organization's background
- Industry associations and affiliations
- Restrictions on time allowed for consulting
- Willingness to work with 3rd parties

For **technology**, individuals and organizations should provide (via the [Technology Response Template](#)):

- High level description of proposed technology including:
 - Working principle
 - Availability of technical data such as specifications
 - Technology maturity (concept, prototype, ready to commercialize, commercialized)
- Pathway to commercial or industrial scale including timing and estimated budget
- Estimated return on investment (*cont. on p.3*)

- Position on intellectual property including patent references
- Desired relationship with sponsor
- Willingness to work with third parties
- Team description and related experience

NON-CONFIDENTIAL DISCLOSURE

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.

Your Response should be an executive summary (about 3 pages). The Response should briefly describe your relevant background and expertise, relevant project examples, your proposed approach, and the details of project engagement.

By submitting a Response, you acknowledge that NineSigma's client reserves the sole and absolute right and discretion to select for award all, some, or none of the Responses received for this announcement. NineSigma's client also may choose to select only specific tasks within a proposal for award. NineSigma's client has the sole and absolute discretion to determine all award amounts.

RESPONSE EVALUATION

NineSigma's client will evaluate the **Response** using the following criteria:

- Overall scientific and technical merit of the proposed approach (technology)
- Approach to proof of concept or performance
- Potential for proprietary position (i.e., is the technology novel or protectable). If Eskom pays for technology development, intellectual property becomes Eskom's property (subject to negotiation).
- Economic potential of concept
- Respondent's capabilities and related experience (consultant or technology)
- Realism of the proposed plan and cost estimates