



Power Industry
Ultrapure Water



Problem Statement

Eskom approached Watericon to supply equipment that will treat raw water at a specific power station. Previous revision allowed for treatment of clarified water but after the site inspection, it was concluded that it would be extremely difficult to get clarified water, and easier to tie-in to the point of the raw water. The objective of the project is to supply the power station with demin water at the right quantity and quality.

Quantity ~ 175-200 m3/hr
Quality - < 0.1 us/cm (conductivity) or > 10 MΩ/cm² (resistivity)

Solution

The solution was not stipulated by Eskom and is for Watericon to advise based on equipment with the shortest possible lead times. This entails using a combination of Ultrafiltration (UF), Sand filters, Reverse Osmosis (RO) and continuous electro-deionization (CEDI).



Typical Plant Feed

- Raw water, limited water laboratory analysis was submitted by the client. Below are some of the key parameters:
- pH - 7.54
- EC ~ 300 us/cm
- Turbidity ~ 24 NTU
- Biological activity - not provided



Performance Target

- The treated water needs to comply to the site specifications:
- pH - 5 to 9.7
- EC - < 0.1 us/cm (conductivity) or > 10 MΩ/cm² (resistivity)



Process

- Ultrafiltration
- Reverse Osmosis
- Continuous electro-deionization(CEDI)



Innovation

- Supply, installation and operation of the plant with a team of operators and a site supervisor for the required period. Plant built and installed in record time.



Watericon Engineering Manager
Attention: Mr Wing Fung
Watericon purification systems (PTY) Ltd
Building A039

Date: 27 June 2023

Enquiries:
Thembi Sambo
Tel +27 17 612 6034

Dear Wing

**REF: LETTER OF RECOMMENDATION FOR THE DESIGN, BUILD AND OPERATE
4.2MLD/DAY CONTRACT**

In this letter, I applaud the Watericon team for the excellent work they did at the Eskom Matla power plant. The transportable plant that Watericon provides, made comprised of the UFs, ROs, and EDIs, produces excellent demineralization water. The produced water quality exceeds the standards set forth for the Demin water production. The production and Demin storage tank levels have increased as a result. Watericon has been a great worker for the past four months that I have known them.

Watericon is extremely knowledgeable in their field and was able to quickly adapt to our company's needs. They are also great with people and were able to build positive relationships with both clients and coworkers.

If you are looking for someone who is highly qualified and capable of making an immediate impact on your company, then I would highly recommend Watericon.

Yours sincerely

Thembi Sambo
Contract Manager

Date: 27 June 2023

