

Process Optimisation, Site Audits and Operational Assessment

Maximised ROI, improved operational performance, efficient plant design and reduced operating cost result from BHR Groups' audit and assessment of process plant for water and wastewater treatment

The 4-Step Approach

To increase throughput, save chemicals and improve plant stability in front end dosing & mixing, our engineers provide a 4-step approach:

1. Audit

Site visit to identify opportunities for improvements in process mixing.

2. Analysis

Assessment of hydraulic profiles (mixing intensities) and flow patterns relative to the needs of the processes, such as pH adjustment, coagulation and flocculation, together with a detailed desk study of existing dosing and mixing arrangements.

1 and 2 can achieve cost benefits over a short period of time.

3. Testing

Detailed site measurements quantify the potential for improvements in hydraulic efficiency and identify design modifications to the dosing and mixing arrangements to bring a Works in line with 'Best Practice'.

Note: may be applied to a single Works where significant opportunities for process improvements are identified. Maximum benefit and early payback are typical for large Works (greater than 50 MLD)

4. Implementation

Production of a 'Best Practice Design Guide' developed in consultation with and for use by the Client's plant operators and process development engineers.

Note: may be developed independently of Step 3



Treatment Plant Power Optimisation



Full investigation into power consumption at Water and Wastewater Treatment Works enables water companies to save energy from:

- improved flow patterns in aeration basins
- variable speed/variable flow pumping
- improved mixing and oxygen mass transfer in activated sludge systems

Achieving these savings involves the following steps:

1. Audit

Site visits identify opportunities for improvements in tank and aeration basing hydraulics, pumping regimes and O₂ transfer efficiencies.

2. Analysis

Assessment of tank flow profiles, flow patterns and short circuiting routes. Assessment of aeration basin mixing relative to oxygen transfer efficiencies. Analyses of anoxic zone mixing.

1 and 2 can achieve cost benefits over a short period of time.

3. Testing

Detailed site measurements to identify design modifications to effect cost savings.

For more information, please visit our website or contact us

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