

CHEMICALS

RB Group saves Zotefoams operational cost of £100,000pa

RB Group partners a global leader in advanced materials to deliver major operational cost savings of £100,000pa resulting in rapid payback as well as hitting their compliance and sustainability goals.

BACKGROUND

- ✔ Zotefoams, a global leader in production of cellular and foam based materials engaged RB Plant in a collaborative exercise to review their steam system and energy usage against recognized standards including BG01 a guidance document on the "Safe operation of boilers".
- ✔ This led to a list of prospective schemes which would not only achieve full compliance with the standards but also harness cost saving opportunities.
- ✔ RB Plant had already completed several engineering related projects successfully on the Croydon site however this one particularly called for innovative approaches.



CHALLENGES: COMMERCIAL

SANCTIONING

With project sanctioning and funding requiring very stringent criteria in today's competitive market, RB Plant knew from the start that any proposed scheme put forward would have to stand up to scrutiny to justify approval for implementation.

FEASIBILITY BUDGET

RB Plant also had a limited budget within which to complete this feasibility therefore to minimize engineering fees and keep project milestones on track, RB Plant:

- Harvested key data from existing site/supplier documents within a very short timeframe.
- Applied industry norms and RB Plant cost data from previous similar projects to provide cost accuracy to +/- 30%.



CHALLENGES: TECHNICAL

IDENTIFIED SYSTEM VULNERABILITIES/OPPORTUNITIES

- Feedwater 100% conditioned with chemicals hence excessive cost
- Feedwater tank had no deaerator hence accelerated corrosion of pipes and boiler internal walls
- Manual control of solids levels wasting water and energy
- Risk of overheating the fire tubes, resulting in tube failure
- Non-compliance with BG01 with H&S Executive Guidance Note PM60/BG03

THE SOLUTION

Having previously completed similar projects successfully for other manufacturers, RB Plant already had the benefit of a proven methodology which could be readily adapted to meet Zotefoams' goals.

Criteria earmarked included:

- Technical scope
- Justification – e.g. compliance and/or operating cost savings by reducing chemical/ water/ energy usage
- Capital cost
- Financial payback per annum
- This enabled Zotefoams to prioritise the most lucrative schemes thereby making the case stronger when applying for capital funding to execute the projects.

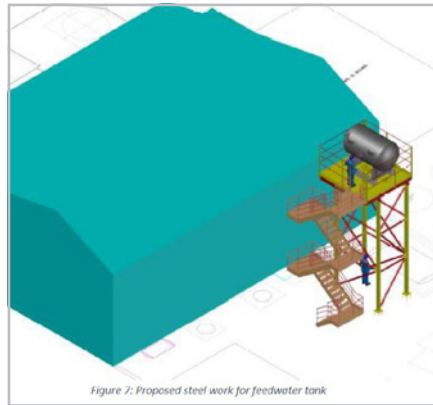
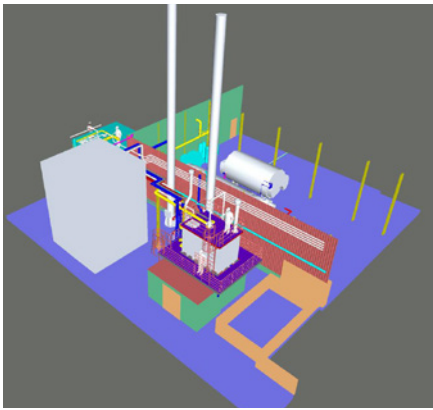


Figure 7: Proposed steel work for feedwater tank



THE BENEFIT

In total 7 schemes were earmarked and evaluated by RB Plant which achieved the following:

- Improved water quality and reduced tube corrosion
- Reduced chemical/energy/water operating costs

All 7 schemes approved by Zotefoams for implementation due to the robustness of each case. Four of the major schemes included:

- New boiler water feed tank with deaerator head Boiler burner upgrade
- Reverse Osmosis plant



THE OUTCOME AND END RESULT

During the first year following start-up, **£100K/yr** estimated total operating cost savings were recorded which at this rate would result in a payback period **< 3 years**.



ABOUT RB GROUP

RB Group provides professional engineering consultancy, design, project, and construction management services across a wide range of sectors from Pharmaceuticals to Heavy Engineering – applying vision, purpose, and cutting-edge expertise.

We undertake every stage of a project lifecycle from initial conception to commissioning, both globally and within the UK.

Our highly skilled and qualified Process, Mechanical, Civil and Structural, HVAC, CDM, Electrical, Control & Instrumentation Engineers undertake engineering projects of all sizes. These range from smaller scale projects such as plant modifications, expansions,

and upgrades, through to multi-million construction projects. We apply the same levels of client focus and professionalism to every project, regardless of size.

Our high proportion of repeat business coupled with an organically growing new customer base is no accident and reflects our unique approach that make us stand out in the market-place.



FIND OUT MORE

- ✓ Our experienced engineering team could support you on your next project. Why not contact Genghis Perriman our Business Development Manager to discuss further for a no-obligation discussion?

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