

Repeat business nurtures continuous improvement

Client: MEPC, Chineham Business Park, Basingstoke

Constructor: Balfour Beatty and Crown House Alliance

Design Team: You Project Management, E C Harris, Scott Browning and Turner, Price and Myers, Doy Webster Partnership, McGregor Smith

Case Study Ref No: 254 **Date:** March 2004

Sector: Offices

Themes: Continuous Improvement, Partnering and Supply Chain Management

Office park developer MEPC spent some £11m over five years refining its office 'product' in a series of eight office buildings at Basingstoke's Chineham Business Park. A regional alliance between contractor Balfour Beatty and the mechanical and electrical contractor Crown House showed how keeping winning teams together could achieve marked improvements in productivity.

Key benefits

- Capital cost – The alliance's cost/ft² is about 15% lower than traditionally procured offices, and still falling.
- Construction time – The rate of design (measured in ft²/week) has doubled and the rate of construction has almost tripled, over three phases of the development.
- Predictability – Delivery on time and budget is now the norm in the alliance.
- Defects – The alliance normally achieves nil defects at handover.
- Productivity – There has been a 35% rise in productivity (measured in hours/1000ft²) comparing the tendered hours in the first phase (which included a 5% risk margin) with the actual hours on the third phase.
- Turnover and profits – The revenue generated by these contracts and the profits that exceed group targets are a sure sign that continuous improvement and repeat business go hand in hand.

The alliance

"Company boundaries do not restrict our alliances with trade contractors," says Balfour Beatty Project Director Nick French. "It depends on what they're good at and their track record with us." The alliance stems from *Hazlewood*, a traditionally tendered job in 1997 based on the client's design, with Crown House as M&E subcontractor to Balfour Beatty. *Rosewood* quickly followed, but this time MEPC wanted to negotiate a target cost. The team hit the bullseye with time, cost and quality, and they were optimistic about being invited back.

In 1999, MEPC came directly to Balfour Beatty to negotiate the next phases, *Ashwood* and *Maplewood*. Balfour Beatty automatically invited Crown House to work on the bid. Crown House's project director, Viv Blandford, recalls: "MEPC gave us a concise scope of works - just one page. They wanted our input at concept stage; it's very unusual to get that opportunity. It was a tight cost plan – £100/ft². The going rate was about £115-120/ft² at the time."

An unusual feature of this early contractor involvement was engaging Crown House's commissioning team, Contract Technical Services, to make sure the design included everything needed for commissioning. Blandford says the details of commissioning can be an expensive afterthought.

As soon as a guaranteed maximum price was agreed, Balfour Beatty took responsibility for design, and the designers' contracts were novated to Balfour Beatty. "The potential for conflict of interest does not arise in practice, because everything is done openly," says Sean Hunt, associate director of M&E engineers Doy Webster.

Lessons learned

Key success factors for continuous improvement are:

- client commitment to integrated team working
- earliest possible selection of trade suppliers
- getting suppliers involved in the design - specifying materials, details and methods
- open appraisal, learning and feedback.

In 2001, MEPC ordered *Redwood*, another two buildings as well as piled foundations for a third. The relationship between contractors had now matured to 'alliance' status, with integrated team working and a risk-sharing pain/gain agreement. Value engineering at *Redwood* realised a 3-4% saving, but MEPC opted to reinvest this in a higher specification curtain wall system.

MEPC's manager at Chineham, Mark Younger, explains their approach to negotiating repeat contracts: "It's about streamlining and refining the process so that we are confident of getting what we want." The alliance hasn't reinvented the office, but they know exactly what it costs. Blandford says: "Had we continued with this we'd have produced a catalogue of what you can have for your money."

The challenge

When they started working together on *Hazlewood* (their first Chineham project), Balfour Beatty and Crown House set out to:

- provide MEPC with best value
- maintain their relationship with each other
- secure preferred status with MEPC at this site

- increase their knowledge by tapping into the knowledge of supply chains
- improve the service they delivered
- build stronger relationships with supply chains.

The solution

Standardisation – The alliance expect designers and trade contractors to concentrate on products and systems which are tried and proven, and to standardise their use throughout the project. This doesn't restrain innovation (see Husk fixings, below) but they do not 'experiment' in their office buildings. Technical innovations must be verified before adoption.

Bring suppliers' knowledge to the design process – Alliance suppliers have shown they are able to solve many design problems. For example, Hilti offered Husk fixings for the common bracketry (see below). Although this one-step fixing needs a proprietary drill bit, it boosted the productivity of this activity by some 20%.

Increase suppliers' commitment to the project – The 'Holy Grail' of contracting is repeat business, and the alliance partners extend that principle to their supply chains. In the seven buildings so far at Chineham Business Park, most of the work was let to the same designers, trade contractors and material suppliers. The alliance believes this improves communication, reduces conflict and leads to increased standardisation which saves time and cost.

Increase co-operation between trades – Mechanical and electrical trades work together better with common bracketry. Since introducing this discipline, Crown House has measured a 10% improvement in productivity of affected activities. This increased level of co-operation was also apparent in cross-functional teamwork where demarcation of roles traditionally existed. Examples of economies abound – shared craneage, forklifts and bracketry. The most telling result is the £70k saving made by sharing technical and administration staff, as well as office, mess and drawing facilities on the Redwood site.

Streamline design and construction processes

As the buildings progressed, more and more was assembled in factories, as illustrated by fan coil units. Waterloo Air Management co-operated with Sauter Modular and BSS to supply 'shrink wrapped' units that simply bolt on and plug in.

What happens next

The alliance plan to be MEPC's preferred contractor when demand for offices picks up again in Basingstoke.

They have gone on to secure a £30m Defence Estate's contract for four, four-storey wings at Portsmouth. The sailors' accommodation is wholly constructed off site, in paired bedroom modules with a corridor section, and lifted into place. Rollalong makes the units in their Ringwood factory. They are fully assembled and installed (including 'plug-in' service modules) in 17 days. A similar £35m contract will follow.

Next steps

■ About continuous improvement:

- Read the fact sheet *Business process improvement* at www.constructingexcellence.org.uk.
- Attend *Lean construction – profit from process improvement* – one of the Constructing Excellence 'Learning by Doing' workshops. Book via Carmargue, T 01242 577277.
- Visit the ActionZone at www.constructingexcellence.org.uk.

■ About partnering and supply chain management:

- Read the fact sheet *Partnering and Supply chain management* at Constructing Excellence.
- Attend *Developing an integrated supply chain* – one of the Constructing Excellence 'Learning by Doing' workshops. Book via Carmargue, T 01242 577277.

■ Constructing Excellence has:

- a network of advisors to help you
- fact sheets on a range of best practice business topics
- a Constructing Excellence club near you.

- **The Construction Productivity Network** holds workshops on best practice business topics,
T 020 7549 3300, www.ciria.org.uk.

Constructing Excellence

25 Buckingham Palace Road
London
SW1W 0PP

www.constructingexcellence.org.uk

T Helpdesk 0845 605 55 56

E helpdesk@constructingexcellence.org.uk

Crown House

Viv Blandford, Project Director
Unit 20, Mitchell Point
Ensign Way, Hamble
Southampton SO31 4RF

www.carillionplc.com

T 023 8045 8793

E vblandford@carillionplc.com

