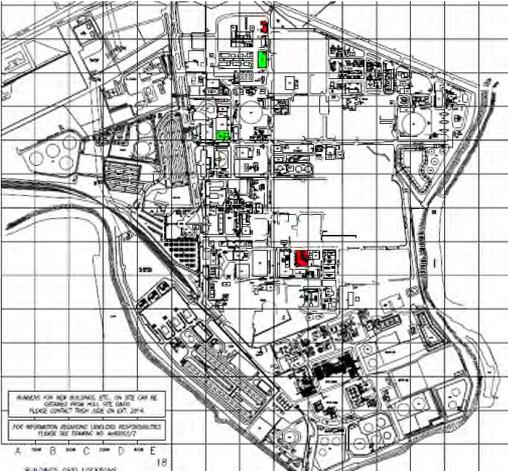


BP Maintenance at Saltend, Hull – Finding the Better Way



With overall objectives of Simplification and 'Every Dollar Counts', BP had cultural as well as practical issues to tackle on their 370 acre Hull site.

BP Saltend plays an important role in the global chemical industry- the site covers around 370 acres and has a production capacity of over one million tonnes per year. It is one of the largest manufacturing sites for BP's European Acetyls business, producing more acetic acid than anywhere else in Europe. The site also makes more ethyl acetate than anywhere else in the world. A number of other activities also take place at Saltend- a co-generation plant provides both electricity and steam for the site, and a new bio-ethanol plant and technology centre are under construction.



Throughout its history Saltend has been a diverse site, and maintenance services have evolved to cope with this. However, over the years anomalies had crept in, and differences in working patterns, breaks and holidays consistently caused problems and frustrations. Multiple satellite stores made parts control difficult, and managers being spread around the site impeded communications and wasted time.

Four workshops across the 370 acres had to be combined into two, and eight satellite stores into one central location.

BP first embarked on the Lean Consortium programme in February 2008, sending 5 lean leaders and tackling issues of workplace organisation, work

scheduling and employee engagement. Maintenance Manager Neil Botham explained that staff engagement was key to the rest of the improvements working. "The Ease and Effect sessions were great- people really got into them and made practical suggestions which really made a difference." One such was to re-introduce bikes for all staff, cutting journey times around the vast site, where vehicles are restricted, significantly. "Doing that had an immediate effect and people could see we were paying attention. Then they were more willing to engage with other improvements."

Staff will be working from 2 locations in future- the first programme reduced the number from the original 6, and the second programme in January 2009 brought it down to two, one Mechanical and one Electronic and Instrumentation. This was no mean feat in view of the vast amount of equipment and parts accumulated over



Mechanical and electrical workshops



Overall, we've made great progress – particularly in changing the culture and the way that people think about the job – but we know that we've still got a long way to go.

the years; the consolidation involved some serious sorting out which required the construction of clear and agreed evaluation criteria for both new and used components and tools. Centralised stores and a new parts tracking system are also part of the overall picture, reducing movement, wasted time, costly duplication, and uncertainty.

We have taken some wrong decisions along the way but we've learned from them. We're learning to listen to people. We're engaging people and asking them "What is the Best Way?". Now we ask people: "Would you do that if it was your own money?"

Delivery team Managers and supervisors are now co-located in one open plan office, so communication is easy- one 10 minute morning meeting ensures all staff are aware of issues and priorities. This has also allowed more detailed analysis of the work being done and the costs involved, facilitating further savings and standardisation of job times.

Overall between the two programmes, calculable savings in excess of £560,000 have been made, in addition to the very significant reductions in time spent moving around, looking for parts, communicating, getting permits and instructions etc, and the general benefits of working with a far more engaged and motivated workforce who challenge working practices continually. This was illustrated well by a saving of over £80,000 made on IT costs, achieved by staff challenging the need for terminals and taking responsibility for having them removed by the supplying contractors, rather than just accepting their presence; no lean tools involved there, just buy-in and common sense. The work during both programmes was monitored and communicated using simple plans (right) and CI boards charting progress with staff ideas, and using plenty of pictures to show improvements and set standards.

Clearly BP is a huge company and the costs involved in running a plant the size of Saltend mean that making significant savings is more readily achieved than in smaller companies. However, benefits at least proportional can be achieved in most companies, and smaller firms generally find implementing improvements and engaging staff to be easier and quicker than large ones. Neil Botham offer some advice for Lean Sponsors: *"Take it all in and apply what works for you. Involve more people (including new people and outsiders). Give Lean Leaders as much encouragement and support as possible, and make the Lean Leaders accountable - agree clear objectives and outputs. Use the Project Charter you get from the programme"*

The BP project plan

Proposed Time line



	January			February			March			April			May			June			July			August		
Objective	31	01	12	01	12	20	01	12	20	01	12	20	01	12	20	01	12	20	01	12	20	01	12	20
Completion of the CAF MAF	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	
Get Building Quotes				█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	
Agree a Budget				█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	
SS Approach on Satellite Stores							█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	
Carry out Eire and Effects Session with Teams							█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	
Rec'd stores contents on a Register							█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	
Begin Building Work												█	█	█	█	█	█	█	█	█	█	█	█	
Move Mechanical into WS3																								
Relocate Mechanical Stores to WS3																								
Move IE Team into WS 55																								
Relocate IE Stores to WS 55																								
Sustain Project	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	

The improvements summarised

- ◆ Reduction from 6 work areas to two workshops.
- ◆ Savings for first programme £300,000 after 6 months.
- ◆ Contract lighting repairs now in-house, saving £160,000 per year (programme 2).
- ◆ Further efficiency savings by natural wastage of £100,000 (programme 2).
- ◆ Management communication vastly improved.
- ◆ Centralised stores improve control and accessibility.
- ◆ Visual management boards established throughout to share information and manage processes- continually being improved themselves.
- ◆ Significant improvements in culture and staff moral.
- ◆ Promoted a "can-do" attitude, challenging old practices.
- ◆ Travel times around site reduced by provision of bikes.
- ◆ Ongoing ease & effect sessions to generate further ideas.

"Take it all in and apply what works for you" Neil Botham, Maintenance Manager.