

Raising manufacturing performance

Works Management

www.worksmanagement.co.uk

Annual Maintenance Report 2004

Reprinted from Works Management, November 2004

Article reprint:
Shire Systems' FrontLine computerised maintenance management software (CMMS) underpins the maintenance improvement programme at American Standard Plumbing.

Read how ASP:

- Set performance measures for the maintenance function
- Used Six Sigma methodology to investigate recurring failures of parts
- Saved over £100,000
- Moved from 95% reactive work orders down to 17%
- Made 25% direct savings on labour

FrontLine - first choice of maintenance professionals

www.shiresystems.co.uk

Improvements

on tap

For American Standard Plumbing, implementing a computerised maintenance management system was the foundation of a far-reaching maintenance improvement programme. But it wasn't simply a question of putting in IT -people considerations were just as important. Christopher James reports

Maintenance at the American Standard Plumbing (ASP) factory at Bushbury near Wolverhampton has been dramatically improved by moving to planned maintenance and implementing a computerised maintenance management system (CMMS). The maintenance function is now seen as a provider of a quality service, rather than simply as a cost, and it is now building up asset histories and improving OEE for individual assets.

Before this project, there was little centralisation of maintenance at the factory, which makes Ideal Standard and Armitage Shanks taps and other brassware. The foundry, plating and specialist cells departments each had their own team of two maintenance engineers working from verbal requests and reporting to the departmental manager. As works engineer, Robin Theobald had no direct control of workload planning: with no formal planned maintenance structure in place, firefighting was the norm. Members of the four-person central maintenance team would move into other departments to cover holidays and absence, but this would often lead to resentment when cover was requested with little or no notice. Up to half the maintenance resource might be on holiday at the same time.

"Plant knowledge became departmentalised, with very high risks being placed on the business not only for downtime but also safety," comments

Theobald. Teamworking only existed in small pockets, and the structure of the maintenance function and the lack of time made training "a thing of the past" according to Theobald.

All of this meant that morale was low: there was often confrontation, and a lack of trust, between engineers, production and management, and a blame culture was prevalent. Other issues preventing the engineering department from progressing included poor communication, high levels of overtime and erosion of pay rates.

Theobald was given a brief to investigate what other world-class companies were doing with regard to maintenance. He looked at companies including Jaguar, Severn Trent Water and the Royal Navy. "All of these companies had a clear asset and maintenance strategy all based around a computerised maintenance management system," he says.

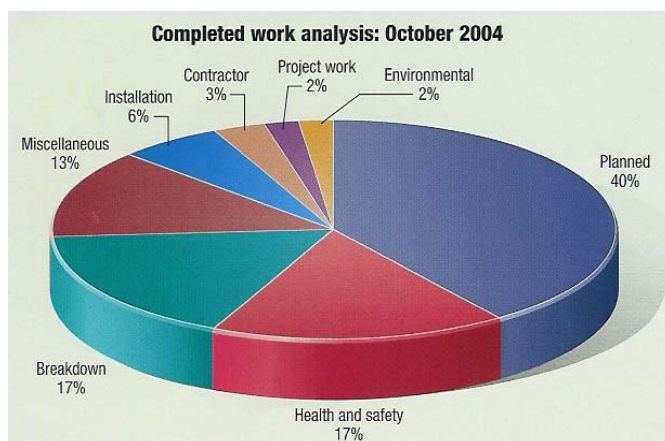
Selected ASP engineers were sent on asset management training courses and attended relevant exhibitions, and a proposed way forward was created, setting out the route to best practice.

"The idea of CMMS and asset management was presented to the site leadership team with costs and payback targets outlined," explains Theobald. Restructuring the maintenance engineering function was the key. The task was to convince departmental managers that the service their departments received would not suffer, but rather the CMMS would enable a measured response, make maintenance more efficient and improve the OEE for individual assets.

The new structure would be based around two centralised teams working a two-shift pattern covering 6:00 to 22:00. This would give the engineers five hours per day for planned maintenance outside normal production time, and also allow training days to be accommodated.

To select the teams, each engineer was appraised for skill levels, plant knowledge and teamworking abilities, and two were selected to become team leaders. This process was also used to draw up training requirements.

The company also took the opportunity to stabilise engineers' pay, putting them onto salaries but including some allowance for expected overtime levels. Regular working would be for eight hours per day, Monday to Friday, with additional hours drawn from a 300-hour annual 'bank' as required. "This allowed us to budget a stable amount for



annual pay for the first time in engineering -no more feast or famine," he says.

Theobold recognised that, while the CMMS was central to the new plan, people issues had to be considered as well. "Engineering, production and purchasing all need to communicate and work within the CMMS system." It was vital, he says to communicate an understanding of "why, who and how": .Why? To gather data and identify poor performing assets. To extend asset life. To control cost. .Who? Managers, team leaders and engineers. .How? By working together as one team.

"Training and communication are key. Don't underestimate the time required in this area," he warns.

The CMMS would record and hold information on assets, planned maintenance plans, downtime, engineers' time, spares, costs and reports. Theobold was keen to take a modular approach, introducing one module at a time to the engineers rather than overloading them with everything at once.

The selected system was Frontline from Shire Systems, including Frontline Maintenance Management (which holds all asset, workload, breakdown and planned maintenance information); Frontline Work Requester; Advanced Reports; and Safety First Express (for portable appliance testing). These modules were introduced over a 12-month period.

One important early result came from assigning simple work codes to work requests. By designating them as breakdown, health and safety, planned, environmental or contractor, ASP could analyse the types and amounts of work being requested. In addition, the system enabled completed work requests to be analysed for response time, duration of downtime, repair costs and engineer's efficiency. "We now have the ability to run reports on, and monitor, departmental downtime

by request type, all the way down to individual assets," comments Theobold.

Critical assets could now be properly investigated, and repaired using the 'five whys' method; alternatively, they could be removed entirely by rerouting product to better performing assets.

Frontline's Work Requester module has been a useful aid to prioritising calls on the engineering function. "We were able to instil a discipline in all managers, team leaders and engineers that no maintenance request would be actioned without a valid electronic work request. Our old paper, telephone and 'who shouted the loudest for the longest' request system disappeared overnight," observes Theobold.

No-blame culture

Requests are electronically recorded with the date and time of the request, and the name of the person making it. "The ability to filter the incoming work requests by setting a priority gives you time to target more urgent requests and schedule nonurgent tasks in non-production time," he explains. Using the module also removed conflicts between engineering and production. "Jobs were no longer forgotten or not undertaken by engineering. Also there was no scope for production to blame engineering for asset downtime if there was no maintenance job associated with it."

ASP is using the Six Sigma DMAIC (define, mea

sure, analyse, improve, control) methodology to investigate recurring failures of parts. These projects had saved over £100,000 at the end of 2003.

The CMMS has also enabled ASP to set performance measures for the maintenance function, which previously was not possible. It calculates completed work requests per month within one hour, four hours and eight hours. "The total number of completed work requests per month is 95%," he says. Before this project, 99% of maintenance tasks were reactive; this became 50% by the end of 2003, and the current figure is around 17%. Cost savings include a 25% direct saving on labour, and a 33% saving on additional hours.

Recent improvements include filtering work requests more, carefully with regard to their effect on production. Work for the future includes further focus on increasing OEE of individual assets, and

"Before this project 99% of maintenance tasks were reactive: this had reduced to 50% by the end of 2003 and the current figure is around 17% "

linking stores items into the CMMS to improve cost tracking. Training of operators in routine inspection of assets is also planned.

"Maintenance engineering is now considered value for money and an integral part of American Standard Plumbing Brassware UK's team, delivering a quality service on time, in full with no errors," says Theobold. His work on this project led to him recently being awarded runner-up in Maintenance Professional of the Year. "Installing the CMMS was the foundation stone for us to build on, in line with a clear maintenance and asset strategy. Investing in new technology, and more importantly our people, has enabled our success," he concludes..



Shire Systems is the first choice for maintenance professionals and the number one producer of computerised maintenance management software in the UK.

Thousands of organisations rely on Shire software to plan, organise and control their assets for optimum performance.

Shire Software

- Frontline Maintenance Management Software is easy to use and available in the following integrated modules
- Purchasing
- Stock Control
- Labour Management
- Work Requester
- eRequester
- Financial Management
- Advanced Reports
- Help Desk
- Frontline on the Move -Hand Held PDA mobile solution.

Safety 1st

Test and inspection software to help you meet the demands of Health and Safety legislation

Shire Inspection & Audit

Gain total control of your organisation and facilities with these intuitive tools

Shire Support

- Help desk support
- Data conversion services .
- On-site diagnosis/analysis .
- Training -sites around the UK
- User Groups
- Strategic Maintenance Consultancy

The Shire unique difference:

- Affordably priced and amazing value for money
- Out of the box solutions -straightforward and easy to install
- Easy to use -they do what's needed and what you expect
- Evolved from user needs and wish lists -our systems have been specified by their hands-on users in the workplace
- Developed and supported completely by us -one dedicated team devoted to serving your needs
- Best value software and service that's second to none -that's our unique difference.

That's the Shire difference.

If you want to improve reliability, reduce maintenance costs and save time and money, Shire can help.



Shire Systems Ltd
1 Mountbatten Business Centre
16 Millbrook Road East
Southampton
So15 1HY

Tel: 02380 224111
Email: sales@shiresystems.co.uk
www.shiresystems.co.uk