

The OneSteel Eight Critical Elements of Asset Management

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OneSteel is a fully integrated, global manufacturer and distributor of steel and finished steel products, self-sufficient in both iron ore and scrap metal, with revenues in excess of \$6 billion Australian dollars. They have major manufacturing facilities across Australia as well facilities in New Zealand, Asia and the Pacific and the USA.

OneSteel employees approximately 11500 employees and manufactures and distributes products that are used in the construction, manufacturing, housing, rail, mining and agricultural industries.

With a significantly diversified range of assets in many locations, improvements in Asset Management have been based on the knowledge and drive of the local plant employees, hence all plants are at different points in their reliability journey. In 2006 this was acknowledged as a significant issue for the business so the Operational Excellence group was formed to assist business units with setting up common systems and practices to improve asset reliability and hence output. One of the initiatives was developing the “Eight Critical Elements” model. So what are they?

1. Lubrication. For those of you with rotating equipment; if there was one thing in the eight critical elements that you need to get right, this is it. It is obvious to state that machines break when they are not lubricated correctly, but how often is poor lubrication the cause of unplanned downtime in your business? A well-managed lubrication strategy is the place to start.

2. Condition management (PdM). The most efficient and effective maintenance organisations will maximise their condition-based maintenance. After all, why overhaul equipment when it is not showing any signs of wear? Often a condition-based strategy will reduce the amount of overhaul work saving material and labor costs as well as reducing the instances of early life failure.

3. Maintenance standards and practices. Maintenance tasks must be completed to a standard to ensure the long-term reliability of the equipment. Do you have the right quality oil, the correct bearings and other materials? Has the equipment been put back together with the correct clearances? Has your DC motor brushes been bedded in correctly? Does your equipment start on time after work is done, and keeps running? These standards are closely linked with how the job is done. Are the right tools used for the task? Are your tradesmen qualified for the tasks they complete? Eliminate rework - Do it Once, do it right.

4. Work Management. The best organisations spend 80% of their time on planned and scheduled work. Planning and scheduling can only be improved if a well-defined work management process with measurable KPI's has been developed and is followed.

5. Reliability, process and practices audits. There is a very common saying in reliability circles these days being, “You can’t manage what you don’t measure”. If you don’t know the reliability level of your equipment how can you possibly improve it? How do you know that the practices you have in place are being followed and are they correct to begin with? Auditing your processes and practices is a must so you can acknowledge your reality. This becomes the starting point for improvement.

6. CMMS. (Computerised Maintenance Management System). Your CMMS is your maintenance management database, and like any database, if the input is bad the output will also be bad. A well utilised and managed CMMS is an invaluable tool that should be in close alignment with Work Management system.

7. Shutdowns. Shutdowns are undesirable events as they are often costly and reduce plant availability. To minimise the effect on output, organisations need to manage shutdowns so all work is completed safely, to a defined standard, and within the shortest possible time frame. This requires detailed planning and scheduling utilising many task lists and procedures.

8. Maintenance strategies. A strategy is the who, what, when where and how of maintaining your assets. Strategies are not “set and forget”, they are living documents that should be reviewed and improved continuously. What methods do you use to review strategies? Do the strategies address the failure modes of your assets? Who is involved in the review process? The review and development of strategies is a critical component of Asset Management.

The idea of generating a survey on Onesteel’s eight critical elements came after attending [IMC-2008](#). Part of the communication at the conference was related to participating in an on-line survey, which provided instant feedback on accumulated results. I found this quite interesting, but the data available was limited to overall results from all respondents.

The format of this survey will allow endless variations of reports generated from the data entered. For example all questions will be able to be reported by business type, business size, country and position of people who answered the survey. Some examples of very specific possible reports are:

- Comparison of Manufacturing-Metal companies against Aerospace.
- Comparison of responses from tradesmen/craftsmen against responses from VP’s
- Comparison of small companies with larger ones in like industries.
- Comparison of results between Countries
- Many more.....

The final report will only be limited by the imagination of the respondents. Please spend the half an hour or so responding to this survey. If you want direct feedback from the report please provide your email details at the end of the survey.

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