

## Sugar Australia – Yarraville is on the Boil!



The end of 2013 brought about Sugar Australia – Yarraville's completion of its seventeenth cycle of improvement activity.

The site undertakes three 14 week cycles a year with around 10-14 improvement teams across the site each cycle. The teams have varying mandates to improve the current state of their workplace, equipment and processes.

One such team was the **"Hot Heads"** (as seen in Figure 1 below), a Micro Maintenance Improvement Team (MIT). The mandate of the team was to:

- Apply visual controls to ensure boiler valving is in the correct position under standard operating conditions;
- Reduce boiler start-up delays by providing better visual identification of boiler valving and positions;
- Review current start-up procedures; and
- Develop a procedure which includes a check sheet to confirm boilers are ready to start-up.

Figure 1 – The "Hot Heads" Team



L to R: George Azar, Brent Jefferis, Frank Kuczynski and Richard Wisniewski (Missing from the photo Wayne McKinnon and Gareth Parks)

The site has a total of 5 Boilers (3 Different types) which are all in service depending on the steam demand. The Refinery is a 24/7 operation and conducts regular shutdowns for maintenance and

cleaning which therefore requires the Boilers to be shut-down and started-up.

As the Boilers are unmanned, the process of starting-up and shutting-down is nearly always conducted by different people due to the varying length of the shutdowns and shift patterns. The process for running, starting-up and shutting-down requires 29 different type of valves (see Figure 2 for an example of the valves) to be in the correct position. The team decided to first focus on one of the newer Boilers "BR 11".

Figure 2 – Some Valving of BR 11 Boiler





To make it simpler for staff to know what valves need to be open or closed when the boiler is being started-up or in operation the team developed a simple colour coding system (as seen in Figure 2 and 3) of:

**Green** = Valve must be open

**Red** = Valve must be closed

So all 29 valves on BR11 were sand blasted, colour coded and then photographed in normal operating position. These photos were consolidated into a three page document (refer to Figure 3 for a sample), identifying each valve complete with valve number and valve purpose / product medium. A laminated copy of the document has been posted on the boiler for operator reference.

**Figure 3 – Sample of Boiler 11 Valve Tag Numbering and Description**

Date: 19/11/2013 Author: G Azar	<b>Valve Handle Positions for Normal Operating BR11</b> <b>GREEN Open</b> <b>RED Closed</b>		X Basic Skill 0 Countermeasure 0 Accessibility X Safety X Poka Yoke X Productivity
Tag Number BRVH11359 Isolating Valve Boiler feed water control  Supply Water			Tag Number BRVH11360 Isolating Valve Boiler feed water control  Supply Water
Tag Number BRVH11361 Economiser water control By-pass valve  Supply Water			Tag Number BRVH11363 Economiser water control By-pass valve  Supply Water

With the success of the process developed on the BR 11 Boiler, the team will now develop a schedule to implement a colour coding system with the remaining 4 Boilers on site.

CTPM congratulates the **“Hot Heads”** team on their achievements so far and wishes them continued success with implementing their system on the remaining boilers.

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