by Derick Martins

The Art of Executing Safe Shutdowns

I was born and bred in the beautiful Mpumalanga province of South Africa, in a small town called Sabie. I did my B.Eng Mechanical degree at the University of Stellenbosch and obtained my GCC (Factories) qualification in 2005. Today, I am a Maintenance and Reliability Specialist and Coach, drawing from my experience in roles of Supervisor (Ops and Maintenance) to Manager (Ops and Maintenance) over different industries, including Stainless Steel, Ferro Chrome, Platinum, Iron Ore, Uranium, Copper, Zinc, Timber, Waste Industry and Construction & Demolition.

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Where it all started

In 2011, I was involved in a "Planned" 500 man shutdown that was supposed to last only seven days. Thirteen and a half days later, we completed the shutdown. Over budget, while 30% of the labour cost was under my control and my team had more injuries and incidents than I had in my entire career prior to that. It was completely out of control, and I knew it had to change or someone was going to get killed, so I volunteered to take over the shutdowns.

I started by analysing every single incident on that shutdown, trying to find the corporate or system failure that caused that incident and grouped it together. People tend to blame incidents on an individual, while I am of the view that there is always a corporate failure that contributed to the failure. The company, plant owner, supervisor could have helped to make a fundamental difference in preventing that incident.

Over the next few weeks, me and my team developed a strategy to do things differently and have a better outcome. We simplified, we worked on communication, and we planned!

What I am sharing with you, is the result of many hours of discussing, trying and implementing strategies what we found had a profound impact of ultimately achieving the next 500 man shut, delivered on time, on budget, with 0 recordable injuries (RI).

FIRST STEPS

Analyse

Analyse every failure (incident) and take the experience into the next shut. Share these with your teams upfront, so that they can believe in what you do. Show your team that improvements/changes are real, based on the learning. This way, people will start believing that you aim to solve the failures and are not just pinning it on people. They will start to believe and join the journey.

Simplify

Simplify everything - Inductions, Escalation processes, Org structure.

Plain messages, use pictures rather than words, provide short videos. Nowadays, everyone has a phone in their pocket, so rather than sit through a long induction with pages and pages of reading, do a short video instruction. For instance, we found that many people did not understand the difference between fall prevention and fall arrest. A simple 2-minute video explained it and made it clear for everyone so there was no ambiguity around the concept. Another example, in South Africa, I worked in an area where there were 6 different languages spoken, besides English. Simply using pictures and photos eliminated many confusing instructions. There is no language barrier or accent in pictures and photos. Do not repeat common industry standards, unless it is super important.

Communicate

Communication is the key to success. It must be open and honest. I found that a lot of the time, miscommunication puts unnecessary pressure on people. When you tell people to work safely but also to hurry up, you are adding pressure and that leads to accidents. As a leader, you need to be mindful of the way you portray the message. Be honest about the progress too. Tell them if you are behind schedule, but with encouragement and assurance that it is ok, because you have something in place and don't be afraid to tell them what.

The other part of communication is reporting. Encourage people to report everything. The more they report, the better you will understand your shutdown. Just a word of caution on what you do with that information. As people start reporting all incidents and injuries, the last thing you want to do, is alienate the reporters. My experience on a site, was that if an incident was reported, the person was put off site, hence getting rid of the problem. When, in reality, it only got rid of trust and honesty, creating a fear of reporting.

How we changed the approach, as an example was a scaffolding supervisor and an estimator, who breached the working at heights rule. When everyone wanted to put them off site, I stopped it, and spoke to both, explaining they have two choices. Either stand up in front of everyone at the next pre-start meeting and admit what they did was wrong, they risked their lives and livelihood unnecessarily when they chose not to put on a harness to save 5 minutes on a job. Or, they can leave the site themselves.

They stood up at the next pre-start meeting and addressed the crew. The feedback from that approach was, that it had a profound impact on people making safer choices.

When something like this happens, use it to your advantage, positive communication. Obviously when there has been a serious breach or incident, and you must put the person off-site, be honest and explain why.

I found the following communication avenues very effective:

- **Pre Shut meeting** – we use to get all the contractors together a day before the shut started, and welcomed them all, talked to them about the importance of having a safe shut and everyone to go home safely. We also told them about the planned safety pause in the middle of the shut. Here the attitude of the host addressing the meeting is really important, not to shout and rush but be confident and calm in addressing everyone, instilling an expectation that it will be a great shut.
- **Pre Start meetings** – at the beginning of every shift, it proved vital to have everyone together, discussing the progress, what lies ahead for the shift and setting the tone/attitude for that shift. Brief them about the expectations. This ensures that a consistent message is delivered to all the workers, and they are set up for the next shift with the right attitude.

Work Planning

This can be another lengthy discussion on its own, but I will give an overview of this:

- Every task should be planned for the person who has never been to site.
- Use photos, maps, layout drawings, equipment labels.
- Prepare your spares. Have it ready on the job site, to eliminate the frustration and stress of searching for it on a site they may not know.
- Plan a "Safety Pause". Usually when there is an incident, there is a Stop for Safety to discuss what happened and remind everyone to work safely etc. We turned that around and planned a safety pause half way through the shut. It was scheduled, we stopped all work and had the entire crew together, discussed why it is important to work safely, not because of an incident but because safety is important. If you are willing to stop work, call everyone together and talk about safety, you are serious.
- Plan for the unexpected. Make sure you have the resources and identify a decision maker, typically the person who is calm under pressure. Prepare that person beforehand, saying if something goes wrong, I need you to make the decision on how to proceed or handle the situation, so that they also understand their role and can mentally prepare themselves. The unexpected can be any situation from a crane that fails to rain that is delaying your critical path. When you have the right person as decision maker, you work on your contingency plan, you reduce uncertainty and challenges, reduces the risk and ultimately incidents.

Execution Strategies

- Do not aim for a safe SHUT but rather a safe SHIFT. See every shift as a new opportunity to work safely and have no incidents. Even if there is an incident, discuss it but treat the next shift as a 'new day'.
- Focus on the Highest Risk Tasks for the shift. Talk through potential incidents, giving opportunity for people to share their experience and learnings from similar jobs elsewhere. This instills confidence in the crew and boosts morale when they feel valued and appreciated. Again, this happens during the Pre-Start focusing on setting the tone for the shift ahead.
- Communicate clearly - everyone must understand what their role is, and what they need to do and what they need to achieve as a team.
- Be open.
- Do not rush. Do not push. The moment you start saying that this task needs to be finished before the shift, people start to rush, and rushing leads to incidents.
- There is always the element of handing a plant back to production in time, and therefore it is important to involve your production partners in your shutdown journey.

These are some of the key aspects we found had helped us on our journey to delivering safe shutdowns. Most of these aspects are tied closely to leadership. Calm and controlled leadership. You need to ensure your leadership team is on this journey with you, and understand their impact on delivering a safe shutdown because without good leadership, any team will unravel at the seams.