

# IPLOCA SAFETY AWARD 2020



## PIPELINE SAFETY APPLICATION

Recognizing an exemplary success in  
improving health & safety

## BUSINESS PROFILE

Spiecapag as a business hold safety in safety in the highest regard across all our projects and ensure that systems are put in place to protect all our personnel as a matter of priority. We are proud members of IPLOCA and see true benefit in what the association brings to the Pipeline Industry.

Spiecapag provides full life-cycle support to the pipeline industry. It intervenes starting from project conception and financing assistance, to engineering, procurement, construction, commissioning, operation and maintenance. This expertise covering onshore pipeline and related ancillary works such as pumping and compression stations, metering and regulation facilities, storage complexes and loading-unloading facilities.

Since it constructed its first high-pressure pipeline in the Paris region in the 1920's, Spiecapag has acquired unsurpassed experience with more than 50,000 km of pipelines and onshore infrastructures in more than 60 countries on all continents. With more than 90 years of continuous experience and a fleet of equipment that it can mobilise rapidly to all points of the globe, Spiecapag has become a specialist in complex projects, from both a technical point of view for large diameters, and from a project execution standpoint, working in environmentally-sensitive areas like deserts, arctic regions, mountainous zones, tropical rain forests, etc.

We are a multicultural, multinational and multilingual company. Wherever our clients go, chances are that we have been there before and that we have personnel familiar with that part of the world. So we know what matters and how to find our way. This know-how is one of the keys, not only to our own success, but also to the overall success in the early phases of a project.

## FINDINGS

As part of Spiecapag's annual review at the start of 2019 we looked at our incidents and we took a good look at the health and safety tools utilised by the workforce in the field.

We were comfortable that the high-risk activities we were identifying in the HAZID's were being managed well with robust controls in place. Our incidents were all minor in nature and were as a result of slips, trips and falls or minor lapses in concentration. The two tools we utilised to manage these events were the SLAM Report and the Hazard Report. We then decided to spend the next month looking in to how the reports were being completed and how effective they are at the function they are designed to perform.

The SLAM (Stop, Look, Assess & Manage) Report is a personal risk assessment that is to be used by individuals when there is a new task or a change in circumstance in the task being

performed. The main goal is to ensure that our personnel assess the work they are doing and systematically identify risks and control measures.

The Hazard Report is to be completed every time someone witnesses an unsafe situation or something with the potential to cause harm themselves, others or the environment. These should be completed even if the Hazard is removed.

The review of the process looked at four key elements, the overall process from someone being issued a book to the report being received back and reviewed, the information being captured, ease of use and overall effectiveness of the tool. This involved a review of selection of reports from across projects and talking to the workforce.

### Overall Process

The overall reporting process of SLAMs and Hazards followed the steps below:

- Personnel on-boarded and given an overview of the process in the induction
- Personnel Reporting Wallet issued to each person, this was a plastic wallet containing both report books and the dimensions were approx. 110mm x 90mm x 20mm.
- Reports were completed as required
- Reports submitted to supervisor or Safety Officer
- Reports reviewed and Hazards with corrective actions entered into the corrective action register.
- Review of qty performed and communicated on a monthly basis against to Corporate KPI's.

### Information being captured

We did a review of a random sample of reports produced on one of our sites, this sample covered key crews and a variety of activities.

We found that whilst numbers of reports being produced was only marginally under the corporate KPI's the key findings on the content was:

- The process had become a formality with little thought or review of the risks evident in the report
- very little information was included in the report
- There had become a lot of repetition in people's reports
- Due to the nonchalant manner in which the reports were being compiled key risks were not being captured.
- Some of the information was illegible

### Ease of Use

We spoke to the workforce about the reporting books, and performed an audit to see how many people had the report book on them, less than 30% of the workforce had the SLAM or Hazard report with them at the work location, most of them saying they were too cumbersome or they had forgotten to bring them.

There had been a conscious effort made to make the report books as compact as possible without compromising on the important information they were designed to capture. Even though we thought we had reached a happy medium of size and functionality it was still evident it was not easy enough for people to intuitively use them whenever the need arose.

**Effectiveness of the Tool**

With all the above points considered we were not happy the tools we had in place were serving their intended purpose.

The reports were either not capturing the right information, not capturing sufficient information or were just not being completed when they should have been.

In addition to the tools not being effective the printing costs associated with ensuring all personnel on our sites had the report books was a significant cost for each project.

The timeframe between the report being written, submitted and processed was too great. In order to show that the business is committed to understanding the risks and hazards faced on site each day the management need to be notified of the issues as soon as possible, in turn these need to be actioned quickly to show the personnel completing the report that these matters are taken seriously

**SOLUTION**

A simple method of producing a SLAM or reporting a hazard, anywhere, quickly, simply and clearly so that it can be read, understood, actioned (if required) and analysed.

We needed something that was versatile, although a lot of our works are similar there are no two jobs the same, slightly different risks, different clients, different state requirements and sometimes involve JV partners. We found that with these minor changes from job to job we were often changing our format from project to project, as such we needed something that could be adapted easily to meet the specific requirements.

The management needed to demonstrate to all our personnel that these reports are an important part of our Safety Process and are not merely a box ticking exercise and we were actioning items raised in an expedient manner.

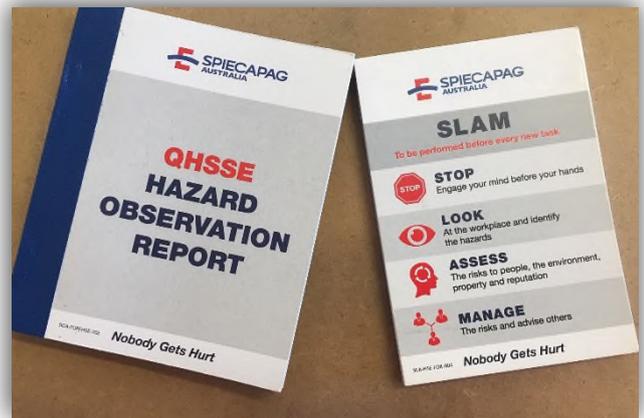


Figure 1 - Old style books

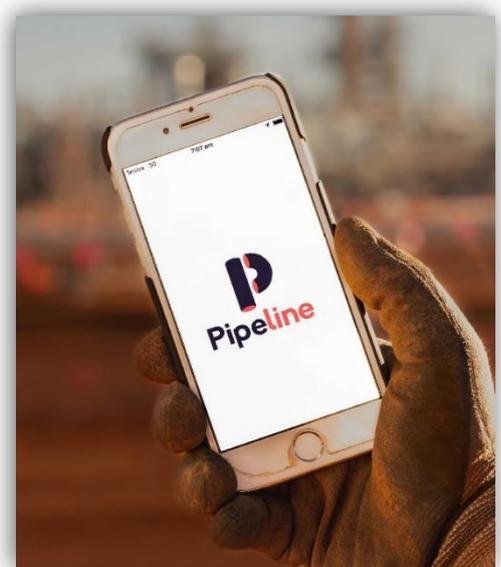


Figure 2 - Pipeline App Home Screen

## IMPLEMENTATION

We decided it was time to try and digitise these reports so they can be utilised on any android or iOS device.

We explored a number of options including off the shelf software packages for completing reports, but none of them had the flexibility or the exact components we wanted to implement.

We then spoke to a developer who had help us with our in-house CMS and pipe tracking system and gave some detailed specification on what we wanted including:

- Able to be deployed quickly to Android and iOS devices
- Fully customisable questions between projects
- Work off-line and update when back in WIFI or 3G range
- Simplistic report style with mandatory fields and auto prompts to provide more detail on sections where a risk has been identified.
- Warning alerts for inadequate controls
- A report which can be downloaded as a CSV for easy analysis of:
  - Quantity of reports by each employee
  - Hazards identified and control measures implemented
  - Quantity of reports by Crew
  - Categories of risks identified
  - Locations
  - Projects

The App was produced and rolled out Mid 2019 and was an instant success.

During the review process into the SLAM and Hazard Reporting it also came to light that our Vehicle Pre-starts were suffering in much the same way, the reports were often being completed as a compliance tick and flick rather than serving their purpose of being a tool to ensure the vehicle or plant is in good condition.

it was agreed if the App solution worked for the SLAM and Hazard Reports we would come up with a similar solution for Pre-start inspections.

This was commissioned almost immediately after the SLAM and Hazard Report was rolled out. With a very similar specification on requirements.

The key feature we wanted on the pre-start app was a method of ensuring that the person completing the inspection was physically going around the vehicle/piece of plant and checking every location. To do this we produced a series of QR Codes specific to each location on each piece of plant the driver/operator would then need to enter the plant number in the app (including odometer reading) this then brings up a list of locations specific to that item

the driver/operator would go to that location press the button which would activate the devices camera to scan the QR code. Once the correct QR code is scanned the specific questions to that location would appear and the driver/operator would note if the item is acceptable or needs attention, if they were to select needs attention a text box appears to enter the detail.

For example, a ute has four QR Codes:

- Bonnet – under the bonnet to ensure the engine is looked at
- Passenger door
- Rear
- Dash of the Cab

The Pre-start App works on the same premise and platform as the SLAM and Hazard Reporting App, as soon as the device is in 3G or Wi-Fi range the data uploads to the cloud. The plant department have access and can use the online dashboard to quickly ascertain what issues need to be rectified and what items of plant have pre-starts outstanding.



Figure 3 QR code attached to underside of bonnet

## ACHIEVEMENTS

The results from the implementation have been excellent. Everyone that has used the system has found it intuitive and understood the process upon the first explanation.

The same incentive schemes used for the old reports are utilised, however it is much easier to collate the information now and produce more reports more frequently. This enables the H&S team to be much more proactive.

Links to download the Apps have been included as part of the on-line induction package so that all new employees will download the application prior to mobilisation.

There were no excuses relating to lost reports or people producing reports after the fact, as each report is time stamped at the time of compilation rather than time of upload. This has been extremely helpful in incident investigations to determine if pre-starts or SLAM’s had been done on the day or if a Hazard had been identified and not actioned.

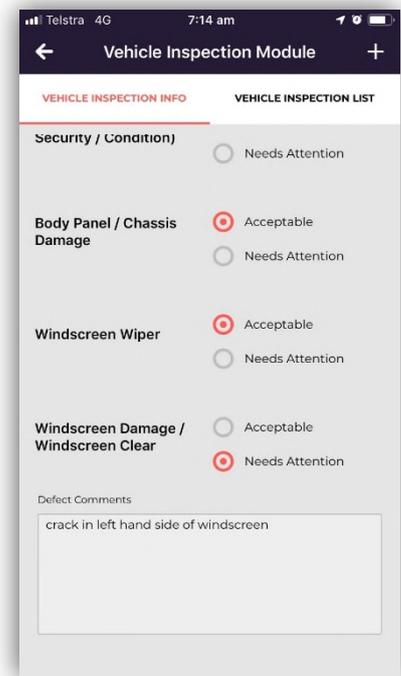


Figure 4 - Vehicle Pre-start Questions

We have spent no additional money on report books since the role out.

Although there was consultation with the workforce whom agreed there were areas for improvement, there was a reluctance to change. The biggest issue was with the vehicle pre-start app as some people felt it was taking too long to complete. We made some minor mods to speed up the process and communicated that the changes were not made for efficiency but to make sure things were done properly. We issued weekly reports showing compliance and actioned any findings as quickly as possible, with a KPI to at least acknowledge the issue within 48hrs, it took about 6 weeks but once the crews realised the purpose and that it was being reviewed all personnel came on board.

The information from the Hazard reports is downloaded and placed straight in to the corrective action register, this is ensuring items are closed out much more expediently.

The cost of development was less than what we would ordinarily spend on printing books for 1 project so there are immediate and long-term saving benefits.

It is estimated that a minimum of 30-40 minutes a day was being spent manually inputting reports into a database (this was for a 200-man project). This is now down to less than a 5-minute review of information on a daily basis. Freeing up valuable time for the HSE administrator.

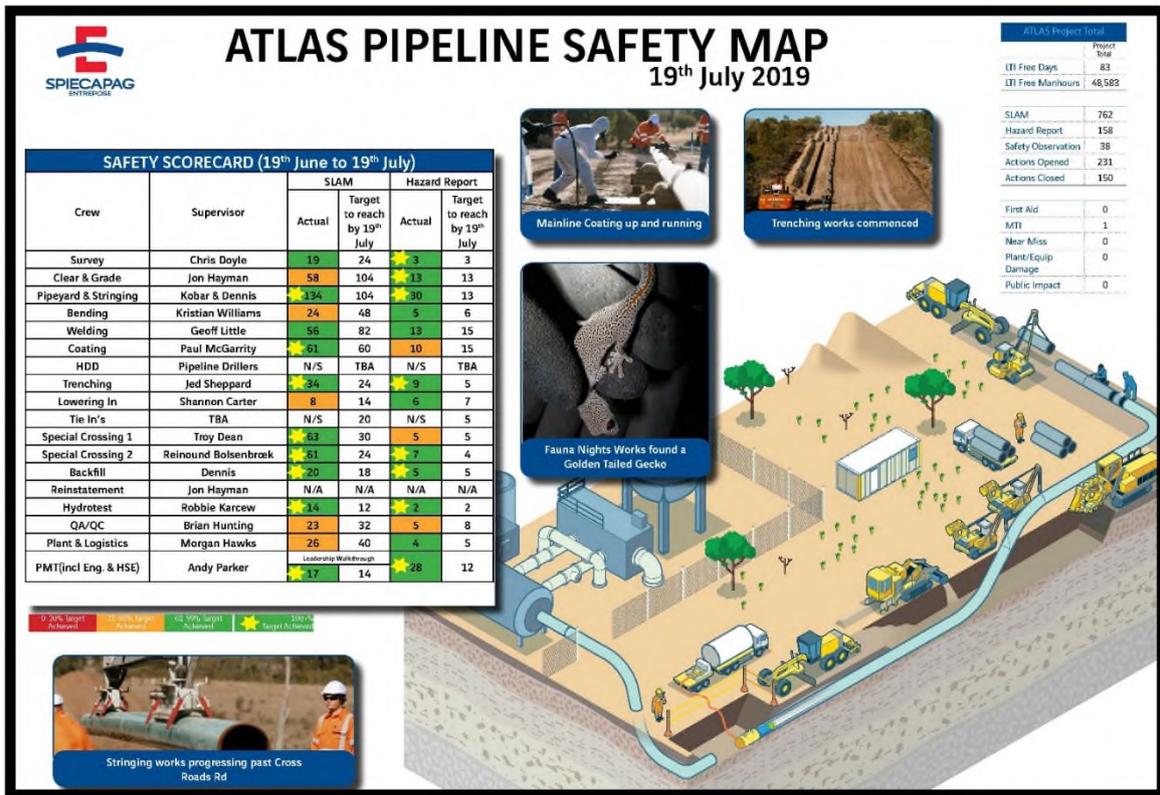


Figure 5 - Latest Project Safety Map

Participation has increased over the last year with the number of SLAMs and Hazard Reports vs personnel being up. This will be further monitored over the next year, but all feedback from the crews is positive.

Numbers of pre-starts being completed has increased massively.

Off-hire costs on vehicles is down, this is due to accurate reporting of issues daily resulting in minor issues being rectified on the project as opposed to being done by the hire company once the item is demobilised.

There is now much greater visibility across projects and any errors with reporting statistics have been eliminated, as it is now a simple process for Head Office to review how many SLAMs and Hazard Reports have been done and whether KPI's are being met.

### LONG TERM PLANNING

We will continue to utilise the tool on future projects as the results so far have been extremely good. We plan to perform a further review of the system with key personnel from throughout the business to see if there can be any additional improvements made.

The key to this tool continuing to be a success is to listen to the people completing the reports each day, the easier and clearer we can make our processes the more compliance we achieve which ultimately results in a safer site.