

CHECKING SAFETY CONTROLS AT THE FRONT LINE

Peter Savage, HSEC lead of Aquarius Energy, explains how self-verification has enhanced safety on site

IN THE potentially hazardous environments of tank storage and terminal operations, safety is non-negotiable. It underpins every decision, every procedure, and every action taken. For Aquarius Energy, demonstrating safety as a core value and priority has driven a transformative multi-year journey focusing on the establishment of a robust system of self-verification at the front line.

Based on the concept of the first tier of a 'three lines of defence' audit and assurance model, this initiative has empowered Aquarius Energy's asset teams to systematically check safety controls within critical activities and procedures directly in the field and providing management assurance that controls are in place and effective. As Peter Savage, HSEC lead of Aquarius Energy likes to say: 'We're checking that we are doing what we say we're doing.'

A VISION BORN FROM NECESSITY

The idea for self-verification – checking oneself – stemmed from realising that, while robust safety management systems and procedures were in place, the true measure of their effectiveness lay in their consistent application at the operational sharp end. Aquarius Energy focused on establishing a mechanism that went beyond traditional audits, by enabling their own site-based personnel to actively engage in the checking process, encouraging greater ownership at the individual level and creating immediate feedback loops.

Aquarius Energy's objective was to create a repeatable, reliable, and user-friendly method for its operational teams to verify that safety-critical controls are not only implemented as designed, but are also truly effective in controlling and mitigating risks. The focus of the self-verification approach was targeted towards checking high-hazard activities in the field in line with IOGP's life saving rules. For example, working at height, confined space entry and hot works – those activities that, if controls are not in place and effective, could lead to considerable risk.

Savage explains: 'This self-verification ambition strategically evolved into a

comprehensive, global, cross-cultural initiative, designed to be accessible and impactful across our diverse international footprint.' Recognising the variety of Aquarius Energy's portfolio of operations, the system was developed and deployed in multiple languages, ensuring there were no linguistic barriers to embedding the group's shared commitment to safety excellence. This multi-language approach was crucial for genuine buy-in and effective execution from teams speaking Spanish, Portuguese, and English.

The core technological enabler for this initiative has been the widespread deployment of Ex-rated tablets. 'These rugged, intrinsically safe devices are purpose-built for hazardous environments, allowing our teams to conduct systematic, repeatable checks directly at the point of work,' explains Savage. By digitising the verification process, teams moved decisively beyond cumbersome paper-based checklists, that would have required completion in the field and then secondary administration back at desks. 'This digital shift has delivered significant benefits, including real-time data capture, improved accuracy, and immediate accessibility of information, and of course time-saving – all of which contribute to swifter intervention and risk reduction,' says Savage.

EMPOWERING THROUGH TRAINING & COACHING

Implementing a programme of this magnitude across a global organisation required more than just technology; it demanded comprehensive support and cultural integration.

From the outset, Aquarius Energy invested in developing a robust support infrastructure to ensure the successful adoption and continued effectiveness of the self-verification system. A cornerstone of this support has been an extensive programme of training webinars. These interactive sessions were conducted regularly and reached across all assets, revisiting industry concepts such as 'chronic unease'. The sessions were designed to be practical, focusing on setting expectations when carrying out self-verification activities, learnings from initial trials, and provided opportunities for teams to share best practices around scheduling and conducting self-verification activities. They covered everything from operating Ex-tablets, to how to frame a conversation around self-verification on site.

Beyond formal training, a critical element of Aquarius Energy's implementation strategy involved dedicated coaching for leaders in the field. Site managers,





supervisors, and team leaders received specialised coaching to not only understand the mechanics of self-verification but, more importantly, to grasp its strategic significance. This coaching focused on how to champion the initiative within their teams, how to interpret the data generated, and how to effectively leverage the insights for localised improvement and how these findings can inform the asset's management system.

A key learning through this interaction with leaders was the need to change the philosophy of the checks' objective. Instead of looking for confirmation of controls being in place and working as imagined, leaders are encouraged to seek out opportunities for improvement and sharing that 'gaps are good' in the spirit of being able to address them, reduce risk and reduce the possibility of incidents occurring.

By empowering leaders, Aquarius Energy ensured that the initiative has strong advocates and facilitators at every level of their assets' operations, guiding their teams through the rollout and embedding self-verification into daily routines.

LEVERAGING DATA FOR STRATEGIC INSIGHT

The true transformative power of self-verification at Aquarius Energy lies in its sophisticated approach to leveraging the output data of the checks. Each completed verification isn't just a tick in a box; it's a valuable data point that contributes to a rich tapestry of operational intelligence. 'This data is meticulously collected, aggregated, and analysed to provide insights into the state of our safety controls,' says Savage.

At the individual asset level, this means that terminals can see patterns and trends around gaps in the effectiveness of controls. For example, if multiple checks consistently highlight issues with a specific type of isolation procedure, this

pattern immediately signals an area requiring attention.

This detailed data directly informs an asset's management system and inputs into their management systems' annual reviews. Rather than relying on anecdotal evidence or infrequent audits, Aquarius Energy's assets now have data-driven insights to refine their procedures, enhance training, and allocate resources more effectively. This ensures that improvement efforts are targeted, impactful, and based on concrete evidence from the field.

And the benefits extend far beyond individual sites. As a global portfolio, Aquarius Energy has been intent on 'rolling up' data to see patterns across all assets. This aggregated view allows leaders to identify systemic strengths and weaknesses that might not be apparent at a local level.

For instance, a common trend across multiple regions regarding a particular type of permit-to-work deficiency could indicate a need for a portfolio-wide review of elements of the permit system or a new global training initiative. This macro-level understanding directly informs Aquarius Energy's overall portfolio operations and Health, Safety, Environment, and community plans. It has allowed corporate leadership to make strategic decisions that benefit all assets, ensuring consistent high standards of safety performance across the entire organisation.

DRIVING BUY-IN & CONTINUOUS IMPROVEMENT THROUGH KPIS

To ensure widespread adoption and sustained engagement with the self-verification programme, Aquarius Energy recognised the importance of setting clear expectations and metrics. Therefore, key performance indicators (KPIs) were set with assets to perform a specific number of these checks per month. These KPIs were not arbitrary targets; they were carefully determined based on the size and complexity of each facility, ensuring they were challenging yet achievable.

The implementation of these KPIs was instrumental in encouraging active buy-in to the programme. KPIs focused on planning the self-verification activities and carrying out the checks. By integrating self-verification into routine operational performance metrics, it became a recognised and valued activity, rather than an add-on. This created a healthy impetus for teams to incorporate the checks into weekly planning, ensuring that the critical data flow remained consistent. The KPIs fostered a sense of accountability and helped embed self-verification as an indispensable part of daily operational rhythm, driving consistent engagement

from the front line to leadership. Complementary to this, and aligned with IOGP's life-saving rules, each asset was required to establish a rolling schedule of self-verification checks corresponding to different high-risk activities according to the operational agenda. These risk-based schedules, built with resource availability in mind, have been designed to be flexible in line with changes on-site and operational activity sets; for example, where a working at height programme commenced at site, the self-verification schedule can be adjusted to recognise the risk and availability to self-verify the work.

A CULTURE OF PROACTIVE SAFETY

Photo 01 (opposite) perfectly encapsulates the spirit of hands-on engagement and global collaboration that defines Aquarius Energy's self-verification journey. The photo symbolises the dedicated effort from individuals across the organisation to make safety a lived reality every day. This initiative is a testament to Aquarius Energy's belief that safety is not merely a compliance exercise but a fundamental value, continuously refined through vigilance, data, and active participation.

A year on from the completion of the pilot stage of the initiative, the Aquarius Energy HSEC team are still improving the tool and its rollout. Recent developments have created self-verification opportunities around sustainability, checking waste management and emissions checks in the field. Savage reflects: 'The biggest learning of this initiative is that it's not only about the technology and system; it's about taking the people with you on the journey and helping them be curious – and cautious – about the effectiveness of controls in the field.'

By embracing self-verification, Aquarius Energy isn't just meeting standards; it is proactively building a more resilient, safer, and continuously improving operational environment. It's about empowering front-line workers, demonstrating leadership in the field leveraging cutting-edge technology, and fostering a deep-rooted safety culture at the very front line of operations, ensuring that controls are checked, and continual improvement is woven into everyday activities.

For more information:

www.aquariusenergy.com

01 Self-verification happens at Aquarius Energy's Axafaltec asset in Dos Bocas Terminal, Mexico

02 Self-verification in action at Harare Terminal within Aquarius Energy's Zuva asset organisation, Zimbabwe