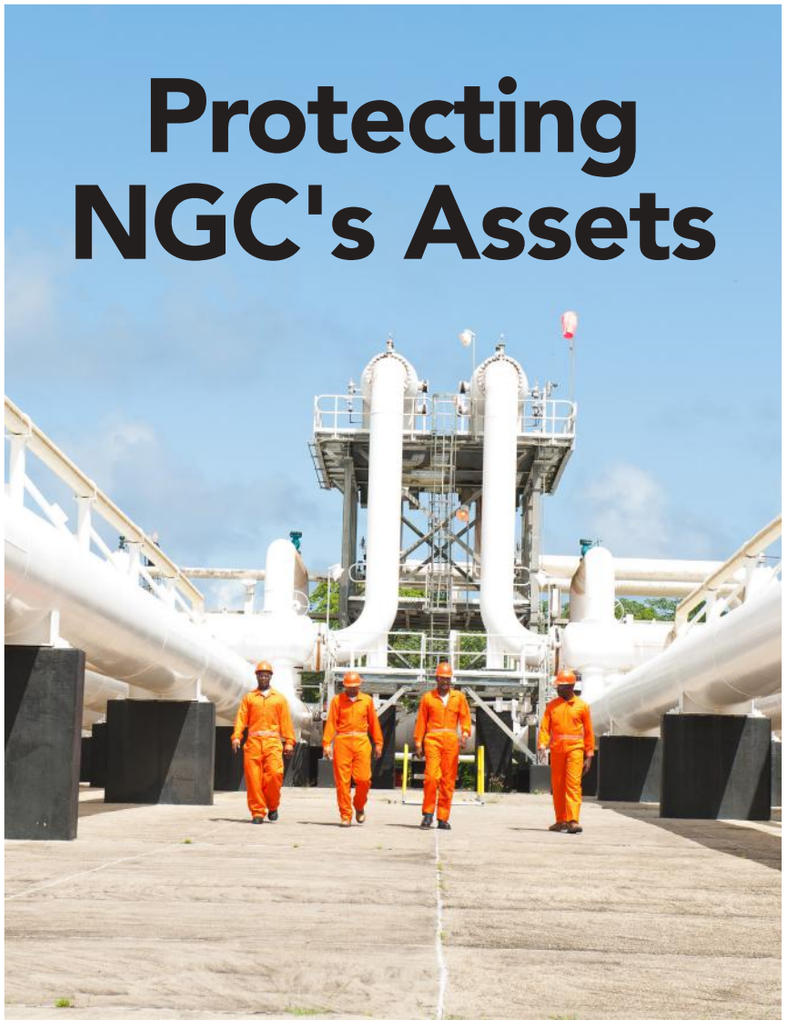
THE NATIONAL GAS COMPANY
OF TRINIDAD AND TOBAGO LIMITED
www.ngc.co.tt

Protecting NGC's Assets



The year 2020 arguably might be branded the 'Year of Essential Services'. The onset of the COVID-19 pandemic brought into sharp relief the services and industries required for meeting the collective needs of citizens.

Healthcare, protective services, utilities, telecommunications, food and beverage are a few of the services that first come to mind. However, none of these would be available if it were not for NGC – and its aggregation, processing, transportation and distribution of natural gas. Natural gas is the primary fuel for the generation of electricity in Trinidad and Tobago. Without NGC's operations, the country would, quite literally, be plunged into darkness.

For this reason, NGC's sustainability and that of the Trinidad and Tobago economy relies heavily on the Company's ability to safeguard its physical assets. Within the organisation, several teams work together to deliver this critical function. The teams are notably making use of best-in-class tools, standards, and practices to ensure NGC's value-generating assets are protected.

Safety
Safety is a pillar of NGC's business strategy, and with good reason. Safety is fundamental to operations as employees would be unable to execute their duties in unsafe environments. Unsafe conditions or behaviours could also lead to network issues and service disruption to customers, with add-on effects on the economy. On another level, as NGC grows beyond its core business and looks to market its expertise to emerging gas territories, a strong safety reputation is a major selling point. New operators would not want to engage the services of a company whose operational ethos does not value stakeholder well-being. NGC's HSSE strategy is reflective and supportive of the organisational vision to become a leader in the global energy business. At NGC, safety can be broadly viewed through the lenses of infrastructural integrity, process safety, emergency response and personal safety practices or behaviours.

Asset Integrity Management (AIM)
NGC's 1,000 km pipeline network is its most valuable physical asset. Management of this network is therefore crucial from both safety and value-preservation perspectives, and NGC has dedicated teams who monitor and maintain the network and its associated facilities.

In 2019, NGC adopted a new Asset Integrity Management (AIM) framework based on 10 functions and aligned with ISO 55000 Standards in Asset Management. This framework specifies the requirements for an effective asset management system and integrates AIM with other business areas such as human resources, governance, technical document management and supply chain management.

Maintenance Automation
One key function of the AIM Framework is around Information Management, with the computerisation of maintenance planning and scheduling. Through the Computerised Maintenance Management System (CMMS), NGC has made great progress with respect to planning and scheduling preventative maintenance works on NGC's manned facilities. Valuable data to streamline maintenance performance in the future has also been generated.

Risk-Based Inspection
In 2019, in line with the overall goal of reduced risk to operations, NGC began transitioning from a traditional time-based asset inspection programme to a Risk-Based Inspection (RBI) programme. This best practice approach focuses on reducing risk by channelling resources and priorities towards inspecting assets in areas that are high risk and more prone to failure. The transition to RBI is expected to be completed in 2021 for all gas receiving facilities and valve stations.

Technology
Technology is also being integrated to help sustain best-in-class capability in the maintenance function. A specialist drone that is capable of hosting features which can aid in asset integrity efforts, such as infrared cameras, Light Detection & Ranging (LiDAR) sensors and gas detection sensors, is being used. Drone technology has been most recently employed to monitor the safe operations of CGCL's inaugural loadout of methanol from the Port of Brighton. NGC's drone services were used to assist other plants located on the Point Lisas Industrial Estate in surveillance of their operations.

Exploration of applications for extended reality technologies, which can assist with work planning, scenario modelling, emergency response training, and even virtual tours for visitors, is in progress. These would reduce the exposure of NGC's infrastructure to the risk of third-party interference, and the exposure of people to the inherent risk in its operations.

Process Safety
It is one thing to have sound infrastructure, and quite another to have safe operations. Between one and the other, lie the work processes and procedures that are used by employees in the execution of their duties. Process Safety Management (PSM) is the management and mitigation of risk of chemical process incidents due to failures of technology, human error, management shortcomings, external circumstances, or natural events. PSM, and more specifically Risk-Based PSM (RBPSM) is a core focus area for NGC.

NGC is constantly looking to further strengthen its PSM capability. The Company played a seminal role in the publication of new Centre for Chemical Process Safety Guidelines and is now pushing for its full adoption to manage operational risk in times of crisis across The NGC Group.

Emergency Response
Even with robust systems in place, NGC has implemented emergency response mechanisms for activation in the event of releases, natural disasters and health crises which could affect its stakeholders. Given the geographical span of its network and the support that would be needed to respond to non-localised events, NGC is looking at closer integration with the Trinidad and Tobago Emergency Mutual Aid Scheme (TTEMAS). Building this partnership will greatly enhance the Company's response capacity and maximise the resources that can be mobilised should such a need arise. A virtual Emergency Operating Centre (EOC) is being created that will enable faster team mobilisation and enhanced communication across The NGC Group. The Company will also implement a mass-distribution SMS service to send alerts and updates directly to all employees during emergencies. These emergency response mechanisms work in tandem with the Company's Business Continuity Planning (BCP) which aims to keep operations going in the event of a destabilising emergency.

Personal Behaviours
If employees are not committed to the principles governing safe operations, the risk of job-related incidents can surge. To cultivate a strong safety culture and heightened awareness within the organisation, NGC has introduced several performance hurdles tied to safety and staff must complete mandatory training modules as part of their annual performance plans.

Strengthening the Foundation
NGC is committed to monitoring and evaluating it safety systems. The Company and the wider NGC Group is continually scanning the environment to identify and apply best-in-class systems to improve safety and safeguard its assets. This commitment stems from the understanding and proud acceptance that NGC is at the centre of all our essential services.

AT THE FOREFRONT OF Energy