

THE NATIONAL GAS COMPANY OF TRINIDAD AND TOBAGO LIMITED  
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# GASCO news

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## NGC Welcomes its New President

- p3



**WHAT'S  
INSIDE**

Capturing The  
Future;  
Transforming  
Society- **p6**

## CONTENTS

## BUSINESS DEVELOPMENT

NGC Welcomes its New President | 03

Capturing the Future; Transforming Society | 06

## ENVIRONMENT & SAFETY

OSH Week 2016 - Designed to be Different | 08

## HUMAN RESOURCES

Experience and Good Mentors - The Best Teachers | 12

## NGC NEWS

NGC, Mitsubishi and Massy Sign Amended Agreement For DME Plant | 15

NGC Group Strategy Update | 16

Ghanaian Delegation Visits NGC | 18

PDVSA Group in NGC for Two-Day Meeting | 19

Celebrating the 40th Anniversary of Hasely Crawford's Olympic Gold | 20

Congratulations Professor Andrew Jupiter | 21

Habitat for Humanity



**NGC's President Mark Loquan addresses staff**

## NATIONAL ENERGY NEWS

National Energy Head Office Extension Project Completed | 22

## LABIDCO NEWS

Reconstruction of the LABIDCO Corridor and Pipeline ROW Project | 23

## PPGPL NEWS

PPGPL Fractionator 3 Turnaround | 24

## NGC CNG NEWS

CNG Sales Update | 25  
OEM CNG Vehicles

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**PDVSA on tour at NGC's Phoenix Park Valve Station**

## BUSINESS DEVELOPMENT

### NGC Welcomes its New President



*NGC's new President Mark Loquan meets and greets employees at Head Office*

With executive management skills honed from over 30 years' experience in the petrochemical industry here and abroad, NGC's new President, Mark Loquan, also comes with an international perspective gained in Angola, Africa and Australia where he worked for the multinational fertiliser producer, Yara.

Mr. Loquan is a UWI-trained Chemical Engineer who began his career as a Process Engineer at Trinidad Nitrogen Co. Ltd (Tringen) in 1982. He earned his MBA at Duke University's Fuqua School of Business and is a former Director of T&T Arthur Lok Jack Graduate School of Business. He is also a steelpan aficionado.

As he takes this next step in his career, Mr. Loquan shared that he was prompted to return home and accept the job, in part because of the good work that was being done by the new NGC Board, in one of the most challenging times for the global natural gas business. He also revealed that his acceptance of the position as President of NGC was a matter of the right timing on both professional and personal levels. Professionally, since the 1980s when he started his career, he has witnessed tremendous growth in the energy sector. Looking back and taking note of the new reality, Mr. Loquan proffered that while the energy sector was plagued by a number of challenges in terms of gas supply/demand curtailment, simultaneous contract renegotiations in the upstream and downstream, low oil and commodity prices, and shale gas impacts on Trinidad LNG and the global market, the local landscape would endure. He

expressed confidence that being at the helm of the NGC executive with its sum total of experiences he would make a positive contribution to NGC, as well as to the same energy sector that helped nurture his experience and professionalism. Not one to shirk a challenge, he has stated his commitment to tighten alignment within the NGC Group, improve productivity and seek opportunities both upstream and downstream of the value chain.

*Gasco News* took the opportunity to interview Mr. Loquan as he begins his new journey at the helm of an organisation which is the key local player in the natural gas sector of Trinidad and Tobago. He spoke to *Gasco News* while still familiarising himself with NGC's culture through walkabouts where he met with NGC staff members. In addition to the walkabouts, the President acquainted himself with NGC's structure through an intensive immersion in the intricacies of NGC operations and activities.

#### AT THE HELM

After three days on the job, at his very first NGC Group Employee Forum, Mr. Loquan stressed his preference for an organisational structure that allowed significant employee engagement and teamwork rather than top-down decision-making. He noted that in order to foster that type of engagement, alignment from the top of the organisation and an understanding of where the Company was going in the future were required. He also said that once the top was aligned,



## BUSINESS DEVELOPMENT



*Mr. Loquan presenting at an Employee Forum*

then it became easier to develop alignment through communication in the respective teams. Additionally, the culture created by the collective employee body through collaboration, integrity and excellence through actions and not just jargon, would work towards building the desired employee engagement. He said this applied to not just the leadership team but to everyone in the organisation. He added that he believed there was a lot of talent and ideas that everyone can bring forward to make the Company more flexible, more productive and more profitable during increasing competition as it pursues ambitions to be an energy leader not just here but also abroad.

Regarding the future growth of the Company, Mr. Loquan assured that based on the current outlook on gas and commodity prices, the NGC Group was well positioned for significant growth. He stated several key strategies to achieve this goal:

- (a) Not confining the thinking to separate entities, but really working as a Group (NGC, National Energy, Phoenix Park Gas Processors Limited (PPGPL), NGC CNG) to expand in the value chain globally;
- (b) Working closely with the Ministry of Energy, joint venture partners, suppliers and customers to unlock the potential that lies in this chain, not simply by renegotiating a contract, but working to achieve a broader vision for Trinidad and Tobago;
- (c) Building talent for the future which can only help to achieve these ambitions. This will require a mindset that seeks alignment not only in NGC but across the energy sector through professional relationships at several levels; government to government, chamber to chamber and company to company with other countries;
- (d) Becoming innovative and more proactive rather

than reactive by actively seeking out new opportunities.

Given the above listed goals, Mr. Loquan reaffirmed his commitment to undertake a collective approach when the Company initiates projects in the future. His plan is to address projects and spending in a more strategic and systematic fashion by examining how processes, planning and monitoring could be made more efficient. He shared his mantra 'what gets measured gets done', which will allow for greater visibility of key processes, bolstered by regular monitoring and communication, working smart through contract strategy, agreements and resource planning. Mr. Loquan added that one method of measuring would be to have the NGC leadership implement monthly cost meetings to facilitate active monitoring of costs to thereby ascertain where improvements can be made. Mr. Loquan said he believed that by tracking strategic imperatives to manage costs via monthly status and next steps reporting, the Company would be well on its way to improving how it approaches its operations.

### SAFETY PRIORITY

In keeping with new structured approaches, Mr. Loquan said that creating a safety culture would be high on his agenda. Having worked so many years in the energy sector, he found that when it came to safety, all accidents were preventable and this was critical to the Company's reputation, not just here in Trinidad and Tobago, but internationally as well. However, while noting it takes focus, discipline, compliance, continuous training, vigilance, good working protocols, reporting at-risk behaviours and conditions by the organisation, shared learnings, and

everyone working towards a safety culture that is ingrained within the organisation, it was also critical that behaviours start at the individual level. As a crucial focus area, Mr. Loquan said he understood that safety was not about statistics, but keeping everyone safe to go home to their families each day, month after month, year after year. In this regard, NGC must instil a safety culture that is inherent in all actions, in every business decision and every facet of operations.

## AFRICA

Mr. Loquan highlighted 'his deep african experience' as one of the key benefits to be derived from bringing him on board. His experience and knowledge of the way Africa did business was especially noteworthy as NGC was looking to the continent as an area of potential expansion. He advised that the way in which NGC viewed safety within its overall governance would be crucial if the Company was to be successful internationally.

Noting that NGC's vision was to explore opportunities in Ghana, in particular opportunities in gas processing, pipeline projects and energy-related services, Mr. Loquan said NGC would also be looking at the new petroleum nations in East Africa as well, in particular in those countries which were in the embryonic phase of developing their own petroleum sectors. In this regard, Mr. Loquan's preliminary thoughts were that the Company should continue to explore the opportunities that were already in motion as for example the opportunities that were coming from Ghana following the recent visits by the NGC Group to that country.

## CULTURAL PERSPECTIVE: ALL ROUNDER

In addition to being an 'energy expert', Mr. Loquan, also has a passion for the Arts, specifically a love for music and the national instrument the steelpan. He learned to play the national instrument in the early 90s, but had been composing music as a hobby for many years before that. When one of his songs was played in Ensemble category at Pan is Beautiful in October 1998 and won, he turned towards the Panorama arena in 1999. Since then it has been rewarding for him to witness several bands performing the music across the globe. Next year will be his 18th year of composing music for the pan community.

## THE FUTURE

Mr Loquan's vision is for NGC to continue as a transporter of natural gas, via its 1,000km pipeline network; an aggregator between the upstream and downstream sectors, and as a gas merchant. His Australian experience over the last four years reinforces his thinking about NGC and its role for the



*The new President listens intently as he hears about the NGC operations with Ramesh Chansingh, Manager Pipeline Operations in the foreground*

State, not just as a pipeline company as some would have us continue to believe. According to Mr Loquan, NGC's role should be expanded beyond the existing value chain arrangement of extracting value to value creation through its exploration of new opportunities in all the segments of the gas value chain. This he said would create value not only for NGC, but for both the upstream and downstream sectors, the service sector, educational/training institutions within Trinidad and Tobago, and with other evolving gas nations. In the end, Trinidad and Tobago would be in a better position for the long term, but it would take many pieces to work together and NGC will have to be transformed to be able to achieve where it wants to and needs to go.

Gasco News welcomes Mr. Loquan.

## Capturing The Future; Transforming Society



*Ms. Lisa Burkett, Manager, Corporate Communications (centre) presents a cheque on behalf of NGC to Professor Brian Copeland, Campus Principal (left) and Professor Clement Sankat former Pro Vice-Chancellor and Campus Principal (right) of The University of the West Indies, St. Augustine*

Eighteen years ago, The National Gas Company of Trinidad and Tobago Limited (NGC) undertook the lead sponsorship of the Eric Williams Memorial Collection, housed in the Alma Jordan Library at The University of the West Indies (The UWI) St. Augustine Campus. By today's standards, its contribution of \$110,000 was a modest one, especially given that it was being used to preserve for posterity the lifelong accumulation of writings and papers of Trinidad and Tobago's first (and longest serving) Prime Minister, Dr. Eric Williams, also a renowned historian of international repute.

This project opened the way for what was to become a symbiotic relationship between The UWI and NGC, which has deepened and strengthened over the years, and which now totals an investment of some \$15 million.

In part, this relationship grew out of NGC's increasing awareness of the urgent need to conserve important historical artefacts and cultural mores before they were lost to us due to the inroads of time and the disinterest of otherwise occupied citizens. NGC calls such initiatives 'legacy' projects, and is proud of its contributions to nurturing and promoting our unique history, music, language, art forms and research over the years.

This partnership also blossomed because NGC appreciates that educated and creative minds,

which thrive at institutions like The UWI, represent the future workforce and consumers of our nation. Society benefits as a whole when the business sector is undergirded by the experience of academia.

Guided by the thinking that an investment in knowledge gives the highest returns, in 2001, NGC provided the backing for the Engineering Faculty's BSc in Petroleum Geoscience. This investment grew into multiple donations and contributions over the next decade. Support was given to:

- The UWI Development and Endowment Fund
- The Trinidad and Tobago Math Olympiad
- The Sir Arthur Lewis Institute of Social and Economic Studies
- The Sports and Physical Education Centre
- The Trevor Boopsingh Endowment Fund
- Bursaries for undergraduate students
- The Faculties of Chemistry, Engineering, Social Sciences and Economics and the Departments of Creative and Festival Arts, History and Economics

When the University's current Principal, Professor Clement Sankat, challenged the private sector to commit to investing in research if Trinidad and Tobago's true potential for sustained growth and competitiveness is to be realised over the long term, NGC was quick to respond. Professor Sankat indicated that The UWI has been trying to provide



its researchers with dedicated funding for projects in areas linked to national and regional development, and that strengthening The UWI's research endeavours will enhance the overall competitiveness of the St. Augustine Campus in particular and the University as a whole.

To help the university in that regard, and to deepen its relationship with The UWI, NGC assumed the five-year sponsorship of the Professorial Chair in Innovation and Entrepreneurship, the Research Forum, and the biennial UWI Research Awards, which represented a total investment of \$7.5 million.

NGC believes that research is fundamental to the birth of new ideas and the advancement of society. That is why the Company leapt at the opportunity to collaborate with this institution. NGC also recognised that such a robust partnership could generate topics of research centred on the natural gas value chain, giving rise to new and indigenous business ideas, as well as inventive products and services.

It is no secret that the challenges facing our sector are multiplying with increasing rapidity. The extraction of shale gas in the USA, Trinidad and Tobago's former largest natural gas market, has demanded a radical adjustment to Trinidad and Tobago's marketing thrust for natural gas. The comfort zone of a steady, long-term market has been whittled away to a fraction of its former size, and while NGC has aggressively pursued new markets in the Americas and elsewhere, the big picture is that depressed demand generally, and the push for alternative energy, demand transformative thinking.

At the recent UWI/NGC Research Awards Ceremony, NGC Group Chairman, Gerry C. Brooks, urged that "a small working group from both The UWI and NGC urgently meet and consider a new menu of research areas". This request is a priority in light of the challenges affecting the country's economy but it also presents a golden opportunity for students to integrate themselves into the industry's planning process and to become part of the solution.

Another issue facing the local energy sector is a supply shortfall in the upstream, which is impacting output in the downstream and undercutting already diminished revenues. While accessing natural gas through the cross-border fields shared with Venezuela - Dragon and Loran-Manatee - has the potential to alleviate the deficiency, research could trigger entrepreneurial and innovative strategies to help bring marginal natural gas fields' supplies on stream. They represent a yet untapped energy resource.

The future of the gas-based energy sector rests on the country's ability to integrate renewable and alternative energy sources into Trinidad and Tobago's



*NGC Chairman Gerry C. Brooks presents the award for the Most Outstanding Graduate Researcher Dr. Randy Harnarinesingh at 2016 UWI Research Awards*

energy matrix as is being done in the developed world. Developing solar and wind power options liberates more natural gas for industrial use or export as LNG, while reducing government's expenditure on the electricity subsidy. Chairman Brooks told attendees at the 2016 Research Awards, "I believe that The UWI and its brilliant academics can help establish renewable power as a fixture in our energy landscape in the medium term. Challenge issued". Specifically, students were asked to do the following:

- Conduct feasibility studies on the construction of solar and wind farms;
- Innovate small-scale domestic applications for renewable power;
- Anticipate the potential environmental, ecological and economic impacts of the inclusion of alternative and renewable energy components.

NGC's Chairman summed up the Company's relationship with The UWI by saying, "For us at NGC, the opportunity to collaborate with the University is an important one. Charged as we both are with the development of our nation's natural assets, hydrocarbon wealth on the one hand, human potential on the other, there is a clear nexus and shared responsibility between The UWI and NGC. Fundamentally, both institutions sit at the core of our country with a critical responsibility to transform our society and country through 1) education 2) hydrocarbon development and 3) economic stimulation. We see an opportunity to partner with The UWI to leverage over 100 years of industry experience and to package this intellectually and commercially for our mutual benefit".

*First published July 12th, 2016, UWI STAN and Perspectives, May - June 2016 pgs 24 -25.*

## OSH Week 2016 – Designed to be Different



*Mr. Jerson Wattie, EHS Co-ordinator, NGC addresses employees at an OSH Week 2016 Drive to Zero presentation*

As a valued player in our nation's natural gas-based energy sector, NGC developed a proven model to maximise value from the country's natural gas resource for national development and create long-term prosperity. This model is aptly called the Trinidad Natural Gas Model of Development. Integral to NGC's success is maintaining safety as a priority throughout all its operations. There is, of course, an obligation as an employer and state-owned entity, to provide a safe working environment for all. Additionally, the nature of its traditional business – purchasing, transporting, selling and distributing natural gas – requires particular care and due diligence. In conducting its business, NGC seeks to minimise risk to not only its employees, but also its customers, contractors, the public and the environment. As a state-owned enterprise, NGC's safety standards and practices are a reflection of those of the nation, and the way its business is managed has direct consequences for the national economy. Safety is a priority and NGC's Occupational Safety and Health (OSH) Week provided an opportunity to refocus attention on that priority.

NGC has a solid safety record in the industry and has shown marked improvement in the occurrence of loss time accidents from 2015 to 2016. The challenge involves managing and directing the safety strategy

to make it best in industry. It is a dynamic task; as NGC's business methods and objectives evolve, so do the risks associated with its operations. Therefore, the strategies designed to address those risks must evolve as well. For the NGC Safety Operations Unit – part of the Risk Management Services Division- there were two primary goals of this year's OSH Week: to address specific issues that have emerged as challenges to our safety record; and to re-emphasise the urgency of developing a company-wide safety culture.

### DRIVE TO ZERO

Regarding NGC's safety record, two key 'risk behaviours' have been identified – underlying past events that might otherwise be preventable; and under-reporting of 'near misses' and distracted driving. On the matter of safety culture, it is accepted that cultural change of any kind cannot be effected in one week, however, OSH Week 2016 could serve as a starting point for the implementation of principles to guide and shape NGC's progress towards an improved safety culture and a zero-accident record. Hence 'Drive to Zero', the theme of NGC's OSH Week 2016 was created. The title reflected both a specific focus for the week – to reform driving practices – and the larger goal – to put our safety strategy on a





*NGC Safety Champions: Employees Mark Joseph, Wesley Julien, Kimberley Maharaj, Ray Roberts and Rajendra Bhola receive their Safety Champion Awards from Mr. Ron Adams, VP, GTD (centre)*

sustainable, guided track towards perfection.

To achieve these ends, robust principles and methodologies are required to give direction. The Environment, Health and Safety (EHS) team's overall strategy for OSH Week was significantly governed by two respected theories of organisational and social change management.

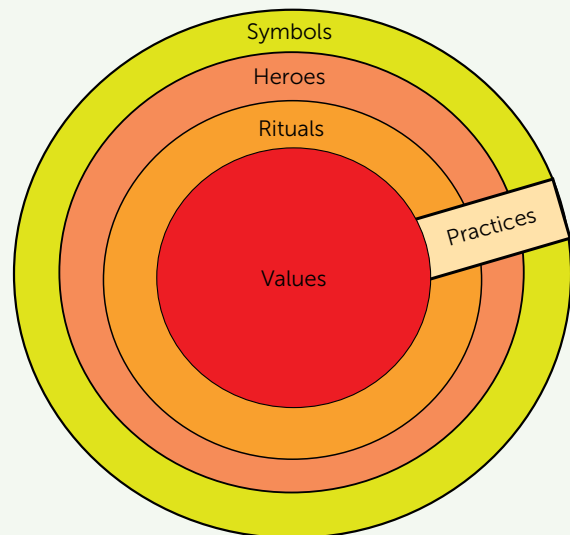
#### THE FIRST THEORY: 'APPRECIATIVE INQUIRY'

Appreciative Inquiry or AI, is a model originated by the American academics David Cooperrider and Suresh Srivastva. It has been summarised as 'a scholarship of the positive' and is an influential model among consultants and researchers engaged in the study and modification of organisational behaviour. At the core of AI are two ideas: organisational change is more sustainable and lasting if self-directed, and change is more effective when it is focused on the positive – what works – rather than what doesn't.

How does one engineer positive, self-determined changes to an organisation? AI theory suggests that individuals develop ideas and beliefs from the formation of relationships. In a professional setting, forward-looking conversations that imagine new realities for the organisation based on positive goals can be expected to deliver an organic network of individuals aligned around the same priorities and engaged in developing positive solutions.

#### THE SECOND THEORY: GEERT HOFSTEDE'S 'CULTURAL ONION'

Hofstede presents the onion as a tool for analysing cultures. At the core are values: the most deeply embedded ideas informing the overall culture. Layered over values are rituals and traditions: things we do that form part of our culture. After traditions are heroes: the role models of the culture, real or imagined. And



*Figure 1: Geert Hofstede's 'Cultural Onion'*

finally there are the symbols that communicate to and about a specific culture (see Figure 1).

#### APPLYING CULTURE CHANGE MANAGEMENT

For the purpose of NGC's OSH Week, Hofstede's Onion proved to be a useful way of visualising the building of a new culture. The ambition is to equip the NGC safety culture with the symbols, heroes and rituals that will inform positive values, aligned with AI principles. For NGC, that means focusing on symbols that communicate a positive sense of personal safety and identifying the language and visuals that make individuals feel safe. Safety rituals will be data-directed, simply communicated and represented by role models who embody safety as a corporate strength to be celebrated, not a vulnerability to be

feared. Guided by these principles, NGC will gradually redirect the values of its safety culture, which will change the way in which individuals process risk. It will also serve to foster a more unified vision of the role these systems play in protecting the individual, the public and the environment. It is an ambitious, long-term plan, and OSH Week 2016 was designed to be an important first step.

## NGC OSH SAFETY WEEK 2016

OSH Week 2016 ran from May 2 to May 6, and started with the 'Safety Leadership Knowledge Café, a two-part panel discussion at NGC's Head Office. The discussions allowed for maximising the involvement of the Company's executive leadership.

The morning session featured Maria Thorne (then Acting President, NGC), Curtis Mohammed (President, NGC CNG), Danford Mapp (Senior Manager, Construction, NGC), and Ronald Adams (VP, GTD, NGC) as moderator. In the afternoon, the panel comprised Dominic Rampersad (Acting President, PPGPL), Frederick Morris (Assistant Manager,

Upstream Operations, NGC), Heather Moore-Bernard (Manager, Risk Management, NGC), and Jerson Wattie (Coordinator, EHS, NGC).

The principle of AI was put to practice at the 'Knowledge Café' and similar events hosted during OSH week, such as, the 'Let's Connect' leadership walkabout and the Contractor's Forum. They created opportunities for conversations about safety, focused on collective, positive goals. The language and ideas emerging from these events were analysed to identify the words which resonated strongly within the Company and a Word Cloud was generated (see Figure 2). The Word Cloud provided a visualisation of the current 'safety vocabulary' at NGC and creates a foundation to launch and shape cultural change. Using the same methodology, NGC was able to start collecting the necessary initial data to begin tracking the evolution of that vocabulary in the future. This tracking ensures that the signs and symbols used to communicate safety remain relevant to the NGC employee body.

On May 3rd and 4th, leadership teams visited NGC's



*Figure 2: NGC's Safety Word Cloud which identifies words and safety values that resonates most with employees*



*A session at the Safety Leadership Knowledge Cafe*

facilities at Beachfield, Union Industrial Estate (UIE), Phoenix Park Valve Station (PPVS), Liquid Fuels Pipeline Facility (LPPF), the NGC Warehouse Facility and Cove Estate, Tobago. This exercise, called 'Let's Connect', facilitated conversations between company leaders and staff on the subject of safety operations. Conducted in a spirit of shared enlightenment about ideas for safer operations, these sessions were an important tool in developing good ideas and strengthening the safety culture of the Group.

Also well-received was the DriveWise Safe Driver Education Series (and mascot, Hootie the Owl). Anecdotal, perhaps the highlight of OSH Week 2016 for many employees, the DriveWise initiative took an interactive, high-fidelity driving simulator from department to department on May 4th. With over 50 employees taking the challenge, it highlighted the EHS team's commitment to focus on improved driving behaviours and meet its target of raising awareness while offering constructive solutions.

On May 5th, NGC's Safety Awareness Campaign was officially launched. Ro'dey 'The Entertainer' brought an appropriate mood of excitement and celebration, setting the stage for the presentation of NGC's first quarter Safety Champions. There was also a presentation of the role of NGC's EHS subcommittees.

The Safety Champions initiative is extremely important to the task of building a strong safety culture. In the Hofstede's Onion analogy, these individuals are the heroes in the culture change being sought. They are celebrated not just for their own safety-conscious

behaviours, but also for the ways in which they express concern about the safety of others. Informed by the analysis of NGC's 'safety vocabulary', it was acknowledged that caring is a significant part of the NGC safety culture, and its Champions are role models in that regard.

Finally, this year's OSH Week concluded with a Contractor Forum on May 6th. This extended the safety conversation to 12 of NGC's major contractors, and included them in the same AI-driven, positive and visionary conversation that took place that week. The contractors comprised specialists on major projects of the last three years, able to speak with authority and shared experience of the importance of the 'Drive to Zero' operational losses. It was also an important session in strengthening the bonds between companies with shared interests in difficult economic times: a renewal of the mutual commitment to growth in our industry.

From the perspective of its designers, NGC's OSH Week 2016 was a success. The events generated immediate gains in the creation of positive memories, stronger bonds between colleagues and departments, and leadership and employees. The EHS team was also able to gather data that will allow for the analysis of the impact of NGC's safety strategy. The goal is actionable policies for measured process safety improvements. The commitment to sound methods and continuing awareness of innovations in the EHS field will get us there.



## HUMAN RESOURCES

### Experience and Good Mentors – The Best Teachers



*The NGC 2016 Vacation Interns at the Corporate and Dining Etiquette co-hosted by Mrs. Giselle La Ronde-West*

For William Ward, the 2016 Vacation Intern Programme was “far beyond my expectations, and I’m not just saying that”. The 21-year-old civil engineering major at New Jersey Institute of Technology returned to Trinidad for the July/August vacation and joined NGC’s 2016 class of interns. Working with La-Vaughn Clarke (Manager, Phoenix Park Valve Station (PPVS) Project) and Kurt Ramcharan (Construction Engineer II) on projects associated with the PPVS, William found his supervisors dedicated not just to the tasks at hand, but also to advancing the knowledge of their young charge. “Kurt ensured that everything I did was something that would benefit me in my field of study,” he recalled.

Ultimately, what William found was a professional environment dedicated to his development in his chosen field. As his supervisors got to know him better, he was grateful that they took the time to notice the areas in which he lacked confidence or experience, and channelled tasks to address those weaknesses accordingly. What he found, in short, was mentorship. And he also learned skills and gained experience “that will help me not just in business, but in life”.

This learning was in part assisted by the Vacation Intern Mentorship Programme, facilitated by the

Internal Communications Department of the Corporate Communications Division. The programme complements the working experience interns receive at NGC, by offering sessions focused on topics of a broader nature, with application to the personal and professional lives of any young adult.

The Mentorship Programme is part of NGC’s Undergraduate Internship Programme, which has been running since 1984. Between 30 and 40 students intern at NGC every year as part of its commitment to be a responsible state entity and good corporate citizen, and to make social investments that benefit Trinidad and Tobago nationals. Specifically the internship initiative is an investment in human capital which develops the nation. The programme seeks to return the students to school equipped with tools that can lay a solid foundation for pursuing their academic goals, and also serve them well when they enter the world of work.

Another intern, Monique Sampson is 21 years old and in her final year of pursuing a degree in Electrical and Computer Engineering at The University of the West Indies (UWI), St. Augustine. For Monique, the rounded approach to personal and professional development encapsulated “made me develop a desire and curiosity



*The Mentorship Programme featured a Personal Safety Workshop facilitated by MH Tactical Response Group Ltd*

to improve myself as a young adult”.

“I have since continued delving into additional research about many of the topics to truly take advantage of knowledge I have received so it can further serve as a building block in the foundation of my future, not only in my career, but also for my self-development,” Monique told *Gasco News*.

This year’s Vacation Intern Mentorship Programme series, which ran from June to August, gave the 2016 interns advice and training on cyber safety, self-defence, emotional intelligence, team building, financial management, and corporate and dining etiquette.

The first session, held on June 17th, and led by Hayden Scott Jr., Programme Coordinator, Information Security Management, introduced the interns to the importance of cyber safety. To illustrate the necessity for awareness of the issue, the session started with a real-time display of global cyber attacks. Guiding the group through subjects such as email etiquette, online safety and information protection, Mr. Scott delivered lessons with a theme that can be applied to any business: company information must be protected and the major weak point of any system is the individual.

The session on self-defence sought to equip the interns with the necessary mental and physical resources to cope with the fear of any violent physical attack, as well as the response to one if necessary. The group received instruction from Sergeant Mark C. Hernandez, Executive Chairman of MH Tactical Response Group Ltd., who is also attached to the Criminal Gang and Intelligence Unit of the Trinidad and Tobago Police Service. The Sergeant covered topics such as interpreting body language to identify

threats and how the mind and body react to violent confrontation. The workshop concluded with physical drills that taught the interns how to simply and effectively defend themselves in the event of an attack.

Describing the session as “intense and captivating”, Monique said, “It inspired me to be a lot more vigilant in my day to day life, which is something that I will carry with me forever”.

Valarie Walters of NGC’s Information Services Department guided the group through the concepts of Emotional Intelligence, (EI), as a critical factor in human social interaction. Armed with the knowledge that EI is an important tool for leadership roles and professional success, and a skill that can be learned and developed, the group explored EI in action with a series of exercises aimed at furthering their understanding of the concept and themselves.

“It was like a sports day for everyone,” said Passion Yacub, recollecting her participation in the Mentorship Programme’s Team-Building session. Held at the Point Lisas Industrial Port Development Corporation (PLIPDECO) Grounds on July 22nd, the interns were divided into four teams – Hidden Dragons, Crouching Tigers, Peeking Pandas and Magical Monkeys – to contest events such as a tug-of-war and an obstacle race. Sidique St. Hilaire, a 20-year-old International Relations major, who interned with Corporate Communications, remembered the team-building session as a memorable test of some critical skills, “The team building exercise allowed me to let loose, to be a real child again running and playing with the other interns. It also taught me the value of having efficient communication skills, as well as how to be a capable leader.”



*'Get More Engaged' Team-Building Activity for the Vacation Interns held at PLIPDECO Grounds*

The Mentorship Programme also included sessions on personal financial management and corporate and dining etiquette. William Ward was instantly motivated by the personal financial management instruction delivered by Mrs. Susan Romano-Davis, a Financial Consultant. "I was looking at stocks and retirement plans when I went back home," he said. The session emphasised the importance of planning and preparedness in good financial management and examined some of the mechanisms that can be used to structure healthy finances.

William inspired by the session, stated: "I took a notebook and started writing down where I was spending my money." William, now far from home and NGC, when interviewed, reflected on whether his financial habits have changed as a result of the Mentorship Programme, "It's a work in progress," he said, laughing.

The session on corporate etiquette and dining was held at Joseph's, Maraval, under the guidance of Mrs. Giselle Laronde-West and Mr. Joseph Habr. Interns were instructed on appropriate and effective interpersonal skills in the workplace, and were being taught how to navigate the sometimes baffling

arrangement at a formal table setting which may be presented at a business lunch or dinner.

On August 12th, the Vacation Intern Mentorship Programme concluded with an important lesson in safe driving. Facilitated by DriveWise Trinidad Limited at its Trincity office, the interns were quizzed on safe driving techniques, and their habits and assumptions were tested by a driving simulator. It was the last time the 2016 interns were together as a group. Passion Yacub, who does not have a driver's licence, came away fully understanding the importance of driving 'not just for yourself, but for everyone.'

Recalling her 'short and sweet' July/August vacation internship at NGC, Sidique St. Hilaire said, "I learned a lot from those in and out of my department and I'm thankful for the experience, the mentors in Corp. Comm. and for the new friends I found in the other interns."

It is not just the lessons learned but also the bonds formed through collective experiences with their peers that will serve the interns well in their future, and that of Trinidad and Tobago.



## NGC, Mitsubishi and Massy Sign Amended Agreement for DME Plant



*H. E. Mitsuhiro Okada, Ambassador of Japan, Mr. Gerry C. Brooks, Chairman, NGC and Mr. Toshikiyo Kurai, Representative Director, President, Mitsubishi Gas Chemical at the ceremonial signing of the amended DME Agreement*

In 2013, the then Ministry of Energy and Energy Affairs (now the Ministry of Energy and Energy Industries), The National Gas Company of Trinidad and Tobago Limited (NGC), National Energy Corporation of Trinidad and Tobago Limited (National Energy), and a consortium comprising Mitsubishi Gas Chemical Company Incorporated, Mitsubishi Corporation and the then Neal and Massy Holdings (now Massy Energy), signed a Project Development Agreement (PDA) for the establishment of a Methanol and Dimethyl Ether (DME) Plant to be located at Union Industrial Estate (UIE), La Brea.

The partnership represents a unique consortium of private, state and international business entities. In April 2015, the stakeholders also signed an agreement for the construction of the previously announced

DME production complex. The partners also reached agreements for gas supply, engineering, procurement, construction and land leases related to development, with plant design and construction to be done by Mitsubishi Heavy Industries, Ltd (MHI).

In August 2016, the consortium signed an amended agreement based on negotiations with Japan Bank for International Cooperation (JBIC) and its formal partners. At a ceremonial signing on August 8th 2016 at NGC's Head Offices in Point Lisas, NGC's Group Chairman, Mr. Gerry C. Brooks, noted:

"Given NGC's more deliberate and focussed approach to projects, NGC expects that with the completion of the amendments to the various agreements last week, we, and the collective shareholders of the Caribbean

Gas Chemicals Limited, would now witness the transformation of the UIE from an empty land space to a petrochemical hub, housing a world-class Methanol and DME manufacturing facility. We anticipate that the construction of the DME facility will provide a catalyst for future industrial expansion at UIE."

Facts about the Methanol and DME project:

- It is the first plant of its kind in the last 10 years in Trinidad and Tobago;
- It is a \$6 billion investment that will deepen the economic and energy partnership between Japan and Trinidad and Tobago;
- The project is expected to contribute to the economic development of the site community of La Brea, and by extension to Trinidad and Tobago;

- During construction, peak employment is estimated to reach 2,000 people and another 300 are expected to be permanently employed both directly and indirectly during operations;
- Mitsubishi Gas Chemical, Mitsubishi Corporation and Mitsubishi Heavy Industries will own 26.25 per cent, 26.25 per cent and 17.5 per cent interests in the project, while NGC and Massy will have the remaining 20 per cent and 10 per cent stakes respectively;
- The complex is expected to produce one million tonnes of methanol and 20,000 tonnes of dimethyl ether a year;
- Work on the complex is planned to be completed by June 2018.

## NGC Group Strategy Update

Like most progressive, contemporary organisations NGC uses a five-year horizon for strategic planning. Nearing the end of the last approved strategic plan, for the period 2011-2015, the Company has initiated planning for the next period 2016-2020. Using the support of international consultants McKinsey, in 2014 Q3, the views of management and staff on the various aspects of operations, leadership culture and vision for the future, were married with inputs from various stakeholders, market and competitive data and the vision of the government of the day, to generate a comprehensive plan for NGC. This plan was presented to the new NGC board in Q4 2015, who considered it in the following context:

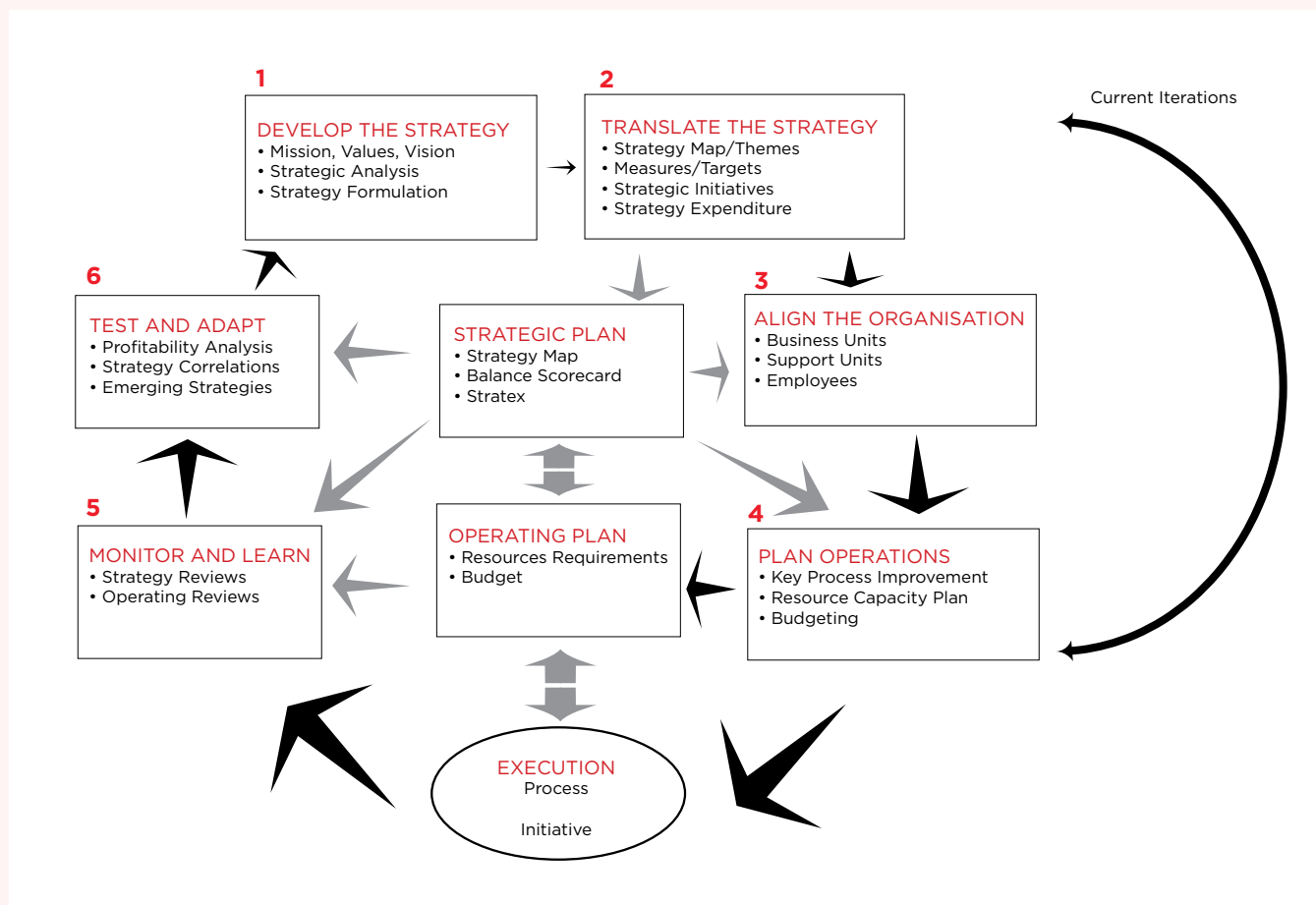
- Existing performance and the success of the 2011-2015 Strategic Plan;
- Ongoing challenges and threats to the business and gas supply security;
- A sudden downturn in the global energy economy and commodity markets;
- Alignment with the vision for national development of the incoming government administration;
- The organisation capacity and readiness for growth and repositioning;
- The effectiveness of the proposed initiatives to yield sustainable high profits and free cash flows within a reasonable time frame.

After the preliminary review, the consensus was that greater success would be achieved if the strategic plan actively leveraged the full asset base of the NGC Group. That is, the plan should not just consider NGC operations and financial strength, but seek to fully integrate and grow the entire NGC Group of Companies under a unified strategy. As such,

### Expanded Core Working Group: NGC Group Strategy Formulation

- G. Brooks, Chairman – NGC
- S. Mahabir, Director – NGC
- M. Loquan, President – NGC
- V. Paltoo, President – NE
- D. Rampersad, President (Ag.) – PPGPL
- C. Mohammed, President – CNG
- C. Noel, VP Commercial, NGC
- N. Pariag, VP Finance and Info. Mgt, – NGC
- M. Thorne, VP Corporate Compliance and Governance – NGC
- A. Ferrier, Office of Strategy Mgt, – NGC

guided by Chairman Gerry C. Brooks, Director Sham Mahabir and Director Ken Allum a core working group comprising all the Presidents from the operating subsidiaries were brought together in December 2015 to redefine the plan from a Group perspective. In addition, sub-working groups were established with the top 25 management executives across the group (T-25) to develop specific areas including vision and mission, strategic initiatives, contracting, growth, weighted average cost of capital (wacc), governance, investment and group organisational structure. These teams held several meetings and in March 2016 and the revision of the Strategic Plan 2016-2020 began. In May 2016, the revised plan was opened for interrogation by Finance, Commercial and Office of Strategy Management, with a mandate to "punch holes" in the strategy. Based on this rigorous interrogation of the rationality of the financial and commercial assumptions and the efficacy of mitigating



*NGC's Strategy and Execution Management Process (adapted from Palladium Group/Kaplan & Norton SEM Model)*

several materialised strategic risks, it was determined that further revision was needed.

The expanded core working team, using refreshed planning data (that is, data and revised forecasts as at 2016 June) refocused the NGC Group Strategic Plan around two overarching strategic outcomes:

- Focus 1: To eliminate/mitigate risks by reversing adverse trends and securing existing business
- Focus 2: To diversify operations via focused local, regional and international growth

This process was supported by sometimes weekly presentations to the Board and roll-outs to the T-25, T-30 and T-60 management levels, before roll-out to all employees in September 2016.

Work on the strategic plan did not stop there, however. In fact, it has just begun, as the Group prepares itself

for full strategy execution mode. Having formulated the strategy, an execution plan will be developed. Like strategy formulation, strategy execution will also be iterative. It is not a single-step or one-time activity. Rather it will involve a series of back and forth reviews by the executive and operational levels and cross-functional work teams, within and across the Group of Companies.

All companies are currently in the process of 'translating' and 'aligning' the Group Strategy to their operations. This will culminate with the presentation of the Corporate Strategic and 2017 Operations Plan and Budget for each company, to their respective Boards in Q1 2017.

The NGC Group Strategy 2016-2020 is expected to be presented for approval to the government within Q4 2016.



## Ghanaian Delegation Visits NGC



*NGC hosted a delegation of executives from Bulk Oil Storage and Transportation Company Limited (BOST) of Ghana*

The National Gas Company Limited (NGC) hosted a delegation of executives from Bulk Oil Storage and Transportation Company Limited (BOST) of Ghana from August 22nd to 24th, 2016. The team included:

- Ernest Benjamin-Essamuah, Chairman, BOST
- Kwame Awuah-Darko, Managing Director, BOST
- Yaw Benneh-Amponsah, Consultant, BOST
- Edmond Biirba-Kombat, Business Analyst, BOST
- Hilton John Mitchell, T&T Honorary Consul to Ghana

Prior to this visit from the BOST team, the Prime Minister of Trinidad and Tobago, Dr. the Honourable Keith C. Rowley, made an official visit to Ghana in May 2016, and held discussions with Ghanaian President, His Excellency Mr. John Dramani Mahama, on energy sector collaboration between the two countries. Both Prime Minister and President signed a Memorandum of Understanding (MoU) at that time. Following that, a team from The NGC Group also visited Ghana in May 2016 with representatives from NGC, National Energy and Phoenix Park Gas Processors Limited (PPGPL) to explore possible natural gas-related business opportunities in Ghana.

The BOST delegation, in addition to meeting with NGC executives, also met with a number of other officials. On their itinerary were courtesy calls to the Office of the Prime Minister to meet with Dr. the Honourable Keith C. Rowley, as well as with the then Minister of Energy and Energy Industries, the Honourable Nicole

Olivierre. The group also had meetings at Petrotrin and toured the oil refinery in Pointe-a-Pierre, as well as toured the Point Lisas Industrial Estate.

One of the primary objectives of the visit was for BOST and NGC to negotiate the terms of an MoU for collaboration on the development of a natural gas pipeline project in Ghana.

During the course of the visit, there were several persons from The NGC Group who were instrumental to negotiations;

- Mr. Gerry C. Brooks, Chairman, NGC
- Ms. Maria Thorne, then acting President, NGC
- Mr. Alvin Dookie, then acting President, PPGPL
- Mr. Ernest Esdelle, Manager, Engineering Services, NGC
- Ms. Tracey Weekes, Senior Commercial Advisor, NGC
- Mr. Earl Carribon, Business Development Project Leader, PPGPL
- Ms. Crystal Gooding, Legal Counsel, NGC

On August 24th an MoU was signed and witnessed by Ms. Maria Thorne and Mr. Brooks from NGC and Mr. Awuah-Darko and Mr. Benjamin-Essamuah from BOST. The NGC Group has since deployed an engineering and commercial team to visit Ghana in September 2016 to negotiate gas terms and agreement tariffs and conduct a financial evaluation of the project with BOST.

## PDVSA Group in NGC for Two-Day Meeting



*A member of the PDVSA team poses a question during meeting deliberations hosted at NGC's Head Office*

Senior members of Petróleos de Venezuela, S.A. (PDVSA), the Venezuelan state-owned oil and natural gas company, visited NGC on August 11th and 12th, 2016, for a series of meetings with the Commercial Services and Gas Transmission and Distribution Division of NGC regarding upstream and downstream opportunities.

A combined team of representatives from the Ministry of Energy and Energy Industries and NGC, which has been constituted to engage the Venezuelan officials on monetisation of across-border gas, are working with the Bolivarian Government of Venezuela, PDVSA

and other locally-based, multinational energy players, to explore cross-border and across-acreage from marine fields such as Dragon and Loran-Manatee.

Along with meetings and presentations, the group engaged in a series of tours on the estate, including a drive-through tour of the Point Lisas Industrial Estate and Port Point Lisas, which was facilitated by NGC and National Energy Corporation of Trinidad and Tobago (National Energy); a walking tour of Phoenix Park Gas Processors Limited (PPGPL's) plant facilities; a tour of Phoenix Park Valve Station (PPVS) facilitated by NGC; and a tour of PCS Nitrogen plant facilities.



*The PDVSA representatives on tour of NGC's Phoenix Park Valve Station, led by Michael Babb, Operations Coordinator, Network & Gas Balancing (far left)*

## Celebrating the 40th Anniversary of Hasely Crawford's Olympic Gold



*H. E. Hasely Crawford is flanked by Mrs. Janelle Penny Commissioning, Miss Universe 1977, Mr. Brian Lewis President of the Trinidad and Tobago Olympic Committee (TTOC), Mr. Brian Charles Lara, former Trinidadian international cricket player and record holder, and Mr. Gerry C. Brooks, Chairman, NGC*

July 24th, 2016 marked 40 years since H.E. Hasely Crawford TC, earned Trinidad and Tobago's first ever Olympic Gold Medal. In a time of 10.06 seconds, Mr. Crawford sprinted to Olympic glory in Montreal, Canada and became the 1976 fastest man alive. Over his illustrious career, our national hero has received many prestigious awards and accolades, including Trinidad and Tobago's highest honour of the Trinity Cross in 1976.

Hasely joined the NGC family in 1992, and until his retirement in 2010, worked committedly to develop the Company's Corporate Social Responsibility (CSR) programme. Still very much a valued member of the NGC family, the Company celebrated Hasely and the 40th anniversary of his historic achievement at a commemorative event held on July 23rd, 2016. Family, friends and colleagues gathered at Joseph's Restaurant in Maraval to recognise Hasely's significant contribution to athletics in the country and to NGC, a corporate entity that has played a key role in national development through various community-based initiatives. The event was well attended and managed and organised by Corporate Communications - External Communications Department.

First on the programme to offer congratulations and well wishes was NGC Chairman, Mr. Gerry C. Brooks. He thanked Hasely for his service to NGC and to country. Mr. Ephraim Serrette, President of the National Association of Athletics Administration of Trinidad and Tobago (NAAA), and Mr. Brian Lewis, President of the Trinidad and Tobago Olympic Committee, were both present to bring remarks on



*On display: H.E. Crawford's race day kit and track shoes*

behalf of their respective organisations. Though he could not be there in person, The Honourable Darryl Smith, Minister of Sport and Youth Affairs, offered his praises to Hasely, via a recorded video message. Even persons who were not listed on the official programme, did not miss the opportunity to share their favourite memories of the Olympian.

Mr. Brooks toasted to the 'man of the hour' and presented him with tokens on behalf of NGC, one of which was a beautifully laid out montage of press clippings and photos chronicling Hasely's illustrious athletic career. There was also a display of memorabilia, which included the prized gold medal that allowed guests a glimpse of the many successes and accomplishments of H.E. Hasely Crawford.



## Congratulations Professor Andrew Jupiter

The National Gas Company of Trinidad and Tobago (NGC) congratulates one of its Board Members and former National Energy President, Professor Andrew Jupiter, on receiving the Chaconia Medal (Gold) at this year's National Awards, held on August 31st, 2016. Professor Jupiter was awarded for his distinguished and outstanding public service achievements, which span several decades.

With over 40 years' energy sector experience under his belt, Professor Jupiter is considered a titan of his field. He served as Permanent Secretary in the Ministry of Energy and Energy Industries from 1998 to 2004; was President of the Energy Strategic Unit and the President of National Energy Corporation

of Trinidad and Tobago Limited until his retirement in 2012. He currently serves as the Chairman of the Board at Petrotrin.

Throughout his career, Professor Jupiter has received several accolades including the honorary title of 'Distinguished Fellow' by The University of the West Indies (The UWI) in 2013, SPE Outstanding Member Award in 2004 and was also one of 50 public servants recognised for their sterling contribution to Trinidad and Tobago at the country's 50 years of Independence celebrations in 2012.

NGC congratulates Professor Jupiter on this remarkable achievement.

## Habitat for Humanity

The National Gas Company of Trinidad and Tobago (NGC) NGC's sponsorship agreement with Habitat for Humanity Trinidad and Tobago (HFHTT) has pledged TT\$1 million per year over a three-year period from 2015 to 2018. The support goes towards providing housing solutions for low-income earners who have a vested interest in improving their homes. Under this new sponsorship agreement, the Debideen family in Gasparillo was selected for the construction of a new home based on HFHTT's selection criteria.

NGC employees were invited to participate in the priming and painting phase of construction on June 16th, 2016. Close to 30 NGC staff members and vacation interns heeded the call 'to give hope a home' and volunteered to paint the newly constructed home for the Debideen family in Reform, Gasparillo. NGC also sponsored the installation of the ceiling and tiling of the floors of the family's home. As a result of NGC's support, both financially and non-financially, the family now has a modest, decent, affordable, safe and secure home to call its own.

The home was officially handed over by NGC to the Debideen family on November 12th, 2016.

NGC's contribution to HFHTT allows NGC to:

- Meet its mandate of creating shared value for the Company and our multiple stakeholders, with a focus on socio-economic development and human development;
- Promote employee involvement in our Corporate Social Responsibility (CSR) initiatives through the Reputation and Relationship (RR) Ambassador by providing mechanisms for employees to donate their time, skills, knowledge and energy



*NGC RR Ambassadors give of their time during the priming and painting phase of construction of the Debideen family home*

to programmes undertaken by the Company, especially on a team basis. This collaboration with HFHTT gave NGC staff volunteers an ideal opportunity to give back to the community;

- Strengthen the partnership with non-governmental organisations (NGOs), in this case HFHTT.

## NATIONAL ENERGY NEWS

### National Energy Head Office Extension Project Completed



*The completed extension at National Energy's Head Office*

In June 2016, National Energy Corporation of Trinidad and Tobago (National Energy) welcomed the staff of NGC CNG to occupy the ground floor of the new National Energy Head Office extension building. NGC CNG was joined in July 2016 by the NGC Internal Audit Division which is being accommodated on the first floor. These arrangements represented a changed from the original plans for the facility. However, National Energy was pleased to make the necessary adjustments in order to maximise the opportunity to create additional value within the NGC Group.

Additionally, the Wellness Centre was remodelled

to accommodate members of National Energy's Operations staff who may have been affected by the change. The basement of the new building serves dual purposes, comprising office space for NGC CNG, as well as two additional meeting rooms – Point Lisas and Brighton – which are available for use by all occupants.

As the NGC Group continues to unearth synergies across the member companies, National Energy is pleased to contribute towards ensuring that employees are appropriately accommodated and that the business continues to advance.

## Reconstruction of the LABIDCO Corridor and Pipeline ROW Project



*Reconstruction of the LABIDCO Corridor and Pipeline ROW Project: The project entails widening and realignment of the existing roadway*

The La Brea Industrial Development Company Limited (LABIDCO) was established to manage the La Brea Industrial Estate in 1995 and since then, the estate has grown steadily to become a significant industrial centre in the southwestern region of the country. The estate's main corridor has been in use for over 20 years and now requires reconstruction to meet the expanding needs of the estate and Port of Brighton operations. To this end, a contract was awarded to Junior Sammy Contractors Limited (JSCL) for the Reconstruction of the La Brea Industrial Development Company Limited (LABIDCO) Corridor and Pipeline Right of Way (ROW) Project.

The project, which was designed by Trintoplan Consultants Limited, saw the collaboration of Caribbean Gas Chemical Limited (CGCL) and National Energy Corporation of Trinidad and Tobago (National Energy). The Business and Technical Support (BTS) Department reviewed the scope for the design and the construction phase of the works is being managed by the Infrastructure Planning and Development (IPD) Department.

The project entails widening and realignment of the existing roadway which is being conducted in phases, to minimise disruption to traffic flow at the estate. The new roadway will be 8m wide with a 3m-wide shoulder on either side. This is being done primarily to accommodate movement of modules for the construction of the CGCL plant in 2017. For the

pipeline ROW, an embankment is being constructed to accommodate the CGCL pipeline.

The corridor's drainage is also being enhanced based on an upgrade to the design. Subsurface drains are being installed to handle ground water and new surface drainage will also be installed throughout the length of the roadway.

Another major element of the reconstruction project involves relocation of utility lines including electricity, water and communication. Discussions are being held with stakeholders including tenants, T&TEC, WASA and TSTT in order to manage the repositioning of these lines in a safe and efficient manner while minimising disruptions to services. A plan is also being put in place for protection of The National Gas Company of Trinidad and Tobago Limited (NCG) pipelines during the works.

As at the end of August 2016 the works were 36 per cent completed and on average, 50 per cent of persons employed on the project come from the community of La Brea and environs. To date, there have been no loss time incidents on the project and dust control measures have been implemented and will continue until asphalt is placed on the roadway. The traffic management plan has been working well and there has been good co-operation among stakeholders who are all looking forward to using the upgraded corridor.



## PPGPL NEWS

### PPGPL Fractionator 3 Turnaround

Phoenix Park Gas Processors Limited's (PPGPL) Fractionation 3 processing unit is capable of fractionating 24,000 bpd of natural gas liquids (NGLs) comprising propane, mixed butane and natural gasoline.

During the 3rd quarter of 2016, PPGPL undertook several maintenance works on its Fractionation 3 unit in keeping with the company's robust mechanical integrity programme. This programme allows for scheduled, periodic maintenance of key pieces of equipment located at the Plant Facility on the Point Lisas Industrial Estate. With over 20 years of both local and international safety accolades, the mechanical integrity programme is a key element of PPGPL's Process Safety Management (PSM) programme and remains at the core of the overall processing facility's reliability. Historically, PPGPL has sustained a high on-stream/plant uptime factor in excess of 98 per cent.

The Fractionation 3 turnaround which occurred during the period August 22nd to 27th, 2016 was executed primarily to perform maintenance and upgrade activities on specific pieces of process equipment that were historically susceptible to bolted-joint leaks experienced during thermal cycling events as a result of unplanned process upsets. Predictive performance evaluations carried out during the run of the unit indicated that these pieces of equipment were not functioning at their optimum level (as compared with the design). This was evidenced by historical variations in the temperature profile and operating parameters across the exchangers in addition to the increasing heat duty requirement from the unit's heat medium utility system. This inherently increased the unit's operational cost due to lower fuel efficiency. This presented both operational (from the standpoint of unpredictable duration of downtime) and safety risks (due to uncontrolled leakage of hydrocarbon gas and liquids to atmosphere) to the business each time there was an unplanned event resulting in temperature excursions across these exchangers.

Improved designed gaskets, bolts and special load washers were installed on three major exchangers. In addition, the internal cavities of all tubes (over 1,000) in these exchangers were cleaned.

Subsequent to completion of the maintenance works, operating parameters on these exchangers have been restored closer to the design resulting in improved heat exchanger efficiency. As such, with this noted exchanger efficiency improvement, there was a corresponding operational cost reduction due to lower fuel consumption. These simple improvements on the exchangers' heads have significantly improved



*Heater Internals during inspection*



*Fouled/plugged Exchanger tube bundle during cleaning process*

their sealing capability during thermal cycling events experienced during unplanned process upsets. Thereby reducing the potential for hydrocarbon gas/liquid leaks to atmosphere and contributing to improved process safety assurance, improved management of associated operational and safety risks and the overall mechanical integrity of the facility. During this turnaround, apart from the exchanger works, the opportunity was also taken to execute over 40 other major maintenance jobs. Some of the more significant jobs included:

- (1) Internal inspection of Fractionation 3 Heating Medium Heater;
- (2) Replacement of four corroded piping spools on the closed drain system;
- (3) Conducting of mandatory testing of all transformers on the Fractionation 3 unit; and
- (4) Repairs to all critical control valves and actuators.

Following this turnaround, PPGPL plans to continue with its maintenance programmes with another planned turnaround on our Gas Plant 1 processing plant, scheduled for October 2016. This turnaround will focus significantly on an overhaul and upgrade to the control system on the most critical piece of equipment on the Gas Plant 1 which is the Turbo-Expander/Compressor.

## NGC CNG NEWS

### CNG Sales Update

The sale of compressed natural gas (CNG) is trending upward following the opening of new service stations in 2016. On June 30th 2016, the NP St. Christopher's Station on Wrightson Road was opened to the public, after being commissioned a month earlier. July and August represented the first two months of full operation, with sales in August 85 per cent better than July. St Christopher's Station Operator, Scott Fabres, was pleased with the climb in sales which continued in September. He said, "In the first month (July 2016) we offered CNG at our facility, we were filling on average 22 vehicles per day and during the month of August that has increased to an average of 36."

All new CNG stations outfitted by NGC CNG have fast-fill compressors, storage equipment and dispensers. In the first two months of operation, Fabres was happy with the performance of the new equipment. "During the past two months we have been impressed with the reliability of our equipment and the speed at which we have been able to dispense CNG. Our clients love the service and the word is spreading," he said. It

takes an average of three minutes and under for a car to fill which is a testament of the performance.

NP St. Christopher's Station is located westbound lane of Wrightson Road, adjacent to National Flour Mills (NFM).

NGC CNG was also heartened by the increase in CNG sales at the location. "We are quite pleased with the sales at SCSS which has shown a steady incline since its opening. It shows that the market is responding positively to CNG, a success we know will be emulated at every new station coming on board."

In October, two other stations were commissioned – NP Ramco Orange Grove eastbound on the Churchill Roosevelt Highway and the refurbished NP Carousel station in Mon Repos, San Fernando.

NGC CNG is working to improve the supply of CNG at existing, upgraded and new supply points across the country along with accelerating demand in key market segments.

### OEM CNG Vehicles

The vehicle market in Trinidad and Tobago for Original Equipment Manufacturers (OEM) CNG vehicles is evolving quickly with several options in various classes. In March 2015, Class Motors, a division of ANSA Automotive, launched the bi-fuel (gas and CNG) Honda City CNG passenger vehicle. In 2016, at least three companies have begun to supply OEM CNG omnibuses. The first was ANSA Motors, which sold in April a 21 seater 100 per cent omnibus to the Trinidad and Tobago Association for the Hearing Impaired. In September the Association of Maxi Taxi of Trinidad and Tobago sold two Joylong 18-seater maxi taxis to two of its members. These vehicles are being sold by the commercial arm of the association, Routes Auto Limited. The first two buyers were able to access a grant of \$45,000 from NGC CNG to dispose their old diesel powered maxi taxi and switch to CNG. Later this year, ANSA Motors is expected to offer a bi-fuel 15-seater CNG omnibus and D. Rampersad & Co. Ltd. is also expected to offer CNG omnibus options.

In August, ANSA Motors launched a 100 per cent CNG Freightliner truck. According to the manufacturer Freightliner's versatile, severe-duty truck, the 114SD NG, combines the performance features of the diesel-powered 114SD with the benefits of a Cummins



*In 2016, at least three companies have begun to supply OEM CNG omnibuses*

Westport ISL G 8.9 natural-gas engine. This is the first time a CNG Freightliner truck has been exported from North America. NGC CNG expects the new vehicle market to continue to evolve as the CNG industry continues to grow and expand. OEM CNG vehicles and up to four-year-old CNG vehicles don't incur Value Added Tax (VAT) or Motor Vehicle Tax. This provision is in place until December 31st 2020.



ONE MOMENT PLEASE



**TO REFLECT ON THE BEAUTY  
THAT SURROUNDS US HERE IN  
TRINIDAD AND TOBAGO**

*Located along the north coast of Trinidad, the small village of Blanchisseuse offers its visitors several changeable and often secluded beaches which are great for surfing. With much less traffic than Maracas, the beaches here are consequently a great choice for those seeking quiet and relaxation.*





**THE NATIONAL GAS COMPANY  
OF TRINIDAD AND TOBAGO LIMITED**

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