GENEWS

THE OFFICIAL UEGCL NEWSLETTER ISSUE 7 | 2020

UEGCL
Generating for Generations

PHOTO | ***The 600MW Karuma Hydro Power Station Switch yard***

WORD FROM
EDITORIAL

Launched in 2017, UEGCL's Bi-Annual Magazine - Ge*N*ews, has continued to avail a platform through which staff and stakeholders' diverse opinions and ideas are shared for the edification of everyone. After a few months' hiatus, I would like to welcome you to the 7th Issue of Ge*N*ews.

This Ge*N*ews edition is premised around our rich core values of ***safety, innovation***, ***accountability, integrity*** and ***sustainability***. Core values are the fundamental beliefs of a person or an organization. These guiding principles are the litmus test that help determine if an individual or organization is on the right path to fulfilling their goals. Our core values are and will always remain at the heart of our commitment towards our operations and stakeholder engagement. As the world continues to battle the novel COVID-19 pandemic, there's no stop to the experiences and opportunities that keep unfolding along. Take a ride with us as we navigate the lessons learnt by colleagues and how they are adjusting to the new normal. Many thanks to the 'tax-man' who has taken time to trigger an appreciation of tax contribution towards power generation and the financial expert whose reminder not to 'eat our workers' as we prepare for retirement we should never neglect.

Enjoy the cocktail of articles which were innovatively blended with utmost integrity by our accountable Corporate and Communications Affairs team even as you sustainably generate reliable and affordable electricity in a safe environment.

Kudos to every soul that has brought to life our 7th edition, nice read!

Lawra SSEMPA,
Chairperson, Editorial Committee

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PHOTO | *UEGCL partnered with Gayaza High School to donate mathematics text books to pupils of St. Andrews's P/S - Kiyunga.*

INNOVATION INTEGRITY SUSTAINABILITY SAFETY ACCOUNTABILITY

Roadmap 1300

VISION

Be One of the leading Power Producers in the Great Lakes Region

MISSION

*Sustainably **generate** Reliable, quality and affordable Electricity for Socio- Economic Development*

TRUSTED FOR OUR STANDARDS

Certificate of Registration

This is to certify that the
Quality Management System
of

Uganda Electricity Generation Company Limited
Block C, Victoria Park
Plot 6 – 9 Okot Close, Bukoto
Kampala
Uganda

Has been independently assessed and is
compliant with the requirements of:

ISO 9001:2015

For the following scope of activities:

The establishment, acquisition, operation and maintenance of electricity generation facilities to the satisfaction of the stakeholders

Certificate Number: 1710829Q

Date of initial registration	07/06/2017
Date of this certificate	27/10/2020
Certificate expiry (subject to the company maintaining its system to the required standard)	06/06/2023

Authorised Signatory

UKAS MANAGEMENT SYSTEMS
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CEO's Word

It is with great pleasure that we bring you yet another issue of UEGCL's bi-annual Newsletter, GENEWS, this time putting the spotlight on the values that define UEGCL.

It is often underscored that the fundamental purpose that drives many organizations of repute is to continuously perform and meet the expectations of their stakeholders, both internal and external. By unwaveringly upholding our core values of integrity, innovation, accountability, safety and sustainability through the trying times occasioned by the unrelenting COVID-19 pandemic, we have managed to stay afloat in executing our mandate exemplified by the continuous operation and maintenance of the Isimba hydropower station and the implementation of the Karuma Hydropower Project. This is especially a testament to the commitment and grit of UEGCL's employees, all well-deserving of praise.

In the few months since our last publication, UEGCL continued to make strides on our journey to continuously and actively contribute to the socio-economic transformation of Uganda in alignment with the company's strategy and in compliance with the core values.

One of the key highlights was the company's inaugural **Research and Innovation Workshop** which was organised under the theme "Cultivating a Culture of Generating New Ideas to Improve UEGCL's Business". The rich papers presented by members of UEGCL's staff outlined key lessons and brought forth several recommendations that will go a long way in improving UEGCL's business processes.

In the same period, as a way of appreciating and giving back to the communities in and around our areas of operation, we commissioned and handed over several

Dr. Eng. Harrison E. MUTIKANGA
Chief Executive Officer

projects in the districts of Kamuli and Kayunga under Phase I of the Community Development Action Plan (CDAP), mainly including health centres, classroom blocks, staff houses, VIP latrines etc. Our efforts are now geared towards delivering the projects under Phase II such as rural electrification and executing the Karuma HPP CDAP projects as well.

Similarly, I would be remiss if I did not announce that the recertification audit of UEGCL's Quality Management System was completed and the company was found to still be compliant with the requirements of ISO 9001:2015.

Similarly, I would be remiss if I did not announce that the recertification audit of UEGCL's Quality Management System was completed and the company was found to still be compliant with the requirements of ISO 9001:2015. The ISO 9001 certification attests to the company's ability to consistently provide services that meet the customer and regulatory requirements as it demonstrates that there are efficient management processes in place to monitor the operation processes, with room for continuous improvement.

Finally, much as there seems to be light at the end of the COVID-19 "tunnel" with the announcement of promisingly effective vaccines, I urge you all to stay vigilant and give no room for complacence in adhering to the COVID-control guidelines and operating procedures put forth and recommended by the relevant authorities ... let not the pot break at the doorstep.

I bid you happy reading!

PHOTO | *The soon to be commissioned Isimba Bridge that will connect the districts of Kayunga and Kamuli.*

A CIVIL ENGINEER'S ROLE IN THE OPERATION & MAINTENANCE PHASE OF A HYDRO POWER PLANT
(Case: Isimba (183MW) Hydro Power Plant)

Wilberforce MANIRAKIZA
Civil Engineer - Dam Safety

> ***If the dam is poorly maintained & monitored, there is a higher chance of failure.***

"Isimba Hydro power Plant was commissioned, what are you, a Civil Engineer still doing at a Power Station?" This is among the many questions asked whenever I tell friends that I work at the newly commissioned Isimba Hydro power Station in Kayunga, Uganda. Honestly, when I was employed as a Civil Engineer-Dam Safety for Isimba Hydro power Project three years ago, I thought I was going to do "Health & Safety" related work. To my surprise, I found dam safety, a much broader specialty of dam operations than I had ever imagined.

It is important to note that the safety of the dam and its downstream population depends not only on the

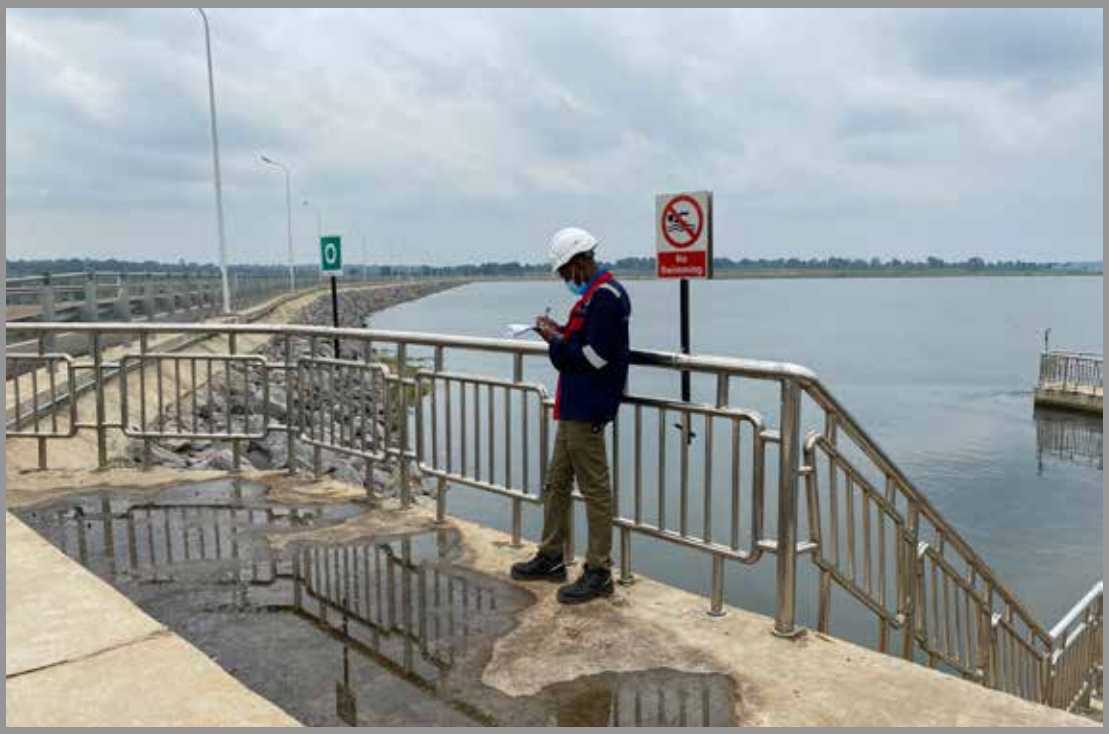
PHOTO | *UEGCL staff carrying out geodetic survey using a robotic total station to monitor the potential displacement of the Isimba Dam*

quality of its design and construction but also significantly on the proper maintenance during operation as well as appropriate surveillance to monitor the condition of the dam.

If the dam is poorly maintained & monitored, there is a higher chance of failure. For the case of hydro power, failure of a dam leads to an un controllable release of water that could lead to loss of life and property of the people living downstream. The liability of the damages caused, loss of revenue and costs of rehabilitation of the dam alone may be worth more than the original project cost.

However, developing and implementing an appropriate Emergency Preparedness Plan (EPP) can be done. As a Dam Safety Engineer, I took part in developing EPPs for Karuma & Isimba HPPs and have been at the forefront of their implementation through organizing and facilitating EPP awareness programs, table-top exercises and a dam break drill among others. A proactive dam risk management is, therefore, necessary to mitigate the impacts of potential downstream injury and property damage as well as catastrophic and long-lasting environmental effects.

In a layman's analogy, a Civil Engineer on a Hydro power Plant is like a "Landlord," and the Electrical & Mechanical Engineers are like "Tenants". Without a dam and water reservoir, hydro-mechanical and electro-mechanical equipment can't be run, hence no generation of hydro-electricity.



During these COVID-19 times, Isimba had a Civil Engineering Team dealing with safe reservoir operation and power optimization, dam and reservoir surveillance. Dam Surveillance involves monitoring, inspection, checking, and testing activities. The instrumentation monitoring data collected is analysed and used to determine the structural health of the dam.

Given the current increased discharges from the upstream dams, surveillance of the dam and reservoir has intensified for purposes of early detection of any dam defects and public safety-related incidents. This was following a directive from Directorate of Water Resource Management (DWRM), which permitted increased releases to the downstream through the White Nile in a bid to mitigate the rising water levels in Lake Victoria. In May 2020, the lake level surpassed the highest ever-recorded level of May 1964. At the moment, the water levels are drawing down beside the discharges are consequently reducing with guidance from DWRM.

Since Isimba is still under the Defects Liability Period, maintenance works and rectification of defects, still require services of a Civil Engineer, and this will have to continue even throughout the Operation & Maintenance phase of the Hydro power Plant.

I have been remotely supporting the team on-site since March 2020 due to COVID-19 limitations through analysis of collected data, reporting of results and documentation review among others. Now, I am back at the site!

INTEGRITY AS A VIRTUE IN OPERATIONAL EXCELLENCE:

An Administrators' perspective

Irene EYOTARU,
Administration Officer, Karuma HPP

> ***UEGCL strives to ensure operational excellence through integrity and embraces honesty in everything ...***

Integrity is a key tenet of human ethics and virtue that is associated with being honest, strong moral principles, and truthfulness in one's actions. Classical writers such as Plato dwelt deeply into the notion of integrity, for him, there is nothing so delightful as the hearing, or the speaking of truth. For this reason, there is no conversation so agreeable as that of the man of integrity, who hears without any intention to betray and speaks without intention to deceive. For the English Playwright and Poet, William Shakespeare, there is no legacy so rich as honesty. In contemporary times, eminent writers like Hannah Arendt argued that; the trouble with lying and deceiving is that their efficiency depends entirely upon a clear notion of the truth that the liar and deceiver wish to hide. In this sense, even if it does not prevail in public,

INTEGRITY

"Real integrity is doing the thing, knowing that nobody's going to know whether you did it or not" **Oprah WINFREY**

possesses an ineradicable primacy over all falsehoods. Thus integrity is the centre of the human condition at a personal, interpersonal, and organizational level.

In principle, organizational integrity is associated with the ethical integrity of individual actors, the moral quality of their interaction as well as that of the dominating norms, activities, decision-making procedures, and results within the organization. Integrity is a fundamental part of the organizational value system and culture that permeates all processes as may be reflected in an employee's good work ethic, complete moral standards, and stakeholder relationships with honesty and truthfulness in the private and public spheres.

UEGCL strives to ensure operational excellence through integrity and embraces honesty in every undertaking with determination to adhere to ethical business principles and good corporate governance at all times while managing, building stakeholder relationships, and contributing to the Roadmap 1300. UEGCL organizational integrity contributes to achieving her strategic goals, mission, and vision. UEGCL upholds steadfast integrity from generation to generation, that strives to preserve and cultivate through the organizational social structure. For example, the structural administrators and managers are custodians of these collective normative standards (moral values, norms, and rules) in which the actions and decisions withstand the tests of ethical principles with a zeal for truth, accountability, reliability, stakeholder feedback and respect.

Aspects such as time management, effectiveness, efficiency and value in use of organizational resources, report integrity, financial accountability, reputational integrity, honesty and trust underpin UEGCL integrity. As pointed out in the Harvard Business Review (Ron Ashkenas), there are primary hurdles to integrity; First is the innately human ability to rationalize behaviour. Despite our knowledge that we should always do the right thing, humans have an inbuilt ability to justify their behaviour when they do the wrong thing, therefore, integrity may require a certain degree of enforcement in certain situations. This may require the creation of organizational ethical standards, transparency and integrity systems. It is vital to encourage an open and transparent environment where staff can freely discuss issues and contribute towards integrity with room for self-assessments and regular feedback. Administrators need to set good examples by walking the talk and rewarding actions of integrity. Administrators also need to sanction members who contravene it, ensure alignment with the national integrity system, and compliance with legal requirements.

In summary, as UEGCL generates for generations, integrity is the epitome of our workplace and dealings with stakeholders with transparency, accountability, honesty, and truth as an ethical business practice. UEGCL reflects on its integrity value and achieves operational excellence through integrity as a dependable and reliable corporate entity that strives to contribute to improving the human condition through producing electricity for development.

LOOKING FORWARD TO RETIREMENT, A SECOND CAREER

David Kenneth MUTAKA
Head, Human Capital at Stanbic Bank Uganda

As I think about retirement, I ponder on the words of the man considered the World' smartest, Albert Einstein, who said: "***It is every man's obligation to put back into the world at least the equivalent of what he takes out of it***."
The statistics from NSSF do not make for good reading. Apparently, of the people who retire, 95% have NSSF as their only saving. 90% or thereabout lose that money within a year of getting it. Given that Ugandans are generally living longer, the question I am curious about and seek to explore is, do we have the right idea about retirement? Can it be more? Can we look forward to it with confidence and anticipation?
I recently had the good fortune of listening to Robert KABUSHENGA, and he spoke about why he started farming, he put it quite simple and in a way that

> *Apparently, of the people who retire, 95% have NSSF as their only saving.*

sums up so much, “I needed to create an economy for myself beyond my labour”. I think this summarises what I would say would be a practical and fun approach to the wealth journey to retirement.

This wealth journey will be accurate if it is grounded in principles. Principles don’t change regardless of changing times. They give you a firm foundation on which to build your journey or plan. The values are; start with the end in mind, Wealth is about your life’s purpose, Wealth is a lifelong journey you and your family are unique, and risk is relative.

To practically apply this thinking, consider where you are now and where you would like to be? How do you currently create value, because that is how you get paid? How can you create more value? And because the worth is grounded in impact, how are you making a difference? This being mostly through your labour. To increase your worth, elevate your purpose. I have learnt that we all have a purpose in life no matter where we are. It may be as straight forward as needing to get your next meal or as high as ending world hunger. Let your purpose be beyond just getting a pay check and feeding your family.

Reflect on your strengths, your passions and have fun doing this. Pay attention to what goes on around you. Your purpose is your listening device. Then truly care and serve, see how else you can be of service. This then brings you to the purpose of your life. And I have learnt that we all have a purpose in life no matter where we are. It may be as straight forward as needing to get your next meal or to as high as ending world hunger.

The question then becomes; can you create a fun economy beyond your current labour? And the word economy is such a powerful word, and it would need its article to explore it. I hope you can look it up. Going back to the farming if you ask Robert why he started farming the reasons are much more than feeding himself and family and this means his ambitions are limitless.

Part of creating this economy is to think about how you create value in the future, saving and investments come to mind. A key question I ask myself often, is how much money or how many

ACCOUNTABILITY

“Accountability breeds response-ability” **Steve CORVEY**

monies are out there working for me as I sit here doing what I am doing? That usually either sobers me up or puts a smile on my face. I must ensure that there is always more and more money working for me, regardless of where I am. You may not win that battle every day, however, if you start it every day and keep going, slow and steady. The power of compound interest is on your side, and you learn. The more you do, the more you learn. As this money works, I also resist the urge to eat these workers to let them work. Measure how much your return is as income from these workers. You will need this number, and it motivates you to do more.

The people I have seen to enjoy retirement are the people who keep productive, who find a meaningful routine, who continue to contribute and find a second career. Playing golf or sleeping are secondary. Living life on your terms, however, is and should be the goal.

In summary, as you prepare, observe yourself, learn about yourself. Then build a vision of your future, including where you may want to live. Then start taking action now. How much is saved outside your NSSF and possible work pension? What is invested, and is it tied to your goals? Is it protected sufficiently, hence consider insurance or some other protection? Then start taking action to add on it in little and regular (I was tempted to say daily) steps. I suggest you review this plan and implement every year and refresh it. Part of protection is ensuring your family or loved ones know about this plan, and you have a will or documentation of where these are. I may not guarantee you happiness but the principles never lie, if you take a long term outlook and have an end in mind, understanding that the plan is for you and you are unique and your purpose in this world matters; you will win. That is God and the universe's dream for each of us. So, step out strong confident and taking action, money is a tool. It will take you wherever you wish, but it will not replace you as the driver as Ayn Rand said.

NWSC; PUTTING WATER QUALITY AT THE CORE OF SERVICE DELIVERY

National Water and Sewerage Corporation (NWSC) through its Water Quality Management Department (WQMD), is mandated to ensure that the quality of drinking water delivered to customers and the quality of wastewater effluent discharged into the environment meet the National Standards.

In order to achieve its mandate, NWSC operates a number of water treatment and supply systems across the country including both conventional and non-conventional. Gaba Water Works is one of NWSC's conventional and largest water treatment systems supplying piped drinking water to the residents of Kampala and some parts of its neighbouring districts like Mukono and Wakiso.

The water treatment process at NWSC is handled by a team of qualified resident water quality personnel supported by a team of engineers

who are on ground to ensure that the acceptable quality of drinking water is supplied at all times. On a daily basis, water samples are collected at every stage/ unit of these treatment systems to ensure effective performance of each treatment in removing impurities in the water. In addition to the routine water quality monitoring at the treatment plant, the water supply network is also monitored daily to ensure that safe water reaches our customer's premises.

On the other hand, NWSC strives towards improving wastewater management in the country which plays a key role in threatening the quality of our water resources through pollution. The corporation operates a conventional sewerage treatment plant in Bugolobi and Faecal sludge treatment plant in Lubigi serving Kampala city, and several non-conventional wastewater treatment systems serving districts in the Northern, Central, Western/ South-western and Eastern regions of Uganda.

While NWSC continually strives to achieve supply of safe drinking water and reduced pollution of its water sources from un-treated wastewater, its WQMD department faces challenges of deteriorating raw water quality as a result of source pollution from un-regulated discharge of domestic/ industrial wastewater, urban run-off, bad farming practices and climate change impacts among others. This leads to increased consumption of water treatment chemicals and the need to install high cost treatment technologies. Nonetheless, the department continues to work round the clock establishing innovations and engaging in activities and projects aimed at ensuring the safety of drinking water and protection of its sources.

Additionally, NWSC through its WQMD participates in routine Joint Water Quality Monitoring programs with key stakeholder organizations such as Kampala Capital City Authority (KCCA), Uganda National Bureau of Standards (UNBS) and the Ministry of Water and Environment (Directorate of Water Resources Management). This provides an opportunity for the Corporation to check compliance of its supplied drinking water on a regular basis. The NWSC water quality meets all the set standards as stipulated by World Health Organization and UNBS.

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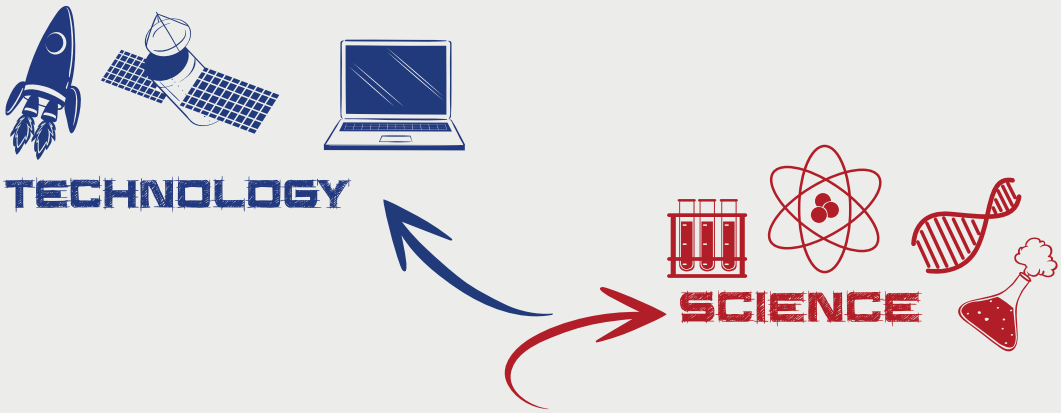
The customer is the reason we exist



DIGITAL ORGANIZATION: A MUTUAL INTEREST FOR "SCIENTISTS" AND "ARTISTS"

By
Nicholas Agaba RUGABA,
Doris INGABIRE &
Carol BISHAGENDA

During the Presidential Press Briefs on the Covid 19 pandemic, the President often expressed gratitude towards "Scientists" in Uganda for their role in the fight against Covid 19, the mitigation of the risks associated with rising water levels of Lake Victoria and the flooding across the country. The scientists were further appreciated for the fight against the locusts' invasion. This in more ways than one has also ignited the old debate and discussion of the "Scientists" and their relationship with the "Artists" also known as "Social Scientists." There is more that brings the Arts/ Social Sciences (Human Resource Management, Psychology, Commerce, Sociology, Economics etc.) together with the Sciences (Engineering, Zoology, Hydrology, Medicine etc.) However, like most discussions and debates, the mutual interests and synergies are lost in translation. The focus ought to be what brings the two worlds together, and

> ***The focus ought to be what brings the two worlds together, and or what interests and opportunities do they share in the post-Covid world order...***

WHAT DOES DIGITAL MEAN?

Owen McCall, a mentor, author and advisor in an August 2018 blog on LinkedIn defines digital as a set of new electronic and "information technology" based tools and enablers that allow organizations to be more effective in delivering outcomes by changing what they do and how they do it.

or what interests and opportunities do they share in the post-Covid world order, if at all we shall see the end of the pandemic.

One of the mutual interests for "Artists" and "Scientists" in the post Covid era is a digital organization. The one thing that Covid has fast-tracked for all of us whether "Artists" or "Scientists" is the use and adoption of digital platforms to work, conduct meetings, engage clients/customers, review performance reports, collaborate and communicate etc. We have all been involuntary or at least nudged to dive into the digital world of work. The dive, in most cases, has been at the deep end of the digital ecosystem. With this, what mutual interests and opportunities does a digital organization present for all of us across the divide?

For starters, what does digital mean? Karel Dörner and David Edelman of the global consulting firm Mckinsey and Company in their July 2015 article "What digital really means", counselled that while it's tempting to look for simple definitions, but to be meaningful and sustainable, digital should be seen less as a thing and more as a way of doing things.

Owen McCall, a mentor, author and advisor in an August 2018 blog on LinkedIn defines digital as a set of new electronic and "information technology" based tools and enablers that allow organizations to be more effective in delivering outcomes by changing what they do and how they do it. Premised on this definition of digital, he went further to define a digital organization as one that seeks to improve performance by new and emerging electronic "information technology" tools, the business models and new ways of operating that enable one to increase the effectiveness of how they function.

UEGCL is an energy utility company that is engaged in operation and maintenance of hydropower plants which is fertile ground to grow as a digital organization across functions of Finance, Human Resource, Engineering, ICT, Communications etc. UEGCL is further extensively engaged as an implementation agency in contract management of engineering, procurement, and construction companies working on the capital

projects that matter for the future. We use electronic and IT tools such as software, computers, virtual meeting tools, network systems, Email systems, cloud storage etc. for our work across the organization to write reports, send and receive emails, draw budgets, make requisitions, draft contracts, process invoices, make payments and carry out performance appraisals among others.

But a digital organization goes beyond the tools and technology. A digital organization goes further to adopt new business models and new ways of operating and doing business. In our case, our digital journey may go beyond having software that processes leave applications or beyond using a boardroom camera to stream a meeting across project sites, and or beyond using auto-computer aided design to review a construction drawing etc. This is because even without the software, people can still process their annual leave forms, and have them signed off and proceed to go for leave. A new business model or way of operating, in this case, maybe one that probably leverages technology to allow staff work away from the office and probably also take longer leave periods as part of a reward or motivation. But such a new approach to work hours and paid leave would necessitate deeper trust and collaboration between employees, their managers and ultimately the Board of Directors. So being digital is indeed much more than working on your laptop from the comfort of your home.

Engineers love to assemble machines

PHOTO | *Upstream view of the 600MW Karuma HPP dam section after 3rd stage river diversion*

like turbines, generators etc. and also to build megastructures like dams, bridges, tunnels among others. The President equally loves them (Engineers/Scientists) because of their capabilities and competence to build the infrastructure and associated a machinery/systems to provide utility services like electricity that powers economic transformation. The Human Resource function/ department in any organization is also always interested in attracting the best talent across disciplines whether engineering, law, environmental management or finance etc. The ICT function in this digital era builds and reinforces the systems that facilitate human resources/ talent to perform their roles, deliver on the organization's value proposition and help organizations make better decisions using tools for predictive analysis. Capabilities and competencies are indeed foundational for a vibrant and highly productive workforce.

Karel Dörner and David Edelman of McKinsey further argue that one of the elements that are critical to building foundational digital capabilities for a company is mind-sets. The mindset for all employees has to be tuned and aligned to embrace a digital transformation. They add that being digital is about using data to make better and faster decisions, devolving decision making to smaller teams, and developing much more iterative and rapid ways of doing things. At UEGCL, to be a digital company may mean more than working from your laptop at home. It may require taking decisions that usually we wouldn't take as employees. It may need for us to try out other ways of performing tasks that we would have never thought of or imagined. Being digital will require more than accessing your emails on your phone, but can you make better decisions by breaking communication barriers with the array of data that you have access to on your mobile devices. A digital company will require us to have a different mindset that is more collaborative and accommodative thus making companies capable of driving exact cultural change. This is because the digital organization is of mutual interest for all of us, whether we are "Artists" or "Scientists".

COMMUNITY SAFETY IN ELECTRICITY GENERATION: NOTES FROM KARUMA HPP

Alan Denis OROMA | Moses MUHUMUZA
Samuel AGABA | Timothy Noah MUBBALA

UEGCL collectively embraces a safety culture in all project operations, and community safety is a key aspect of electricity generation. The protection of a dam and the community involves identifying potential emergency conditions and specifying pre-planned activities to be followed to minimize loss of life and property damage.

Increasing water levels and flooding is an important safety concern at Karuma HPP due to the effects of climate change and human activities on rivers and lakes. For example, on

> ***Increasing water levels and flooding is an important safety concern at Karuma HPP due to the effects of climate change and human activities on rivers and lakes.***

PHOTO | *UEGCL staff pose for a group picture with residents of Anaka village, Oyam District after a dam safety sensitization meeting in November, 2019.*

Lake Victoria, periodic increase in water levels and flooding is common with resultant effects of water spilling downstream through River Nile, Lake Kyoga from Hydropower dams such as Nalubale, Kira, Bujagali, Isimba and Karuma with consequences for riverbank communities.

The dam and community safety requires equipping district-level politicians, technical teams, local leaders and riverbank communities with dam safety and emergency preparedness skills focusing on climate change, increased rainfall, water levels and flooding which exacerbates safety risk at the dam and host communities living along the river. Necessitating lifesaving emergency preparedness procedures and communication to share with the public such as dam emergency preparedness table drill is also essential.

At the peak of rising water levels in 2020, the teams were trained from host district communities in Nwoya, Oyam and Kiryandongo. The outcome of such community safety drills was seen when safety stakeholders relayed information about observed changes and increasing water levels along the Nile in host communities characterized by varying increment in the water at respective villages. Some points on the banks were low, others high, submerging of riverbank field gardens occurred, increased floating vegetation, water hyacinth and rubbish appeared on the water, weak soils around the river banks breaking off into the water, fish unable to see clearly because of the dirty water and dying in some cases. There was also an influx of kobs that stay in swamps around papyrus vegetation due to displacement by increased water. Community safety teams responded by sensitizing communities on emergency measures which included risk prevention, mitigation, control and collaboration with disaster management teams.

During the third stage river diversion, these critical safety teams received support and backup on water flow during the river diversion, filling of the power intake pool, closing of the dam gates, clearing of debris and removal of access ramp from the top of the cofferdam to the bottom of the reservoir. Risk prevention messages emphasized the need for communities to keep off risky areas around the Karuma HPP dam. Community preparedness, sensitization on river diversion and creation of surveillance teams, access to water during the river diversion, landing sites that may be affected and flooding of roads that may hinder transportation.

In conclusion, UEGCL cherishes the safety of staff and dam host communities. UEGCL conducts annual dam safety and emergency consultative engagements with host communities. It is significant for communities that use the river to be vigilant and monitor any unusual changes in the river during periods of water increase and relay the information to disaster management teams. Community and dam safety is an integral part of dam management, however, people need to continuously be informed of the risks to avoid the destruction of lives and property. Stay safe around the river and the dam.

17 years and

providing affordable and reliable

Eskom Uganda Limited (EUL) has been operating and maintaining Nalubaale and Kiira Power Stations since 2003 under a twenty-year concession agreement. The two power plants have a total installed capacity of 380MW.

We produce 31% of the nation's power which is also the cheapest power in the entire sector at 1.12 US c/kWh equivalent to 5% of domestic selling price. This is attributable to our operational efficiency in line with our mission; **"To provide affordable, reliable and accessible electricity while creating value for our stakeholders".**

We operate under the highest safety and operational standards and have attained Quality Management System ISO 9001:2015, Environmental Management System ISO 14001:2015 as well as Occupational Health, Safety and Management System ISO 45001:2018.

This is also in line with one of our core values; Zero harm. Zero harm to our staff and contractors; zero harm to equipment and power plants and zero harm to the environment and our community.

We have invested over UGX 118 Billion (USD 32million) into the two plants to date, majorly on equipment upgrade in the 66-year-old Nalubaale Power Plant and to keep it operating at full capacity now and in the future. As a result, we have maintained a 95% plant availability on average since 2003.

We have trained over 100 graduates that have gone on to fill critical roles not just at Eskom but within the Ugandan power sector. Graduate trainees in Uganda have been given an opportunity by Eskom to gain hands on experience in hydro generation since commencement of our operations. To date we have invested over UGX 8.5 billion (USD 2.3m) in staff development.

Eskom Uganda has invested over UGX 7 billion (USD 1.9m) in communities where we operate, in areas of environment, sports, health and education.

counting...

electricity to Ugandans.

OUR PERFORMANCE IN NUMBERS

UGX 133 Bn
paid in taxes and statutory levies

Maintained an average of **95%** plant availability

Over 100
graduates in Uganda's energy sector trained

UGX 8.5 Bn
invested in staff development

UGX 118 Bn
invested in Nalubaale and Kiira Power Plants

10 years
achieved without Lost Time Injury

UGX 7 Bn
invested in communities around us

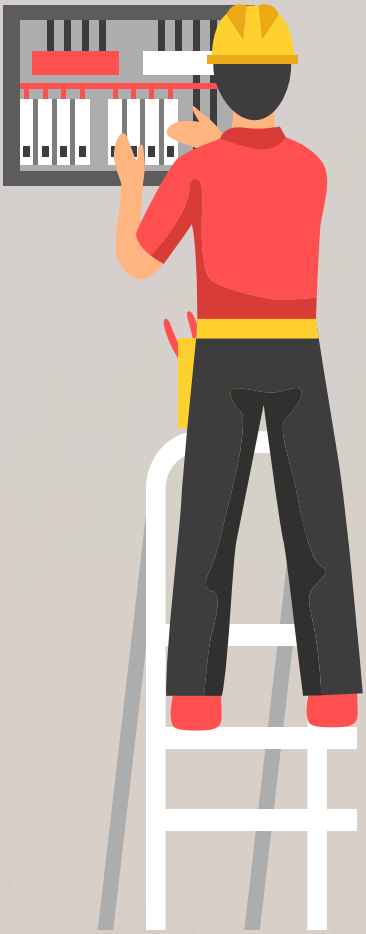
Eskom
Uganda Limited

www.eskom.co.ug

AN ELECTRICAL TECHNICIAN IN HYDRO POWER PLANT OPERATION AND MAINTENANCE

CASE STUDY: ISIMBA HYDRO POWER PLANT

Andrew GENA
Electrical Technician,
Isimba Hydro Power Plant



> ***These routine preventive maintenances and condition based monitoring are carried out on a piece of asset/equipment to lessen the likelihood of a sudden breakdown.***

The responsibilities of the operations and maintenance team at Isimba Hydro Power Plant are summarized in ten (10) preventive maintenance and condition-based monitoring elements; inspection, cleaning, testing, servicing, calibration, repairs, adjustment and

SAFETY

"Accidents hurt, safety doesn't. Broken tools can be replaced, you can't" **Unkown**

alignment, replacing parts, installation and condition-based monitoring.
To maximize equipment effectiveness, it is necessary to bring the equipment to peak operating conditions and keep them hence eliminating or reducing any factor that might diminish its performance therefore, reducing its availability. Availability is the percentage of time that equipment is available to run during the total possible loading time.

These routine preventive maintenances and condition-based monitoring are carried out on a piece of asset/ equipment to lessen the likelihood of a sudden breakdown. It requires tracking data from past inspections and maintenance.
Breakdown: eliminating unplanned downtime is critical to improving overall equipment effectiveness (OEE). Other OEE factors are not addressed if the process is down. It is not only significant to know how much and when downtime equipment is but also to be able to link the lost time to the specific source or reason for the loss. With downtime data tabulated, the approach used is the Root Cause Analysis, which is entirely based on the Plan, Do, Check, Act (PDCA) cycle. For instance, in the "Plan" phase of PDCA, identify the failure mode of equipment and predict when the failure would occur. In the ''Do'' phase of PDCA, apply countermeasures which are preventive maintenance. In the ''Check'' phase of PDCA, assess the failure mode/ breakdown and comparison of results with the set objectives and in the ''Act'' phase of PDCA, fine-tuning and continuous improvement which would result into;

- Increased safety which ensures that UEGCL as an organization complies with the rigorous OSHA standard and Electricity Safety Code established by the Electricity Regulatory Authority.
- Less injury risk since safety is one of the core values of UEGCL.
- Reduced unplanned downtime due to asset failure.
- Better margins and profits due to less downtime.
- Prolonged life of the assets.
- Fewer interruptions to operations as timely and routines are carried out.

The correlation between human well being and energy consumption

But what exactly does having "access to energy" (or not) mean? Someone living in a home with 24-hour electricity, constant lighting, heating and air conditioning, refrigeration system, phones and computers connected to the internet and working at a farm, factory, or office that has the same energy services as a person living with what everyone would likely recognize as an ''energy-rich person''.

A person who has access to hospitals or clinics with 24-hour lighting, temperature control, refrigeration, and modern electricity-powered equipment are likely to get their food from supermarkets with refrigeration, freezers, and lighting. Their school and workplace have constant lighting, temperature control, computers, telecommunications, and everything else that defines a productive life.

By contrast, someone who lives in darkness at night, cooks by wood or

PHOTO | *An Isimba Hydro Power Plant O&M Staff doing routine inspection at Unit #2*

charcoal, travels solely on foot, and has no electronic communication (phone) is a person completely lacking energy access. Without access to energy-consuming technologies, their life is likely to be dominated by low skilled, manual labour subsistence farming, low productivity, and few prospects for the next generation. Their schools have a roof with much fewer lights. Their local clinic probably has no reliable refrigeration for vaccines or medicines. This is an ''energy-poor person''.

Have you ever stopped to consider how significant electricity is to our way of life?

Without it, our lives would be radically different, and in almost every instance a whole lot harder.

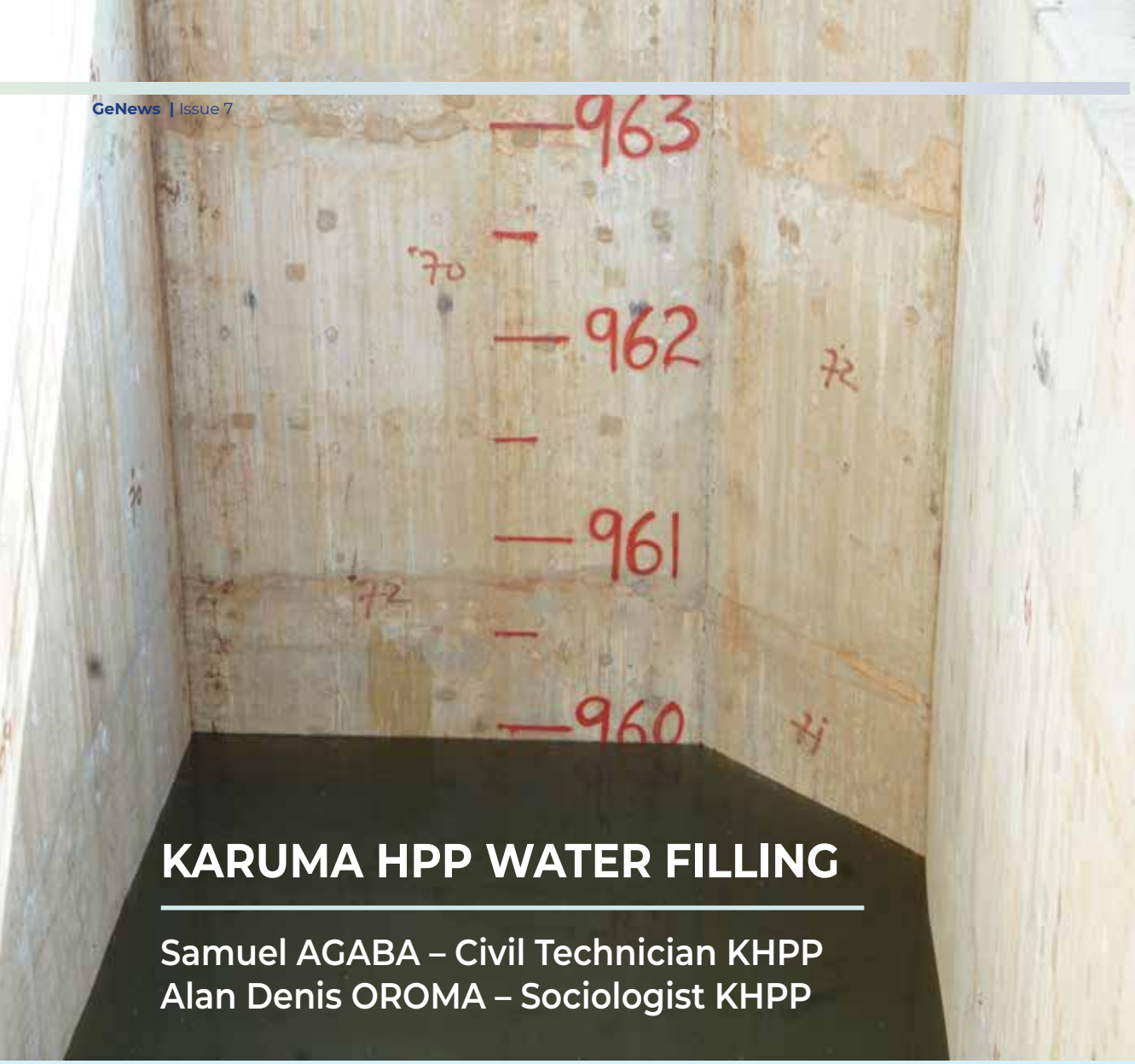
Electricity has made learning more efficient than ever. Gains in printing mean teachers can give every student the same high-quality textbooks. Besides, electronic tools such as

projectors, televisions, and computers display information more vividly. Until a few decades ago, boring and illegible chalkboards were the norm. Also, electronic hearing aids help students with hearing problems absorb lectures, and cloud storage has made organizing and turning in assignments more straightforward. An advantage of internet integration in the classroom is that students can now listen to lectures and perform tasks on shared platforms; this makes monitoring student progress more reliable and tailoring lessons to students' strengths easier.

The health care sector has seen comparable gains over the past hundred years. Think about how many medical machines depend on electricity: medical monitors, LASIK machines, ventilators, incubators, anaesthetic machines, ultrasound machines, ECG machines, X-ray machines, defibrillators, heart-lung machines, CT scanners, MRI machines used for analysing bodily fluids, and scores of others. Most hospitals now keep electronic records of patients to make documentation more durable and consistent. In the old days, mistakes in documentation could go unnoticed for a patient's whole life, but now medical software flags potential contradictions or inaccuracies. Even conflicts between drugs can throw up red flags, and some people predict that medical machines will one day make most medical decisions on their own. Modern energy services are significant in ensuring a satisfactory quality of life for people and promoting economic development. Access to energy is central to issues such as security, climate change, food production, and strengthening economies while protecting ecosystems. Increased access to electricity improves education, entertainment, health, comfort, protection, and productivity.

Access to electricity provided families with improved education as children could study more easily after dark. As well, not having to collect fuels to burn saves time for people in the family, particularly the women. As well, increased access to electricity simplified household tasks and improved the productivity of home businesses. Uganda currently has electricity consumption of 215 kWh per capita per year.

Therefore, my responsibility, in the operation and maintenance at Isimba Hydro Power Plant is to maximize equipment availability and overall equipment effectiveness through preventive maintenance and condition-based monitoring which contributes to the overall plant availability.



KARUMA HPP WATER FILLING

Samuel AGABA – Civil Technician KHPP
Alan Denis OROMA – Sociologist KHPP

Karuma HPP is a 600 MW run of river project with an underground water conveyance system. It is located along the course of the river Nile within Kiryandongo District. Karuma HPP is designed with underground tunnels which convey water from the power house through the surge chamber to the outlet after harnessing hydropower. Tunnel water filling, is a process of releasing water into a contained area of the tunnel.

The purpose of the water filling of the tunnels and draining is to commission the water conveyance system correspondence to the Units, and check whether there are any problems or not, allow timely measures to be undertaken to remedy any problems before operations start and during operation period.

The process of the water filling began with taking the zero readings of all Tailrace Tunnels (TRT) instruments,

Tailrace Surge Chamber (TSC) instruments, and groundwater levels of all the piezometers (geotechnical instruments used in the measurement of pore water pressure in dams and concrete structures). These were recorded for future reference or as a baseline. An emergency drill in which the UEGCL, MEMD, and EPCC team took part was then organized in the powerhouse to check the level

> ***The purpose of the water filling of the tunnels and draining is to commission the water conveyance system correspondence to the Units***

of preparedness to respond to an emergency after which an additional set of readings of groundwater levels, TRT, and TSC instruments were taken before the start of water filling. During water filling, values were opened to allow water into the conveyance system.

Water filling was split into two stages, with a break of 12 hours, to ensure water pressure stabilization. During the water filling, readings of all instruments installed along the TRT were closely monitored at regular intervals twice every day. Readings obtained from the water filling of TRT showed minor changes in the behavior of the dam. When the water level was at EL 939, the first stage of water filling was stopped and the water pressure was allowed to stabilize for 24 hours. Checks were done to ascertain the leakages on the gates to the surge chamber. These leakages were within the allowable tolerances, thus raising no alarm.

The second stage of water filling of TRT started after 24hours of pressure stabilization and was completed with the water level at EL 962.6 in the Tailrace surge chamber. At this point, the water level in the surge chamber was at the same level with the river water level at the outfall and in an equilibrium state. Thereafter, the water pressure was allowed to stabilize for 48 hours. Readings for instruments installed across TRT, TSC and underground water levels were closely monitored at regular intervals twice every day by UEGCL for several days of the water pressure stabilization in the surge chamber.

In conclusion, water filling follows specific steps from zero readings, emergency preparedness drills, stage one and two water fillings which are all stipulated in international standards of best practice. Analysis from the data obtained showed minor changes in the anchor stress meter values, multiple point rod extensometer values, reinforcement meter values, and the piezometer values and all the changes obtained are still below the alarming changes and thus in line with dam engineering principles, the dam is safe. This is key for successful commissioning to happen.

ISIMBA HPP

COMMUNITY DEVELOPMENT ACTION PROGRAMME COMMISSIONING

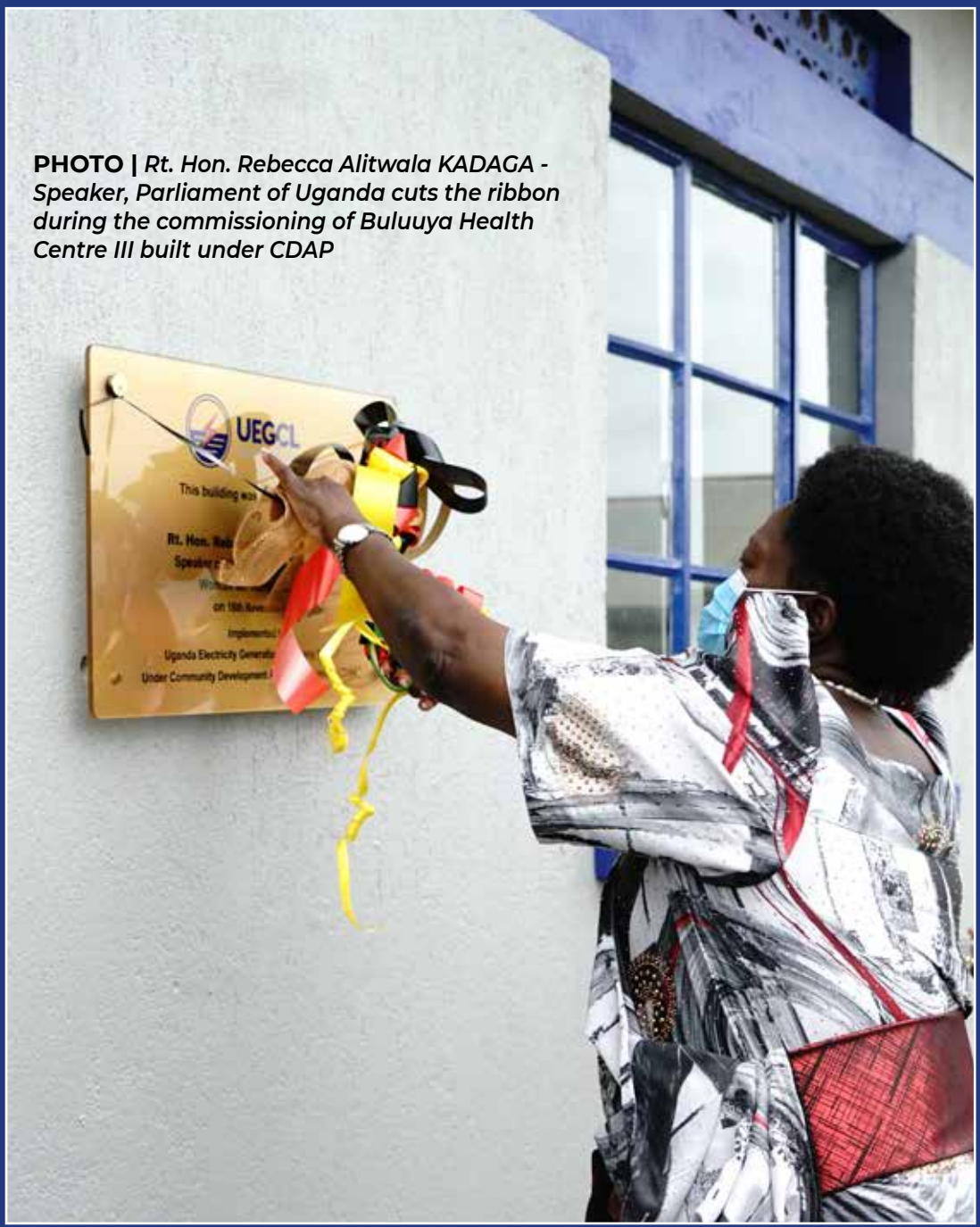


PHOTO | *Rt. Hon. Rebecca Alitwala KADAGA - Speaker, Parliament of Uganda cuts the ribbon during the commissioning of Buluuya Health Centre III built under CDAP*

Dr. Eng. Harrison MUTIKANGA - CEO, UEGCL leads Rt. Hon. Rebecca Alitwala KADAGA on an inspection of the newly commissioned facilities at Buluuya Health Centre

Rt. Hon. Rebecca KADAGA poses for a picture with pupils of St. Andrews P/S, Kiyunga

Hon. Amos LUGOLOBI commissions the new general ward at Namusaala Health Centre II

Mr. Paul Patrick MWANJA - Board Member, UEGCL delivers his speech at Lwanyama.

The New General ward at Namusaala Health Centre II

Q&A WITH BENON KABUGO

Stores Officer

1. Benon, briefly tell us about yourself.

My name is Benon KABUGO. I am blessed with a wife and two kids, a girl and a boy. I joined UEGCL in July 2020 as a Stores Officer.

2. Describe your work experience having joined UEGCL at a time when COVID-19 was at its peak.

As the COVID-19 outbreak is reported around the world, employers and the employees have been caught in this crisis because it requires social distancing, meaning many workers collaborating in an office building completely contradict those efforts. Much like many employees, I have also been affected, but one has to continue working basically out of office. People around the world are adjusting to this new way of working, although it has many logistical challenges.

3. What was your first reaction when results came back and you had tested positive for COVID-19?

I was in shock when results came back and I had tested positive for COVID-19, anxiety got over me, and I began to get flashes of my life and thought about my family and future.

4. How was the whole experience?

Two weeks before testing, I had experienced flu-like symptoms, felt some fatigue and body aches. To cope, I took some over-the-counter flu medication and rested at home. On 24th August, I got a positive result for COVID-19.

5. What gave you the zeal and strength to keep going?

Although I had been surprised with my results, I got stronger because I had watched on TV and read in different media platforms about people getting over it.

6. How did your family cope during this pandemic?

They obviously became nervous, anxious and worried about themselves and myself. However, I had to reassure my family that I will get well and asked

> ***I was in shock when results came back and I had tested positive for COVID-19, anxiety got over me...***

them to stay home to take care of other members of our community. I also advised them to start taking Vitamin C, lemon and ginger in warm water and also feed well to boost their immunity.

7. What improvements would you suggest to better manage this Pandemic from your experience?

• The government needs to increase investment in the health sector if we are to increase access to health care and improve the quality of services.
• The health ministry should equip all the facilities with emergency drugs, and other necessary materials such as gloves, masks among others such that in case of any emergency, they don't have to wait for handouts.
• Ugandans should also start thinking about personal health. Many thought they have to go to the gym, aerobics, among others to exercises. But now people are doing it free of charge in their homes, streets and roads. So this should also be the trend even after COVID-19.
• At least every referral hospital across the country should be equipped with ICU and supplied with Oxygen, to avoid congesting a few hospitals.
• After COVID-19, the government should ensure that all medical professionals in the country are qualified to handle all medical cases.
• Village Health Teams (VHTs), women groups, church groups, health facilities, among others, should be empowered to respond to simple tasks such as teaching others about hygiene, primary health care to mention but a few.
• Everyone should be empowered to be healthy, make primary health care a routine activity in the community, and also empower everyone to be responsible because it's a shame to be forcing people to wash hands yet this should be the routine.

8. What lessons have you picked from this whole experience?

• Making health a priority; the pandemic has shown that many health systems lack mechanisms and materials to quickly respond to a spreading infection, causing us to rely on societal and economic improvisation. This applies to both developed and developing countries.
• Making choices only for what is essential for one's living
• Remote working is always an option, not a reactive solution.

9. Any last words to the readers?
Please remember: COVID-19 is a terrible disease, but there are things we can all do to protect ourselves and others. Taking sensible precautions is vital, although there is no need to panic.

2020
ADAPT OR DIE!

Edgar KANSIIME
Public and Media Relations Officer, Isimba Hydro Power Plant

Eight months into a new decade, 2020 has already been earmarked as 'the worst' year of the 21st century. This notion is driven by an invisible enemy, termed Severe Acute Respiratory Syndrome corona virus 2 (SARS-CoV-2) by the International Committee on Taxonomy of Viruses (ICTV). This virus caused the novel corona virus disease (COVID-19) global pandemic that has destabilized most institutional settings. Trust that "most" is an understatement! The onset of this pandemic forced all the governments of the world to close their borders and institute tough guidelines that grounded all sectors of the economy which was indeed very devastating. While the pandemic took the vast majority of the world by surprise, epidemiologists and other experts had long warned that it was only a matter of time before such a disaster struck.

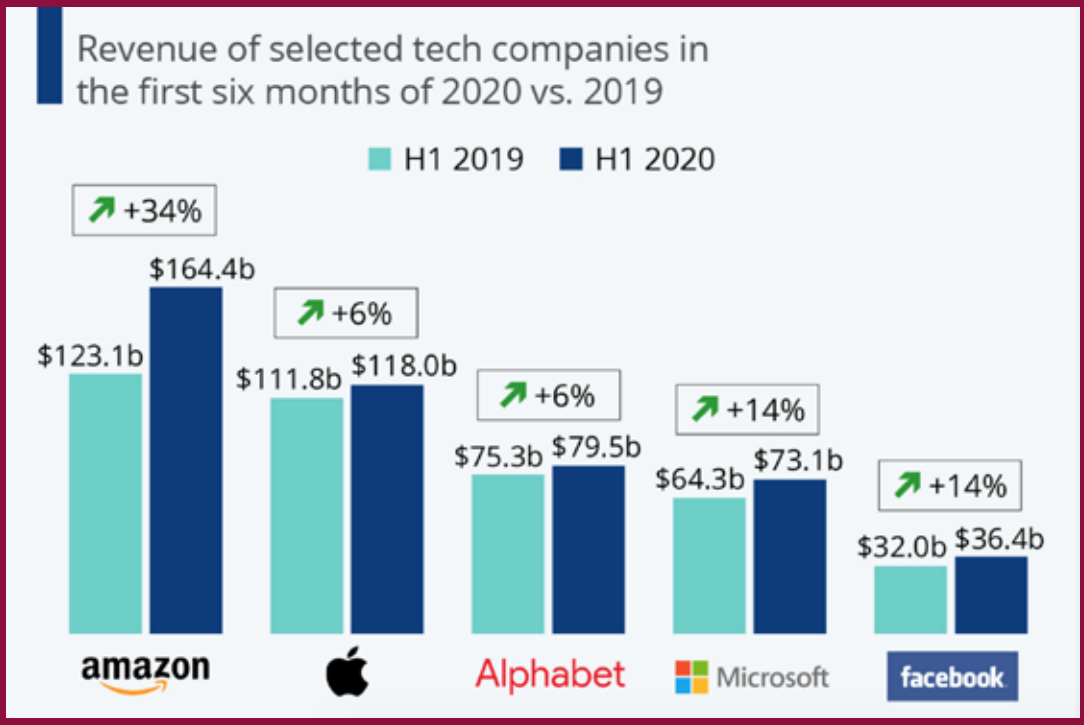
> ***While we live in times when humankind possesses the most advanced science and technology, a virus invisible to the naked eye has massively disrupted economies, healthcare, and education systems worldwide***

Some warnings, like the Bill Gates TED-Talk in 2015, were so vivid that they have now become benchmarks for conspiracy theorists.

As the age-old saying goes, "Experience is not always the kindest of teachers, but it is surely the best". While we live

in times when humankind possesses the most advanced science and technology, a virus invisible to the naked eye has massively disrupted economies, healthcare, and education systems worldwide. This should serve as a reminder, that as we keep making progress in science and research, humanity will continue to face challenges in the future, and it is upon us to learn and prioritize the relevant issues that will aid man to survive and flourish. Something that this pandemic has further emphasized is the need for global governments to develop quality healthcare systems that are affordable and accessible to all natives. For the third world economies, this can be done through increasing expenditure towards health and simultaneously reducing unnecessary expenses on cabinet retreats and Parliamentary salary allocations.

In regards to social constructs and dynamics, this year has also harboured new scenarios. For example, during the lockdown, parents who were hardly at home discovered the value of family time. Many had abandoned their domestic responsibilities to the maids. The countless children who never had the chance to spend quality time with their parents have surely exhausted this chance. COVID-19 has further reinforced the multifaceted economic, social and cultural inequalities in society. Those in situations of vulnerability found it increasingly difficult to get quality medical attention, let alone



Source: *Company Filings*

good feeding. These deficiencies increased domestic violence. However, in most households, this lockdown has opened debate on gender roles and stereotypes. For instance, women have always been expected to carry out unpaid care work like cooking, cleaning, and looking after the family. Since the men have discovered their niche in contributing to house chores, this gives hope that gender equality and social cohesion issues will be considered and appreciated.
In the future, the conventional global response is now focused on building skills and infrastructure to necessitate the digitalization of various social and business processes. This has already been evident across several sectors.

Internationally, tech firms that invested in digitalizing processes have seen exponential growth of their businesses. This explains why zoom usage has increased from 10 million users in December 2019 to over 300 million users worldwide by April 2020. The Online "click to purchase" giant, Amazon, doubled their net profits just three months into the pandemic. In Uganda, the lockdown saw the closure of various businesses. The earlier presidential lockdown guidelines led to the closure of schools, arcades, and hardware shops. It's only the conventional markets that remained operating, under strict rules. The quick-thinkers went digital. While most schools closed their gates to students, others were emerging as E-schools where students remained studying online.
Since regional partnerships remain necessary in ensuring the continuation of enhanced productivity and

promoting better trade and investment diversification, technology is presenting what is to become the new-normal of inter-country dialogue during the corona virus pandemic. This year, G-20 countries didn't have to travel to Saudi Arabia, which holds the rotating presidency; the summit was conducted online via video conferencing. Presidents of the East Africa Community countries are also using the same technology. In future, travel for meetings will become an option as video conferencing is cheaper and convenient, e.g. UEGCL has organized

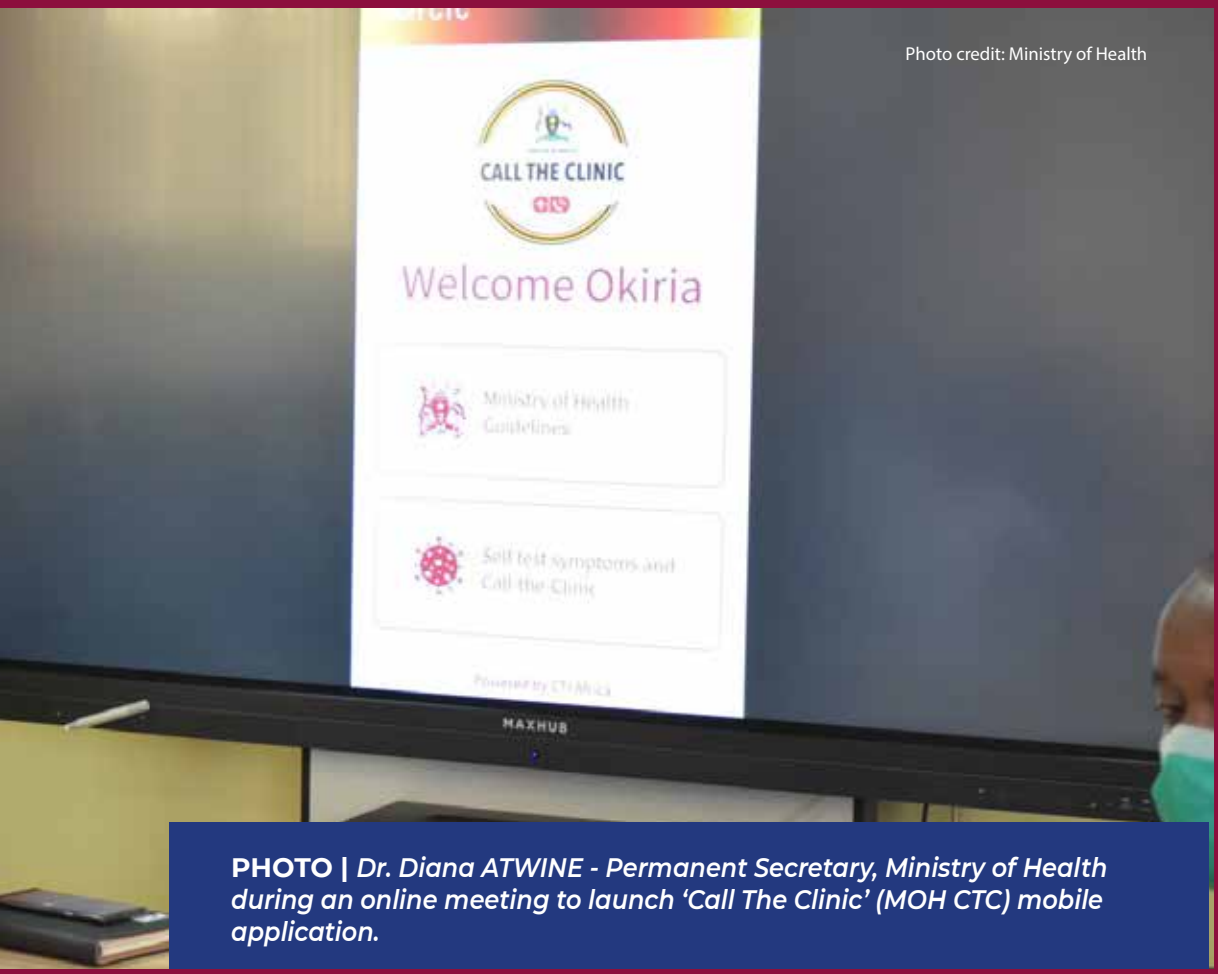


Photo credit: Ministry of Health

PHOTO | ***Dr. Diana ATWINE - Permanent Secretary, Ministry of Health during an online meeting to launch 'Call The Clinic' (MOH CTC) mobile application.***

training and workshops online. This includes its maiden Research and Innovation Workshop that will have real-time online participation. This will significantly reduce the costs of transporting the staff from different sites to Serena hotel for the 2-day workshop.

It's a fact that 'A year after Corona virus' is still an unknown. Note that as communities start to reopen, we will likely see future outbreaks and clusters of viral transmission, which could cause the number of COVID-19 cases to increase. That's because the corona virus is contagious: Each person who catches it infects, on average, about two other people, and some infect many more. Many people infected with the virus do not have symptoms and can unknowingly infect another person who could become very sick.

If you are wondering when will the Corona virus end, you're not alone. However, we must learn to live in the new normal. One thing is for sure though life will not be the same.

DOMESTIC REVENUE MOBILISATION STRATEGY (DRMS) SUCCESS IS DEPEDANT ON MORE ELECTRICITY GENERATION

Ian RUMANYIKA

Manager Public Relations & Corporate Affairs, Uganda Revenue Authority

> ***Electricity is a holding factor consumed by all categories of taxpayers without which business flow and income is greatly affected.***

Looking at a supermarket proprietor, a third of their entire business operations depend on the availability of electricity, right from the storage of perishables to the electronic bookkeeping and premise lighting. The longevity of their merchandise highly depends on the availability of power to hold them fresh. This means that the ability to freshly hold them determines whether the supplier of the ice cream, milk or chicken will continue in the chain. If this loop is in place, then the 'taxman' too has business.

Electricity is a holding factor consumed by all categories of taxpayers without which business flow and income is greatly affected. Once business productivity is set back because of the inability to access power, then the manifestation is solid

on the sales and business income. This connection ends of how much a business can file in-terms of taxes.

While formulating the National budget, the reality of deficit is quite significant as Uganda faces an out-weigh of expenditure over revenue. This does not only threaten our responsiveness to priority services but also defeats the independent sustainability of government key projects.
To this end, the government embarked on having more revenue obtained from local sources through the Domestic Revenue Mobilisation Strategy (DRMS) to maximise investment opportunities available in Uganda. This strategy in which URA is a crucial implementer simultaneously feeds into Uganda's vision 2040 that seeks to strengthen the fundamentals of the economy comprising the energy.

As emphasised in the DRMS, URA has the cardinal role of mapping out and collecting revenue which will, in turn, support the construction of electrical infrastructure to encourage business emersion and longevity. The revenue collected by URA is a significant determinant on how much or many Electricity plants the government can put up to support business and encourage investment. This compliments Uganda's might to fully utilize the many natural resources for economic development.
Investing in electrical infrastructure is one rewarding cycle because it avails opportunities for business to the locals which does not only uplift living standards of Ugandans but also opens them up to income-generating activities from which government can derive income tax.

The tax amendments of 2020/21 have crucial incentives for local manufacturers and investments in industrial and business parks. This great idea can only be achieved if the basics of survival like electricity is assured. Uganda currently has 22 industrial and business parks across the country which will not only create employment opportunities for our generation but also encourage import substitution and be a vessel for more government revenue.

Budget allocation for the energy sector for the FY 2020/21 is at 2.6 Trillion with a steady year to year increment. This can only grow with the URA's ability to collect even more revenue to fund electricity infrastructural development.
The various electrical energy projects embarked on by government stretching throughout the entire country are crucial in creating business opportunities for the locals. This, not only means jobs for them, but also a wider tax base for the URA.

URA can only effectively maximise the revenue collection for funding of the energy sector through collaborations with the key stakeholders in the field like UEGCL to identify the gaps which can be utilised for revenue sourcing and support for the sector.

That said, having a seamless power supply for the supermarket proprietor will highly facilitate their ability to do business and remit more taxes to grow our domestic tax basket. With a fat basket, the government can reinvest in electrification for more businesses to emerge, thrive and pay their due taxes.

Developing Uganda Together.

WORKING SAFELY AMIDST THE PANDEMIC

Noella NSABA
Customer Care Officer

The coronavirus has transformed life as we know it. Schools closed, we are all confined to our homes, merrymaking places shut down with the uncertainty of the future. No one comprehended what the outbreak of the novel coronavirus (COVID-19), from the Wuhan province, China, would mean to the world, to Africa, Uganda or any single person in the weeks and months to come.

On the fateful night of March 22nd, 2020, Hon. Dr. Ruth ACENG confirmed the first COVID 19 case in Uganda and a couple of months later, life as we knew it fundamentally changed.
The mantras that followed after the first COVID cases included: 'stay at home, stay safe' 'wash your hands', 'social distancing' and 'tonsembelela' campaign. These mantras, for the most part, helped keep Ugandan citizens focused on keeping COVID numbers low but as fate would have it, numbers instead of dropping kept rising.
As cases within the country began to rise, a nationwide lockdown was announced and there was a need to

INNOVATION

"Innovation distinguishes between a leader and a follower." **Steve JOBS**

> ***Before the pandemic, the conventional wisdom and knowledge inherited from our forefathers had been that the office was critical to productivity, culture, and winning the struggle for the relevant output.***

work smart at the workplace.
In the case of Uganda Electricity Generation Company Limited (UEGCL), this pandemic forced the adoption of new ways of working at the corporate level and the re-imaging of work. That is to say, employees, as well as the role of top management in creating safe, productive and enjoyable workspaces for employees, more so those at the different work sites of Karuma and Isimba.

Before the pandemic, the conventional wisdom and knowledge inherited from our forefathers had been that the office was critical to productivity, culture, and winning the struggle for the relevant output. Companies competed intensely for prime office space in major urban centers around the world, and many focused on solutions that usually promote collaboration. This was the culture and norm, known and accepted for many years and then, in came COVID -19 that quickened up inevitable trends in workplace culture that include working from home.

Working from home was an experiment that at the start of the pandemic seemed almost impossible to do, but with proper direction, it has proved to be possible even for front desk work. Teamwork and clear communication have now mainly shaped the workplace culture simply because of working in shifts that need co-operation for things to be done. Work that was adjusted to individualism now revolved around collectivism and it is all thanks to the CORONA virus.

For a pandemic that has been characterized by isolation, workmates are much more bound together even while working remotely. The idea of working remotely/apart has been made possible through the help of purchasing new digital tools such as Africell modems to help employees work from home and the feedback from every individual is different as many have enjoyed this new experience yet others are tired and fatigued by it.

The reactions about the new working conditions may be different but the UEGCL vision of being the leading power producer in the Great Lakes region still remains the same and so the need to make more visible output during these trying times also still stands.

Overall, the necessary precautions at UEGCL will continue to be taken to continue ***Generating for Generations,*** through teamwork and hard work.

A SUSTAINABLE ENVIRONMENT IN ELECTRICITY GENERATION: THE CASE OF KARUMA HPP

Lucy Grace AKWII,
Brand and Client Care Officer,
Karuma HPP

The environment is the natural world as a whole or in a particular geographical area, especially as affected by human activity (Oxford Dictionary) and how it is managed, cared for, or misused. There should be a balance in the way human activities utilize the environment. In the era of climate change, existential threats for future generations have risen, thus mitigative campaigns about climate change (associated with charcoal burning, logging, settling, farming in wetlands, and other disruptions in nature's flow) and co-existence with the environment. It is therefore imperative that whatever we do on mother earth is sustainable.

To live in harmony with our environment, we need to carry out sustainable economic activities. Sustainability being the avoidance of the depletion of natural resources to maintain an ecological balance. Sustainable development is the development that "meets the needs of the present without compromising the ability of future generations to meet their own needs. (Our Common

> ***To live in harmony with our environment, we need to carry out sustainable economic activities.***

Future, a report from the Brundtland Commission, 1987) Therefore, all economic activities carried out should be environmentally and socially friendly.

Some people are self-centered when utilizing resources from the environment and end up harming the environment that feeds them instead of ensuring that the resources are applied to meet the needs of future and current generations.

At UEGCL, sustainability being one of the core values, we don't take it lightly, it reflects in how we run our core business of electricity generation which do in diverse ways to keep it sustainable. Currently, we are using hydropower as we look into other sustainable sources. Hydropower utilizes water to generate electricity and is known to be friendly to the environment. This is done by storing water and controlling floods as the power is generated, thus an approach to economic development by supplying enough electricity for industrialization and also sustainably providing jobs.

In the case of Karuma, efforts have been undertaken to resettle affected communities and mitigation of social pressure on the river through community interventions, from the angle of the mother earth, care has been taken to preserve the river and the wildlife. For example, on the river, the ecological flow was designed to enable fish to swim naturally without distortions by making use of a fish a ladder (a structure on or around artificial and natural barriers to allow fish to ascend a dam or waterfall). Therefore, the fish can continue their natural migration. Other animals like crocodiles and Hippopotamus migrate to the shallow and more comfortable side of the river.

The flagship Karuma HPP is a fascinating project that once done will be the largest hydropower dam in East Africa. The project has adhered to the principles of sustainable development. The project that is within the Karuma Wildlife Reserve (KWR), co-existing with wildlife and fauna (monkeys, baboons, snakes, crocodiles, hippopotamus monitor lizards, bird species, and plants) all of which are within the Victoria Nile River and Karuma falls eco-system.

The design of this 600MW Hydro Power Project has an underground tunnel housing the powerhouse, leaving only the switch yard offices, and residences above. Supporting infrastructure used in the construction is undergoing decommissioning and restoration to re-construct the environment to its original state for sustainable use by future generations.

In conclusion, sustainability is a core pillar of UEGCL's activities. The environment conservation is an undertaking to meet the needs of development without compromising that of generations, UEGCL generates electricity in ecological niches but ensures there is mutual existence with the environment through effective environmental clean-up and restoration after successful execution of projects. UEGCL has demonstrated that it is possible to live in peace with the environment.

MY JOURNEY OF GROWTH AT KARUMA HYDRO POWER PROJECT

Mark MUHWEZI
Senior I.T Technician
Sinohydro Corporation Limited

My work contributes significantly to the development of my country, considering that Karuma Hydro Power Project is the biggest Hydro Power Project in Uganda

As a child, stories of how soldiers and army men fought and served their country – making their people proud, always thrilled me and filled me with the desire to one day serve my country and make my people proud too. My time at the Karuma Hydro-Power Project with Sinohydro Corporation Ltd has brought my dreams, desires and wishes closer than I expected. It has been a time of growth not only for me but also for the country at large. I have seen myself move from a young lad to a gentleman who pleasures and prides myself in the work I do at Karuma HPP. My work contributes significantly to the development of my country, considering that Karuma Hydro Power Project is the biggest Hydro-Power project in Uganda and one of its kind in Africa. It is with this enthusiasm that I appreciate Uganda Electricity Generation Company Limited(UEGCL), the employer, together with Sinohydro Corporation Ltd that hired me

and brought me in contact with an opportunity to serve my country in this manner and consequentially fulfil my heart's sole desire.

Sustainability and innovation have always been at the top of the chart in all the work around this project. I can comfortably note that the work I have done and witnessed other teammates do with the entire Sinohydro Corporation Ltd at the Karuma Hydro-Power Project, is work that will move our country into the big leagues as far as power generation is concerned. The Karuma HPP is a project that has already started changing people's lives, mine inclusive, and is over and above going to change the status of Uganda economically and socially considering the income it will generate and the improved standards of living that all Ugandans will enjoy. The 600 MW project is the real definition of a big deal and a mark of sustainable power supply. It gives me a lot of pride to know that I have had the opportunity to serve in the building of such an enormously countless innovation for my country. I get goosebumps every time I mention it to somebody that I am working with the leading and unparalleled hydro-power project in my country Uganda.

Having joined Sinohydro Corporation Ltd in 2015 as a young Information Technology technocrat, I have witnessed the power project grow through phases of expansion, but most of all, I have seen myself grow into a serious multitasking and dedicated personnel now serving in the capacity of Senior Information Technology officer. I have held several responsibilities in and outside my

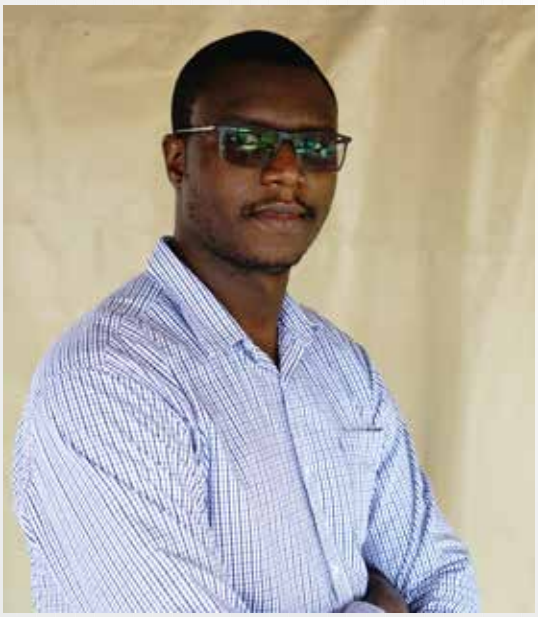
roles and duties stretching from administrative works to Public relations work, Community Liaison work, to mention but a few.
One thing I can't fail to hint on is that under the Public Relations docket, I have been in charge of handling all site-visitation tours and this has exposed me to learn some of the engineering works at the site both practically and theoretically. This has also enhanced my communication skills greatly and moved me from the shy IT officer that I once was, to the interactive and charismatic team player that I am now. Sinohydro Corporation Ltd linked me to the practical world of networking following the theory that I had accumulated from the university. My work in the IT field has been a great deal for me since I am the sole IT man on the ground. I have interacted with, solved and learned many software and hardware problems, both at the site and the rest of the country through the connections of people who know me by my expertise from the Project. My experience is much enriched; kudos to Sinohydro Corporation Ltd and UEGCL at large.

On several occasions, I have had the pleasure of representing the project at different occasions and the most epic being at the **"CHINA-UGANDA INDUSTRIAL CAPACITY COOPERATION EXPOSITION"** Given my multitasking skills, I have also been selected by EPCC to participate in several UEGCL events, and these include "Regional Water Resources Conference and Exhibition" in Entebbe, "Taxpayer Appreciation Week", "Africa Water Association Exhibition", "World Environmental Day," and many more which too have opened me more to the importance of the work I do. The knowledge of how electricity generation interacts with the environment has come to my attention to which I can proudly say that UEGCL and Sinohydro Corporation Ltd have been keen enough to take into consideration all the precautionary measures to protect our environment. My efforts at Sinohydro Corporation Ltd have not always gone in vain as I have been awarded on numerous occasions. I have on my wall a Certificate of Honour as the Excellent Foreign Staff of International Corporation of Sinohydro for the year 2019 coupled with an award as the Excellent Ugandan Employee in SINOCHAM, awarded by the Chinese Ambassador to Uganda. Looking at these two great gifts gives me profound honour and exceeding humility.

Personal experiences specifically with a great company like Sinohydro Corporation Ltd and UEGCL could have me writing until these pages have my name everywhere. I, therefore, would like to close it off by sending my sincere gratitude to my employers, fellow workmates at the project. Most of all the Ugandan Government for putting in the effort to see to it that our country earns a place on the table of the biggest Hydro-Power Generating Countries. To the Ge-News team, many thanks for granting me this opportunity to put pen to paper in a very reflective manner, something I do not often get the chance to do as an IT expert.

For God and my Country

Cyber Security – The Human element



Emmanuel SSEKYEWA –
Senior ICT Officer – Security and Infrastructure

October is the cyber security awareness month. A good time to remember, enforce and renew our collective responsibility in securing our data and systems.

The information age has brought with it the proliferation of interconnected systems arising from the need to transmit data that is continuously being generated and processed for varying purposes – business, industrial operations, health, research, and financial transactions. This will continue given the emergence and popularity of digitalization, social media, and new paradigms such as the internet of things, big data, analytics and artificial intelligence.

One of the biggest challenges emerging from this data explosion in our fast-shrinking global village is securing data and systems from threats such as unauthorized access, manipulation, loss or destruction and

lack of service availability. The news in the not too distant past has carried stories of election interference, remote attacks on power plants and nuclear programs by state actors, and even quite recently and much closer to home, the theft of billions of shillings through widely used mobile transfer and or banking facilities, movie stuff. All systems, regardless of their components, the processes they support, the processes that manage and maintain them, and whatever internal controls are in place to protect them, must interact in one way or another, either directly or indirectly with a human user. The human element is measured to be the weakest link in this equation.

Some common threats we might be exposed to while online are phishing, spear phishing, social engineering, brute force attacks, denial of service attacks and ransom ware.

With the deluge of data or information we are faced with on several platforms, is exacerbated by the disorientation that may have been brought about by working from home and the ease with which we have access to systems, the distinction between personal, work related, and therefore perhaps privileged information may be lost as we go about our routine work and social interactions.

It is therefore extremely important for us to be aware of common security risks to data and systems, and how we can avoid or mitigate them while at the front-line as individuals in the constant struggle to maintain our personal security online, and by extension, the organization's and everyone we interact with. Cyber security starts with you. Some common threats we might be exposed to while online are phishing, spear phishing, social engineering, brute force attacks, denial of service attacks and ransom ware. These could potentially lead to more serious consequences such as financial loss, reputational harm, impersonation, data ex-filtration data loss and loss in valuable productive time.

Prevention and or mitigation of some of these occurrences could be as simple as setting fairly complex and abstract passwords, changing your passwords fairly often, using multiple factor authentication to access certain online platforms, not taking part in certain social media online challenges, and limiting the amount of information shared about oneself and one's circumstances. This list could take a while to exhaust, and perhaps remember, therefore, a key take away is that a touch of paranoia would be just fine for your cyber security.
'Netizens', let us always think about the risks, and impact that they may have as a result of our actions of lack thereof online.

Eng. Timothy Noah MUBBALA
Assistant Project Manager,
Karuma Hydro Power Project

Core values are the fundamental beliefs of a person or an organization. These guiding principles dictate behavior and help people understand the difference between right and wrong. Core values also help companies to determine if they are on the right path and fulfilling their goals by creating an unwavering guide.

One of UEGCL's core value is integrity. - ***"We embrace honesty in everything we do and are determined to adhere to ethical business principles and good corporate governance at all times."***

- Governance - The action or manner of governing a state, organization etc.
- To Govern - to control and direct

Integrity is the quality of being honest and having strong moral principles, while ethics are ethical principles that govern a person(s) behaviour or the conducting of an activity. (Oxford Dictionary) . Quite often, the work ethics and integrity are used interchangeably.

I believe the pioneers of UEGCL chose integrity and not ethics or ethics and

INTEGRITY	ETHICS
Integrity is defined as the quality of being honest and fair.	Ethics is defined as rules and regulations that have been formed which allow an individual to work following moral principles.
Is based on internal/personal values and principles.	Is based on the prevailing law regardless of how good or Bad e.g. one who effectively implemented slavery laws and apartheid laws was considered ethical for as long as it was under the prevailing law.
Does not require monitoring by a human body or committee.	Involves monitoring for compliance by a professional body/ committee etc.
Is not passive – it is active and is completely described by the character of an individual.	Can be passive.
Integrity is internal.	Ethics are more external.
Integrity is a personal choice	Is not a choice, it is Mandatory/ Obligation.
Cannot be imposed on individuals	Can be imposed on individuals
Focused on internal self- control/ Restraint	*Focused on the external control/ restraint*

integrity as a core value for a reason. "If you do not know where you are going, you will never get lost," said the great writer Dr. Miles MONROE. So it is expedient that we know what integrity is as we walk there. This article shows the divide between ethics and integrity and the benefits of integrity.

A person who is known as ethical may not necessarily have integrity, But some of those with integrity will be ethical. The cost of enforcing adherence to ethics is lower when dealing with individuals of integrity.

Benefits of Integrity
1. Encourages fairness in design, construction, operation, maintenance & disposal
2. The efficiency of the delivery of results
3. Safety of humankind in enhanced
4. Preservation of the environment
5. Promotes public safety
6. Encourages social corporation
7. Reduces exploitation
8. Effective utilization of resources

Consequences of Dishonesty
Corruption is the misuse of public office for personal gain either at one's instigation or in response to inducements. Just like the benefits of integrity, the consequences of dishonesty are far-reaching as well.

Political
- Civil unrest
- War and related consequences

Economically
- The increased cost of investment
- Low GDP growth
- High infrastructure maintenance costs

Socially
- Loss of lives due to poor design, construction e.t.c
- Limited safety
- Discourages workers
- Jeopardizes safety of the public
- Effects of imprisonment

Technically
- Reduces the effectiveness and efficiency of infrastructure
- Substandard products
- Falsified facts and related consequences
- Ghost projects
- Accelerated Environmental degradation

Legal
- Imposes strict liability on organizations especially when caught by authorities
- Imprisonment and its related consequences
- Senior officers of construction could also face personal liability under the bribery act for conniving

Reflect on why you were hired by UEGCL (purpose), what you should stand for as a professional (principles), what you are really up to (intentions), and Make some helpful resolutions about your personal life where necessary.

Embrace honesty in everything you do, be determined to adhere to ethical business principles and good corporate governance at all times. Let us uphold integrity to quicken the realization of the UEGCL vision.

A CULTURE OF COMPLIANCE; BEYOND WRITTEN RULES

David KITYO
Senior Compliance Officer.

Creating a compliance culture requires us to go beyond a list of written rules. There is a need to understand the factors that influence staff to behave ethically or unethically to prevent unethical behaviours from endangering a company. Unethical behaviours are usually tied to many different risk factors, such as performance pressure, risk tolerance and lack of consequences or accountability. These behaviours are also associated with a culture that excuses ethical failures if corporate objectives are met in other words, if the end justifies the means.

Compliance is the action of conforming to, or the state of aligning one's self to a set of laws, procedures, guidelines, regulations and other rules in a given environment. In our case, it's a process of making sure that UEGCL as an organization and all its employees follow the laws, regulations, guidelines and approved ethical practices that apply to us. It's important to note that top companies are those that develop through complying with set standards.
Why should we comply?

UEGCL is a government agency that operates under set standards that include laws, regulations, policies, guidelines, and agreements, among others. The existence of these standards is to protect the organization and help it to avoid wastage, fraud, abuse, discrimination and other practices that disrupt operations and expose them to risks.
Internal Audit and Compliance drives staff compliance with a proactive approach that ensures that staff understand the standards that govern their functions before they execute their work. They need to know the expectations of their employer because it's universally known that ignorance of the law is no defence which does not make the facts frivolous or evasive.
The required compliance standards at UEGCL entail the following;
• All laws and regulations are relevant to the Electricity Sector qualifying to the company's function.

UEGCL Policies, Standard Operating Procedures (SOPs), Desk Instructions, Guidelines
• Human Resource Policies Manual (Must read)
• UEGCL Code of Conduct (Must read)
• Other Codes of professional conduct for example Engineers, Lawyers, Auditors and Accountants among others.

What are the effects of non-compliance?
The failure or refusal to comply to results in several outcomes which affect the individual and UEGCL, therefore, staff should not associate with non-compliance, as discussed below;
• Poor Performance on goals and targets; Compliance enables the organization to align all its business areas towards the common goal.

> *UEGCL is a government agency that operates under set standards that include laws, regulations, policies, guidelines, and agreements*

Non-compliance is vexatious to this alignment as it may undermine critical business areas and hence affect output in the long run.
• Financial Penalties; These are unavoidable where laws and regulations are overlooked. These penalties are usually heavy and cause wastage of resources.
• Criminal Liability and administrative sanctions; These may be inevitable where there is non-compliance to laws governing the company, remember "Ignorance of the law is no defence".
• Loss of good opportunities; Funders and financers are only glad to associate with organizations that are known to follow the agreed upon conditions and generally the law as they provide comfort and accountability.
• Reputation woes; A business' image is key to its success, so where non-compliance is conveyed, on the part of the organization, creates distrust and affects customers and business partners depending on their stake in the organization.

Common Non-compliance Pitfalls
Ethical Dilemma;
A difficult choice has to be made between two or more courses of action, for example;

Paul WASIKE, a Fleet Assistant at UEGCL Head Office, is implored to transport staff to Karuma HPP for a vital stakeholder meeting starting 8 am. They set off from Kampala at 7 am with only one (1) hour left to reach the site while anticipating the guests to arrive on time. Officer's in the car requested him to drive at the speed beyond 100km/hr as required by the UEGCL transport policy after receiving a call from their supervisor that the guests had arrived at the site.
A tough decision has to be made because all the alternatives seem right or all seem wrong that make it tough to choose. So what then should one do to make an ethical decision?

To handle an ethical dilemma effectively ask yourself;
1. Is the action legal or in line with the policy?
2. Is it proper or professional?
3. Have I consulted or discussed with the persons to be affected?

4. Will I be embarrassed if my actions are published in the media?
5. Would I apply that action to all cases?
If the answer is yes to question 1, 2, 3 and 5 but no to 4 and the outcome is based on all the above consideration, then the decision is ethical.

Conflict of Interest
A situation arises when an individual has competing interests; where one's decision may be impaired or perceived to be compromised. Conflicts of interest can cause an employee to make an opinion that is different from those of his employer or co-workers. In workplaces, employees should avoid any behavior or choices that could potentially signal a conflict of interest. Conflicts of interest can also exist if the circumstances are reasonably believed to create a risk that may be unduly influenced by other interests (usually personal) and not on whether a particular individual is influenced by those other interests. For instance, Mohammed KAWEKE (not real names), a Maintenance Engineer at Isimba HPP, was appointed to the evaluation committee of a third party maintenance contractor who was his previous employer which causes a conflict of interest. The UEGCL Code of Conduct requires disclosure of these conflicts of interest to the supervisors to ensure objectivity in decision making.

Audit and Compliance are exploring compliance data from a review of processes so that necessary action is taken and also assessing the current compliance culture while analysing the sector, encouraging anonymous reporting as well as engaging management to implement an effective compliance program.

POST-COVID19: REFLECTIONS ON ELECTRICITY MARKETS

Eng. Nicholas Agaba RUGABA
Project Manager, Nyagak III HPP.

We all seem to agree that we ought to adapt to the "new normal" that the Covid19 pandemic has plunged us into. We talk about remote working, adoption of technology, we talk about fast-tracking digital transformation, we speak about stringent Health Safety and Environmental procedures at workplaces and public facilities namely airports, transport systems, hospitals etc. It won't be business as usual anymore. Some have predicted that the Covid19 pandemic may change the world order as we know it just as the September 9/11 attacks changed everything on air travel, access control, surveillance etc. Additionally, the global financial crisis of 2009 that led to the collapse of key banks in the US and set rolling a global credit crunch, which didn't leave international economics and financial markets the same. The world was probably still recovering from the financial crisis of 2009

when the COVID-19 pandemic hit. Amidst all the pandemic gloom and the uncertainty, it may also be a decent time to reflect on what the future holds, particularly for energy access in Sub –Saharan Africa in the next decade ending 2030. Universal access to energy is one of the Sustainable Development Goals (SDGs) on the schedule for 2030, as agreed by UN agencies and many countries around the world. The need for energy access is most urgent in Sub-Saharan Africa. Energy is also at the heart of many of the other SDGs, including those related to gender equality, poverty reduction, improvements in health and climate change.

Sub-Saharan Africa (SSA) has the lowest energy access rates in the world. Electricity reaches only about half of its people, while clean cooking only one-third; roughly 600 million people lack electricity and 890 million cook with traditional fuels (IEA, 2018). Thirteen countries in SSA have less than 25% access, compared to only one in developing Asia (World Bank, 2018.) This dramatic lack of energy access stifles economic growth and sustainable development (World Bank, 2017).

> ***Imagine a future where 40% of all generation capacity is from off-grids/ mini-grid plants like Nyagak I HPP (WENRECO), Nyagak III HPP etc.***

So how will the energy generation market look like in the future for utilities like Uganda Electricity Generation Company Limited (UEGCL)? The International Energy Agency estimates that to achieve universal access to electricity by 2030, 40% of all installed capacity will have to come from mini-grids. According to the EU Energy Initiative Partnership Dialogue Facility, mini-grids are systems involving small-scale electricity generation (from 10kW to 10MW), and the distribution of electricity to a limited number of customers via a distribution grid that can operate in isolation from national electricity transmission networks and supply relatively concentrated settlements with electricity at grid quality level. “Micro-grids” are similar to mini-grids but work at a smaller size and generation capacity (1-10 kW).

Uganda currently has a small mini-grid sector. The regulator, Electricity Regulatory Authority (ERA) classifies them as off-grid. Off-grids are electricity distribution utilities that generate and sell electricity directly to the end-users. West Nile Rural Electrification Company Limited (WENRECO) and Kalangala Infrastructure Services (KIS) Limited are the leading off-grid electricity distributors in Uganda. According to the Electricity Supply Industry Performance Report 2019 by Electricity Regulatory Authority (ERA), by the end of the year 2019, hydro power accounted for the lion’s share of the total installed electricity capacity

80%

Of total installed capacity in Uganda is from hydro power at 1,004.2MW

at 1,004.2 MW representing 80% of the total installed capacity. Of this, 149.2 MW is from small hydro power plants (<20 MW) and 855.0 MW is from large hydro power plants like Isimba HPP, Bujagali HPP etc.

Now, imagine a future where 40% of all generation capacity is from off-grids/ mini-grid plants like Nyagak I HPP (WENRECO), Nyagak III HPP etc. Imagine a future where a substantial amount of generation capacity is from off-grid /mini-grid solar PV plants dotted across rural communities and agro-production ecosystems in Uganda. What would that kind of future mean for a utility like UEGCL that relies on the national off-taker/ national grid to supply and sell its electricity? That looks like a disruptive future. A future where the electricity generation market share is increasingly being taken up by off-grid/mini-grid plants is bound to be one defined by disruption. The disruption will most likely not only be in the production technologies, but also pricing and cost of electricity generation.

The tariffs for wind energy, solar and small hydros that tend to dominate the off-grid/mini-grid market are increasingly getting competitive compared to the large Hydros. In a recent webinar "Scaling Up Renewable Energy (https://www.usaid.gov/energy/auctions/training)" organized by USAID/Power Africa, Kazakhstan, a country heavily reliant on coal power plants has over the last two years (2018 and 2019) managed to attract bidders for renewable energy projects with minimum auction prices as low as 4.6 US cents/ kWh for Wind, 3.4 US cents/kWh for small hydros and 2.6 US cents/kWh for solar. It is not only the price of electricity that is increasingly becoming competitive, but the interest and appetite by investors in renewable energy for the off-grid/mini-grid are also high.

As we imagine a world beyond the pandemic, we need to imagine the future of the energy generation market. The off-grid/mini-grid may soon achieve both scalability and financial feasibility. There may be a game-changer in the market. What if the potential customers (future demand) are captured by competitive mini-grid solutions? Which existing strategies remain relevant as market conditions shift? That is a point of reflection for me and you.

UECGL's QUEST FOR SUSTAINABLE ELECTRICITY

TO POWER INDUSTRIALIZATION

Alan Denis OROMA,
Sociologist, Karuma HPP

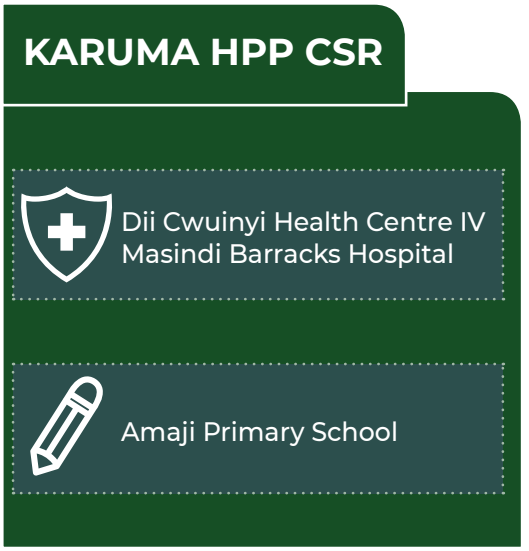
Uganda Electricity Generation Company Limited (UEGCL) 's mission is to sustainably generate reliable, quality and affordable electricity for Socio-Economic Development. With birth pangs, UEGCL has delivered state of the Art Isimba Hydro Station to the nation and upcoming power stations like Karuma hydropower project still in labour and twins like Muzizi and Nyagak will blossom forth with additional Megawatts of electricity aimed at transforming the human condition in Uganda. Sustainability in the context power generation denotes meeting the electricity needs of the current

> *UEGCL ensures that even when electricity is generated, existing water-based livelihoods are not compromised*

generation without compromising that of future generations and where current and future electricity consumers will continually use generated power for generations to come unstopped.

In UEGCL's mandate, the social fabric is a crucial component in ensuring the sustainability of UEGCL investments so that current efforts last for generations to come. Strategically, UEGCL in collaboration with line Government Ministries (Ministry of Energy and Mineral Development) engages community landowners to provide land which is home to the project, this, is done with great care by ensuring that land is acquired and people resettled without disturbing the status quo through direct cash payments at current land values and in-kind compensations through the housing for extremely vulnerable affected persons, in a way ensuring that communities continue to exist side by side electricity generation investments, at the same time creating thousands of employment opportunities for youth and other members of project host communities, in effect, creating income for families and households ensuring basic needs are covered, standards of living improved and long term spillover effects into youth gaining technical skills and experience in construction work, which are tools for sustainable livelihoods in communities.

Worth noting is that the main ingredient for generating power is the river water, used by communities for fishing and cultural crafts (papyrus reeds and mats), a source of livelihoods. UEGCL ensures that even when



electricity is generated, existing water-based livelihoods are not compromised, for example, by building an ecological flow system where fish production will continue, but also allow access to water for fishing and crafts and equipping the fishing community with improved fishing technologies and knowledge as well as continuous constructive engagement as the need arises such as in river diversion and reservoir filling. Besides, to key environment conservation considerations in water and wildlife in protected areas.

As a way of giving back to the community to promote sustainability in power generation, UEGCL has provided educational support to the needy and bright vulnerable girl child in secondary school with school fees support. Some of the schools and health infrastructure are the development at Amaji Primary School, Di- cwuinyi Health Centre IV (Oyam) and Masindi Military Hospital all through the contractor SINOHYDRO. Consequently, there is improving

the social welfare of project host communities due to enhanced access to social services and acquisition of requisite societal values necessary for successful lives and thus a contribution in anchoring the project into the affected community, above all, providing the positive association with the electricity generation and its benefits to communities.
UECGL is aware of the fact that power generation projects attract a high influx of populations into the project area, which can cause public seismic disturbances on the existing social services. To ensure sustainability in hydropower generation, UEGCL, in partnership with health workers deliver HIV/AIDS epidemiological prevention and treatment programs targeting migrant labour. Similarly, the Community Development Action Plan (CDAP) will strengthen community systems to enable them withstand project aftershocks, by building schools, health infrastructure at selected sites, provide rural electrification, water services, forest and enterprise development to contribute in cushioning the social services used by host communities.

In conclusion, sustainability as a core value of UEGCL ensures electricity generation meets the needs of the present without compromising that of future generations, they have been proficient in the course of electricity project generation delivery through resettling and compensating project affected persons, providing sustainable employment opportunities to people from project host districts, striking a balance with other water resource users, Corporate Social Responsibility, environment conservation and mitigating interventions such as CDAP to ensure that the electricity generation station sustainably powers Uganda's Industrialization.

PHOTO | ***The Nurse's houses being constructed at Masindi Barracks Hospital as part of the Karuma HPP CSR***

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SECURITY RISK ASSESSMENT & MANAGEMENT **WITHIN ISIMBA HPP**

Alfred ODAMA –
Security Officer,
Isimba Hydro Power Plant

Isimba HPP commissioned on 21st March 2019, and subsequent takeover by UEGCL on 12th April 2019. From the initiation of the project to the time of handover, Isimba hydro power project security was an obligation of the contractor, CWE till 12th April 2019 when UEGCL deployed their first security team.

Vital installations and assets require specialized protection, site-specific security plans, such properties are often the target attention for potential criminals, terrorists and activists.

> ***Physical attacks/ vandalism on power plants in search for copper wire earthlings and other metals are on the rise and need serious security set up.***

Physical attacks/vandalism on power plants in search for copper wire earthlings and other metals are on the rise and need serious security set up. Although terror threats and attacks are rear, keeping the risk low is very important. Fishing in restricted areas has been one of the recent challenges as fishermen come close to the intake which may easily take them through the spillways.

The effectiveness of security risk assessment and management within Isimba HPP determine the security plans and weighs the plant security. The security of Isimba HPP is aligned with the national security strategy headed by the UEGCL Security Officer. UEGCL entered an MOU with Ministry of Energy and Mineral Development. The security deployment comprises of;

- UPDF from the Vital Installations and Asset Protection Unit
- Uganda Field Force Unit & Fire, Emergency & Rescue Unit
- Arrow Security Services (Private Security Company)

PHOTO | *One of the boats used by fishermen docked at the shores of River Nile upstream of Isimba HPP*

After understanding the consequences, vulnerabilities, threats and overall risks of the plant, the following physical security measures were put in place to enforce the safety of the plant;

- There is compulsory registration at the security desk before one can access the plant for accountability. Soon, there will be the use of high tech access cards for visitors.
- Compulsory Access control and searches at all entrances and exit points.
- The numerous access and exit routes have reduced to one for easy management.
- Strategic deployment of security personnel
- Surveillance CCTV cameras installed all over the premises and in the powerhouse. There have been successes using the cameras identifying offenders.
- A perimeter fence is in its last stage that will be of great help to curb trespassers.
- Installation of proper protective security lights all over.
- Foot and motorized patrol inspection team who do surveillance monitoring.
- There set unauthorized/restricted areas which are tightly being monitored by security systems.
- Routine upstream patrol by Marine and security team.
- There were numbers of challenges met in setting up security at Isimba HPP, the deadliest one being the vandalizing of copper earthlings.
- Contractors terminated staff would be allowed to go with working uniforms, and the same people will come back to access the plant as continuing workers.
- At the worker's canteen, idlers would gather and gamble as they plan for their day's missions.
- Penetration neighbouring people to access canteen for food especially from a shrine called 'Bina bina' that receives many people daily.

This transition had enough lessons to learn from that it developed new counter-intelligence to the acts leading to arrests of many culprits charged in the courts of law. Following the setup of a complete security team at Isimba HPP, there are no cases of theft and the situation is calm. There is an improvement in plant accessibility levels being monitored and patrolled. The team is now in full control of the plant security with deployment of each security agency for a 12-hour shift daily. During the Covid19 outbreak, a security team formed the largest part of the site of the Covid19 task force chaired by the Project Security Officer ASP. Alhaji Mazima. The team did overall surveillance and monitoring of safety-related activities including access control, screening visitors, blocking all the poor access routes and night patrols carried out, as well as implementing SOPs.

SAFETY IN HYDRO POWER PLANTS

Stephen TURABANABO
Operations Manager, Karuma HPP

Uganda Electricity Generation Company Limited (UEGCL) has a Vision ***to be one of the leading power producers in great lakes region*** and a mission ***to sustainably generate reliable, quality and affordable electricity for socio-economic development***. UEGCL's mandate has advanced from concession monitoring to development, operation and maintenance of other large and small hydro power plants in the country. These projects include but are not limited to 600MW Karuma Hydro Power project, 183MW Isimba HPP, 45MW Muzizi HPP, 6.6 MW Nyagak small HPP etc. Therefore, to comply with the mission that is in line with the parameters required by grid code and ERA, one of the UEGCL core values of **SAFETY** takes the lead in achieving reliable quality electricity through the year. Although there are other important core values for the company to ensure reliable quality power to our customer (UETCL), the operators take the lead of implementing safety in plant, which leads to smooth operations of the plant.

The construction and operations of hydro power plants involve potentially

high risks for the health and safety of personnel and equipment as well as for the environment. Therefore, a predominantly high-level of protection is mandatory for such plants. The implementation of such high level safety standards in hydro power plants begins with designs, constructions, installations and commissioning to ensure that safety standards are met before the plant goes into operations.
The operation and maintenance take over the plant from the project phase, and the main objective is to ensure the plant performs to its best without affecting the quality of power generated, the health of the personnel operating the plant, the environment around the plant and the equipment is not damaged. All these lead to a proper safety culture that the company implements.

> *UEGCL core value of **SAFETY** takes the lead in achieving reliable quality electricity through the year.*

The most common hazards in the hydro power plant that need serious controls are:
- Electricity; it is so dangerous to humans and equipment that it kills in milliseconds and destroys equipment badly. The worst part is that it cannot be seen with our eyes (it is invisible), it has no smell, it can jump gaps causing current to flow through the human body and electricity follows the path where there is no restriction for it (least resistance) like human body parts.
- Water; to generate power, water is required. Water is so dangerous, whether stationary or moving. In power stations, there is water for generating (turning the turbines) and water for cooling. Controls and staff for monitoring the plant are required so that this water does not kill/injure staff or destroy equipment.
- Pressurized oil and Compressed air:
- Rotating equipment: These can be seen from a distance but if there are no guards, contact is possible.

The list of hazards above needs an operations and maintenance team that has the right skills and positive attitude towards safety. UEGCL has significantly trained their staff before they start the operation and maintenance of the plant. Pieces of trainings done include:
- System training from the manufacturers in China.
- Similar hydro power plants operations and maintenance in China.

• Shift charge engineers course in Kafue Gorge Regional Training (KGRTC) center in, Zambia.
• Operations and maintenance training in Eskom(U) Ltd.
• Application of knowledge got from the trainings to the installation, inspections and commissioning of the Isimba and Karuma power projects.
• Plant safety regulations training.
• Root Cause Analysis (RCA) training.

The vibrant operation and maintenance team for UEGCL after all the above trainings are done, will be examined, tested practically on the plant and authorized in terms of the Plant safety regulations to effectively operate and maintain the plant.

There are two categories of authorized staff; the first are people who ensure that quality reliable power is generated at all times and also ensure that the equipment to be worked on is properly isolated from all possible sources of supply. The second category of people to be authorized are those who carry out the task on the isolated equipment.

The systems and procedures to ensure that the safety of personnel and equipment are not interfered with have been put in place. Some of these systems include, permit to work, risk assessment, and key safe etc.

In conclusion, safety should be taken and practiced seriously by everybody in our homes, places of work and in everything we do and think about. Safety should be taken as number one core value for everybody and the rest of the values will follow. To visualize safety properly, always carry out detailed risk assessments for every task. Identify hazards, rank the risks, put controls and continuously review the controls for each hazard. If in doubt while carrying out an activity, practice STAR (Stop, Think, Act, Review)

LOCK DOWN 2020 – HOW I LOST MICHELLE; MY RIB TO BE.

Godfrey RWAKAFUNJO
Civil Engineer
Isimba Hydro Power Plant

> ***I am always positive about whatever comes, maybe because it's my nature or it's the teachings I have got from self-help books.***

Nothing brings together people like same misery, so more bonding than happiness; one philosopher quoted: 27th March 2020 was a day to reckon, never out of mind. Whereas on the other side of a telephone line was my beautiful girlfriend (Michelle) who dearly wanted to see my last smile as if the world was shutting down for repair, this side of life, a "lock down" was announced along the corridors of Isimba. We were not sure of what a lockdown meant. To me; it was a mere word thrown around to imply, only residents should stay at the site. Since I was already a resident, the status quo was to remain the same, I thought to myself. In Busoga, my "Muna" (Friend) would say "nabeire tidhi ekiri kwida" (I didn't know what was coming).

The Corona Virus wave wasn't just theoretical, many people across red zone countries had already died, over 500,000 people in 2 months yet the numbers were still under estimated according to WHO, one can imagine the frenzy we were all in. Come to the Ugandan health care system yet to be revamped, fear was enormous that the Ministry of Health was sent into a shock.

Back to my amazing life; I am always positive about whatever comes, maybe because it's my nature or it's the

teachings I have got from self-help books. 'The one thing', to 'The Giants', 'Grit', 'Man's search for Meaning' etc., and the most tools used during that time were probably from Spencer Johnson (P.H.D)'s best-selling book Who Moved my Cheese, short allegory about change, how to sense change, accept change and move forward. It was exciting that I had to re-read it to clear my attitude.

Rules were pinned in each corner of the powerhouse building, masks became "panda gali," kind of the '70s. Without a mask, you could not access the main gate, neither could you sniff into the main control room which had reduced from the usual 15 number to a staggering maximum number of five (5) masked individuals. A sanitizer became a household name, as some called it a 'santiliza'; just to squeeze in some sense of humour to soothe the trembling emotions of people missing their kids and family.

Boom!!!, Floods followed shortly with the arrival of more discharges from Nalubaale Complex (a 20yr flood), it was as if Noah's ark was resurfacing, but maybe it wasn't true, I chose to think so. Water (read floods) became the new rhythm, we were breathing water, smelling water and singing water. I even dreamt about water and spillway gates during this period.

A combination of water and a facial mask culminated into the introduction of 12-hour shift (night &day) which was unheard of in maintenance/projects teams but a little bit familiar with operations. A decree was passed, and everyone belonged to Production ...Yes... Production, not Operations, projects or Maintenance departments, we all belonged to the new department. The cutting cloth between Operations and Maintenance was twined. Interesting how a shaft seal was cleaned at 3:49 am when the rest of the world was dead asleep, checking physical headwater level at 2 am became the new normal. Again, I could feel Who moved my Cheese lessons run in my spine & brain. "Cm'on lad you can do this without grumbling, worry and complaints". Quickly the 12-hour shift was adopted and accepted some got tired along the normal way, some chose to grow a thick skin to absorb that little change in their life and kept their heads high. "We have stayed together, worked together, we now have to learn to journey together" are some of the famous words that those in the Lockdown can never forget.

Ooooh!! Did I forget that we had a WhatsApp Group called LOCKDOWN TEAM with daily devotions to encourage members, thanks to Alfred Emuge, he even introduced holy communion of Biscuits & Soda on a Sunday ...hehe...
Management chipped in with some refreshments and supplies to keep us afloat. A call from HR to inquire about my new norm was exciting, too much care, right? So much CARE. Someone was thinking about me (us) 78km away and praying we stay composed. Like the famous quote "A person who feels appreciated will always do more than what is expected." We were feeling appreciated and our efforts noticed. And finally, there were those

counsellors who called in to ease our souls, solve any psychological issue at hand, very gentle, composed and professional, Woow!! The only sad part is that he/she never dialled my number (hehehe) maybe I could have shared something about Michelle.
So; What was Lockdown? I also don't know, but I learnt patience, teamwork and endurance.

Thanks to the Isimba colleagues and Management for the Teamwork exhibited, you made the 3 months of lockdown easier to sail through.

I am writing about Michelle in the next issue...

WORKING WITH

DIVERSE PERSONALITIES

Doris INGABIRE
Human Resource Assistant

Eng. Nicholas Agaba RUGABA
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We have all probably heard of the new mantra in the world of Human Resource Management - they say hire for personality, not skills or experience. Simon Sinek, the British-born American author and motivational speaker, is quoted to have said "You don't hire for skills; you hire for attitude. You can always teach skills. Great companies don't hire skilled people and motivate them; they hire already motivated people and inspire them."

The question of employee personality goes beyond the recruitment stage. It also arises through the employee's tenure with the organization and even as they

> *Diversity makes it possible for an organization to achieve more, harness various ideas and also improve productivity.*

prepare for their retirement or post-employment period. In the recent retirement training for UEGCL staff that was facilitated by Coach Africa, the trainers subjected the attendees to the Myers-Briggs Personality Test.

According to https://www.myersbriggs.org/my-mbti-personality-type/mbti-basics/, the purpose of the Myers-Briggs Type Indicator (MBTI) personality inventory is to make the theory of psychological types described by C. G. Jung understandable and useful in people's lives. The essence of the theory is that much seemingly random variation in the behavior is actually quite orderly and consistent, being due to basic differences in the ways individuals prefer to use their perception and judgment.
The personality assessment tool helps to identify and describe distinct personality types based on a number of aspects and questions;

1. Do you prefer to focus on the outer world or your inner world? This is called Extraversion (E) or Introversion (I),
2. Do you prefer to focus on the basic information you take in or do you prefer to interpret and add meaning? This is called Sensing (S) or Intuition (N).
3. When making decisions, do you prefer to first look at logic and consistency or first look at the people and special circumstances? This is called Thinking (T) or Feeling (F).
4. In dealing with the outside world, do you prefer to get things decided or do you prefer to stay open to new information and options? This is called Judging (J) or Perceiving (P).

When you decide on your preference in each category, you have your personality type, which can be expressed as a code with four letters, for example, ISTJ, ISFJ, ENFP, ENTP etc. Every personality type/ MBTI type has

SUSTAINABILITY

Energy is essential in development and sustainable energy is essential for sustainable development - **Tim WIRTH**

a corresponding description of that personality. For example, a person who is 'ISTJ' is quietly systematic, factual, organized, logical, detailed, analytical, responsible, pragmatic, decisive etc.

UEGCL, like any organization, has a diverse workforce. The diversity cuts across various aspects, namely, gender, age, religion, ethnicity, qualifications, experience, attitudes etc. The diversity is also eminent in personalities. Some of the staff may be social, expressive, friendly, caring, open, excitement seeking, spontaneous etc. while others may be systematic, conservative, realistic, dependable, factual etc. there is beauty in all diversity. Diversity makes it possible for an organization to achieve more, harness various ideas and also improve productivity.

In a utility organization like UEGCL, where the workforce is mostly engineers and technicians, there are certain personality traits (probably acquired from the study environment in engineering school)

For example, working with Engineers, one gets to use and appreciate figures, statistics, drawings and illustrations since it's the best language they love to use to communicate. Engineers tend to be quite systematic, factual, organized, logical and detailed. This can sometimes set them up on a collision course with people who are fun-loving, open, expressive, excitement seeking, caring etc.

Engineers also tend to have an insatiable need to learn and help out with problem-solving. They are always willing to help as they learn outside the scope of engineering, which makes them knowledgeable in other areas as beyond engineering. We have had cases of Engineers developing interest and passion in different fields such as accounting, finance, contract law etc. However, this also requires them to be open-minded and have the willingness to learn or be team players across various functions/ departments in an organization like UEGCL. One of the trainers on FIDIC (International Forms of Contracts) always tells a joke about Engineers; "Engineers always think they can be Lawyers, but Lawyers know they are not Engineers."

Organizations need to harness the diversity of their workforce/staff. This is because having a diverse workforce offers the organization and its work environment a more balance of strengths and opportunities for better performance and quality decision-making. The organization can tap into the various personalities that blend well for teamwork and excellence. Diversity in the workplace is equally critical for innovation and creativity across many functions in the organization. The different characters can motivate one another, and also mitigate the potential conflicts and hostility that may arise amongst employees with similar personalities. As an employee, analyzing your personality traits can help with self-awareness and thus developing the ability to work in teams, communicate effectively with fellow staff and remain flexible towards change thus achieving both individual goals and organizational targets.

THE MAGNIFICENCE OF MASTERY

Daniel OBONG
Shift Charge Engineer, Isimba HPP

Our company's mandate calls for exceptional and unusual attention to develop and preserve the unique state of the assets.

These demand extensive knowledge, skills and attitude to achieve outstanding results, which are attained through putting in deliberate practice and intended efforts to achieve mastery of the systems and processes in this field of power plant operations and maintenance.

My experience with power plants has taught me that when we set out to do something new, our views of the feat at hand are of pre-judgment and some elements of fear. The mere thought of the achievement is intimidating and strange or even seem over our heads. But as long as we enter the situation with excitement and realize how much work there is to be done, we should manage our emotions and allow time to take its course. Something remarkable will begin to happen and we will start to attain clarity, learning the rules while seeing how things work and fit together. We will also start to see connections that were invisible to us before. We will slowly

> *Over the years, people have placed a wall around mastery, calling it genius and making it seem inaccessible.*

gain confidence in our ability to solve problems or overcome weaknesses through sheer persistence, at a certain point, we will move to be practitioners than to being masters of the field, for instance, power plant engineering.

The three distinct phases that lead to this ultimate forms of mastery are Apprenticeship, Creative active and Mastery.

1. In the first phase of apprenticeship;
Here, we stand on the outside of our field, learning as much as we can of the basic elements and rules.
Under this phase, we first go through a mode of profound observation.
The greatest mistake you can make in the initial months of your apprenticeship is to imagine that you have to get attention, impress people,

and prove yourself. These thoughts will dominate your mind and close it off from the reality around you. You will also want to drop any preconceptions you might have about this world you are entering. If you impress people in these first months, it should be because of the seriousness of your desire to learn, not because you are trying to rise to the top before you are ready.

Then we will go to the mode of acquiring skills. In an activity such as cleaning a filter, we all know that it is easier to watch someone and follow their lead than to listen to or read instructions. The more we do it, the easier it becomes. Even with primarily mental skills, such as computer programming or speaking a foreign language, it remains the case that we learn best through practice and repetition—the natural learning process.

Furthermore, we will go to the experimentation mode
As you gain more skills and confidence, it could require taking on more responsibility, initiating a project of some sort, doing work that exposes you to the criticisms of peers or even the public.

2. The second distinct phase is creative active;
Here we see into the inside of the machinery through much hands-on engagement and immersion, how things connect and thus gain a more comprehensive understanding of the subject. With this comes a new power - the ability to modify and creatively play with the elements involved.

3. The third distinct phase is Mastery,
Here our degree of knowledge, experience, and focus is so deep that we can now see the whole picture with complete clarity. As you accumulate more skills and internalize the rules that govern your field, your mind will want to become more active, seeking to use this knowledge in ways that are more suited to your inclinations. Instead of feeling complacent about what you know, you must expand your information to related fields, giving your mind fuel to make new associations between different ideas. In this phase, the intuitive is fused with the rational.

This intelligence is cultivated by deeply immersing ourselves in a field of study and staying true to our inclinations, no matter how unconventional our approach might seem to others.

Over the years, people have placed a wall around mastery, calling it genius and making it seem inaccessible. They have seen it as the product of privilege, inborn talent, or just the right alignment of the stars that are not entirely true since it can be achieved.

Recent times are mainly characterized by significant learning, approximately during the first 30 months of someone's work-life, that is, pupilage period; after this time, the learning process is usually distorted by many factors like personal aspirations and ambitions, society's expectations and influence, which shifts the priority from learning to other things.
But, since mastery requires some time to be achieved. It may call for delaying immediate gratification in exchange for long term success, in the end, other people may be noticed, but the masters will be remembered.

In Loving Memory

Stephen Owor ASOKA

1975 - 2020

We cannot wind up this edition without recognising our fallen friend Stephen Owor ASOOKA. His impeccable integrity kept him in service for 5 years 8 months. He greatly contributed to the sustainability of our business throughout the lock down by ensuring the accountability of his fellow drivers and the company's vehicles. The safety of colleagues was a priority to him and he innovatively devised means to ensure that all those required for duty were picked and dropped to and from work.

Though gone, his legacy lingers in. Stephen, thank you for ***Generating for Generations!***

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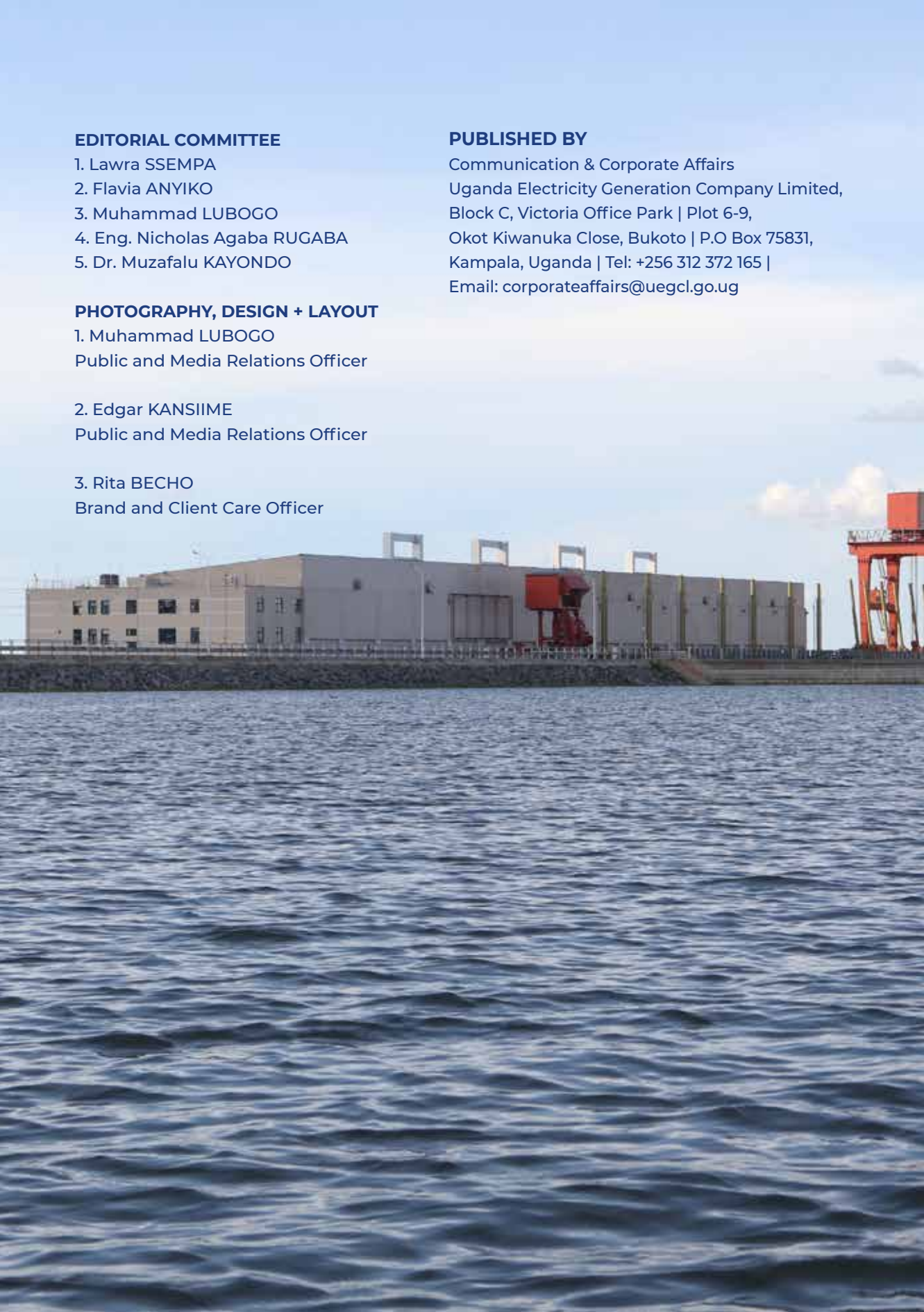

PHOTO | *Upstream view of the 183MW Isimba Hydro power Plant*

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