DPR NEWS MAGAZINE

In-house Journal of the Department of Petroleum Resources

Vol. 10 No. 2 (2019)

DPR EMBARKS ON NATIONWIDE SURVEILLANCE OF PETROLEUM PRODUCTS OUTLETS

BLACK SOOT MENACE IN PORT-HARCOURT AND ENVIRONS

DPR WARNS LABORATORY OPERATORS AGAINST DATA ANALYSIS COMPROMISE

FEDERAL GOVERNMENT RESTATES COMMITMENT TO IMPLEMENT 7 BIG WINS

Department of Petroleum Resources

Vision Statement

"To be a leading
R.E.G.U.L.A.T.O.R
in the Oil and Gas Sector."

Mission Statement

"To ensure the sustainable development of Nigeria's Oil and Gas resources across the value chain for our stakeholders through effective regulation, while entrenching world class professionalism, accountability and transparency"

Our Core Values

R espectfully responsive

E xcellence with integrity

G lobal perspective

U nderstanding stakeholders expectations

L eadership & professionalism

A ccountability

T ransparency

O wnership

R esponsible and resilient

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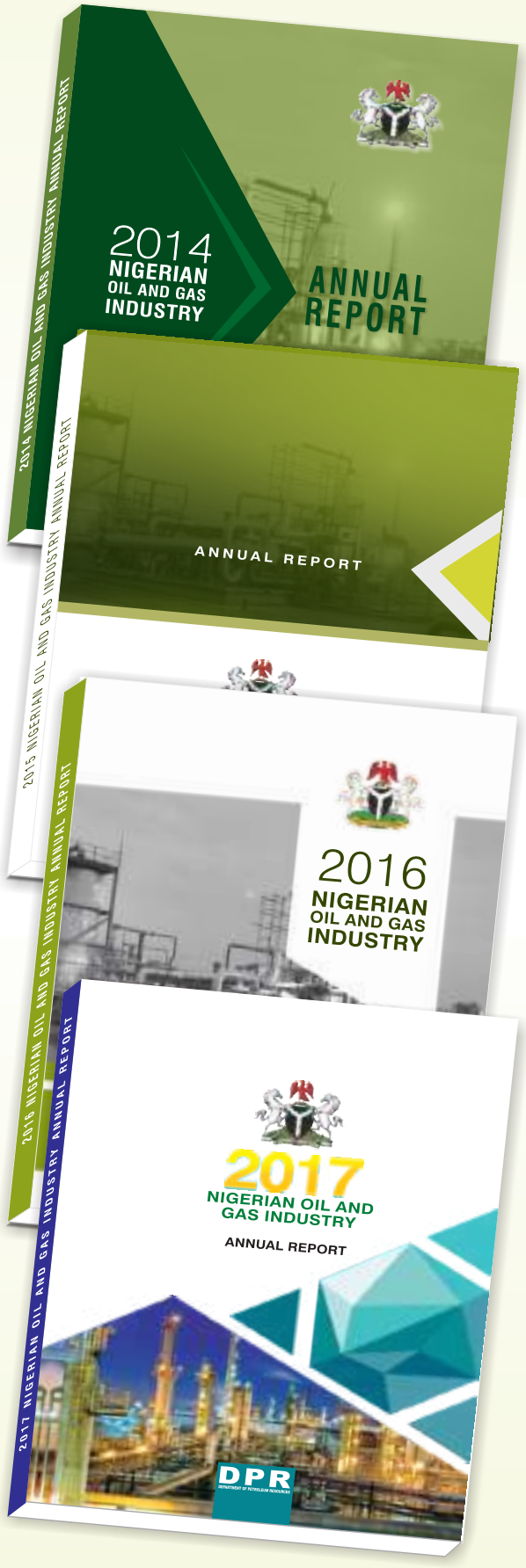

Editorial

Dear colleagues,

A very warm welcome to another exciting edition of " DPR News" in year 2019.We also say a very big welcome to our Honourable Minister of State Petroleum Resources, Chief Timipre Sylva. We are indeed honoured by his visit and we assure him of DPR's commitment to align with his vision for the petroleum industry.

This bumper edition promises to nourish our reading experience with articles and reports on topical industry issues contributed by our seasoned columnist.

The Director has continued to engage critical stakeholders in our regulatory oversight to align operations to environmental realities His visit to the Executive Governor of Lagos State to discuss operational issues is in line with this initiative.

Our ongoing nationwide surveillance on petroleum products outlets has further strengthened our monitoring oversight and deepened stakeholders understanding of our roles in the Downstream value chain.

This edition also provides update on the steady progress of the National Gas Flare Commercialisation Program (NGFCP).

As always activities in our offices nationwide have been featured in this edition to reflect the DPR team spirit.

From the editorial desk, we say ' Happy Reading'

In This Edition

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Produced by:
Public Affairs Unit

FEDERAL GOVERNMENT RESTATES COMMITMENT TO IMPLEMENT 7 BIG WINS

By **Tony Ukpo,** *Public Affairs Unit, DPR Headquarters*

The Honourable Minister of State, Petroleum Resources, Chief Timipre Sylva has reiterated Federal Governments commitment towards implementation of the oil and gas '7 Big Wins'. This was made known during his familiarisation tour to DPR. It would be recalled that in 2016 President Muhammadu Buhari unveiled the Oil and Gas Industry Road Map tagged: '7 Big Wins' which has the potential to address the challenges retarding growth in the sector.

The Honourable Minister of State amongst other deliverables, promised to continue with the implementation of the government approved oil industry roadmap stating that it would address reduction of cost of production of crude oil per barrel, eliminate security challenges as well as vandalisation of production infrastructure.

Sylva said: "We are unrelenting in our commitment to reform, retool and refocus policy-making, regulatory and revenue-yielding parastatals and agencies under the Ministry of Petroleum Resources to operate optimally for the benefit of the national economy which has been experiencing some distress since the drastic fall in oil prices".

The visit which was his first to any parastatal since his assumption into office, provided a platform for the Honourable Minister of State to outline his vision for the petroleum industry. He commended the Ag. Director for excellent facilities and infrastructure which has been put in place to domicile components of the industry operations like the National Data Repository (NDR) which is the data hub for the entire oil and gas industry in Nigeria and the National Production Monitoring System (NPMS) which has recently been upgraded to monitor crude oil, LNG and petroleum products vessels into and outside the country real-time.

In his remarks, the Ag. Director, DPR, Mr Ahmad Shakur who received the Minister assured him of DPR's commitment to the realisation and implementation of his vision for the industry.

The highpoint of the visit was the presentation of NPMS monitoring tool to the Honourable Minister of State to enable him have a live experience and enable monitor real-time crude oil exports and petroleum products importation.

Honourable Minister of State, Petroleum Resources, Chief Timipre Sylva and Ag. Director, Mr. Ahmad Shakur

Honourable Minister of State, Petroleum Resources, Chief Timipre Sylva with DPR TMC members

Presentation of DPR Publications to the Honourable Minister by the Ag. Director, DPR

COURTESY VISIT TO LAGOS STATE GOVERNOR

Ag. Director of Petroleum Resources Mr. Ahmad Shakur recently led Top Management Members of DPR on a courtesy visit to His Excellency, the Executive Governor of Lagos State, Mr. Babajide Sanwolu. The essence of the visit amongst other critical issues was to discuss long term solutions to ameliorate the current state of Petroleum Depots and Jetties in Ijegun community of Lagos State.

DPR EMBARKS ON NATIONWIDE SURVEILLANCE OF PETROLEUM PRODUCTS OUTLETS

By **Obianuju Akwunwa,** *Public Affairs Unit, DPR.*

Department of Petroleum Resources (DPR) has embarked on surveillance of Oil and Gas product outlets throughout the Federation. This is in line with its regulatory mandate to ensure practices in the sector are in line with approved procedures of operation.

In some instances, some Liquefied Petroleum Gas (LPG) skids were installed without approval and some Premium Motor Spirit (PMS) stations operating without licence and in unsafe conditions and environment.

Subsequently, it was gathered that these illegal gas outlets are being supplied gas by some licenced operators who have chosen to engage in this dubious act. Warning letters have been issued to these major licenced LPG retail plant owners. Should they be found further wanting, they will be served in accordance with the law.

On the brighter side, through the ongoing exercise, we have been able to curtail people selling products above the approved price, under dispensing and operating without valid licence. We have also been able to reduce the subsequent negative impact of these actions on the environment as well.

The Department reiterates that ignorance of the law is not an excuse as DPR will dexterously continue to perform its regulatory assignments within the confines of the law. Operators are encouraged to run routine checks of their facilities, service their machines and ensure that dispensing is done within approved limits.

In Oyo state, seventeen (17) illegal Liquefied Petroleum Gas (LPG) retailers were sealed and warning letters issued to nine filling plants. In Yenagoa, the Bayelsa State capital nine (9) petrol stations and an illegal Liquefied Petroleum Gas (LPG) station. Ten (10) stations in Jos, the Plateau State capital were sanctioned over expired license and lack of other basic operational requirements. In Kaduna state, fifty-three (53) filling station and 4 LPG Stations have been sanctioned. In Akwa Ibom, about Twenty-eight (28) filling stations were found to have violated DPR seal and the law enforcement agencies have begun the prosecution of such operators.

THE GROWING ACCEPTANCE FOR OBSOLESCENCE MANAGEMENT IN THE OIL & GAS INDUSTRY

Introduction

The term "obsolescence" was first applied to the built environment in 1910 to explain American skyscrapers' sudden loss of value. New York engineer Reginald P. Bolton attributed this phenomenon to "something new and better out-competing the old" and calculated the average architectural lifespan of varying building types to formulate a rough estimate for their impending obsolescence.

Obsolescence is the state of being which occurs when an object, service, or practice is no longer wanted even though it may still be in good working order. Technical obsolescence usually occurs when a new product or technology supersedes the old one, and it is preferred to use the new technology instead. Items become functionally obsolete when they can no longer adequately perform the function for which they were created. With technology racing ahead, it is expected that obsolescence management in the industry shall be taken seriously.

What do we mean by obsolescence management?

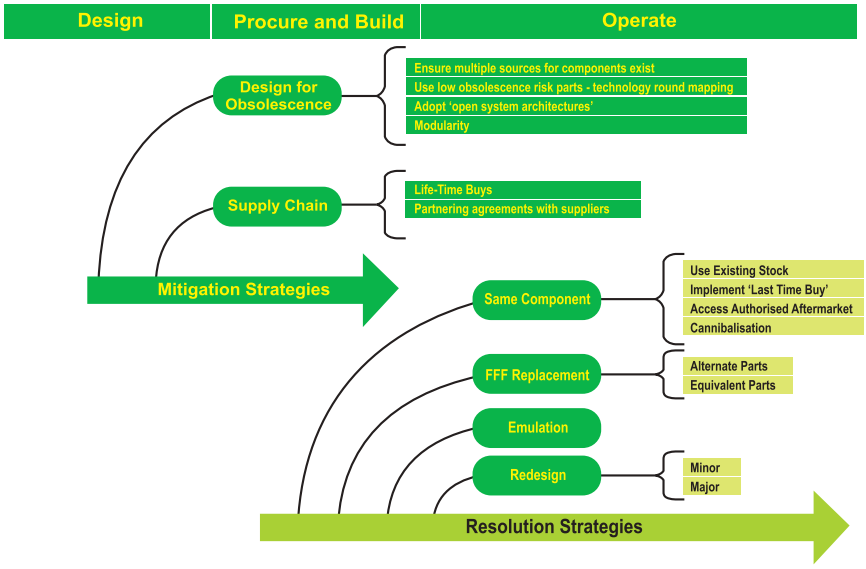
The International Electromechanical Commission (IEC) IEC 62402 defined obsolescence and obsolescence management as 'the transition from availability from the original manufacturer to unavailability' and 'the coordinated activities to direct and control an organization with regard to obsolescence' respectively. The International Oil and gas Producers Association (IOGP) provides recommended practice in **IOGP Report 551.** The report defines the proactive Obsolescence Management Process as it applies to automation systems for oil and gas producers and specify the minimum requirements for automation systems suppliers to manage the risks of obsolescence through activities associated with prevention, prediction and resolution.

The aim of Obsolescence Management

Primarily is to avoid costly resolutions when an obsolescence issue occurs. Careful planning can minimize the impact of obsolescence and its potential high cost.

The objective of obsolescence management

To ensure that obsolescence is managed as an integral part of design, development, production and in-service support in order to minimize cost and detrimental impact throughout the product life cycle.



Obsolescence is inevitable and it cannot be avoided, but forethought and careful planning can minimize its impact and its potential high costs – IEC 62402

How does Obsolescence Occur in the Oil & Gas Industry?

Obsolescence could occur due to

1. Market dynamics (changes),
2. Technological evolution and
3. Environmental policies & restrictions.

Market changes and technological advancement can lead to a decrease in demand for older products such that the economic production is not feasible. Similarly, a newly developed generation of technology renders the old one obsolete and sometimes these new technologies are often cheaper to produce than their predecessors. In some cases, old technologies are completely displaced by new ones.

Obsolescence is inevitable and it cannot be avoided, but forethought and careful planning can minimize its impact and its potential high costs.

Consequences of not having Obsolescence Management Strategy

Absence of a proper Obsolescence Management strategy could be a **major cost driver** for the support of long lifespan systems. It **creates vulnerabilities** affecting operational availability, maintainability, and supportability; and lead to a situation where the cost of maintaining the equipment will exceed the purchase cost of that same equipment.

Other implications include no assurances that Original Equipment Manufacturers (OEMs) had obsolescence process in place for their equipment saddling one with the problems of locating a vendor with similar equipment or parts when the existing one go bad.

Components may contain special bespoke design elements and relying on 'out of support' software, problems accessing the original design because the engineers with in-depth knowledge of the equipment may have left the employment of the company or industry as a whole, thereby leading to

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JOINT OPTIMIZATION OF GAS & ELECTRICITY SUPPLY SYSTEMS IN NIGERIA

By **Abubakar Sani Hassan,** *PhD., DPR, Lagos.*

1.0 Introduction

This article examines the complexity of increasing interaction of gas and electricity systems in Nigeria. Nigeria with about 200 TSCF of proven gas reserve is pursuing gas markets reforms that is expected to usher competition through private sector driven investments.

2.0 Gas and Electricity Systems

Gas and electricity systems are operated currently separately by different operators in Nigeria. The use of gas fired turbine generators in power generation links natural gas and electricity supply systems. The increased use of gas fired turbines in power generation is driven by economic and environmental reasons and has become the preferred source of energy especially power generation.

Combined Cycle Gas Turbines (CCGTs) are cost effective to build with higher efficiencies compared to other fossil fuel-based electricity generators. In Europe for example, CCGTs serving as spinning reserves have been utilized to balance intermittent power generation from wind turbines. The increasing interaction between gas and electricity systems have attracted interest from primary energy regulators like DPR and secondary energy regulators like the Nigerian Electricity Regulatory Commission (NERC). Therefore, there is a need to assess the impact of interaction of gas and electricity systems on the security of energy supply.

In an electric power system with a high penetration of CCGTs, the disruption of gas supply or the loss of a major gas network component (e.g. pipeline) may curtail the delivery of gas and consequently constrained power supply. Also, the regulatory prearrangement for gas supply to priority consumers during a major supply disruption may lead to a forced interruption of gas supply to CCGTs and hence additional bulk power outages (system collapse). Fluctuation of gas demand for power generation poses a major challenge of managing the gas network within acceptable gas facilities pressure limits. A coordinated approach of operating future gas and electricity networks is required to ensure optimal operation of both systems in a manner that assures infrastructure investment and guarantee revenue streams. Figure 1 in reference shows a future interaction of gas and electricity networks. Nigeria does not currently have a fully functional gas distribution system, however, companies like Greenville and Transit Gas Nigeria Limited (TGNL) are on the verge of implementing a virtual pipeline technology to truck Liquefied Natural Gas (LNG) to stranded customers in the North. Greenville have recently been issued an interim LTO by DPR for its 40 MMSCFD Train 3 Rumuji Mini LNG Plant Project while TGNL have secured an LTE for its 20 MMSCFD Mini LNG plant in Ajaokuta.

3.0 The need for an Integrated Gas and Electricity Framework in Nigeria

Revenue flows from last mile customers on Electricity Distribution Networks determine the payment to Electricity Generating Companies (GENCOS) utilizing gas for CCGTs. This in turn affects the revenue streams to GENCOS Gas providers. The Electricity Distribution Networks in Nigeria are owned and operated by Distribution Companies (DISCOS). Reference argues that DISCOS have continuously been unable to meet payment obligations for power supplied by GENCOS through the Nigerian Bulk Electricity Trading Plc (NBET) which in turn makes it impossible for GENCOS to pay gas suppliers. This is increasingly limiting further investment and expansion projects for grid connected gas to power projects .

Consequently, the above narrative shows that developing a sustainable gas to power infrastructure is a complex challenge. It requires solving a joint optimization problem to incorporate the constraints of the power system in the development of gas infrastructure for CCGTs. Optimization models have been utilized to solve complex problems in industrial systems, power systems and the oil and gas sectors. Integrated gas and electricity models have been utilized in references – to solve complex joint optimization problems.

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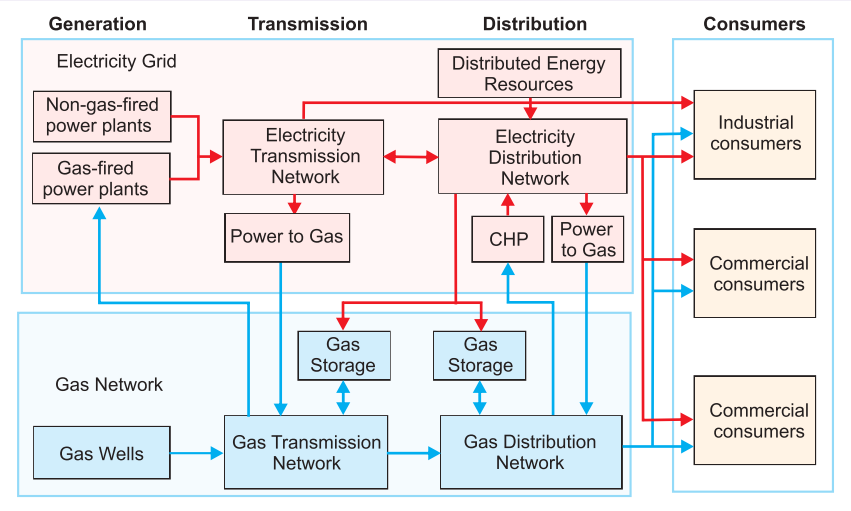

Figure: Interaction of Gas and Electricity Supply Systems

EFFECTIVE COMMUNICATION IN BUSINESS ENVIRONMENT

By: **Aminu Shehu Yaro,** *Environment Officer I, Lagos Zonal Office*

In a business or work environment, employers desire their employees to possess the ability to formally communicate in both oral and written form, with colleagues, customers, clients, other organizations, the media and the public. Effective communication is vital in building effective relationships with colleagues and business partners. It helps one become a better team player, while contributing more to innovative projects and policy making. Additionally, effective communication helps employers improve and manage relationships with stakeholders while promoting conflicts resolution.

In a typical workday, employees spend time communicating with colleagues in different ways. However, not all interactions in the organization are business oriented. For instance, discussing personal matters with your colleagues at the canteen or a chat centered on the premier league walking down the hallway cannot be qualified as business communication. **Business communication** therefore is defined as the written or spoken interaction on organizational activities between people who operate within a business context.

Business communication can be **internal or external**. Internal business communication takes place within the organization and flows in different directions. It flows downward when management gives instruction, provides information, seeks feedback and generally encourages and motivates employees. It is upward when employees provide feedback and information, report on the activities they were assigned to and request support. Lastly, it flows horizontally across the organization to facilitate exchange of information and build cooperation between departments in the coordination of tasks being carried out by interdepartmental teams. The external business communication involves interaction between an organization and the external environment e.g. members of the public, the media, clients, consultants, suppliers, contractors etc.

Business communications may take the form of oral interactions through conversations and meetings either face to face, online, phone calls or radio program. It can also be carried out via written words such as memos, emails, websites, social media posts, reports and proposals.

Every form of communication requires an exchange of message between a sender and a receiver-audience. A message is encoded by the sender through sounds, written words, images, videos, spoken language or even body language such as gestures, facial expressions, and tone of voice. This message, thus, reaches the receiver who decodes it and may decide to respond.

However, this transmission of message does not always flow smoothly. A series of problems may limit the audience's ability to understand and assimilate it. These problems may include the way the message is expressed, technical problem in sending or receiving the message, the receiver's inability to process the message and lack of common ground (e.g. cultural factors such as beliefs, values and language) between the sender and the receiver. Therefore, to communicate effectively, the following key principles should be adhered to; **Determine who your audience is.**

It is important to understand and be aware of your audience. They are the people you talk and write to. They could be your colleagues, clients, media team, members of the public or other organizations. The people, groups and organizations a business

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GEOGRAPHIC INFORMATION SYSTEM (GIS), ENTERPRISE RESOURCE PORTAL (ERP) AND CENTRAL ELECTRONIC LICENCING AND PERMITTING SYSTEM (CELPS) PROJECT COMPLETION TOUR AND TEST

By **Umar Hassan,** *Asst. Chief System Analyst, E & S., DPR.*

Engineering and Standards Division conducted GIS – ERP Project Completion Tour and Test for the HSE Division.

The event was attended by Dr. Muza Zagi, Deputy Director, (HSE), Mrs. Ibidun Toweh, Deputy Director, (E&S), Mr. Umar Moriki, Assistant Director, (Safety), Mr. Abdul-Afeez Balogun, Assistant Director, (Environment) and Engr. Lukeman Cardoso, Assistant Director, (ICT) amongst other staff.

The event took place at the newly established GIS Room on the 2nd floor of the DPR Headquarters. There was the presentation on the GIS deployment targeted at harmonising all DPR GIS solutions. This was followed by a tour of the GIS suite to showcase the new platform and tools, inclusive of computers, plotters and scanners.

A presentation was also made on the ERP deployment for Health, Safety and Environment, Planning and Office of the Director Divisions. Another presentation was made on CELPS modules - specifically

Application for Crude Oil Export Licensing Module, Application for Liquefied Petroleum Gas (Category D) Module, Application for Lube Oil Retailers Module and Application for Establishing Refinery / Petrochemical Plant Module.

BLACK SOOT MENACE IN PORT-HARCOURT AND ENVIRONS

By ***Mr. Bassey Utuk Nkanga,*** *ZOPSCON, Port-Harcourt.*

BACKGROUND

Around the month of October 2016, residents of Port Harcourt and its environs observed the appearance of black particulate matter (PM) on surfaces, particularly in the early hours of the morning. It was later confirmed to be carbon soot from incomplete combustion of hydrocarbons that resulted in constant hazy/smoggy skies. The most affected people are the residents in the windward directions and those living close to the creeks like Borokiri, Reclamation Road area, Old Port Harcourt Township, Old and new GRA, Agip Estate, Woji, Iwofe, Abuloma, Amadi-Ama and others. The black soot emergence in Port Harcourt and environs in Rivers State has become the nightmare that reoccurs during the dry season of the year.Air quality index (AQI) of the city relative to other selected cities of the world that are known for poor air quality revealed that Port Harcourt is one of the most polluted cities in the world.

Since that fourth quarter of 2016 till date, large deposits of soot have plagued the city of Port Harcourt mostly during the dry season[1] [9]. This situation leaves the over 6 million residents of Port Harcourt at risk of adverse health consequences most especially children (due to their premature respiratory organs) and the elderly. Besides the health implications of the soot, Port Harcourt residents have continued to experience constant black coloration on their cars, floors, roofs, and household furniture surfaces which has resulted in frequent cleaning because of the black soot deposition on those surfaces [Fig. 1].

DEFINITION AND FORMATION OF BLACK SOOT

Soot is a black powdery substance that consists mainly of carbon and is formed through the incomplete combustion of carbon-containing materials. Fossil fuels contain carbon (C) and hydrogen (H). During complete combustion carbon and hydrogen combine with oxygen (O2) to produce carbon dioxide (CO2) and water (H2O). CxHy + N(O2) ↔x(Co2) + y2(H2O). For example, the stoichiometric burning of propane in oxygen is:$C_3H_8 + 5O_2 \rightarrow 3CO_2 + 4H_2O$.

But during incomplete combustion, part of the carbon is not completely oxidized producing soot and carbon monoxide (CO). Incomplete combustion uses fuel inefficiently and the carbon monoxide produced is a health hazard. $C_3H_8 + 3O_2 \rightarrow C + 2CO + 4H_2O$ [2}.

The carbon is released as fine black particles. We see this in smoky flames, and it is deposited as soot. The other examples of soot may include coal, charred wood, petroleum coke, cenospheres, and tars. Soot retains very few of the physical and chemical properties of the source materials.

Incomplete combustion occurs because of:

* Insufficient mixing of air and fuel.
* Insufficient air supply to the flame.
* Insufficient time to burn.

HEALTH AND ENVIRONMENTAL CONSEQUENCES OF SOOT.

Soot is a component of particulate matter found in the air. Particulate matter (PM) is the sum of all solid and liquid particles suspended in air many of which are hazardous such as dust, pollen, soot, smoke, and liquid droplets. The World Health Organization (WHO) has estimated that exposure to PM is responsible for more than 800,000 deaths worldwide each year [3].

While there are several sizes of particulate matter, $PM_{2.5}$ is highly dangerous to humans because it can easily penetrate deep into the lungs and other body tissues [4]. It measures about 2.5 micrometres in diameter which is about 30 times

Fig 1. Black Soot deposition on cars, floors, roofs, and household furniture

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SAFE FUELING AND PETROL (PMS) HANDLING GUIDELINES

By **Engr. A. A. Adejare,** *TL-ROM, Ilorin-Office*

NEVER COMPROMISE SAFETY!

Guidelines for Fueling Vehicles

- Turn off your engine.
- Put your vehicle in park and/or set the emergency brake.
- Do not smoke, light matches or use lighters while refueling
- Use only the refueling latch provided on the dispenser. Never jam the refueling latch on the nozzle with any object (i.e. gas cap, etc.)
- Never leave the nozzle unattended.
- Do not overfill or top-off your vehicle tank – it can cause spillage.
- Do not allow children to fuel and /or assist fueling vehicle.
- Never use a cell phone or other personal electronic device while refueling (for example, laptops, Personal Digital Assistants (PDAs) and electronic games). These items should be left in your vehicle.

Static Electricity at the gas pumps

Static electricity-related incidents at retail outlets can be avoided. In the unlikely event a fire occurs when refueling, leave the nozzle in the fill pipe and back away from the vehicle. Notify the station attendant immediately so that all dispensing devices and pumps can be shut off with emergency controls. Use the emergency shutdown button to shut off the pump.

Safety tips to avoid static electricity buildup:

- Upon exiting vehicle and before handling the nozzle or fuel door, always touch a metal part of the vehicle such as the door or hood.
- To avoid a build-up of static electricity, do not get back into your vehicle during refueling.
- If you cannot avoid getting back into the vehicle, upon exiting **always touch a metal part of the vehicle** away from the fill point before handling the nozzle.

Guidelines for use of portable containers

- Use only an approved portable container (5 to 10 litres, metal or Underwater UL approved plastic, with vapour-tight cap). The container must be in good condition with vapour-tight cap. Never store petrol (PMS) in glass or unapproved containers.
- When filling container, follow same rules as when fueling car: turn off engine; extinguish smoking materials, leave electronic devices in the vehicle.
- Place portable fuel container on the ground during filling and keep the metal nozzle spout in contact with the container to prevent build up and discharge of static electricity. Never fill a container in the bed of a pickup, in the back of a station wagon, or in the trunk of a car.
- Keep container five feet away from cars to prevent ignition of fumes by hot engines or mufflers. Ask others, particularly children, to stand back during filling.
- Portable container is to be fill slowly to decrease the chance of static electricity buildup and minimize spilling or splattering.
- Back off on the trigger to slow fuel flow as the container becomes full. Fill container **no more than 95 percent** full to allow for expansion. When filling is complete, tightly cap container. Wipe off any petrol (PMS) that spilled on the outside of the container. Ask the station attendant to properly dispose of the material used to wipe off the petrol (PMS).

Guidelines for transporting petrol (PMS) in portable containers

- Make sure the cap is on tightly before you put the container in your vehicle. Spills pose a fire hazard and petrol (PMS) odors are hard to remove from carpeting
- Put container in trunk of car or in bed of pickup. Do not put container in the passenger area of your vehicle.
- Restrain the container so it cannot tip over or slide around while you are driving.
- Never leave a vehicle with a portable petrol (PMS) container in direct sunlight.

Guidelines for storing petrol (PMS) safely

- Store a petrol (PMS) container in a well-ventilated place out of reach of children and pets. Do not store petrol (PMS) in the living area of a house.
- Store containers away from ignition sources (gas pilot lights or flames, electric motors, stoves and heaters, for example) and from combustibles (i.e., paper, rags and cardboard).

Guidelines for fueling from a portable container

- Transfer petrol (PMS) in an area with good ventilation to reduce hazard of fire and exposure to vapors.
- Ensure that there are no sources of ignition (gas pilot lights or flames, electric motors, stoves, heaters) within 50 feet.
- Before refueling, turn off the engine or appliance. Allow hot surfaces to cool enough so they cannot ignite petrol (PMS) vapor.
- Avoid getting petrol (PMS) on your skin or clothes. Use a funnel to avoid spills. Do not breathe petrol (PMS) vapors.

Guidelines for disposal

- Do not discard petrol (PMS) on the ground.
- Do not put a container containing petrol (PMS) along with household refuse in garbage can or trash container.
- Do not discard petrol (PMS) into a sewer, street drain, stream or river. Such actions are illegal.

2019 DPR CULTURAL DIVERSITY DAY CELEBRATION

Representative of the Director, Dr. Musa Zagi giving the opening remarks

Head PAU, Paul Osu, giving the welcome address

Presentation of kolanut

Cross section of staff

Kola breaking ceremony.

ZOPSCON Port Harcourt, Mr Bassey Nkanga with the richly dressed Port Harcourt Team.

Musical display.

Photonews

2019 NIGERIA OIL AND GAS (NOG) INDUSTRY CONFERENCE

Mr. Enorense Amadasu, Head, Upstream Monitoring & Regulations speaking at the NOG.

Opening Ceremony, from L-R: Mr Ahmad Shakur, Ag, Director, DPR, Mele Kyari, GMD, NNPC, Maikanti Baru, for GMD, NNPC, Wabote Simbi, Executive Secretary, NCDMG

DPR Team with guests

Delegates at the Conference.

DPR Booth

Mr. Paul Osu, Head, Public Affairs presenting DPR booth to Industry dignatories.

DPR Booth

YENAGOA FIELD OFFICE AGM

Mr. Emiy Ikuru, Environmental Consultant

Mrs. Ejiro Ufondu, Operations Controller, Yenegoa Field Office, delivering the welcome address.

Operations Controller, Yenegoa Field Office, Mrs. Ejiro Ufondu, and representative of law enforcement agencies.

Mr. Ike Chidi, coordinating a session on HSE Operations in Gas facilities

AND THEY MOVE ON...

Chief & Mrs. Udegbunam Jerome

Chief & Mrs Njoku Lucius

UGANDAN DELEGATION VISIT TO DPR

Mr Abel Nsa speaking at the benchmaking visit

Mrs. Betty Namubiru, Manager, National Content Petroleum Authority, Uganda.

Ugandan Team presenting a gift to DPR, Mrs. Roseline Wilkie, Head, Services

Display of DPR Publications

DPR AND FAAN COLLABORATE ON QUALITY CONTROL OF AVIATION FUEL

By **Murtala Wali,** *Public Affairs Unit, LZO., DPR.*

The Department of Petroleum Resources (DPR) and the Federal Airports Authority of Nigeria (FAAN) had met to close the observed gaps in the supply chain of Aviation Turbine Kerosine (ATK) also known as Aviation fuel in the Lagos operational area of the country.

In a recent meeting held at the FAAN Headquarters at Murtala Muhammed Airport, Ikeja, Lagos, the agencies agreed to continue collaboration to deliver on the high safety and operational requirements on handling aviation fuel across the country.

Mr. Wole Akinyosoye, DPR Zonal Operations Controller, Lagos stated at the meeting that continued collaboration between the agencies "is imperative to maintain the current excellent safety records and particularly to strengthen the Departments supervision of the aviation fuel supply chain". He also pointed out that collaboration and adherence to the extant rules and procedures are important, especially for the maintenance of quality integrity "from refineries to storage and up to the aviation tarmacs".

Mr. Akinyosoye in this regard stressed the importance to continue ensuring that only bowsers from the aviation depots are allowed to operate on the tarmacs. He further explained that the name and logo of the originating depot must be clearly inscribed on the bowser, for the avoidance of doubt.

Engr. Salisu Daura, Director of Engineering Services, representing the Managing Director of FAAN, Engr. Saleh Dunoma, acknowledged the need for collaboration between both agencies, reiterating that safety is the most important consideration in FAAN operations. Daura pledged that FAAN will continue to provide all assistance to DPR across the nation and synergise on continued delivery of quality aviation fuel at the wing tips.

DOWNSTREAM SURVEILLANCE AND MONITORING ACTIVITIES: THE 21ST CENTURY APPROACH

By **AbdilKadri Bello,** *Electrical Engineer 1, Downstream Division, DPR.*

Facility surveillance is a method deployed by the Department of Petroleum Resources (DPR) to monitor licensed Downstream Transportation, Storage and Processing Plants. Most advanced nations have adopted the use of modern technology, such as UAV or drones for surveillance, especially in remote or difficult to reach terrains.

For DPR, the use of Geographic Information Systems (GIS) for monitoring operations should not replace ground truthing or physical inspections, as it avails core field knowledge transfer and an opportunity to have a first-hand experience of the subject exercise. It equally enriches DPRs field database on effective handling for better revenue generation.

The analysis of geospatial data enables the Department to understand the demographics of oil facility installations and their interrelationships. Identifying the critical path of such relationships aids the Government in making decisions on how best to adequately safeguard it.

With data generated from geocoordinates, DPR staff are armed with data to make informed decisions on the go. The storage of information as attributes allow for the keying of lease data such as Lessor name, Lease expiry date, working interest, Overriding Royalty (OR), Overriding Royalty Interest (ORI) and Net Revenue Interest (NRI) and Gross Net Acreage.

From mobile devices, officers have direct access to the entire downstream database and facilities metadata. These metadata aid in identifying locations, capacities and non-compliances from previous assessments.

The adoption of technology like GIS in DPR's business environment is timely. Thus, the giant stride of the Department in digitalizing most of its downstream application processes from manual to online portal systems such as ROMS, DEPOTS, CVL, IMPEX and LOBP is commendable.

DPR LAGOS ZONAL OFFICE KNOWLEDGE SHARING SESSION

By **Murtala Wali,** *Public Affairs Unit, LZO., DPR.*

DPR Lagos Zonal Office (LZO) came up with a new initiative of Knowledge sharing within LZO staff. The event entails a unit selecting a topic in which a staff from the unit will make a presentation to staff from various units and locations within LZO. It is a continuous event which will cut across all the Sections and Divisions.

The first knowledge sharing exercise was recently held with caption **"LABORATORY PARAMETERS AND ITS EFFECTS ON PETROLEUM PRODUCT"** under Retail Outlets Monitoring unit (ROM).

The event was chaired the Zonal Operations Controller. Mr Abel Igheghe of ROM section, as the resource person stated that the objective of the presentation was to inform all staff on the standard specifications of the petroleum products we consume, like PMS, AGO & DPK and its effect on our health, equipment and the environment in general.

Fuel quality is an integral part of a complete emission control system for both petrol and diesel powered vehicles.

Although other fuel constituents affect engine-out emission, fuel sulfur is the single most important constituent that adversely affect emission control performance.

The most important quality parameter for PMS is the octane quality. Ensuring that your engine runs smoothly while for AGO a cetane number of 48-50 ensures the engine operates well.

Off spec fuel means it does not meet the specified or standard requirements. Fuels that are contaminated or whose quality has been weakened by adding inferior quality ones are referred to as adulterated fuels. The quest for more profits leads to this menace.

Off-spec fuel affects the combustion dynamics inside the combustion chamber of vehicles increasing the emissions of harmful pollutants significantly, thereby increasing the risks to the environment.

Acute exposure to petrol and benzene, toluene etc. have adverse effect on our health, it is often linked to cancer of some vital organs of the body.

Off-Spec fuel can lead to economic losses, deterioration of engine parts and increased emission level that is harmful to the environment.

DPR VOWS TO REDUCE PETROLEUM TANKER ACCIDENTS

By **Obianuju Akwunwa,** *Public Affairs Unit, DPR.*

Department of Petroleum Resources (DPR) has restated the essence of safety in the transportation of petroleum products. The Ag. Director of Department of Petroleum Resources, Mr Ahmad Shakur disclosed this at the just concluded 2019 Stakeholders Annual General Meeting (AGM) organised by the Lagos Zonal Office.

The theme for this year's AGM is **"Ensuring a Safe Petroleum Products Transportation System".**

The Ag. Director who was represented by Mr. Hassan Sani, Deputy Director Basinal Assessment and Lease Administration said the AGM is focused on how to ensure a safe petroleum product transportation system in the downstream sector and reduce accidents on Nigerian roads. He emphasised that Safe handling of petroleum products and transportation initiatives will ensure reduction in economic and social losses.

Mr. Shakur reiterated that DPR will continue to develop appropriate regulatory framework to address downstream sector to enhance smooth operations and align with governments aspiration for the oil and gas industry.

The Zonal Operations Controller of Lagos, which covers Ogun, Oyo, Kwara and Osun states Mr. Oluwole Akinyosoye said "There has been a surge in petroleum tanker incidents in recent times, leading to various degrees of losses. The persistent carnage from road haulage of petroleum products in our society is growing at a very alarming rate and this necessitated the choice of our theme for the AGM this year. He said that the essence of the AGM was to collaborate with all stakeholders in ensuring safe petroleum products transportation system across the country". The AGM also provided an opportunity to review challenges in the downstream operations and proffer solutions .

In his remarks at the event, Mr. Hyginus Omeje, FRSC Sector Commander in Lagos, thanked DPR for the AGM which has brought all major stakeholders together for a shared vision in the downstream sector.

Omeje said "some of the trucks on Nigerian roads are not roadworthy. The problem is not only about the trucks but the usage of the vehicles. Over 90 per cent of all the freight movement in Nigeria is by road. The inland waterways are not tapped, which

also contributes to the challenges. Our pipelines would have been better option of product transportation but these are being challenged by vandalism."

Ag. Director, Mr. Ahmad Shakur thanked all stakeholders for their continuous support and collaborations. He stated that Security of lives, pipelines and petroleum products is a collective task which DPR is working with all agencies to ensure quality improvement in all ramifications. He implored all stakeholders to work relentlessly in ensuring that there is no scarcity of products as the year comes to an end and encouraged them to work with all necessary government agencies to achieve an accident-free festive season.

IMPORTANCE OF HANDWASHING

By **Martha Irabor,** *Deputy Manager, Human Resources, Headquarters*

Handwashing also known as hand hygiene is the act of cleaning the hand for the purpose of removing soil, dirt and microorganism. Hands can also be cleaned using alcohol-base sanitizer where the traditional means aren't available.

Why is it important

Good hand hygiene is the most effective way to avert and arrest spread of infections. Many infections, such as common cold and flu are caused by the spread of germs from person to person. Even when your hands look clean, they can still be germ infested.

When do you wash hands.

You should wash your hands properly and often especially:

- Before, during and after preparing food
- After using the toilet or changing a nappy
- After you blow your nose, sneeze, or cough
- When your hands are visibly dirty
- After smoking
- After handling or patting animals
- Before and after taking care of a sick person
- Before and after eating
- When you enter and leave a healthcare facility
- When you access files coated with dust

How to wash your hands

Most of us fail to pay attention when we wash our hands. To ensure our hands are properly cleaned, we must do the following:

Use Soap and Water

- When your hands are visibly dirty, wash them with soap and water
- Wet your hands and apply the soap
- Rub the soap all over your hands, pay attention to the backs of your hands and fingers, fingernails, and the webbing between your fingers
- Rinse your hand under running water
- Put hands dry with a towel or paper towel

Use Alcohol - Based Hand Rubs

If soap and water are not available, alcohol-based hand rubs can be used.

- Use enough hand rub product to cover both hands
- Rub all surface of your hands, pay attention to the back of your hands and fingers, fingernails, fingertips, and the webbing between fingers
- Rub hands together until it dry.

Alcohol based hand rubs come in small container which can be carried in your bags, briefcases, or your pocket.

Working Together

Research has shown that improving hand hygiene:

- Among healthcare workers can reduce the spread of germs in hospitals setting.
- Can protect both patients and healthcare workers.
- Reduce the number of healthcare associated infection.
- Keeping hand clean is one of the most important steps we can take to avail getting sick and spreading germs to other many diseases and conditions are spread by not washing hands with soap and clean running waters.

How germs gets on to hands and make people sick

Fecal matter or feces (poops) from people or animal is a major means of germ transfer like salmonella, E. coli etc. that cause diarrhea and hand-food-mouth disease. These kind of germs can get onto hands after people use the toilet or change a diaper, but also in less obvious ways like after handling raw meets that have invisible amount of animal poop on them. A single gram of human feces – which is about the weight of a paper clip can contain one trillion germs. Germs can also get onto the hands if people touch any object that has germs on it because someone coughed or sneezed on it or was touched by some other contaminated objects. When these germs get onto hands and are not washed off, they can be passed from person to person which results to ill health in most cases.

Washing Hands Prevent Illness and

Spread of Infection

Handwashing with soap gets rid of germs and prevents the spread of infections because:

- People frequently touch their eyes, nose, and mouth without realizing that germs can get into the body through the eyes, nose and mouth and make us fall ill
- Germs from unwashed hands can get into food and drink while people prepare or consume them
- Germs from unwashed hand can be transferred to other objects, like handrails, table tops, or toys and then transferred to another person's hands.
- Removing germs through hand washing therefore helps prevent diarrhea and respiratory infection and may even help prevent skin and eye infections.

Awareness of Handwashing can help to:

- Reduce the number of people who fall ill with diarrhea by 23 – 40%.
- Reduce diarrhea illness in people with weakened immune systems by 58%.
- Reduce respiratory illness like cold in the general populace by 16-21%.
- Reduce absenteeism due to gastrointestinal illness in school children by 29-57%.

Preventing sickness by handwashing reduces the amount of antibiotics people use and the likelihood that antibiotics resistance will develop. Handwashing reduces the number of these infections and prevents the overuse of antibiotics.

HENCE THE SAYING THAT PREVENTION IS BETTER THAN CURE!!!

DPR HOSTS STAKEHOLDERS IN BAYELSA

By **Obianuju Akwunwa,** *Public Affairs Unit, DPR.*

The maiden edition of the Annual General Meeting (AGM) with the theme "Together we deliver safe operations in Bayelsa State" was held on …..Health and Safety is a paramount aspect of the oil and gas industry practice and as the saying goes, if its unsafe, do not do it. In view of this, the AGM was centred on how best to ensure that there are no fatalities recorded in Bayelsa in course of operations.

In attendance were the agencies and entities involved in the value chain which includes distribution, dispensing and sales of petroleum products being Nigeria Navy, Nigeria Police, Nigeria Security and Civil Defence Corps(NSCDC), Federal Road Safety Corps, Fire Service, Independent Petroleum Marketers Association(IPMAN), Nigeria Association of LPG Marketers.

In his opening remarks, the Acting Director, Mr. Ahmad Shakur reiterated the vision of the Department to ensure that safety is never relegated nor compromised. He further solicited their collaboration in achieving a safe business environment as this vision cannot be achieved without stakeholders cooperation.

The operations controller, Mrs. Ejiro Ufondu in her address said "We can comply with the regulations and be profitable at the same time. Accident is too expensive; none of us can afford any accident. So, we have to do everything in our power to ensure that together we deliver safe operations in Bayelsa State which is the theme of this year's event. She further commended them for complying with regulations as this has helped keep Bayelsa state accident free.

On the issue of filling station sitting, she stated that the approval chain begins with other agencies some of whom were present at the AGM and charged them to do their due diligence before granting approval for the construction of filling stations. She said "They must have received approval from all these entities before coming to us (DPR) and when the site

is not suitable, people try to blackmail us and put us under pressure to force us to approve the site. We can never approve any station except all these other entities had granted their approvals.

"So, we all are working together to ensure that new stations that are coming up are not sited beside homes and public buildings such as houses of worship and schools."

The stakeholders in their respective powers thanked the Department for the initiative to have the AGM and called on everyone to ensure safe practices for the good of all.

A communique was signed at the end of the AGM stating that profitability, compliance and safe operations were achievable.

NEW OPSCON FOR ILORIN FIELD OFFICE

By **Adaeze Moedu,** *PAU., Warri Zonal Office*

The Warri Zonal office held a farewell get-together for Engr. Yusuf Sule, who was the A. D. Operations in Warri, and now going to Ilorin office as the Operations Controller. The occasion was celebrated at the conference room on the 15th of May 2019.

It was quite a memorable one as the ZOPSCON announced the appointment of the new A. D. Operations Mrs. Idahosa G. during the ceremony. All the Divisional Managers and some other staff were present. There were brief words of advice from the Zonal Controller appreciating Engr. Yusuf S. on his sincerity and hard work in pushing the Zonal Office forward. He also wished him well in his new office. The ZOPSCON then advised the staff to support Mrs. Idahosa G., just as they had supported Engr. Yusuf S.

Engr. Yusuf in his remark appreciated the Zonal Controller and the entire Warri staff for all the support shown to him throughout his stay at the Zone. The Manager Downstream Mr. Ogbe N. O. gave an emotional speech on how supportive the outgoing AD operations has been to him throughout his career in DPR and wished him success in his new position. Most of the staff present

commended Engr. Yusuf S. for his dedication to duty as well as good leadership qualities.

The outgoing A. D. Operations was presented with a gift by the staff and the Management of Warri Office. On behalf of all DPR Warri staff, I wish Engr. Yusuf S. success in his new position.

DPR WARNS LABORATORY OPERATORS AGAINST DATA ANALYSIS COMPROMISE

By **Obianuju Akwunwa,** *Public Affairs Unit, DPR.*

Operators of Oil and Gas Laboratories have been warned to desist from compromising results of data analysis from their respective laboratories.

Ag. Director, Mr. Ahmad Shakur, represented by Deputy Director, Health, Safety & Environment (HSE) Division, Dr Musa Zagi, gave the warning at the third Oil and Gas Industry Laboratory Stakeholders' workshop in Lagos with the theme: *Enhancing Laboratory Best Practices and Capacity Building towards Promoting Sustainable Development in the Oil and Gas Industry*."

He said laboratory practices are critical and sensitive components of the oil and Gas industry which inherently play vital roles in decision making across the value chain. The essence of the conference is to chart a new direction for laboratory managers and operators in the industry, bring them to terms with global best practices which will uphold industry integrity.

He further said "The impressive attendance at this workshop, to me, signifies the seriousness and importance that you all attach to this engagement which is geared towards continuous improvement of laboratory practice in the Nigerian oil and gas sector.

"It is my fervent hope and firm belief that the discussions in this workshop will ignite a strong determination and resolve among all oil and gas laboratory stakeholders to begin to chart a definitive and sustainable path towards uncompromised and consistent quality of service and integrity of results."

Shakur emphasized that the quality and integrity of the data or results churned out from laboratories in our sector of the economy is a critical ingredient in decision-making for both regulators and operators without which there can be no real value addition and sustainability. DPR has put in place machinery to ensure good laboratory practice in the Nigerian oil and gas industry. He said the accreditation and permitting process for companies rendering laboratory services in the sector has been further strengthened by the oil and gas laboratories stakeholders' workshop since the first workshop which was held in 2015.

DPR is committed to working with all stakeholders to drive and enhance global quality laboratory practice within the sub-sector, encourage and where necessary enforce capacity building with the ultimate aim of promoting sustainable development in the industry," he added.

The event was well attended by owners and operators of Laboratory service firms, representatives of Oil and Gas companies, Equipment manufacturers and members of the academia.

*L-R: Group Head, External Relations OVH Energy, Dr. Oyet Gogomary, Deputy Director/*Head HSE DPR, Dr. Musa Zagi, Managing Director, Environmental Resources Managers Ltd, Mr. Victor Imevbore and Head, Public Affairs DPR, Mr. Paul Osu during the 3rd Oil and Gas Industry Laboratory Stakeholders Workshop in Lagos*

Tour of exhibition area

Cont'd from pg. 08

JOINT OPTIMIZATION OF GAS & ELECTRICITY SUPPLY SYSTEMS IN NIGERIA

The Nigerian Gas Flare Commercialization Program (NGFCP) could be utilized with input from NERC to optimally determine flare points for power to gas projects while incorporating electrical network constraints (Transmission Company of Nigeria and DISCOS). This will provide insights for effectively deploying economically sustainable future gas to power infrastructure across the country.

2.0 Conclusion and Recommendation

With increasing demand for electricity in Nigeria, gas has also increasingly become the choice fuel in CCGTs due to its abundance (about 200 TSCF proven reserve in Nigeria) and environmentally friendliness when compared to other fossil fuels. This also means increasing interaction between gas and electricity supply systems. However, looking at both systems in isolation has not been in the best economic interest for investors in gas infrastructure for power systems. Hence the need to have an integrated framework that will ensure revenue streams are guaranteed for future expansion of gas to power infrastructure in Nigeria. Joint optimization models for gas and electricity have been deployed successfully for optimization of gas to power infrastructure.

Based on the above, the author is of the opinion that a joint unit should be formed between NGFCP and NERC to develop an effective model for future gas to power infrastructure (transmission network, distribution network) in Nigeria.

Notes

Author: **Abubakar Sani Hassan,** *BEng, MNSE, PhD,* Gas Facilities Unit, Facilities, Engineering & Standards Division, DPR.

All that is expressed in this article is the opinion of the author not that of Gas Facilities Unit, E&S Division.

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smaller than the average human hair, which makes it easy to penetrate. The size of the particulate matter determines its severity and the size that the black soot in Port Harcourt has is within the range of the $PM_{2.5}$which is very dangerous to the human health.

1. Pre-existing Diseases

According to the EPA, pre-existing health conditions including cardiopulmonary diseases and diabetes may increase susceptibility to PM health effects among exposed human populations [3]. Recent epidemiological and experimental studies demonstrating association between PM exposures and morbidity and mortality among human populations, substantiate this argument.

a) Cardiovascular Disease (CVD)

Peel et al discovered that patients with pre-existing hypertension when exposed to PM_{10} experienced an increased risk of emergency department visits for dysrhythmias and congestive heart failure (CHF) [6]. Toxicological studies carried out on rat models of hypertension provide support for these claims.

b) Coronary Artery Disease (CAD)

A panel study was conducted in Boston to examine pre-existing cardiovascular-related CAD on PM-related cardiovascular effects. Their findings suggest that patients with pre-existing ischemic heart disease (IHD) suffered more significant heart rate variability (HRV) than those without IHD on exposure to $PM_{2.5}$. Several animal studies carried out following this finding suggests similar outcomes.

c) Congestive Heart Failure (CHF)

Several epidemiological studies examined the probable alteration in PM-related cardiovascular effects by comparing two groups (with and without pre-existing CHF) of individuals at different locations. One study discovered that short-term exposure to $PM_{2.5}$ correlated with increased risk of hospital admissions for events related to acute IHD among individuals with pre-existing CHF. Similarly, a different study carried out in Cook County, Illinois, indicated a greater risk of mortality associated with PM exposure among those with pre-existing CHF than individuals without it [8].

2. Respiratory Disease

a) Chronic Obstructive Pulmonary Disease (COPD)

Epidemiological studies on the effect of PM on lung function demonstrated that in response to $PM_{2.5}$ exposures, higher declines in pressured expiratory volume per second and forced vital capacity were recorded for patients with, than for those without COPD. Other studies also suggest that COPD increases the potential risk of PM-related health effects [9].

b) Asthma

Several epidemiological studies have established the association of PM exposure with exacerbated asthma symptoms. Short-term $PM_{2.5}$ exposure among children with asthma had a correlation with breathing symptoms, such as cough, gasping, and tightness in chest, as well as increased medication use. Additionally, when compared with non - asthmatics, in a controlled human exposure study, asthmatics showed acute responses in the cardiovascular system and systemic circulation following $PM_{2.5}$ CAPs exposure [9].

3. Children and Older Adults

Among children, elevated PM dose per unit surface area of the lungs, and the consequent adverse effects on growing lungs, are a result of greater activity levels, outdoor duration, as well as volume per unit body weight [6]. Epidemiological studies of short-term PM exposure suggest increased respiratory health effects, including cough, respiratory hospital admissions, and wheeze among children less than 18 years of age when compared with adults. A ▶

Fig. 2 Artisinal refinery in the Niger Delta creeks .

collection of toxicological studies demonstrates that exposure to PM during the critical stages of development may hamper the maturation of the respiratory system in terms of structure and function.

Older adults constitute a probable vulnerable population to the health effects of air pollutants, including PM due to the higher prevalence of pre-existing cardiovascular and respiratory conditions, which may aggravate susceptibility to PM [7] [9]. Several epidemiological studies on $PM_{2.5}$, $PM_{10-2.5}$, and PM_{10} exposures indicate increased risk of cardiovascular disease (CVD) hospital admissions among older adults when compared to all ages below 65. Correspondingly, some studies indicate correlation between PM exposures with respiratory diseases in older adults. Controlled epidemiological studies of human exposures to $PM_{2.5}$ concentrated ambience among older adults indicated decreased heart rate variability (HRV) with or without accompanying COPD. Furthermore, some epidemiological studies have shown an association of short-term $PM_{2.5}$and PM_{10} exposure among older adults $\geqslant$ 75 years, with the progression of health effects from early stages to cardiovascular-related hospitalization or respiratory-related hospitalization and eventual non-accidental death. These studies show that this age group are more susceptible when compared with younger ages that is $\leqslant$ 75 years. Naess et al made similar observations for long-term $PM_{2.5}$ exposures [9].

A by-product of soot formation - Carbon monoxide (CO) - is very dangerous because it sticks to your haemoglobin better than oxygen does. It "hogs the seats" so that oxygen can't get a ride. This means there's no way to get oxygen to your brain, heart, or other cells and those cells start to die.

SUSPECTED SOURCES OF BLACK SOOT IN PORT HARCOURT

Black soot in Port Harcourt and its environs is more predominant during the dry season because most of it dissolve in the rain during the wet season. The sources are majorly traceable to;

a) The illegal refining of crude oil in the creeks (adjudged to be the major source) [FIG. 2].
b) Burning of these artisanal refineries/seized stolen crude oil/petroleum products by government security forces (GSF) [FIG. 3].
c) Gas flaring from the numerous oil and gas facilities within Port Harcourt and its neighbourhood [5].
d) Indiscriminate burning of disused tyres at the slaughter houses, landfills and open places. [Fig. 4]

Fig. 3 Burning of Illegal Refineries by GSA

Investigations also revealed that;

1) Most of the illegal practices of stealing, refining and transportation of crude oil and its products are carried out in the night.
2) These activities are purely security matters and the GSFs are doing little to nothing towards stopping the oil thieves.
3) There is a very high patronage for these products by some homes, organizations / companies such as hotels, schools, office complexes, etc who get them at a rate cheaper than that of the licensed retail outlets.
4) The products sometimes find their way into licensed and regulated depots and retail outlets.

THE IMPACT OF BLACK SOOT ON THE HEALTH OF DPR STAFF IN PORT HARCOURT

DPR Port Harcourt staff and family have reported different cases associated with black soot menace which include but are not limited to difficulty in breathing; eye, lung, and throat irritations; birth related problems; increased high blood pressure; respiratory complications (cough, gasping and tightness in chest, bronchitis, asthma); weakness, headache, upset stomach, nausea and vomiting. Many staff have also lost their voices with increase in complains of blurred vision and dizziness.

A case worthy of reference is that of the newly recruited staff who had to be redeployed to HQ because of the black soot health challenges. Many staff have relocated their families from Port Harcourt to cleaner cities because of the menace.

All available research and present trends show that the health, environmental and social impacts of soot are enormous and transcend this present generation.

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works and communicates with are called stakeholders. When communicating, you should tailor the content and the mode of communication to suit their features. These include their interests and beliefs, background, roles and personalities. It is important to invest in proper preparation.

Strive for clarity

To be effective, your message must be clear. However, what is clear to you may not be clear to your audience. Every area of human activity has peculiar technical terminology which is understood by the people who regularly engage in that activity but may not be clear to non-technical people. To help facilitate communication, a standard way to write a report, organize a meeting or give a presentation, for example, should be followed. Following standard grammatical rules and terminology will aid in making a message clear.

Understand the context of communication

Each organization has its own culture; that is, its own belief and assumptions which are the basis for its goals, strategies and structures. When communicating for business purposes, you need to be aware of the culture of your organization and that of each department or external organization you plan to communicate with. Being mindful of the broader multicultural context of your audience is essential too. Lack of these understanding may lead to failure in establishing common grounds. The clearer the purpose is to you, the better the chances of making it clear to your audience. Whether you want to simply inform your audience or go about persuading them or making them to comply with certain regulations, make sure you know what you want them to understand and do.

Select the appropriate channel

As earlier mentioned, business communication can take place through various channels such as meetings, emails, phone calls and reports. For this to be effective you need to select the channel that is most appropriate and acceptable to your audience.

Different forms of communication and the channels or media used are ranked according to their ability to convey information and enable interaction. Consequently, two major forms of classes of media exist.

The **First class** is referred to as **Richer media**. Richer media conveys verbal information and nonverbal cues such as body language, tone of voice, emotions and contextual details. Information can be exchanged quickly, and participants can be aware of each other's 'personal presence' but there may be no record of what is said.

The **Second class** known as **Leaner media** comprises of a more limited amount of information. Interaction facilitated through this means is slower and impersonal but provides a more permanent record of what is said. Skillful presentation and use of language are necessary to avoid ambiguity.

Having highlighted the significance of effective communication in business environment and its key principles, it is essential to outline the features of some effective communication methods and their applications.

In my next article, I shall examine one of the richest communication methods at our disposal – Meetings; as this consumes more from the organization in terms of time, human presence and resources and maximum value must be derived from its use.

Cont'd from pg. 07

THE GROWING ACCEPTANCE FOR OBSOLESCENCE MANAGEMENT IN THE OIL & GAS INDUSTRY

obsolescence (no technical support). Also, t**est and inspection standards / procedures could become outdated**.

The awareness of Obsolescence Management

The importance of Obsolescence Management is gradually taken a foothold in the oil & gas industry and companies are beginning to embrace the benefits associated with this strategy.

As recent as 10 Years Ago, the acceptance of Obsolescence management was lacking as there wasn't any **acceptance that obsolescence could be a widespread problem in the Petroleum industry**. The paradigm wasn't tailored to that narrative hence the following:

- Comparisons made with the 'Millennium' Bug.
- Uncontrolled transition to 'Component Off-The-Shelf' (COTS) parts.
- Obsolescence not addressed as part of contracting or engineering processes.
- Suppliers overly prepared to maintain support for discontinued equipment and control systems.

Awareness of Obsolescence management in the Nigerian oil and gas industry and its implementation will:

1. drive down cost implications in operations and maintenance,
2. reduction in downtime,
3. extend life of asset,
4. improve safety culture, and
5. enhance risk management.

Prepared by ***Standards Team of SCATA Branch****, Engineering & Standards Division.*

DPR ENUGU FIELD OFFICE VISIT TO ORPHANAGE HOMES

By **Okoro, O. A.** – *Operations Controller, Enugu.*

On the 14th day of February 2019, at about 2:00 pm, staff of the Department of Petroleum Resources Enugu Field Office visited two orphanage homes '**Daughters of Divine Love Charity Home**' and '**Children of Tomorrow Orphanage Home**' both in Enugu State.

Love, a global language yet spoken genuinely by a few, Enugu field office choose to spend the 14th of February 2019 with the children in these orphanages. Known as a day of love and as part of our duty of care, we set out to give back.

We were warmly received by the children and their guardians as well as the Rev. Sister in charge of **Daughters of Divine Love Charity Home**. After some time playing and discussing with the children, the acting Manager Services, Mr. Nze M. I., Enugu field office presented them with gifts to their awe and gladness.

Arriving at **Children of Tomorrow Orphanage Home**, words could not express the faith and hope their happiness spelt for the visiting DPR team.

February 14th 2019 remains a remarkable one for DPR Enugu field office and we hope our little effort as a team planted a seed of happiness and joy in their hearts.

At Children of Tomorrow Orphanage Home

At Daughters of Divine Love Orphanage Home

WORLD DAY FOR CULTURAL DIVERSITY CELEBRATION

By **Okoroafor-Uwanta, Dorothy (Mrs.),** *DPR. Hqrts.* and **Philo Idire (Mrs.),** *P.H. Zonal Office*

The world day for cultural diversity for dialogue and development is a day set aside by United Nations to promote and appreciate our diversity. This is celebrated annually on May 21 and has proven to deepen understanding of cultural values, encourage and nurture co-existence in the workplace.

This was celebrated across all DPR Offices nationwide. Richly organised and was termed the best of its kind as it provided staff the opportunity to integrate while celebrating their buoyant diversity. Staff nationwide came to work in their native cultural attires to showcase their different cultural heritage. *The pictures tell more of the story.*

Decoration of the venue

The venue was decorated with bamboo sticks and fabrics made of local materials, shekere and calabash. There was a photo booth with a traditional decoration theme where staff enjoyed taking pictures.

Activities of the Day

There was salutation in different local dialects, followed by breaking of kola-nut. Fashion show and traditional dances from various tribes spiced up the day from which the best dressed and best dancers (male and female) were selected respectively.

The MC, who also is a comedian spiced up the occasion with his rare engaging and interactive jokes and the D.J. took us back memory lane with various traditional music in different local dialects. This got staff singing along and dancing.

Cuisine of the Day

Traditional delicacies of diverse cultures were served. Foods and drinks made of different local assortments were served e.g Masa with beef suya, Ikokore, Amala, Abacha with smoked fish and sauced pomo, Tuwo, Fura-da - nono, starch and bang soup, Ekpang Nwukwo etc. The drinks were made from traditional sources such as Zobo, kunu, and tamarind.

We all had fun and learnt a lot from the diversity of our workforce. I am sure you will keep a date with us come May 21, 2020.

Long Live DPR.
Long Live Nigeria.

Okoroafor-Uwanta, Dorothy (Mrs.)

Philo Idire (Mrs.)

DEPARTMENT OF PETROLEUM RESOURCES (DPR)

Oil & Gas Industry Service Permit

OGISP Online Application

The Department of Petroleum Resources (DPR) now processes and issues Oil and Gas Industry Service Permits (OGISP) online.

Oil and Gas Industry Service Permit (OGISP) is a statutory requirement issued by the DPR to Nigerian Registered companies seeking to render services in the Oil and Gas industry.

PERMIT CATEGORIES

1. GENERAL
2. MAJOR
3. SPECIALIZED

MODE OF PAYMENT

Payment options are given by Remita (with an RRR generated) (Master, Visa, Verve Cards, Quick Teller or through ATM; Bank Payment - Direct bank payment at any bank nationwide.)

METHOD OF APPLICATION

Applicants for either renewal or new Permit should apply online by going through the following processes:

Step 1: logon on to: **wwwdpr.gov.ng** or **ogisp.dpr.gov.ng**

Step 2: Create your company account

Step 3: Fill application form

Step 4: Attach all applicable documents online

Step 5: Submit your application

Step 6: Print Permit after Approval

FEES

Statutory fees remain unchanged. However, there shall be processing fees charged for the different categories of service permits.

For further enquiries on our guideline, please visit the DPR website: **www.dpr.gov.ng** or **ogisp.dpr.gov.ng** or call: **+234 (1) 2790000. Ext.: 50292-9** or **e-mail ogisp@dpr.gov.ng**

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