PROJECT PROPOSAL ON THE INSTALLATION OF LIQUIFIED PETROLEUM GAS: - [LPG] WITH UNIVERSAL FILLING MACHINES & FIRE PROTECTION SYSTEMS IN COMMERCIAL LPG CYLINDER FILLING PLANTS AND AUTOGAS FILLING STATIONS

PROPOSED BY:
GLOWSWORTH ENGINEERING LIMITED
24, OPEBI ROAD, (PIUS ADEDAPO SUITES), IKEJA, LAGOS. 144, EGBEDA IDIMU ROAD (DRAIS ENERGY SUITES), 2nd FLOOR, SELIAT BUS STOP, EGBEDA, LAGOS STATE.
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Glowsworth Engineering Limited

Engineering, Procurement, Installation, Commissioning


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Dear Sir,

PROPOSAL FOR THE ENGINEERING, PROCUREMENT, INSTALLATION & COMMISSIONING OF LPG GAS FILLING PLANT FOR DOMESTIC, COMMERCIAL & INDUSTRIAL USAGES.

It gives us immense pleasure in introducing ourselves as a professionally organized and technically sounds Organization of repute dealing in Engineering, Procurement, Fabrication, Installation & Commissioning, Marketing of LPG, for factory and homes, Buildings, shopping mall, Industrial usages etc.

We wish to formally request to be registered as one of your Contractor, Vendors / Suppliers, and Fabrication and Installer of LPG Systems and to partner with you on project handled by your reputable organization.

We have acquired Authorized Representative /Agent, / Installer Status and marketers of some range of reputable OEM brands of LPG Equipments and products from USA, EUROPE and CHINA.

We are equipped with the state of the art technology, know-how and expertise to handle any sort of turn key projects in the Engineering, Procurement, Installation & Commissioning, and Maintenance Management of LPG Systems.

We shall be most honored to establish a mutually beneficial business relationship with your organization and we are ready to offer you concessionary discount and the best of terms for your projects.

To enable us provide you cost effective price proposal for any of our LPG range of services.

Kindly invite us to come for discussion and assessment of your interest on LPG gas plants Installation.

Then we can give you prices that are competitive.

We are a dependable long - term partner, backed by strong various [OEM] service Parts. To this means reduced risk throughout the life time of your equipment and project.

We have experienced trained teams in Design, Engineering, Procurement, Installation & Commissioning, Maintenance and Project Management locally.

We trust we have correctly interpreted any of your immediate requirements as stated below. Additional information about our products and services and the benefits of LPG Systems, shall be given on request, and can be found in our profile and website.

Our Business Development / Marketing team shall be on hand to discuss further with you on this, in the shortest possible appointment for enquiries, you may call us with the phone numbers below or email us at: glowsworthgasengine@gmail.com, glowsworthengineer@gmail.com.

Thank you for your interest in Glowsworth Engineering- LP Gas Services.

When you are ready to progress your enquiry to the next stage, we would welcome the opportunity to meet with you to discuss your design, procurement, operations & maintenance, Installation & commissioning of your projects and assist with its development, prior to the preparation and submission of a technically / commercially attractive proposal.

We would welcome the opportunity to personally discuss our potential contributions to your company, and at the same time inviting us to Bid or submit “RFT” “Request for Tender”, or to submit “RFQ” “Request for Quotation” “RFP” “Request for Proposal” for any of your Proposed Projects.

Thank you as we anticipate your favorable and prompt response to our request.

Yours faithfully,

For: GLOWSWORTH ENGINEERING LTD

AKINOLA ELESINNLA
Head: Business Development
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LPG TECHNICAL PROPOSAL

Our company, Glowsworth Engineering Limited, is an engineering company located in Lagos and Portharcourt, which Design, Fabricate and installs LPG Cylinder Filling Plants and Auto-gas Stations all over the country for would be investors. We were established in 2005 and since then we have completed lots of turnkey projects in more than 20 states. We supply and install LPG Storage tanks, LPG Automatic-Gas Dispensers, Filling Scales, Carousel Systems, Conveyor Line, Hydrostatic Testing Machines, Valve Screwing Machines and all equipments which are used in cylinder filling plants.

Besides these, we construct LPG Auto-gas Stations, cost effective LPG Skid Tanks on type (portable ones) and stationary ones.

We undertake Feasibility Studies, FRONT END ENGINEERING DESIGN,[FEED], ENGINEERING, DETAIL DESIGN, PROCUREMENT, INSTALLATION, & COMMISSIONING, complete design, fabrication, installation, testing and commissioning of LPG gas Compact Filling Systems, LPG gas terminal, for unloading and receiving of LPG at port terminals and subsequent filling and distribution of the same. All equipments like Jetty pipeline, LPG storage tanks (above ground and mounded), Spherical LPG tanks, Petroleum Storage Tank Farm, Safety fittings, Fire fighting system, Deluge system, LPG transport tankers loading bay, Interconnecting pipelines, valves, Gas leak detection system, Alarms, Electrical and other related work is done on turnkey basis.

GENERAL SAFETY REQUIREMENTS FOR STORAGE OF LPG IN LPG STORAGE TANKS:

DESIGN SPECIFICATIONS AND FITTINGS

- Tanks for the storage of Liquefied Petroleum Gas shall be designed for a working pressure corresponding to the vapour pressure at the highest temperature that the tanks are likely to reach.
- Each storage tank should be fitted with a pressure gauge and devices for measuring the liquid content and its temperature. The maximum quantity of Liquefied Petroleum Gas filled into anyone tank should be such that at the
maximum operating temperature it would not occupy more than 95% of the capacity of the storage tank.

- Excess flow valves should be fitted to prevent the loss of Liquefied Petroleum Gases from storage tanks and transport tanks, and especially to protect points where flexible hoses are used.
- Remote controlled hydraulically operated shut-off valves should be fitted to each storage tank.

Safety Fittings (Make Rego, Fischer etc)

Standard storage LPG tanks are equipped with the following fixtures:

- filling valve,
- intake valve of the gas phase,
- pressure gauge,
- maximum overflow valve,
- intake valve of the liquid phase,
- level sensor,
- safety relief valve(s).

We Fabricate, Erect and Install the following types of LPG tanks:
- Horizontal LPG Storage Tanks
- Spherical LPG Tank
- Cylindrical LPG Tanks
- Storage LPG Tank
- LPG Transport tank
- LPG Semi trailer tank

LPG Storage tank

Engineering Services:
Design
Consultation for LPG filling plants
Consultation for Bulk LPG storage at port and terminals
Consultation for Refrigerated bulk LPG storage tanks

Trading:
- LPG Tanks
- LPG Vaporizers
- Compressors & Pumps
- Flow Meters
- Gas leak Detector
- Pressure Regulator

Contracting:
- LPG Storage & Supplying Plant
- Gas Mixer [SNG]
- Piping

What is LPG and Why LPG Is better?

LPG stands for Liquefied Petroleum Gas – a very versatile, portable and manageable fuel that’s a naturally occurring by product of the oil extraction process. LPG is easily stored and delivered in cylinder and bulk tank form, and as it produces far lower carbon emissions than oil, coal, peat and even electricity, is one of the cleanest conventional fuels available.

LPG changes from liquid into gas by introducing the right amount of pressure, at which point it turns into gas vapour, which is then drawn off as you use it. A pressure regulator keeps the gas pressure constant as the cylinder or bulk tank empties, until there is no remaining liquid left.

LPG comes in two types – propane and butane. Propane is stored in bulk tanks or a variety of red, green or grey cylinders (sizes: Patio Gas, 11kg, 34kg and 47kg), while butane is stored only in cylinders. Butane cylinders are either yellow or blue, and come in the following sizes: 1kg, 4.5kg, 5kg, 6Kg and 12.5kg, 50kg.

Propane performs best at low temperatures, allowing it to be stored outdoors in tank or cylinder form all year round. Butane performs best at a temperature of 10 degrees Celsius, making it more suitable for indoor use and only suitable for outdoor use during summer months.

Each type of LPG cylinder is specially made to store propane or butane in its liquid state, under moderate pressure, until it is used.
COMPARISON OF LPG STORAGE TANKS WITH LPG SPHERES:

1) LPG Storage tanks are much safer since its weight is distributed evenly on a larger area thus reducing chances of collapse as compared to sphere, especially in small islands prone to earthquakes, cyclones and Tsunami as can be verified from the recent incident in Japan where a row of LPG sphere went under severe fire condition.

2) Multiple LPG storage tanks have an added advantage that the load is distributed over a larger area thus the problem of uneven settlement/collapse is largely reduced.

3) LPG Multiple LPG storage tanks makes the project faster, economical, easier and will in turn help the company to start the terminal as soon as possible which in turn will generate good immediate returns.

4) LPG sphere of same volume needs more time for construction as compared to LPG multiple storage tanks.

5) In case of installations with Multiple LPG storage tanks if there is any problem/maintenance/repair/breakdown of any one tank the outlet and inlet valves of the same can be closed and the tank can be isolated, also in case of emergency the LPG product in the tank under repair/maintenance can be easily transferred to another tank located in the same plant thus increasing safety of the plant. Whereas in case of sphere if there is any problem with the sphere or its valves or pipeline the entire plant comes to a standstill (This is a loss to the company in terms of business loss, product loss, as well as extra demurrage that the company may have to pay to the shipping company if unfortunately the LPG ship also arrives the same time when the sphere has generated a possible breakdown). But in case of multiple storage tanks even if one of the tank generate a possible breakdown and the LPG ship also arrives the same time still the LPG from the ship can be unloaded to the remaining tanks and the company will have to incur least loss due to ship demurrage.

6) Though there is a common notion that for the same volume a sphere has the least surface area and least thickness and hence lesser weight and less cost but our past experience suggests that weight saved in making a sphere as compared to storage tank is lost as wastage in the development of various sections (petals and crown) thus leaving little or no benefit of the weight saved.

7) The fabrication cost increases considerably in case of sphere as compared to multiple LPG storage tanks, since the sections have to be pre fabricated at shop, shipped to site, adjusted, assembled and welded at site piece by piece in proper sequence, heat treated, radiographer and tested at site. Fabrication of sphere requires lot of time since the petals/sections are required to be assembled piece by piece in proper sequence and completion of one stage is entirely dependent on completion of the earlier stage as so on and so forth. More over there is a continuous requirement of close monitoring, blockage of all construction equipments and manpower till the entire completion of work sequence by sequence, this makes the fabrication of sphere still more costlier and time consuming as regards to blockage of manpower, machinery rent etc.
We undertake the Projects Execution on EPCC (Engineering, Procurement, and Construction & Commissioning) basis. The Scope of EPCC Contracts includes:

Liquid Storage –CNG, LNG, LPG, NH3, etc

LPG
LPG BULK INSTALLATION WITH VAPORISER FOR INDUSTRY
LPG Cylinder Filling Station
LPG TRUCK TANKS WITH PUMP
Auto Gas Station
LPG TERMINAL
LPG / Propane Storage Tanks
LPG Semi trailer Transport Tanks
Auto Gas Components
LPG Sphere
LPG Mounded Vessel

OUR PRODUCTS

- LPG Storage Tanks of Various sizes
- LPG Automatic Dispensers
- LPG Vaporizers
- Filling Carousel
- Electronic Filling Scales
- Mechanic Filling Scales
- Conveyor Lines
- Leak Detectors
- Check Sale
- Shrink Machine
- Gas Transfer Pump
- Skid Systems
- Container Type Filling Station
- LPG Compressor
- Accessories
- Telescopic Conveyor
GLOWSWORTH ENGINEERING LIMITED

ENGINEERING, PROCUREMENT, INSTALLATION, COMMISSIONING


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- GEL Gas Detector and Panel
- Air Pressing
- Testing Pool
- Hydrostatic Test
- Number Pressing
- Thread Cleaning
- Cylinder Loading - Unloading
- Valve Screwing
- Cylinder Paint Machine
- Cylinder Washing Machine
- LPG Autogas Stations - Dispenser
- Project - Engineering And Installation
- LPG - Fire - Air - Pipe Lines
- Electrical System And Ex-proof Equipments
- BATUSAN Ball Valves, Mono-block Valves, Check valves, Filters, etc.

Your possibilities
- Engineering, projecting and documentation
- Differential pressure valves
- Pressure relief valves
- Connections by means of flanges or welded pipes
- LPG pumps
- LPG compressors
- LPG filters
- Manometers
- Gas stop valves
- Blow-off valves
- Ball valves
- Hydraulic quick-closing valves
- Protection against dry running
- Y-strainers
- By-pass valves
- Non-return valves
- Loading and unloading hoses
- Hose couplings
- Mass flowmeters
- Flowmeters
LPG CYLINDER FILLING PLANTS AND AUTOGAS STATIONS

SKID ON TYPE FILLING STATION

PRODUCT NAME GEL: SKID ON TYPE FILLING STATION—LPG AUTOGAS STATIONS—DISPENSER

DESCRIPTION:

Designed for low capacity fillings, ready – to-use & mobile systems.

Advantages of the GEL skid on type filling station:

- Easy installation & easy-to-handle & safe
- Building, plot and construction works are not necessary. It is an economical works system.
- Very suitable to use in rural areas.
- Low energy consumption
- Easy to carry. It can be installed to any location easily
- Tank capacity can be chosen (customer request).
- In 10m³ systems or more, there are 2 skids in one container.
- Thanks to this system, customers make a high logistic profit.
- Turkey project

LPG TERMINAL

We supply other LPG gas components like LPG Dispensers single and double nozzle type with stainless steel body, LPG gas meters, LPG pumps and compressors, LPG vaporizers, LPG storage tanks, Isolation valves, Pneumatic actuated ball valves, LPG Cylinder filling scales, Gas leak detectors, Cylinder testing unit, Safety relief valves, Excess flow check valves of Rego USA make, Pressure and temperature gauges, Rochester Liquid level gauges, Rotogauges, Combustibles Gas Leak DETECTORS and Transmitters Automatic Fire fighting equipments, Hoses etc

COMPACT FILLING SYSTEMS

GLOWSWORTH’s compact LPG Filling Systems are designed for safe and efficient filling and checking of all kinds of LPG Cylinders.
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- Weighing principle (load cell) or mass flow principle
- Operation; fully automatic, semi-automatic or manual
- Installation: on carrousel, in-line in conveyor, or as stand-alone unit
- Flexible to different cylinder diameters, heights and cylinder valves
- Modular design with thoroughly tested components
- Competitive price your benefits
- Satisfied end-users due to accurately filled cylinders
- Savings on LPG because of high filling accuracy and intelligent filling software

One-man LPG filling unit with four UFM universal filling machines and complete platform with LPG pump unit, ex-proof power panel and piping arrangement (incl. filter, differential pressure valve and LPG liquid level sensor)
- Small flexible mobile and prefabricated platforms – plug and play
- Ideal solution for quick installation
- Suitable when rebuilding and renovating existing filling plants
- Flexible system - arrangement according to customer needs
• Platform size according to actual need for equipment
• Comprise Glowsworth’s QA/QC thoroughly tested standard filling equipment

LPG pump unit, ex-proof electrical motor and the power supply for intrinsically safe network

Detail of piping arrangement: shut-off valve, safety valve and earthing connections
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Ex-proof power panel, start/stop switch and electrical motor for LPG pump unit
INSTALLATION OF LPG STORAGE TANKS FACILITIES

Your benefits

• Easy installation on site
• Simple layout and maximum safety
• Minimum civil work and engineering
• The plant can be made independent of external power supply (e.g. in rural areas)
• Low power consumption
• Easy and safe to operate
• Ready for integration in filling system network
• Ready for communication with PC for data collection
• Comprise all necessary equipment for safe and reliable filling of gas cylinders
• Capacity increase is possible
• Minimum space requirements
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LPG Double Universal Filling Station
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COMPLETE (5TONS) LPG STORAGE SKID – DUAL AUTOMATIC UNIVERSAL FILLING MACHINE, INSTALLED WITH AUTOMATIC FIRE SPRINKLERS SYSTEMS.

LPG STORAGE TANK SKID (5 TONS) WITH 2 AUTOMATIC UNIVERSAL FILLING MACHINES, INSTALLED WITH PUMP, PRESSURE GUAGES, FIRE PROTECTION SYSTEMS.
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2.5 TONS LPG STORAGE TANKS STILL AVAILABLE FOR SALES

ENGINEERING, PROCUREMENT, INSTALLATION and COMMISSIONING 180 TONS of LPG STORAGE TANKS, WITH AUTOMATIC FIRE PROTECTION SYSTEM, GAS LEAK DETECTORS, AUTOMATIC UNIVERSAL FILLING & LOADING SYSTEMS. - By GLOWSWORTH ENGINEERING LTD

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FABRICATION and INSTALLATION OF LPG FILLING PLANTS
INSTALLATION OF BULK LPG FILLING STATION

INSTALLATION OF BULK LPG FILLING STATION
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INSTALLATION OF BULK STORAGE LPG FILLING TERMINAL STATION

VAPORIZER
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LPG BULK INSTALLATION FOR INDUSTRY WITH GAS VAPORISER

ERECITION OF STORAGE TANK
CONSTRUCTION AND INSTALLATION OF LPG BULK STATION
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Fabrication of 5 Tons Tank Skid Unit

Fabrication & Coating of LPG Storage in Workshop
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Installation of LPG TANKS IN FACTORY
GLOWSWORTH ENGINEERING LIMITED

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LPG VAPOURIZER
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LPG TANK WITH ROCHESTER GAUGE INSTALLED
GLOWSWORTH ENGINEERING LIMITED
ENGINEERING, PROCUREMENT, INSTALLATION, COMMISSIONING


*CONSTRUCTION *INSTALLATION *PREVENTIVE MAINTENANCE * CORRECTIVE MAINTENANCE * MODIFICATION *UPGRADE *OVERHAULING *EXTRA ORDINARY MAINTENANCE.

OFFICE ADDRESS: 24, OPEBI ROAD, (PIUS ADEDAPO SUITES), IKEJA; 144, EGBEDA IDIMU ROAD (DRAIS ENERGY SUITES), 2nd FLOOR, SELIAT BUS STOP, EGBEDA, LAGOS STATE.

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LPG VAPOURIZER
CONSTRUCTION OF STORAGE TANK
Spraying Completed fabrication of LPG Storage Tanks
GLOWSWORTH ENGINEERING LIMITED

ENGINEERING, PROCUREMENT, INSTALLATION, COMMISSIONING


Office Address: 24, Opebi Road, (Pius Adedapo Suites), Ikeja; 144, Egbeda Idimu Road (Drais Energy Suites), 2nd Floor, Seliat Bus Stop, Egbeda, Lagos State.

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DUAL UNIVERSAL FILLING LPG DISPENSER
GLOWSWORTH ENGINEERING LIMITED

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INDUSTRIAL LPG GAS VAPOURIZER
Sprinkler system at LPG road tanker loading and unloading point

Hydraulic quick-closing/opening Internal valves Installed under Large stationary LP-Gas Storage Tank
LPG piping systems[Pumps, valves, storage tanks]

We design, construct and fabricate Cylindrical & Spherical storage tanks (Horton spheres) of diameter ranging from 10,000 mm to 22,000 mm & thickness up to 72mm, as well as Refrigerated spheres for Butadiene & Ammonia storage. The spheres are designed as per ASME Sec. VIII Div.1, Div.2 and BS 5500 codes. We have executed storage facilities, including Civil, Mechanical, Piping, Electrical and Instrumentation.

We undertake the Projects Execution on EPCC (Engineering, Procurement, Construction & Commissioning) basis. The Scope of EPCC Contracts includes:

We construct and fabricate LPG Cylinder filling stations for filling LPG gas in cylinders of various capacities. This is turnkey project or a custom built ready to install plant. They are various models available with storage tank capacity ranging from 500 Liters to 500000 Liters and with the choice of single or many cylinder filling scales,
Automatic LPG Dispensers. The unit comes with all safety features as per norms. The unit is easy to install and operate and much cheaper as compared to other plant.

TRUCK TRANSPORTING LPG STORAGE TANKS

Technical Specification:
Design Pressure: 17.16 Bar to 23 Bar
Design Temperature: -40 Deg C to + 65 Deg C
Design Code: ASME, AD MERKBALTTTER, PD 5500, CODAP 2000 AND OTHERS
Volume (m: 0.5M3 to 1000M3)
We use various international design codes for designing of storage tanks which are horizontal cylindrical vessels as follows:
ASME Sec. VIII Div.1, ASME Sec. VIII Div.2 ,BS 5500 codes, CODAP 2000
PD 5500: Specification for unfired Fusion welded pressure vessels
Material of construction: SA 537 CL 1, SA 516 GR 70, BS 1501-1 225 490 A, EN 10028-3 P355NL2 AND OTHER

YOUR SAFETY
• All equipment and machines are EU approved and designed in accordance with current EU directives EN 50014, EN 50020, EN 50081, EN 50082, EN 55022, incl. the ATEX Directive (94/9/EC)
• All equipment and machines are designed for use in hazardous areas classified as Zone 1
SAFETY SENSORS, MONITORING ALARMS & SHORT

Special LPG Gas leak detectors shall be Install in various location of the LPG Plants

Example of Flame Detector

Example of Gas Leak Detector
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Examples of gas monitors Controller
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COMPLETED LPG STORAGE TANK
Installation of LPG Bulk Storage Tanks
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