

Transforming
Resources
into **Value**



Upstream Oil & Gas

KBR



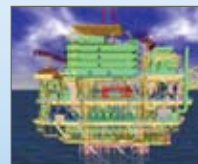
Expert Engineering, Construction and Procurement Services



As a pioneer in the upstream oil and gas industry, KBR is one of the world's largest and most diverse engineering, procurement and construction services companies.

Since building the first offshore platform out of sight of land in 1947, KBR has been creating large-scale, technically complex onshore and offshore oil and gas production facilities located in all regions of the world. KBR continues to develop innovative technologies and project execution methods to help our clients economically execute projects in some of the most challenging environments on earth.

In addition to being ISO 9001 certified, KBR is also ISO 14001 certified, signifying our adherence to the strict requirements of the ISO Environmental and Safety Management System. KBR also has Global Integrated Certification in Quality, Safety and Environment, making KBR the only engineering, procurement and construction company in the world to receive this certification.



KEY PROJECT EXPERIENCE

2005 - Tombua Landana Compliant Tower, ChevronTexaco/Cabinda Gulf Oil Company, Angola

Targeting to achieve first oil production and estimated peak production of 130,000 barrels of oil equivalent per day (BOEPD) by 2009-2010.

Tombua Landana fields rank among the largest finds in the prolific Block 14 offshore Angola

Engineering, procurement services and interface design

2005 - Abgami FPSO Topsides Engineering, Chevron Texaco/DSME, Nigeria

Largest FPSO topsides in the world
Rated for 250,000 bpd oil and 450 mmscfd of gas

Exceeded Nigerian local content requirements



We offer extensive EPC experience in both lump sum and reimbursable contracts and subcontracts management. Our services include project management (PM), engineering, procurement and construction management (EPCm) plus segmented services, such as front end engineering and design (FEED), detailed EPCm and overall technology systems integration.

Feasibility Conceptual Design	Front End Engineering and Design	Program/ Project Management	Detailed Design	Procurement, Logistics and Support Engineering	Construction Management
Early involvement allows us to identify potential cost savings during the concept "select" phase	Refining conceptual solutions during the definition stage helps ensure maximum value	Engineering, procurement and construction management, together with risk assessment and project management	Fit-for-purpose designs, with full optimization including materials engineering and procurement support	Cost effective solutions that optimize both CAPEX and OPEX and deliver projects to schedule	Develop and manage construction execution programs to ensure the lowest project costs with the least risk

Expert Engineering, Procurement and Construction Services

KBR's services cover the entire spectrum of hydrocarbon production, from the wellhead to downstream facilities. These services include consulting, studies, front end engineering, detail engineering, procurement, program management, construction, installation, commissioning and startup, delivering breakthrough results and helping our customers derive the greatest value from their assets.

Development of premier oil and gas facilities starts with a visualization of the most efficient, cost-effective and environmentally-sound project. Our experience in defining project requirements, field development planning, surface technology, program development and production optimization allows us to provide the necessary expertise for successful concept selection.

We also have extensive front end engineering and design (FEED) expertise for all types of oil and gas processing facilities and pipelines to deliver a quality package for the final design, procurement and construction phase. We are an industry leader in delivering FEED documentation that contributes to safe construction and installation, substantial CAPEX and OPEX savings and higher value of end products.

As a global leader in software innovation and in the integration of material, document and procurement management, KBR's proprietary Integrated Project Management System (IPMS) has been recognized as one of the best in the industry. IPMS allows total management of project materials with full documentation from early identification during design through procurement, shipping and installation.



2005 - Mackenzie Delta Gas Project, Imperial Oil, Northwest Territory, Canada

Transmission pipeline system in Arctic conditions
Use of the NOVA Gas Transmission Ltd. (NGTL) system
Engineering, developing Arctic design and permanent infrastructure



2005 - Arthit, PTTEP/Chevron/ MOECO, Gulf of Thailand

Largest float-over installation in the South East Asia region
17,000-ton process platform deck (gas and condensate) with processing capacity of 363 mmscfd of gas; 22,950 bpd of condensate; and 26,400 bpd of produced water
Engineering, procurement and construction/commissioning management support



2004 - Benguela Belize Block 14 CPT Development, ChevronTexaco/DSME, Belize

Client satisfaction reported as 4.7 on a scale of 5
Managed the interface with permanent drilling modules, derrick and living quarters
Designated as "Project of the Year" for 2005 by the Offshore Energy Association



2004 - In Salah, BP, Algeria

7 natural gas fields spread over 23,000 square kilometers onshore Algeria
Gas gathering and export project for 850 million scfd gas processing facility





Whether it is the ice-locked environment of the Barents Sea, the iceberg littered waters of the Beaufort Sea or the remote Arctic-like environment of Alaska, Canada or Sakhalin Island, KBR has the expertise to execute projects in these regions.



We have the longest track record in the industry, starting with the design and construction of one of the world's first offshore platforms in 1947.

Global Execution and Design Expertise

Our expertise enables us to design, build and manage complex projects from concept to completion for a wide range of clients on a global basis. Our portfolio includes technologically complex projects such as the development of reserves in deepwater offshore, landlocked seas, harsh environments, Arctic regions, or other remote locations.

KBR has been providing products and services to the offshore oil and gas industry for over 60 years. The offshore structures KBR engineers today are among the most technologically advanced facilities, with superior engineering as the foundation for every project.

Broad Array of Project Expertise

We design and execute a wide spectrum of offshore upstream projects, from subsea developments, umbilicals, risers and flowlines to fixed platforms and floating production facilities.

Fixed and Floating Production Facilities

We have vast experience in the design of fixed platforms and floating production solutions for all environments including West Africa, Australia and Asia. We are an industry leader in the development of floating production solutions and have participated in an extensive number of purpose-built FPSO projects.



2004 - In Amenas Gas Development JGC/KBR Joint Venture | Algeria

Produce 700 million standard cubic feet per day of carbon dioxide laden natural gas

Full EPC services and geological reconnaissance of soil and ground conditions

2003 - Block 18 (Greater Plutonio Development), BP Angola, Angola

21,235 ton topsides, rigorously managed against best in class FPSO benchmark and is capable of 220,000 bopd production.

Implementation of innovative design execution tools

2003 - Kashagan Offshore/Onshore Kazakhstan, Agip Kazakhstan North Caspian Operating Company NV, Kazakhstan

One of the largest global discoveries in the last 30 years with 30 billion barrels of oil

Man-made drilling and production islands with several inter-field pipelines, pipelines to shore, onshore terminal and export pipelines.

Program management

2001-4 - ACG (Phases 1, 2 & 3), AIOC, Azerbaijan

First use of float-over integrated deck in Caspian Sea

FEED, detail design, procurement services and follow-on engineering for six platforms, with total topside weight of ~90,000 tons

Expanding to an eventual production rate of > 1 million bopd.

2001 - Malampaya, Shell, Philippines

First concrete platform in Philippines; concrete gravity substructure (CGS) and a 11,500 ton float-over deck

Design capacity of 508 mmscfd of gas & 32,800 bpd of condensate

FEED and EPIC for first dry low emission gas turbine and first prepared seabed CGS installation





We designed the first FPSO to withstand a 100,000-ton iceberg impact and the first FPSO with a liquefied petroleum gas (LPG) facility in the Asia Pacific region.



Our expertise in design is reflected in the highly-successful ACG project as well as the topside design for the Chevron Benguela Belize compliant tower. Benguela Belize was awarded project of the year in 2005 by the Offshore Energy Association.

With experience in design, construction and delivery of semi-submersibles, KBR's business unit GVA Consultants (GVAC), is one of the world's leading marine engineering companies. GVAC has over twenty years of experience in the design of drilling and floating production semi-submersibles and continues to deliver solutions for ultra-deepwater hydrocarbon recovery to locations all over the world.

KBR has also executed numerous studies to locate LNG and regasification facilities offshore, generally for associated and stranded gas reserves. These studies include platform applications (jackets, gravity-based, sacrificial barge), as well as floating production, storage, and offloading facilities (FPSOs).

Sub Sea Installations and Pipelines

As the search for hydrocarbons heads into water depths approaching 10,000 feet, KBR is creating solutions that overcome the logistical, technological and environmental challenges of ultra-deepwater and remote frontier regions. We draw on our portfolio of numerous deepwater projects, including subsea system FEED and technical services for deepwater FPSOs, risers and flowlines. We also have a proven track record of excellence in pipelines and are at the cutting-edge of today's technological advances including deepwater and high pressure/high temperature (HP/HT) pipelines for marginal field developments.



2001 – Belanak FPSO Field Development, ConocoPhillips Indonesia Inc., Indonesia

First FPSO-based LNG facility in Asia Pacific region

EPC of FPSO (topsides, hull design and construction, moorings and flexible risers)

Installation of a new 255,000 DWT FPSO vessel having 26,500 ton dry weight topsides facility and a storage capacity of one million bbl



2001 – Shah Deniz Gas Terminal, BP Exploration (Shah Deniz) Ltd., Azerbaijan

Onshore gas processing plant and approx. 400 km of offshore pipelines

Stage 1 production rate will average 8.4 bcm of gas and 40,000 bpd condensate



2000 – Barracuda & Caratinga Petrobras, offshore Brazil, Campos Basin

Construction and installation of two FPSOs, each with 2,000,000 bbl storage capacity and a production capacity of 150,000 bopd and 210 mmscfd



2000 - Shell EA, Shell, Nigeria

EPC of FPSO (topsides, hull integration, SYMP)

Two-year operational support for SPDC-Nigeria's first major facility

Export rates of 140,000 bopd and 100 mmscfd



1998 – Sable Island Gas Gathering System, ExxonMobil, East Coast of Canada, offshore Halifax, Nova Scotia

Detail design of pipelines and structures in extremely harsh conditions

Procurement of materials and specialty items

Construction supervision, quality assurance and documentation



KBR's expertise in deepwater floating solutions can be seen on many projects, including Agbami, Block 18, and Barracuda and Caratinga.



Granherne drives value creation for its customers by delivering consulting excellence and providing trusted solutions across the full oil and gas asset life cycle.



Through our extensive experience with complex projects, we are able to provide our clients with efficient and cost-effective solutions for the challenges of deepwater recovery.

Consulting Services

With experience on over 3,000 projects in more than 20 countries, KBR's Granherne business unit is the foremost front-end engineering consultancy for onshore, offshore and deepwater oil and gas development. Organized into three practice areas that reflect customer requirements, Granherne provides high value consulting solutions at the forefront of development planning, project support and asset optimization. By offering premium consulting services in each of our three practice areas we help enhance financial performance, adding value throughout the asset life cycle.



1998 – Chad Cameroon Development Project (Phase I), Esso Exploration & Production, Chad

Power plant generates four times the country's existing power supply
 Produce one billion barrels of crude oil over 25-30 years
 Developed environmental management plan and hired/trained local workers



1997 – South Arne, Amerada Hess, North Sea

115,000 ton concrete GBS, 1,250 ton lattice tower and 6,500 ton single lift integrated wellhead/PUQ deck
 First hybrid concrete and steel substructure in North Sea
 Largest production rate in the Danish sector, North Sea
 FEED, EPIC contract, commissioning



1997 – Terra Nova, Petro-Canada, Canadian East Coast

Designed for 150,000 bopd
 First ice-strengthened FPSO in North American waters
 Engineering of topside and hull design



1996 – BP Andrew, BP, North Sea

Facilities include 6,500 ton jacket and 12,500 ton topsides
 Platform produces 70,000 bpd of oil and 32 mmscfd of gas
 First field development alliance in the North Sea
 Engineering, procurement, program management and fabrication

KBR has been involved in the design and construction of over 50 percent of the world's LNG facilities.



ONSHORE



KBR's pipeline experience covers a wide range of projects, each with its own unique features, such as extremes of climate, terrain, remoteness and logistics.

Global Pioneers in Onshore Oil and Gas Projects

For more than half a century, KBR has designed, built and managed every type of onshore oil and gas field development project in some of the world's most remote locations, from the equatorial forests, river deltas and deserts to the Arctic. Along with wells and well sites, gathering systems, field separation, central oil and gas processing facilities, transmission pipelines, compressor/pump stations, metering systems and full field development, KBR also puts in place the infrastructure needed to make such projects feasible – literally creating working towns in isolated places with everything from running water to satellite communications.

Expertise Executing Complex Onshore Projects in Remote Locations

KBR has the skills and experience to design and execute onshore oil and gas projects in these remote regions and difficult environments worldwide. KBR's industry leading global execution capabilities and our experience with complex facilities in harsh, remote environments, including the Arctic, helps customers around the world to derive the greatest value from their assets.

Integrated Pipeline Solutions

KBR's pipeline expertise enables us to provide cost effective and on-time solutions for all pipeline system requirements. Whether it is a cross-country crude oil or gas transmission pipeline in Asia, a high-pressure gas or water injection pipeline in the Sahara Desert or highly-corrosive multi-phase oil, gas or condensate gathering systems in the Amazon jungle, KBR has the engineering tools to solve the client's challenges.



1995 – Eastern Trough Area Project, BP, North Sea

First oil achieved ahead of schedule with project costs 20 percent below sanction estimate
Delivery of three platforms, oil and gas export pipelines, inter-platform pipelines and subsea facilities



1995 – Schiehallion, BP Exploration, Atlantic Ocean, West of Shetlands

Operates in one of the harshest environments in the world; has never stopped producing
Fastest new-build FPSO at the time of it's development



1995 – Wandoo Oil Field Development, Ampolex Limited, Australia

First Australian offshore alliance
CGS and 7,000-ton integrated float-over deck
Engineering, program management, procurement, construction management, hook-up and commissioning



1992 – Gryphon, Kerr McGe North Sea UK Ltd., North Sea

First permanently moored FPSO in North Sea
Turret moored with dynamic positioning assistance (525,000 bbl storage, 60,000 bopd production, 26.5 mmscfd gas production)
Engineering and procurement





As hydrocarbon resources become more difficult to find and produce, many major field developments are located in remote regions and difficult environments, which present major execution, logistics and environmental challenges.

Heavy Oil Expertise

KBR is making it possible for our clients to economically and efficiently process low value crudes, including the development of oil sands, heavy oil and sour crude. We have patented a heavy oil processing technology called ROSE™, or residuum oil supercritical extraction, used by refineries and heavy oil upgraders worldwide as a reliable and cost-effective option for producing high-value transportation fuels from low-grade fuel.

Meeting Environmental Requirements

KBR offers expertise in a number of areas to help meet environmental requirements. This includes:

- Handling, treatment, removal and disposal of sour gas in locations such as the offshore Gulf of Mexico, Caspian Sea, offshore Southeast Asia, onshore North Africa and Kazakhstan;
- Preservation of the environment by sequestering removed CO₂ in places including North Africa and Western Australia; and,
- The recovery of natural gas liquid (NGL) and liquefied petroleum gas (LPG) in regions including offshore West Africa, Southeast Asia, onshore North Africa and the Caspian.



1983 – Lena Guyed Tower, Exxon, Gulf of Mexico

World's first commercial compliant guyed tower production platform

World's first use of side-launch technique and dynamically-positioned derrick barge

Fabrication, transportation and installation support



1980 – Hutton TLP, Conoco (UK) Ltd., North Sea

World's first oil-producing tension leg platform – design production rate of 110,000 bopd

20,000 ton float-over deck



1973 – Ekofisk, Phillips Petroleum, North Sea

Major Norwegian, North Sea development

Engineering and procurement



1972 - Forties, BP, North Sea

First oil from fixed platforms in Northern North Sea

Engineering, procurement and construction

KBR's global engineering, construction and services expertise enables us to execute projects and provide cost-effective solutions for our customers anywhere in the world. Our energy and chemicals capabilities include onshore and offshore oil and gas production facilities, gas monetization facilities, refineries, petrochemical plants and synthesis gas technology. As energy demand continues to rise, KBR is working to meet tomorrow's demands today by providing value to our customers through the right people, technologies and processes.



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