

ADNOC'S FIVE YEAR
ACHIEVEMENTS
REPORT

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أدنوك
ADNOC



شركة بترول أبوظبي الوطنية

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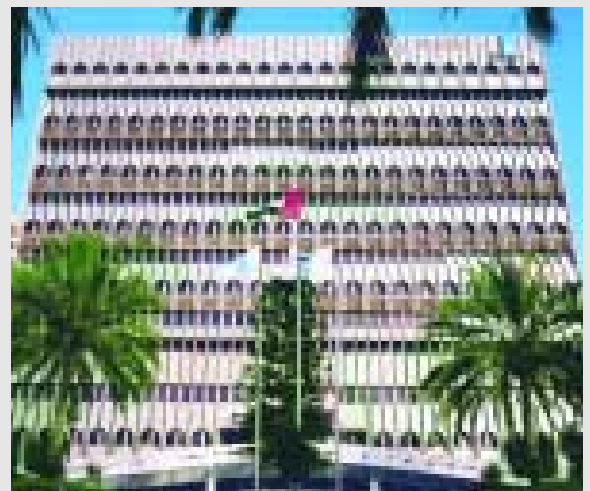
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Group Overview

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ADNOC headquarters

Constructed in March 1979, ADNOC's head office is situated on Abu Dhabi's scenic Corniche road.

ADNOC'S FIVE YEAR ACHIEVEMENTS REPORT

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Abu Dhabi National Oil Company (ADNOC) is a major diversified group of energy and petrochemical companies. Our business is about finding, producing and marketing the natural resources on which the modern world depends.

The Group's main activities are the exploration and production of crude oil and natural gas; refining, marketing, supply and transportation; and the manufacture and marketing of petrochemicals. Our integrated upstream and downstream activities are conducted by 15 specialist subsidiary and joint venture companies.

As one of the world's leading oil companies, producing over 2 million barrels of oil a day, we are committed to sustainable development, ensuring a harmonious balance between people's needs and the Earth's resources. Our track record in occupational health and safety, and protection of the environment, sets the standard for the rest of the Arabian Gulf.

ADNOC was established in 1971, but our roots lie in the beginning of oil exploration in the Gulf during the 1930s, and the subsequent discovery of oil in Abu Dhabi in 1958. Early pioneering companies such as Petroleum Development (Trucial Coast) Ltd., Abu Dhabi Petroleum Company, and Abu Dhabi Marine Areas Ltd., whose names and legal status have since changed, are an important part of the Group's rich local heritage.

ADNOC is a fully owned government company, controlled and supervised by The Supreme Petroleum Council. This body is responsible for formulating Abu Dhabi petroleum policy and overseeing the operations of the Emirate's oil, gas and related industries.



Sheikh Zayed bin Sultan Al Nahyan

May Almighty Allah rest his soul in eternal peace



His Highness Sheikh Khalifa bin Zayed Al Nahyan
President of the United Arab Emirates



His Highness General Sheikh Mohammed bin Zayed Al Nahyan
Abu Dhabi Crown Prince, Deputy Supreme Commander
of the UAE Armed Forces



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The Supreme Petroleum Council

The Supreme Petroleum Council was established in 1988 to formulate Abu Dhabi petroleum policy and to oversee the operations of the Emirate's oil, gas and related industries.

H.H Sheikh Khalifa Bin Zayed Al Nahyan
Sheikh Sultan Bin Zayed Al Nahyan
Sheikh Mohammed Bin Zayed Al Nahyan
Sheikh Mansour Bin Zayed Al Nahyan
Sheikh Hamed Bin Zayed Al Nahyan
Mohammed Habroush Al Suweidi
Yousef Omeir Bin Yousef
Jua'an Bin Salem Al Dhahiri
Khalifa Mohammed Khalifa Al Kindi
Eng. Abdullah Nasser Al Suweidi

Chairman
Member
Member
Member
Member
Member
Member & Sec. General
Member
Member
Member

MESSAGE FROM THE CEO

It gives me great pleasure to introduce this report of ADNOC's achievements between 2000 and 2004. During this period, we have expanded our business activities, introduced new technologies, and achieved international recognition for our people-related health, safety and environmental (HSE) initiatives.

This report contains details of our many achievements in upstream and downstream operations during the last five years, but I would like to take this opportunity to highlight some of the more important ones, which serve to illustrate ADNOC's status as one of the world's leading oil and gas companies.

We significantly increased our exploration activities, using state-of-the-art seismic analysis in order to increase our proven reserves. A record number of over 1,000 wells were drilled, totalling more than 7 million feet. Major onshore and offshore oil development projects have been successfully completed, and subsequent phases implemented. As a result, we have increased our production capacity to record levels and improved recovery rates from existing oil reservoirs. The installation of two world-class condensate splitters at our Ruwais refinery, which have more than doubled our refining capacity, makes ADNOC a major regional operator.

Major onshore and offshore gas development projects were also completed, and new phases have been implemented in order to develop the UAE's gas reserves, which rank among the largest in the world. Our export sales of NGL have increased substantially, while we are also meeting the increased demand from local utility companies and the petrochemical industry. During this period, we celebrated the twenty-fifth anniversary of the first shipment of LNG from Das Island.

As part of our petrochemicals diversification strategy, we established Abu Dhabi Polymers Company (Borouge) in a joint venture with Borealis, Europe's leading producer of polyolefins. A new plant for the production of ethylene and polyethylene, incorporating leading edge Borstar technology, has been commissioned and commenced shipments around the world.

ADNOC enjoys a reputation as a world-class environmental company and the HSE leader in the Gulf region. Key achievements include the

introduction of unleaded gasoline and dramatic reductions in gas flaring, while we are also pioneering a new initiative for the disposal of hazardous waste. As a major UAE company, we are proud of our record for recruiting and developing young talented nationals who wish to realise their full potential. We have employed over 3,000 UAE nationals during the last five years, and supported their development by expanding the ADNOC Technical Institute, and playing a leading role in the establishment of the Petroleum Institute in collaboration with the Colorado School of Mines.

The next five years pose substantial challenges for the global oil and gas industry but I am confident that ADNOC, with its diversified activities and its wealth of technical and human resources, will continue to grow and expand, and maintain its reputation as a leading international player.

In conclusion and while talking about ADNOC's achievements over the last five years, I cannot but remember with reverence and great respect the legacy of our late leader Sheikh Zayed Bin Sultan Al Nahyan, may Almighty Allah rest his soul in eternal peace, and for his continuous support and visionary leadership of the petroleum sector in general and of ADNOC and its Group of Companies in particular. It is only due to his generosity and provision of all capabilities that ADNOC achieved its aspired goals in terms of progress and advancement.

On behalf of the management and staff of ADNOC, I would like to also express my sincere appreciation and gratitude to H.H. Sheikh Khalifa bin Zayed Al Nahyan, the President of the United Arab Emirates and Ruler of the Emirate of Abu Dhabi, and H.H. General Sheikh Mohammed bin Zayed Al Nahyan, the Crown Prince of Abu Dhabi, Deputy Supreme Commander of the UAE Armed Forces for the great efforts they exerted and their constant follow up and support for the enhancement of the role of ADNOC and its Group of Companies as well as for their leadership role in formulating the Emirate's petroleum policy.



Yousef Omair bin Yousef

Secretary General of The Supreme Petroleum Council and Chief Executive Officer of ADNOC



OPERATIONAL

UPSTREAM

Record level of development drilling, with total footage exceeding 7 million feet

Water Alternating Gas (WAG) technology used in Gulf region for the first time

DOWNSTREAM

Oil refining capacity more than doubled to over 500,000 BPD, making ADNOC one of the largest refining operators in the Gulf region

Commissioning of Third Phase of Onshore Gas Development Project (OGD-III) will increase ADNOC's total gas processing capacity to over 5 BSCFD

Borouge, a joint-venture with Borealis, established a new petrochemicals plant for production of polyethylene and liquid ethylene



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ENVIRONMENTAL

Gas flaring significantly minimised, with 78% reduction in last five years, in line with ADNOC's ultimate goal to achieve zero flaring

Unleaded gasoline introduced in UAE, together with pilot project for use of natural gas as an environmentally friendly fuel for taxis and trucks

ORGANISATIONAL

Over 3,000 UAE nationals recruited since 2000 for positions in engineering, technical, vocational and administrative disciplines throughout the Group

ADNOC Petroleum Institute established as a world-class educational and research centre, providing young UAE nationals with industry-related engineering degrees

ECONOMIC

30th anniversary of UAE–Japan economic ties. UAE is now the major regional supplier of crude oil to Japan, with exports of over 1 million BPD



OPERATIONAL
ACHIEVEMENTS

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Between 2000 and 2004, ADNOC continued to broaden its activities across all areas of its operations. Upstream activities include exploration, development, production, and support services to the oil and gas industry. Downstream, ADNOC is involved in oil refining and gas processing, petrochemicals and chemicals, marine transportation, and the distribution of refined petroleum products. Other activities include marketing, and research and development.

UPSTREAM

EXPLORATION

ADNOC's efforts in exploration and production over the past five years have concentrated on assessing and exploiting undiscovered reserves and optimising hydrocarbon recovery by improving reservoir management while ensuring protection of the environment. The facilities and infrastructure of several existing fields were developed to derive better cost advantages. In addition, gas production capabilities of existing reservoirs were expanded to meet increasing demand from industry and gas injection users.

SEISMIC SURVEYS

Over the past five years, ADNOC has acquired several high resolution 3D seismic surveys in offshore and onshore Abu Dhabi, using highly sophisticated geometry design in acquisition and advanced data processing sequences. The results of 3D data are used to help in field development plans through seismic reservoir characterisation and better understanding of reservoir uncertainties, as well as for exploration and drilling optimisation.

In the Zakum field, 1,800 square kilometres of high resolution 3D Ocean Bottom Cable (OBC) on the sea floor was acquired over this congested field. This is the largest ever ocean bottom 3D seismic survey in the world acquired over a producing field.

In Hair Dalma and Open Area C in offshore Abu Dhabi, 400 square kilometres of high-resolution 3D seismic surveys were acquired using Ocean Bottom Cable (OBC) technique on the sea floor. The seismic data set is used for accurate structural and fault mapping of deep targets. In western Offshore Abu

Dhabi, 500 square kilometres of high-resolution 3D Vibroseis land survey were acquired. The seismic data is used to better evaluate the Mishref structural and stratigraphic traps.

In Bab, Huwaila, SE Abu Dhabi, Qusahwira, Bu Hasa and Asab, 6,500 square kilometres of Vibroseis land 3D seismic data were acquired for better field development and drilling optimisation. In Mubarraz and Yaser Fields, 700 square kilometres of 3D Ocean Bottom Cable on the sea floor were acquired for better field developments.

In addition, special geophysical studies were carried out for reservoir monitoring and depth imaging of complicated structures. These included a multi-component 4C data acquisition test in Zakum field to evaluate the efficiency of multi-component technology, and also a time-lapse 4D seismic test acquired in Asab field for reservoir monitoring. The main objective of these multi-component 4C and time-lapse 4D tests was to determine the likelihood of new technology contributing significantly to the short and long-term development of these fields.

RIG ACTIVITIES

National Drilling Company (NDC) is one of the largest drilling contractors in the Middle East, and has over 30 years' experience in the industry. The Company's modern fleet now totals 10 offshore rigs, and 16 onshore drilling and work-over rigs. There are also six water well rigs operating in the Ground Water Research Project, where NDC is working with the US Geological Survey on two studies to evaluate the ground water resources of Abu Dhabi and Al Ain.

LARGEST EVER OCEAN BOTTOM 3D SEISMIC SURVEY IN THE WORLD ACQUIRED BY ADNOC OVER A PRODUCING FIELD



Fleet downtime for NDC ranks as one of the best in the drilling industry, with an average of 99.5 percent uptime, providing customers with an efficient, round-the-clock service. The Company also has an impressive safety record. For example two onshore rigs, ND-1 and ND-8, completed more than five calendar years without a Lost Time Incident in 2001.

In 2003, NDC launched the first in a new generation of state-of-the-art land drilling rigs. Embracing cutting-edge drilling technology for higher performance and lower downtime, ND-31 is capable of drilling to a depth of 20,000 feet with a 5 7/8 inch drill pipe. It is custom-designed to drill clustered wells on a 3 x 8 pad (three rows, each with eight wells), with 15 to 20 feet spacing and 30 to 40-row spacing, delivering higher well capability and flexibility.

The Company invested heavily to ensure compliance with Group health, safety and environmental (HSE) requirements. The environmentally friendly design ensures zero discharge, and uses extensive mechanisation to improve working conditions and keep staff away from high-risk areas. The whole rig remains stationary except for the substructure and mast, which can be moved over a cluster of wells.

DEVELOPMENT

ADNOC's oil and gas fields were developed extensively between 2000 and 2004. Major oil development programs were implemented mainly in the existing producing fields to expand production facilities and achieve the target of the 25-year plateau production rates. Optimising the progress within the existing fields maintained the production rate and helped to derive cost advantages by improving the use of existing facilities and infrastructure. Significant achievements were made in expanding gas development fields to meet increased demand from industry gas users and gas injection requirements in order to enhance oil and condensate recovery.

DEVELOPMENT DRILLING

| | Onshore | | Offshore | |
|--------------|--------------|-------------|--------------|-------------|
| | No. of Wells | '000 Feet | No. of Wells | '000 Feet |
| 1999 | 74 | 672 | 68 | 378 |
| 2000 | 110 | 848 | 68 | 237 |
| 2001 | 149 | 1137 | 67 | 404 |
| 2002 | 153 | 1195 | 78 | 328 |
| 2003 | 147 | 1460 | 57 | 305 |
| Total | 633 | 5312 | 338 | 1652 |

WAG – WATER ALTERNATING GAS PROCESS IMPLEMENTED FOR FIRST TIME IN GULF REGION

DEVELOPMENT DRILLING

Between 2000 and 2004, development drilling activities continued at a peak level, both in the onshore and offshore areas, and concentrated mainly on the drilling of development wells in major oil and gas producing fields. A total of 8.6 million feet were drilled during this period. Improvements in drilling performance were vigorously sought for most types of wells, with major achievements recorded in horizontal drilling operations.

During the last five years, nearly 1,000 wells have been drilled and worked over in onshore and offshore fields. The introduction of DTL in drilling and work over operations has improved efficiency and reduced cost by 35 percent and 25 percent, respectively.

NEW OIL DEVELOPMENTS – ONSHORE

Major onshore oil developments during this five-year period include the North East Bab Phase 1 (NEB-1) project, designed to increase production from Al Dhabb'iya, Rumaita and Shanayel fields to 110 MBOPD by early 2006. This includes the implementation of the Water Alternating Gas (WAG) process for the first time in the Gulf area to obtain maximum production while sustaining the reservoir pressure. The latest Supervisory Control & Data Acquisition (SCADA) technology will also be utilised for this project. The oil and gas development comprises a central processing plant, clusters of wells and gas injection wells, a network of underground flow lines, transfer pipelines, and a new transfer line from NEB to Habshan. The supporting infrastructure facilities include an administration building, accommodation complex, recreation facilities, landscaping and roads, together with power transmission lines and a water supply pipeline.

NEW OIL DEVELOPMENTS – OFFSHORE

Major offshore oil developments over the last five years include Umm Shaif field crestal gas injection, Upper and Lower Zakum fields pilot gas injection, Umm Al Anbar flared sour gas re-injection, and Bunduq associated gas injection projects.

NEW GAS DEVELOPMENTS – ONSHORE

During this five-year period, major onshore gas development projects, designed to develop Abu Dhabi's natural gas resources, were completed on schedule. These include Asab Gas Development (AGD) and Onshore Gas Development Phase-II (OGD-II).

Asab Gas Development (AGD) project was completed and commissioned in April 2000. This project is designed to produce natural gas from the Asab field reservoirs and extract the condensate. The separated and

dehydrated gas is recycled into the two gas producing reservoirs. AGD comprises drilling gas producers and gas injectors, gas pipelines and processing facilities for condensate recovery, and a compression station to recycle the dried gas. The produced condensate is pumped through a new pipeline to Ruwais refinery.

Onshore Gas Development Project Phase II (OGD-II) was completed and commissioned in April 2001. This is designed to produce dry sweet gas and condensate from the three reservoirs at Bab field. OGD-II comprises drilling gas-producing wells from non-associated gas reservoirs, and the installation of a new plant within the existing OGD-I premises. This plant has facilities for gas processing and condensate stabilisation. The dry sweet gas supplies ADNOC's gas pipeline network, while the condensate is pumped to Ruwais refinery.

There are also a number of key developments currently being implemented:

Asab Gas Development Project Phase II (AGD-II). The Front-end Engineering & Design (FEED) phase for AGD-II was launched in 2003. The objective is to continue the development of the facilities at AGD-I, to the south of the Habshan complex. AGD-II will mainly involve recovery of NGL from the 743 MMSCFD of sour, rich gas that is presently processed at AGD-I, and injected into the wells in the Asab area.

Onshore Gas Development Project Phase III (OGD-III). Following the successful commissioning of OGD-I in 1996 and OGD-II in 2002, the Front-end Engineering & Design (FEED) phase for OGD-III was launched in 2003. Production at the proposed new gas plant, which will be located south of the existing Habshan complex, is forecast to start in 2007. The main objective is to generate additional revenues from increased production of both condensate and NGL. The feed gas for the new OGD-III plant will be sourced from Thamama F reservoir of the Bab field. The new plant will be designed for total capacity of over 1,300 MMSCFD of well-stream fluid, resulting in the supply of over 1,200 MMSCFD of gas to the treating section. Associated facilities include a gas gathering system, two condensate separation and stabilisation trains, two gas treating trains, two NGL recovery trains, and four re-injection compression trains.

OGD-III and AGD-II associated expansion projects. The condensate produced by OGD-III will be routed to Takreer (Ruwais) for fractionation and export. The existing condensate storage facilities at the refinery will be expanded. Likewise, the NGL from both OGD-III and AGD-II will be routed to GASCO (Ruwais) for treatment, fractionation and export. This plant will also be expanded and will be designed with capability to produce additional ethane as feedstock for the planned increase in

HABSHAN WILL BECOME ONE OF THE LARGEST GAS PROCESSING COMPLEXES IN THE WORLD



polyethylene production by Borouge petrochemicals plant. The expected recovery of 4,800 tons per day of ethane will support a cracker of 1.4 MTPA capacity. A new pipeline system will be installed to transport NGL and condensate to Ruwais. After completion of the project, the gas processing capacity at the Habshan complex will increase to 4,500 MMSCFD, making it one of the largest gas complexes in the world.

Bab Thamama B Incremental Gas Cap Injection project consists of gas compression facilities to meet the additional sustainable gas injection requirement into Thamama gas cap, with completion due for late 2006.

NEW GAS DEVELOPMENTS – OFFSHORE

The ongoing Offshore Khuff Gas Development (OKGD) project involves the installation of new gas facilities to gather and export Abu Al-Bukhoosh Khuff gas to various applications via the Umm Shaif super complex. This will compensate ADGAS's currently used GGII associated gas and help augment the gas supply to Umm Shaif Uweinat reservoir for pressure support, and the Lower Zakum crestal gas injection project to enhance oil production. Completion is expected by mid-2005.



Gas field development studies were completed in 2003 to evaluate the gas asset and production potential of two major reservoirs in the Khuff ABK and US fields. An additional study was started in 2004 to develop the Mubarras Arab gas condensate reservoir. In addition, a feasibility study for exporting offshore Khuff gas onshore for injection into Bab field (OGEP) has been completed.

PRODUCTION

During the past five years, continued emphasis was placed on sustaining the integrity of production facilities through improved maintenance and upgrading production and injection facilities. Particular importance was given to the long-term integrity of managing key production assets to identify and mitigate risks associated with the use of old equipment. Production operations for crude oil, water and gas injection, and gas supply were performed safely and efficiently to meet all targets, including increased export demand.

OIL OPERATIONS

A number of major projects, designed to increase ADCO's production capacity to 1.4 MMBPD by 2005-2006, are currently at different stages of implementation. These include expanding production facilities at Bab and Huwaila fields, and upgrading production facilities at Bu Hasa and Asab/Shah fields.

In 2003, ADCO awarded Snamprogetti the Engineering, Procurement and Construction (EPC) contract for the Bu Hasa Facilities Development Project at Bu Hasa Field, with total plant capacity of 730,000 BPD. The project consists of new centralised oil production facilities to handle increased GOR and water cut projected for the next 30 years. It also includes gas and water injection

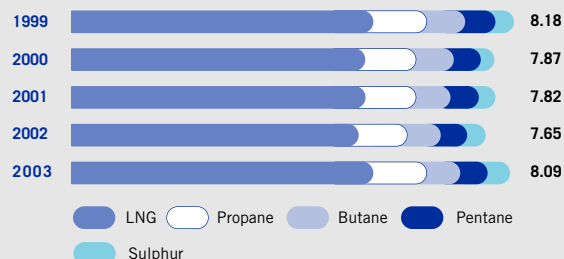
facilities, applying the water alternating gas (WAG) concept and variable speed motor drive for the injection compressor, with a capacity of 150 MMSCFD and 120,000 barrels of water per day. The project will utilise latest technology in Supervisory Control and Data Acquisition (SCADA), automation, and flare minimisation to enhance operability and meet environmental guidelines.

Also in 2003, ADCO signed a contract with JGC Corporation of Japan for the construction of a new Central Degassing Station (CDS), as part of the Bab Expansion Project. This will comprise two trains, both including first and second stage separation, crude heating, hydrogen sulphide stripping, water separation, and associated utilities. An essential part of the plans to upgrade Bab's treatment and production capacity, the new CDS is expected to be completed by the end of 2004.

In 2001, new effluent water disposal and oil dehydration facilities were commissioned on Zirku Island. Two major offshore projects were also introduced to upgrade gas injection facilities in Zakum and Umm Shaif fields. In 2000, the planned reorganisation of the Zakum site was implemented.

OFFSHORE GAS PRODUCTION

(MMTONS)



GAS OPERATIONS

Abu Dhabi's production of associated and non-associated gas from the main fields has increased annually over the past five years to meet growing demand. Gas injection programmes for the pressure maintenance of oil and gas reservoirs continues. Gas supplies to the NGL plants at Asab, Bab, Bu-Hasa, Habshan and Ruwais, the LNG plant on Das Island, and the condensate plant at Ruwais, increased between 2000 and 2004. All gas supply requirements were fully satisfied with respect to power generation, water desalination and Abu Dhabi's other industries.

In support of the Bab Oil Expansion Project, a conceptual study is underway to expand the crude oil production capacity of the Bab Crude Degassing Plant. The Habshan Gas Plant will be required to

process 400 million SCFD of Thamama B associated gas. As part of the study, a capacity assessment of the plant's feed gas processors and processing units is being carried out.

The Umm Shaif-Habshan Gas Export project was commissioned at the end of 2003. As a result, the gas produced at Total ABK and Umm Shaif fields (540 million SCFD dry gas) is now utilised for injection into Thamama F and B zones. The project to supply an additional quantity of 270 million SCFD of gas to Taweelah A1 power and desalination plants was completed in 2002.

SUPPORT OPERATIONS

In 2002, a new E&P support services company – ESNAAD – was formed through the merger of Abu Dhabi Drilling Chemicals & Products Limited (ADDCAP) and National Marine Services Company (NMS). The new company, wholly owned by ADNOC, provides comprehensive and integrated support services to offshore oil and gas companies. Services include berthing, bunkering, bulk supplies, warehousing and waste disposal, augmented by a fleet of specialised marine vessels, including fire-fighting tugs. A grinding plant produces a range of mud chemicals including barite, bentonite and attapulgite, while a blending plant supplies drilling and production chemicals such as corrosion, scale and wax inhibitors, bactericides and de-emulsifiers. All materials conform to ISO and API standards.

Abu Dhabi Petroleum Ports Operating Company (ADDPOC), which was established in 1979, was renamed IRSHAD in 2002. The Company provides maintenance to offshore loading terminals, subsea equipment, and navigation aids. IRSHAD operates its own fleet of just under 40 vessels, including tugs, pilot boats, a dive support vessel, and a maintenance barge with a 20 ton hydraulic crane. In 2001, the Company was certified by the International Safety Management System (ISM Code).

DOWNSTREAM

OIL REFINING

In the last five years, ADNOC's refining operations have undergone major expansion to keep pace with increasing regional and international demand. The Abu Dhabi Oil Refining Company (Takreer) was established in 1999 to take over responsibility for all of the Group's refining operations. The scope of activities of the Ruwais and Umm Al Nar refineries include refining crude oil and condensate, supply of petroleum products in compliance with domestic and international standards, and sulphur granulation.



KEY DEVELOPMENTS

In 2000, two new world-class condensate splitters with a total design capacity of 280,000 BPSD were commissioned at the Ruwais refinery, more than doubling the refining capacity to over half a million barrels a day, and making ADNOC one of the region's biggest operators. The addition of processing trains for naphtha distillation, kerosene sweetening, and LPG dehydration amine sweetening, supported the Group's objective to add value to its resources by exporting finished products as well as crude oil and condensate.

In 2001, a major project to convert the bulk of gasoline production to unleaded gasoline was implemented, in anticipation of the UAE Government's policy to phase out leaded gasoline. The project was successfully completed on time, enabling the 'UAE Goes Green' conversion programme to start on 1 January 2003.

Also in 2001, completion took place of the expansion of the Sulphur Handling Terminal (SHT), where liquid sulphur is granulated and shipped through a separate jetty. SHT receives sulphur removed from gaseous and liquid hydrocarbons from Umm Al Nar and Ruwais oil refineries, the GASCO NGL plant, and the ADGAS LNG plant at Das Island. The expansion is expected to result in an increased SHT capacity from 4,250 TPD to 6,250 TPD.

In 2002, the latest expansion of the General Utilities Plant (GUP) at Ruwais refinery was successfully tested and commissioned. This involved the addition of four gas turbines and two water desalination units. GUP was initially intended to operate on an 'island' basis, supplying power and utilities to plants in Ruwais Industrial Area only. In 2000, TAKREER and the Abu Dhabi Water & Electricity Authority (ADWEA) signed a Memorandum of Understanding to interconnect their electrical grids and exchange power in the future. Since 2001, total power of over 1.7 million MW/hour has been generated, while total water production exceeded 10.6 million cubic meters. GUP is now called upon to supplement the power requirements of the National Grid in the Western Region of the country.

In 2003, work commenced on the replacement of the existing Sulphur Recovery Unit (SRU) at the Ruwais refinery. It will be based on a combination of the Claus process and BP AMOCO Cold Bed Absorption (CBA) technology. The new SRU, which will have a working life of 30 years, will incorporate latest global industry standards and improved design concepts, providing a sulphur recovery efficiency greater than 99 percent, totally complying with ADNOC environmental guidelines.



A revamp of the Hydrocracker Unit at Ruwais is underway, designed to increase the current capacity of 120 percent to 135 percent of the original design, and to de-bottleneck existing constraints in the Hydrocracker Unibon and associated units, and enhance safety and reliability.

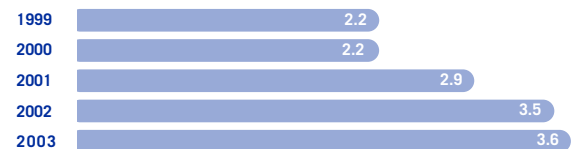
Phases I and II of Takreer's Profit Improvement Program (PIP) have been successfully completed, resulting in savings to date of over US\$ 37 million. This program has been designed to identify and implement profit improvement opportunities in areas such as throughput maximisation, energy optimisation, yield improvement and oil loss at Ruwais and Umm Al Nar refineries.

GAS PROCESSING

UAE's natural gas reserves are estimated at over 200 trillion cubic feet, the fifth largest in the world after Russia, Iran, Qatar and Saudi Arabia. The largest reserves are located in Abu Dhabi, where the non-associated Khuff natural gas reservoirs beneath Umm Shaif and Abu Al Bukhoosh oil fields, rank among the world's largest.

Increased domestic consumption of electricity and growing demand from the petrochemical industry have provided incentives for UAE to

ONSHORE GAS PROCESSING (BDSCF)



increase its use of natural gas. Consumption has doubled in Abu Dhabi over the last decade, and is projected to reach 4 billion cubic feet by 2005.

ADGAS

During the past five years, Abu Dhabi Gas Liquefaction Company (ADGAS) has achieved sales of over 39 million tons of liquefied natural gas (LNG) and liquefied petroleum gas (LPG). The majority of these sales are accounted for by a sales agreement with Tokyo Electric Power Company (TEPCO), with whom a new 25-year contract was signed in 1990. Master agreements and SPAs have also been signed with Shell, BP, SCMS, Total, Gas Natural, IBERDROLA, Qatar Gas and KOGAS.

In 2002, ADGAS celebrated the 25th anniversary of its first shipment of liquefied natural



gas (LNG) from its plant at Das Island. Significantly, this was the first plant of its kind to be constructed in the Middle East in the early 1970s. Annual production of LNG, LPG, pentane and liquid sulphur now exceeds 8 million tons.

GASCO

In 2001, Abu Dhabi Gas Industries Ltd (GASCO), incorporated in 1978 for processing onshore gas directly associated with oil production, was merged with Abu Dhabi Gas Company (ATHEER), established in 1999 to handle ADNOC's sole risk onshore gas operations. This successful merger led to the creation of one of the largest gas processing companies in the world. The process of fully integrating the onshore gas operations will be continued in 2004, with the transfer to GASCO of the Asab gas plant operations currently handled by Abu Dhabi Company for Onshore Oil Operations (ADCO).

Development projects completed by GASCO during the last five years include AGD-I and OGD-II, which have already been described in the New Gas Developments section of this report. In addition, GASCO completed the installation of a new state-of-the-art digital control system at the Ruwais plant,

GASCO IS ONE OF THE LARGEST GAS PROCESSING COMPANIES IN THE WORLD

which was carried out on live installations without a single shutdown. A major upgrade of the production facilities at the Ruwais plant was also carried out, increasing production by 15 percent, and enabling the supply of ethane stock to the Borouge petrochemicals plant.

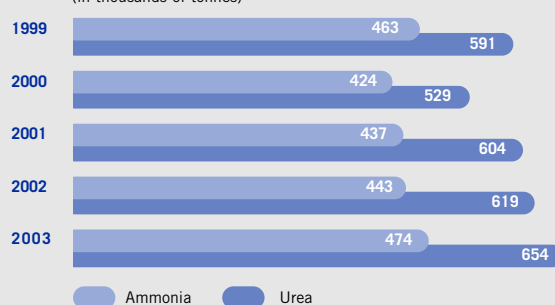
Ongoing and future developments include AGD-II and OGD-III (see New Gas Developments section of this report), together with the Ruwais Tr-III project. Tr-III involves the installation of a third fractionation train at the Ruwais plant to accommodate processing of additional NGL from AGD-II and OGD-III. The new train will have an NGL fractionation capacity of 24,400 TPD, effectively doubling current capacity. A new processing train will also be installed at the Habshan gas complex, with completion due by 2007.

Other developments include ethane recovery maximisation at Habshan; the Habshan-Ruwais liquid sulphur pipeline; Bu Hasa facilities upgrade and integrated control systems (HICS) project; Asab-Bab integrated control systems (ABICS) project phase; phase 2 of the gas supply to Dubai; and the offshore gas export project (OGEP).

PETROCHEMICALS

One of the dominant industries of the developed world, petrochemicals is a driving force for economic growth and industrialisation in developing countries. This is particularly the case in the Arabian Gulf, where there are abundant supplies of oil and gas. In Abu Dhabi, ADNOC's fast-growing petrochemicals activities include the production of ammonia and urea, as well as polyethylene. These activities are helping to diversify the Emirate's economic base, creating employment opportunities for UAE nationals, and supporting the Government's privatisation policies by promoting downstream industry linkages.

FERTIL PRODUCTION (in thousands of tonnes)





FERTIL

Incorporated in 1980 as a joint venture between ADNOC and Total-CFP, FERTIL was the group's first petrochemicals venture, starting commercial production in 1983. The complex consists of a 1,050 MT/day ammonia plant and a 1,500 MT/day urea plant.

FERTIL currently exports approximately 90,000 tons of liquid ammonia, and more than 645,000 tons of urea (bulk and bagged) every year. The plants have consistently operated above designated capabilities, and a feasibility study for expansion of the complex is currently being carried out.

In 2003, FERTIL completed 20 years of operations and 10 years without a Lost Time Incident (LTI), and again received the RoSPA Award for its excellent occupational safety record. In line with its business development strategy, FERTIL signed a Memorandum of Understanding with Total in 2003 for a project to manufacture 50,000 tons per annum of melamine, based on urea produced from existing facilities. Melamine production will add significant value to the urea feedstock. The project is expected to be commissioned in early 2007.

SHIPMENTS OF LIQUID ETHYLENE AND POLYETHYLENE FROM BOROUGE STARTED IN 2002



In 2001, a 4-bar absorber project was implemented to reduce ammonia and carbon dioxide emissions, and increase their availability for enhancing urea production. This is now showing economic benefits of US\$ 0.5 million per year, with the payback period expected to be less than three years.

FERTIL OPERATING RATES

(% design)



BOROUGE

Part of ADNOC's petrochemicals diversification strategy, Abu Dhabi Polymers Company (Borouge) is a joint venture between ADNOC and Borealis, Europe's leading producer of polyolefins.

The US\$ 1.2 billion complex in Ruwais was commissioned in 2001, and includes a 600,000 TPA ethane cracker and two 225,000 TPA polyethylene plants capable of swing production of bimodal linear low-density polyethylene (LLDPE) and high-density polyethylene (HDPE). The first shipments of liquid ethylene and polyethylene took place in 2002.

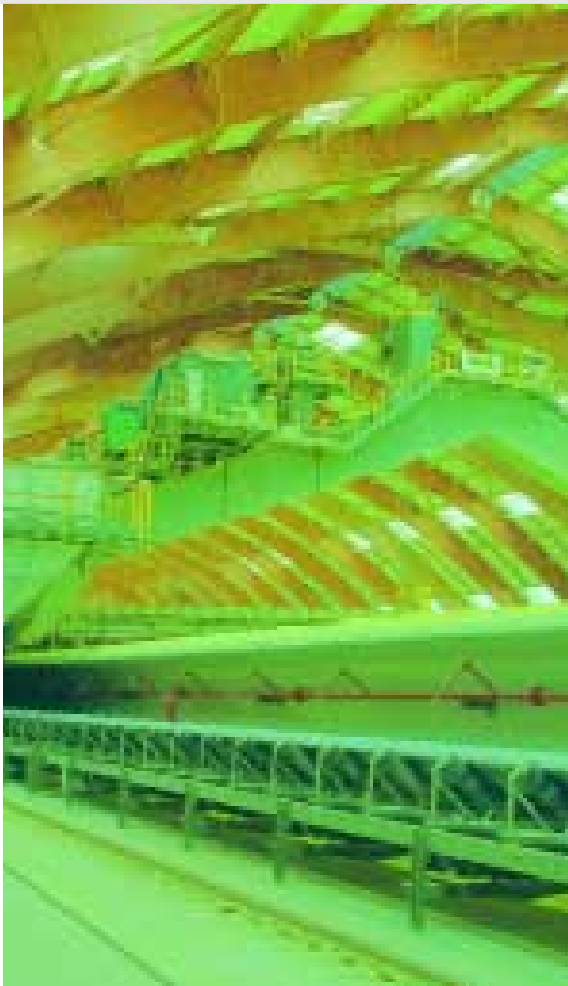
The complex incorporates Borealis state-of-the-art proprietary Borstar technology. The polyethylene grades produced are substantially stronger, and also more easily and economically processed than conventional materials. Borouge's products are used for the manufacture of plastic film and moulded packaging for industries such as pharmaceuticals, food and beverages, cosmetics and chemicals. They are also suitable for the manufacture of high-pressure pipes used in agriculture, mining, water, gas and sewage distribution, as well as coating for steel pipelines.

Borouge has established an extensive sales and marketing network. Offices are located in Abu Dhabi, Singapore, Hong Kong, Beijing, Shanghai, Mumbai and Beirut, together with representatives in Australia, New Zealand, Egypt, Pakistan, Taiwan and Thailand. Borouge and Borealis combine sales and marketing activities in Middle East and Asia Pacific, while Borouge now oversees the marketing of the entire Borealis range of polyolefins in the region.

Borouge is currently considering two major expansion projects. Borouge Step II Project involves de-bottlenecking of existing polyethylene facilities to increase total production capacity from 450 KTA to 600 KTA, in order to utilise surplus ethylene that is presently exported. The project is expected to be completed in early 2005.

Borouge Step III Project includes a new ethane cracker with an annual capacity of 1.4 million tons of ethylene. The ethane feedstock for the new cracker will come from ADNOC's Onshore Gas Development (OGD) project, which is expected to be commissioned in 2007. The production of propylene based on ethylene using dimerisation and metathesis processes is being considered, along with the construction of new polyethylene and polypropylene plants. Other product lines under consideration include vinyl chloride monomer (VCM), polyvinyl chloride (PVC), linear alpha olefins, and para-xylene production through naphtha reforming.





TRANSPORTATION

PIPELINES

The main oil and gas producing fields of ADNOC are linked by over 800 kilometres of pipeline, which are constantly upgraded and expanded to keep pace with increased production and supply demand.

A current major development is the TAKREER inter-refineries pipeline project for product transfers between Ruwais, UAN and the ADNOC Distribution depot at Mussafah, which forms a critical element of the OGD-II and AGD-III projects. Other recent projects include the commissioning of the new Bab-Umm Al Nar crude oil pipeline, and the main oil line from Total ABK to Das Island. In addition, the Front-end Engineering & Design (FEED) project has been completed for the proposed Ruwais-Shweihat pipeline to supply 670 MMSCFD of gas to the new power and desalination plants of Abu Dhabi Water & Electricity Company.

In 2001, the new 48 inch, 112 kilometre Maqta'a-Jebel Ali gas pipeline was commissioned to supply gas to the Dubai Supply Authority (DUSUP). The pipeline has been designed to transport up to 910 million SCFD of gas. Also in 2001, the FEED project for the new Habshan-Ruwais liquid sulphur

pipeline commenced, with commissioning expected in early 2004. This pipeline will provide a safer and more environmentally friendly alternative to road transport of liquid sulphur.

Other pipeline network projects completed during the last five years include the FOD multi-products and LPG pipelines to Mussafah; the gas pipeline to Zayed Military City; the gas pipeline to supply the steel mill and other consumers in Abu Dhabi Industrial City; and the commissioning of the 30-inch Zakum-Das Island main oil line.

TANKERS

ADNOC has two maritime companies that specialise in the transportation of crude oil, refined products and liquefied natural gas.

CRUDE OIL AND REFINED PRODUCTS

ADNATCO specialises in the transportation of crude oil, refined products, petrochemicals and molten sulphur, both for ADNOC and other major oil companies. The Company also provides logistical support and advice on shipping, and manages the Group's offshore bunker supply ships.

In 2001, the Company diversified into dry cargo transportation using Ro-Ro ships to transport



polyethylene for Borouge. In 2002, ADNATCO achieved ISO 14001 environmental preservation accreditation, while in 2003, an e-management project was launched for the whole fleet. This is designed to reduce costs, save time and space, improve performance and protect the environment. The same year, 15 UAE national cadets were selected to study maritime science and then join the ADNATCO fleet.

LIQUEFIED NATURAL GAS

NGSCO is the demise owner and operator of eight specially constructed LNG tankers, and is considered one of the largest gas shipping companies in the world. The capacity of each vessel is 137,500 cubic metres (62,000 metric tons), and they are among the largest and most technologically advanced in the world.

In 1999, NGSCO became one of the first shipping companies in the world to achieve ISO 14001 environmental preservation accreditation, having previously achieved ISO 9002 certification in 1997.

NGSCO IS ONE OF THE LARGEST GAS SHIPPING COMPANIES IN THE WORLD

UAE PETROLEUM PRODUCTS DISTRIBUTION

One of the largest petroleum companies in the Arabian Gulf, ADNOC Distribution specialises in the marketing of gasoline, diesel, kerosene, aircraft fuel, LPG and natural gas vehicle fuel. The Company also produces and markets a range of oils, lubricants and greases.

FILLING STATIONS

ADNOC distribution operates a fast-expanding network of over 170 filling stations in Abu Dhabi, Al Ain, the Western Area and Northern Emirates. These include the recently introduced new image 'Millennium' service stations, which, in addition to gas refuelling, car washing, lube bay and tyre changing, include an Oasis Service Centre comprising a convenience shop, food court and rest area. Payment is accepted in cash and by credit card, and also by company smart cards. Some larger stations now also incorporate a business centre. A car inspection service was recently introduced, operated in coordination with Abu Dhabi General Traffic Directorate.

UNLEADED GASOLINE PROJECT

ADNOC played a major role in the 'UAE Goes Green' campaign to phase out leaded fuel throughout the UAE. This involved the conversion of 500 filling stations nationwide to unleaded gasoline, the training of transport and service station personnel, and an awareness campaign for 750,000 UAE motorists. The changeover took place smoothly on 1 January 2003.

NATURAL GAS VEHICLE FUEL

Following the project launched by ADNOC in 2002 to introduce natural gas as fuel for road vehicles, a pilot scheme involving taxis and trucks, was implemented during 2003. This involves converting vehicles, setting up a specialised filling station, and constructing an underground supply pipeline. If successful, the longer-term goal is to use natural gas to fuel all Abu Dhabi taxis, and then extend it to cover other transportation such as buses and trucks. Natural gas is cheaper, cleaner and safer as a vehicle fuel. Vehicles run more quietly, with less engine wear, extended service intervals, and reduced maintenance costs. Fuel tanks do not explode in normal accidents, while underground gas pipelines are safer than petrol pipelines and petrol tankers.



AVIATION SERVICES

ADNOC provides aviation re-fuelling services to over 50 airlines at regional airports including Abu Dhabi, Al Bateen, Fujairah, Al Ain, Sharjah and Ras Al-Khaima. Operational facilities and fire-fighting services have recently been expanded and enhanced at Abu Dhabi International Airport.

MARINE SERVICES

ADNOC's ship refuelling service for vessels in Abu Dhabi waters has been enhanced by the construction of a new supply depot at Zayed Port.

LUBRICANT OIL AND GREASES

ADNOC has expanded facilities and increased production at its state-of-the-art lubricant oils blending and grease plants at Umm Al Nar. New products complying with international standards have been introduced for distribution through ADNOC's regional and international marketing network, which covers the Middle East, Africa, Far East, Australia and Europe. In Abu Dhabi, the Company has exclusive contracts with distributors for leading global manufacturers such as BMW for the supply of lubricants.

SEVENTY PERCENT OF TOTAL ANNUAL PRODUCTION OF ADNOC'S REFINED PRODUCTS IS EXPORTED



LIQUEFIED NATURAL GAS

ADNOC supplies customers with liquefied natural gas (LNG) through its plants at Abu Dhabi (Musaffah) and Al Ain. Recent expansion of the Al Musaffah factory has doubled production of gas cylinders.

MARKETING

The extreme volatility in world crude oil prices over the past few years carried through into 2003, fuelled by a number of critical factors. These include continued tension in the Middle East, the strike by Venezuelan oil workers, the civil unrest in Nigeria, the closure of nuclear plants in Japan, and unusually severe winter weather. The combined effect of these events led to tight oil supplies and low stock levels, resulting in high prices for the year.

In line with OPEC's role and commitment to ease disruption in world oil supply during such international crises, ADNOC played a crucial role in covering shortfalls. The assistance provided during the temporary loss of exports from Venezuela and Iraq helped to stabilise crude oil prices to well within the OPEC basket price band target of US\$ 22 to 28 BBL. The projected increase in world oil demand of over 78 MBD will need to be met by OPEC and non-OPEC producers.

CRUDE OIL AND CONDENSATE

The main export market for ADNOC crude continues to be east of Suez, with Japan being the largest importer. Supply disruption of oil in some areas has created several opportunities for Arabian Gulf oil to be traded in Western markets.

The start up of ADNOC onshore gas projects, such as AGD in 2000 and OGD-II in 2001, increased the total supply of condensate as feedstock for producing high quality refined products. Additional volumes of condensate will be produced and processed for export from the AGD-II and OGD-III projects in 2007.

REFINED PRODUCTS

ADNOC reached a major milestone in 2000 with the start up of two condensate splitters, each with a processing capacity of 140 MBD. This capacity has now almost tripled to 500 MBD of high quality refined products. The total annual production of refined products is approximately 19 million tons, of which 30 percent is consumed locally, and the balance exported mainly east of Suez. ADNOC has successfully penetrated new markets for its products, with more exports moving to the West and, most recently, to Africa.



GAS

The commissioning of the OGD-II project has added 1,000 MMSCFD of sweet gas to ADNOC's gas grid, which now totals 2.5 BSCFD. This is helping to meet the growing demand from power and utilities in Abu Dhabi. In 2001, ADNOC started to supply Dubai with 500 MMSCFD of gas, and this will be increased to 800 MMSCFD in 2004.

The supply of LPG has also benefited from the commissioning of OGD-II and the new condensate splitters, with production increasing to 4.1 MTPA. The Asian continent remains ADNOC's traditional LPG export market. Production is expected to increase to 9.5 MTPA in 2007, following completion of the AGD-II and OGD-III projects.

SULPHUR

Production of sulphur has increased to 1.5 MTPA, and is now marketed not only to Asia but also to new markets in Africa.

PETROCHEMICALS

Following the commissioning of the 600,000 TPA ethane cracker and 450,000 TPA polyethylene plants by Borouge in late 2001, ADNOC entered the petrochemicals business through sales of liquid ethylene and polyethylene to various Asian markets.

RESEARCH & DEVELOPMENT

As one of the world's leading oil and gas companies, ADNOC invests substantially in ongoing research and development activities. The findings and practical benefits of scientific and technical studies, together with HSE initiatives, are regularly shared and transferred among the Group and the industry through workshops and seminars.

SCIENTIFIC AND TECHNICAL

A **carbon dioxide injection study** is currently being undertaken in the western area of the Upper Zakum field. The objective of this study is in line with ADNOC's long-term strategy to enhance oil recovery by injecting carbon dioxide into oil reservoirs to protect the environment by reducing emission of greenhouse gases and to conserve hydrocarbon gas resulting from carbon dioxide use as a substitute of hydrocarbon gas for injection into reservoirs.

This is one of a number of technical research projects jointly conducted by ADNOC, Japan Oil Development Company (JODCO) and Technical Research Centre of Japan National Oil Corporation (JNOC-TRC). These are designed to overcome operational problems, enhance oil recovery, and address related HSE challenges.



The benefits of **Drilling to the Limit (DTL)** are being investigated by ADNOC operating companies, business partners including BP, ExxonMobil, TotalFinaElf and Shell, service providers and contractors. The aim is to share DTL best practices and recommend how they can add value to exploration and production activities.

The **Gas to Liquid (GTL)** process is just one of many new opportunities for natural gas utilisation currently being investigated. GTL, which involves converting natural gas into oil, provides many benefits. For example, it is cheaper to transport, and does not have to be placed under high pressure in pipelines or cooled to extremely low temperatures for transportation by tanker. In addition, oil products produced from gas are cleaner, since they do not contain any sulphur. End products include refinery feedstock or middle distillates such as kerosene and diesel, for which there is rising global demand. Importantly, GTL has the potential to dramatically reduce carbon emissions and the emissions of other problem compounds such as NO₂ and SO₂.

The feasibility of **Underbalanced Drilling Technology (UDT)** in the offshore fields of Abu Dhabi is being investigated in order to evaluate the value-added

GTL – GAS TO LIQUID PROCESS PROVIDES NEW OPPORTUNITIES FOR UTILISATION OF NATURAL GAS

benefits of this new technology. UDT is defined as the intentional reduction of the drilling fluid density, causing the hydrostatic pressure in a well bore to be lower than the pore pressure within a formation, thereby permitting reservoir fluids to be produced while drilling. Benefits include an increased rate of penetration, minimising or eliminating formation damage, reducing or eliminating stimulation costs, increasing reserves and ultimate recovery, achieving a faster return on investment through incrementally-increased production, and improving safety and environmental considerations.

An experimental field test was conducted in Zirku Island on the compact and fast **Oily Water Treatment System** using a superconductor magnet. The process involves the removal of oil particles by flocculation and separation using a superconducting magnet, consisting of newly developed superconductors and a small refrigeration unit, which has a strong magnetic force compared to permanent and normal electrical magnets and, which once magnetised, requires no electrical current. Test results showed that effluent water content was continuously less than 5 PPM even when the influent water oil content was 1,200 PPM. Benefits include cost recovery from the

recovered oil and cost savings from the recycle, with greater savings possible from a future up-scaled system.

Downstream pilot tests are underway to evaluate latest developments in **Hydro-cyclone Technology for Oil Water Separation**. This new technology involves a liquid-liquid hydro-cyclone using centrifugal forces to separate fluids of different densities, without using moving parts. This advanced system has many advantages over conventional hydro-cyclones. It is more compact, cheaper and simpler to operate, requires minimum maintenance and downtime, and is more energy efficient and environmentally friendly.

Other topics covered by workshops and seminars include the **Assessment and Remediation of Leaking Light Non-aqueous-phase Liquids (LNAPL)**, involving the investigation of subsurface contamination and the appropriate techniques for remediation of the contamination plume; **Radiation Protection** measures; **Air Quality & Monitoring** systems; and **Tank Gas Recovery** techniques.



HEALTH,
SAFETY AND
ENVIRONMENTAL
ACHIEVEMENTS

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Between 2000 and 2004, ADNOC realised its vision to become the HSE leader in the Gulf region, meeting the highest standards in the oil and gas industry worldwide. The Group adhered strongly to its cornerstone objectives of ensuring no harm to employees and local communities, protecting the environment, moving towards zero flaring, optimising the use of resources, and playing a leading role in promoting best practice in the Group's industries.

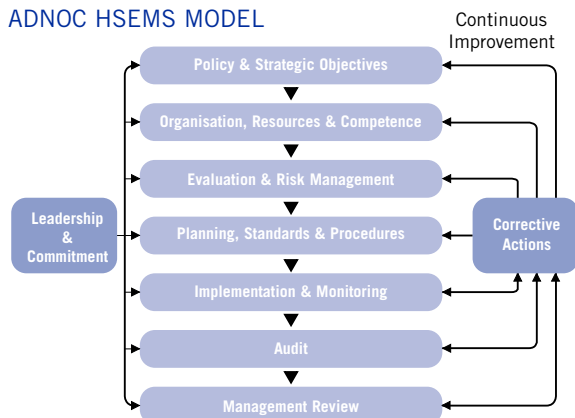
ADNOC HSE PROCESS

HSE POLICY REVIEW

The Group's HSE Policy and HSE Management System (HSEMS), both initially introduced in 1997, were completely revised during 2001 in line with the Group's strategic objectives. New HSEMS Guidelines were also introduced to ensure that health, safety and environmental considerations were firmly embedded in day-to-day operations.

These guidelines, which are compatible with external accreditation standards, define detailed corporate 'Requirements & Expectations'. All Group companies are now completing their own gap analysis and implementing plans to rectify any shortcomings. To ensure unambiguous standards for assessing implementation progress and compliance auditing, new procedures for corporate HSEMS audits were also introduced. Audit results will be used for comparisons with each company's annual HSE Assurance Letter, which sets out annual performance and achievements.

ADNOC HSEMS MODEL



HSE IMPACT ASSESSMENT

ADNOC's commitment to total integration of health, safety and environmental issues is demonstrated by its approach to HSE Impact Assessment (HSEIA). Since 1998, all new ADNOC projects have been subject to stringent risk identification and assessment procedures. Group companies must submit an HSEIA for all large projects to demonstrate that the HSE risk is within the ADNOC tolerability criteria, and complies with Group HSE standards as well as existing and anticipated UAE laws and regulations. Following submission and review, ADNOC then approves the HSEIA if all requirements have been met.

From 2006, ADNOC will require all Group companies to prepare HSEIA reports for existing facilities that have either significant environmental impact or major accident hazards. Such an HSEIA report is essentially the same as what is known as an 'HSE Case' by the oil and gas industry in other parts of the world. This new standard will be implemented throughout the Group over the next few years and become a cornerstone of ADNOC's self-regulatory framework.

HSE REGULATION

ADNOC's corporate objective is to be self-regulatory on all HSE matters. It is now crucial to develop a corporate framework for self-regulation in parallel with the introduction of Group HSE Codes of Practice (CoPs), and to strengthen and enhance ADNOC's interface with Federal and Abu Dhabi authorities. In 2004, a task force will be set up to evaluate the best way forward to attain ADNOC's goal of becoming fully self-regulating.

HSE STANDARDS

HSE Codes of Practice (CoPs) were introduced in 2003 as a final step in completing the Group's HSE management framework. These are high-level 'standard-setting' documents that reflect best regional and international HSE management and regulatory practice. They are used to demonstrate to UAE authorities and other stakeholders, the rigorous standards to which the Group will manage HSE. These new Codes of Practice mark a significant step in regulating, managing and measuring all Group companies' HSE compliance.

HSE RISK MANAGEMENT

Group HSE Risk Management Guidelines were introduced in 2000. Since then, hundreds of risk and hazard management studies have been executed, resulting in improved technical integrity work programmes, and improved design standards and procedures. Studies have also been conducted to identify workplace hazards and develop effective steps to manage risk. These have resulted in

improved work procedures, better awareness of hazards at the worksite, and improved HSE performance.

HSE LABORATORY

Established in 1999 to enable ADNOC to be fully self-sufficient in chemical and microbiological analysis, the HSE Laboratory continues to develop the scope of its capabilities to provide broad analytical services to Group companies for a wide range of sample categories. It now handles in excess of 7,000 samples per year for microbiological and inorganic chemistry analysis. It also helps Group companies in the monitoring of discharges, environmental impact, and microbiological control of food and food handling.

HSE TRAINING

The past five years have seen a marked increase in the volume and quality of HSE training throughout the Group. As well as general staff training and awareness programmes, specialised courses are provided for HSE professionals, using external training providers and consultants.

HSE COMPETENCIES

ADNOC's HSE Competence Assurance Management Scheme is now well underway. It provides development frameworks for young UAE nationals to meet well-defined competency requirements for key HSE issues as they relate to specific jobs.

HSE COMMUNICATIONS

ADNOC is committed to transparent performance reporting, increasing awareness of the importance of HSE, and providing effective communications channels to encourage the sharing of news and performance. Over the past five years, existing channels have been enhanced and new initiatives introduced.

HSE ANNUAL REPORT

ADNOC has issued a Group HSE annual report since 1997. This publication has become increasingly more comprehensive, detailed and accurate in highlighting performance, achievements and key issues to be addressed in the future. Individual companies also producing their own annual reports include ADCO, ADGAS and ADMA-OPCO.

HSE WEBSITE

Introduced in 2003, the Group's own HSE website contains information on HSE systems, procedures and processes. Initially available to the corporate organisation, it will be extended to all Group companies in the near future.



ADNOC HAS
REALISED ITS
VISION TO BE
THE HSE LEADER
IN THE GULF
REGION



HSE ALERT SYSTEM

While incident reporting and investigation procedures within Group companies are well established, ADNOC has realised the importance of sharing information about learning points from accidents and incidents throughout the Group. In 2003, new Group procedures were implemented requiring companies to report to ADNOC all incidents that resulted, or could have resulted in serious consequences.

Coinciding with this, the ADNOC Group 'HSE Alert System' was launched, through which information on real accidents and incidents within the Group, as well as in the worldwide industry, is issued electronically to all Group companies.

HSE ANNUAL AWARDS

Introduced in 1997, the HSE Annual Awards continue to generate considerable enthusiasm from Group companies and teams of HSE and technical professionals. Significant changes were made in 2001, including the introduction of new categories to stimulate more diverse applications and better recognise achievements. Around 80 applications are now received every year, and the quality and general value of the projects continue to improve.



Recent winners include projects for reducing zero gas flaring, improving the liquid sulphur degassing process, preventing hepatitis in the workforce, improving road safety standards, introducing PC-based HSE induction training for head office staff, incorporating latest safety and environmental considerations into new land rigs, and implementing a hazard identification process.

INDUSTRY SUPPORT

ADNOC is an active participant and supporter of HSE-related conferences, seminars, forums and exhibitions. Recent examples include sponsorship of First Emirates International Disaster and Trauma Congress, and the Environment & Energy Exhibition and Conference.

EXTERNAL ACCREDITATION

The Group's HSEMS Guidelines are aligned with ISO and OHSAS standards for HSE management systems. Many companies have achieved, or are in the process of achieving official accreditation. ADMA-OPCO, NGSCO, ADNATCO and FERTIL have already achieved ISO 14001 (environmental preservation) status. ADMA-OPCO was also one of

ADNOC ANNUAL HSE AWARDS ENCOURAGE AND REWARD NEW HSE INITIATIVES BY GROUP STAFF



the first companies in the world to receive OHSAS 18001 certification, in recognition of its occupational health, safety management and risk management processes. The entire marine fleets of NGSCO, ADNATCO, ESNAAD and IRSHAD are certified to ISM Code Safety Management standards.

EXTERNAL RECOGNITION

Group companies also regularly win industry safety awards from leading institutions such as RoSPA and the Gas Processing Association. In February 2003, ADNOC won the 'Environmentally Friendly Energy and Sustainable Development' Award at the Environment & Energy Conference in Abu Dhabi. The award recognised the Group's endeavours to protect the environment and its efforts aimed at maintaining pollution-free oil and gas operations.

HEALTH PERFORMANCE HIGHLIGHTS

ADNOC is committed to maintaining a healthy and productive workforce. The Group provides a comprehensive range of medical facilities, supported by regular occupational health and environmental hygiene programmes and initiatives.

NEW MEDICAL FACILITIES

Group medical facilities include the main ADNOC hospital at Ruwais, the ADMA-OPCO hospital at Das Island, and two comprehensive clinics at Abu Dhabi. In addition, centrally positioned clinics are located at all major onshore and offshore operations.

A new medical clinic was opened in the Umm Al Nar residential area in 2001. This is equipped with the latest medical technology to serve Umm Al Nar refinery employees and dependants, together with students from the ADNOC Petroleum Institute, and the ADNOC Technical Institute. A major expansion of specialist care facilities for the Ruwais housing complex clinic took place in 2002, with the latest equipment installed for obstetrics, radiology and cardiology.

ENHANCED SPECIALIST SERVICES

While all ADNOC hospitals and clinics provide basic medical services, some include specialist services such as dental, gynaecology, ophthalmology and physiotherapy. New services have been introduced at Abu Dhabi main clinic in the last few years, such as cardiology and dermatology. Upgrades in technology include a Holter monitor for cardiology, a Fundus camera to detect early retinopathy for ophthalmic cases, plus a new ENT clinic and new laboratory and x-ray facilities. This clinic now handles over 60,000 visits per year.

EXPANDED DENTAL FACILITIES

Dental facilities for employees and dependants have been expanded to cover specialist care services such as orthodontics and prosthodontics. The Group now handles more than 30,000 visits per year for dental services.

REGULAR CHECK-UPS

Regular medical examinations are an important component of ADNOC's health management programme. They provide valuable criteria for job placement, uncover early physical and emotional changes, and assist in detecting effects of harmful working conditions. Periodic check ups are compulsory for all personnel, and their frequency increases with age.

COMPREHENSIVE MEDICAL HEALTH FACILITIES HELP TO ENSURE A HEALTHY AND PRODUCTIVE WORKFORCE



OCCUPATIONAL HEALTH AND ENVIRONMENTAL HYGIENE

More than 300 inspections are carried out each year to ensure healthy living at ADNOC premises and contractor accommodation camps, and ongoing compliance with ADNOC standards. In addition, there is regular evaluation of environmental factors and stresses arising in the workplace, with development of corrective measures to control health hazards. New Codes of Practice are being introduced to cover occupational health competencies and reporting systems. There is also more detailed guidance provided to medical professionals, line managers and supervisors.

Traditional workplace or occupational health hazards, such as toxic materials, chemicals, noise, radiation and heat stress, continue to be well controlled across the Group via corporate procedures and training. New and revised 'good housekeeping' measures are continually introduced. Regular educational programmes on occupational health and environmental hygiene are conducted for all staff, with technical seminars for HSE specialist staff, such as courses on 'Fundamentals of Industrial Hygiene' and 'Radiation Protection'.

Following the issue of 'Guidelines for Health Performance' in 2001, a new initiative was introduced in 2002 to ensure a better overview of occupational health issues and their effects across the Group. These will help to enhance management focus on existing and new issues, such as workplace stress and muscular-skeletal disorders. All companies are now required to report comprehensive performance statistics for occupational illnesses. A new corporate initiative introduced in 2003, under the HSEIA Phase II project, is a study to establish corporate baselines for noise levels, asbestos and BTEX (benzene, toluene, ethylene and xylene).

SAFETY PERFORMANCE HIGHLIGHTS

ADNOC's considerable efforts to improve safety performance are showing improved results due to Group companies' continuous development and implementation of workplace safety initiatives.

INDUSTRIAL ACCIDENTS

In 2002, corporate Lost Time Injury Frequency (LTIF) was down to 0.55 per million man-hours worked – the best ever achieved since Group-wide reporting started in 1997. This is an encouraging development, in line with ADNOC's goal to rank with the best international oil and gas companies.

Latest specific company achievements during 2003 include completion by FERTIL of 10 years without a Lost Time Incident (LTI), while ADGAS completed 4 million man-hours without an LTI. Other company-specific initiatives include the introduction by ADMA-OPCO and NDC of behavioural safety auditing, the appointment of dedicated Field Safety Engineers for each rig by NDC, and the upgrading of GASCO's HSE organisation with more staff, including engineering specialists.

In 2003, a new corporate methodology was introduced for capturing detailed and comprehensive information on all actual incidents, with a view to analysing their severity, causation and distribution among the workforce. Group-wide formal safety risk identification and assessment are now becoming firmly embedded in most operations.

ADNOC submits annual safety statistics for its Exploration & Production (E&P) sector to the International Association of Oil & Gas Producers (OGP). These are used in preparation of OGP's annual report on the safety performance of the global E&P industry, allowing members to benchmark their own performance.

ROAD SAFETY

ADNOC continues to focus on reducing road traffic accidents, despite the growing traffic congestion and corresponding increase in traffic accidents in the UAE. Some Group companies have already implemented their own comprehensive Road Safety Management Systems. These include the installation of electronic monitoring devices in vehicles to monitor driving performance such as speed levels and the correct use of seat belts.

A workshop involving Group companies was conducted in 2003 to identify issues and best practices for implementation throughout the Group. This also addressed the need to develop the corporate data collection of road traffic accidents, and determine their impact on the Group's safety (LTIF) performance. As well as company training programmes, ADNOC continues to work with its partners to develop defensive driving schemes.

ENVIRONMENTAL PERFORMANCE HIGHLIGHTS

"It is our duty as an oil-producing country to make strenuous efforts to maintain a clean environment by reducing levels of pollution during the various stages of production in the hydrocarbons industry, and to improve the standards of energy products so that they are environmentally friendly."

H.H. Sheikh Zayed bin Sultan Al Nahyan, May Almighty Allah rest his sooul in eternal peace, in his inaugural address to the 2003 Environment & Energy Exhibition and Conference in Abu Dhabi, which was sponsored by ADNOC.

EMISSIONS TO ATMOSPHERE

Over the past five years, ADNOC has made good progress in reducing air emissions. In particular, there have been substantial reductions in sulphur dioxide, methane and volatile organic compound (VOC) emissions.

Carbon dioxide emissions have risen slightly. This is due to the Borouge petrochemicals plant that has been in operation for two years, and the fact that Ruwais electricity plant now exports to the Abu Dhabi Water & Electricity Authority (ADWEA) National Grid. These will continue to rise in the future as new processing facilities come on stream to meet the increasing demand for power.

Nitrous oxide and carbon monoxide emissions have been minimised and are expected to remain at current levels as new 'clean' generation equipment is installed. Reductions in sulphur dioxide emissions have been achieved through ongoing modifications to facilities, in particular the new acid gas injection system at Mubarras Island and the new Ruwais sulphur removal facility.

The installation of minimum emission equipment is now a requisite for all new projects, with compliance monitored via Health, Safety and Environmental Impact Assessments (HSEIA). ADNOC plans to extend HSEIAs to cover older installations within the next few years.

In 2001, FERTIL implemented the 4-bar Absorber Project at its urea plant, designed to reduce emissions of ammonia and carbon dioxide and to increase their availability for enhancing urea production.

SAFETY STATISTICS

| | 1999 | 2000 | 2001 | 2002 | 2003 |
|---------------------------|------|------|------|------|-------------|
| Exposure hours (millions) | 105 | 120 | 138 | 116 | 140 |
| Fatalities | 6 | 15 | 3 | 5 | 1 |
| Lost Time Injuries | 123 | 129 | 95 | 64 | 70 |
| LTIF | 1.17 | 1.08 | 0.69 | 0.55 | 0.50 |



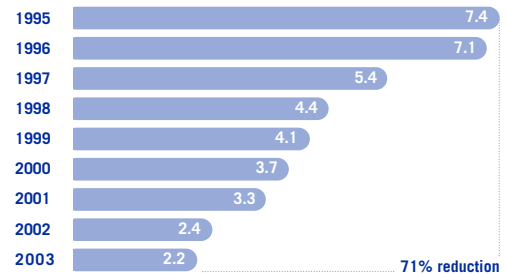
OPERATIONAL
FLARING HAS
BEEN REDUCED
BY 78 PER CENT
SINCE 1995

Emission levels now exceed the standards set by the European Fertiliser Manufacturers' Association. As well as environmental benefits, there are also economic benefits of around US\$ 0.5 million per year, with the payback period expected to be less than three years.

In 2003, following the earlier conceptual study to establish a corporate Air Quality Monitoring and Management System, a contract was awarded for a detailed engineering design study at a number of ADNOC engineering sites. These will serve as a pilot scheme and provide the basis for developing an Emissions and Air Quality network, along with modelling and data systems that will eventually cover all ADNOC operations. It will be used to measure ambient air quality in relation to current operations, and to forecast air quality for different environmental and business development scenarios. This is being carried out in coordination with ERWDA.

HYDROCARBONS FLARED

(in million M³ per day)



FLARING AND VENTING

The reduction of operational flaring has been one of ADNOC's key focus areas since commencing oil and gas production. Not only is it harmful to the environment, but there are also economic incentives due to growing regional demand for gas as a fuel and petrochemical feedstock. Improved planning and coordination has resulted in remarkable progress during the last few years, with a 78 per cent reduction since 1995.

ADNOC does not permit continuous gas venting. However, this is difficult to achieve for process storage facilities that operate under atmospheric conditions and when loading crude tankers. Despite the complexity and cost of vapour recovery systems, a number of Group companies have installed these, while additional projects are being studied.

DISCHARGE

All hazardous components in drilling water are now re-injected into disposal wells, while all non-hazardous drilling water is allowed to evaporate in onshore pits, or is drained to sea.

Oil-based mud (OBM) is only used for drilling onshore wells, and a dedicated thermal de-absorption and mud-recycling plant has been installed to handle the waste. Non-OBM drilling



cuttings are analysed and any hazardous components are treated at ADNOC's hazardous waste storage facility (HWSF) at Ruwais.

All onshore and offshore-produced water is re-injected into reservoirs at considerable depth that are not in contact with potable water aquifers. Some 9 million cubic metres of clean process and cooling water are discharged to sea every day, with major outlets at Das Island, Ruwais and Umm Al Nar.

Localised negative environmental effects have been analysed in the past and found to be acceptable. However, a detailed assessment will be conducted again during 2004 to confirm acceptability levels.

WASTE DISPOSAL

All hazardous waste continues to be collected for centralised storage at Ruwais Hazardous Waste Storage Facility (HWSF), with most of ADNOC's historically accumulated onshore and offshore waste having already been allocated there, and the remainder to be completed shortly.

In 2003, work started on a major new project to handle hazardous waste in a drive to protect the environment and minimise pollution. The BeAAT Project will provide a safe means for the disposal of industrial and oil waste resulting from production

THE BeAAT HAZARDOUS WASTE DISPOSAL PROJECT IS ONE OF THE FIRST OF ITS KIND IN THE GULF REGION

and maintenance operations by ADNOC companies. Around 6,000 tonnes will be handled every year at the new waste plant, due to come into operation at Ghayathi by the end of 2004. BeAAT is among just a few projects of its kind in the Middle East and will handle all waste caused by operating oil companies, unlike similar projects in other oil-producing countries that only provide partial treatment of waste. One of its unique features is that the plant will partially run on petroleum products extracted from the waste. This project has been hailed as one of the most important environment projects in the UAE.

All Group companies have processes in place to collect and segregate non-hazardous waste before disposal to Abu Dhabi Municipality or recycling at other plants. A variety of waste reduction and recycling projects at Group companies such as ADCO, GASCO, NPCC and FERTIL, are already delivering good results. ZADCO recently removed 6,500 tonnes of segregated waste from Zirku Island in a joint project with Abu Dhabi Municipality.

HALON REMOVAL

One of the principal fire protection means in ADNOC's older facilities, halon is fast being phased out, with nine Group companies having already completed removal at their plants. Since 2002, a specialist company has been used to provide a fully equipped facility to process and purify Group-wide redundant halon stock. Some 50 per cent has already been processed and safely stored for future trading with essential UAE users. Depending on future consumption, all halon will eventually be destroyed in an environmentally safe manner.

EMERGENCY RESPONSE AND CRISIS MANAGEMENT

Contingency planning and emergency response are key components of ADNOC's HSE Management System. All Group companies have processes in place to identify potential HSE incident risks, develop plans to address these crisis scenarios, and test the plans on a regular basis.

Emergency exercises are carried out on a regular basis, either by ADNOC and companies themselves, or in association with other oil companies and government and environmental agencies.

In 2002, two major emergency drills and exercises were conducted. The first involved a simulated total evacuation of Zirku Island following a tanker explosion and large fires in the onshore process and storage facilities. This involved all offshore oil and gas producers as well as ADNOC. The second was a practical training exercise in Mussafah, involving the deployment and operation of oil spill response equipment. This exercise involved ADNOC Petroleum Ports Authority, the



Petroleum Association of Japan (PAJ), many Group companies, Federal Environmental Agency (FEA), Environmental Research and Wildlife Development Agency (ERWDA), and Abu Dhabi Seaport Authority.

Also in 2002, a real system test occurred with the accidental grounding of the tanker 'Ulsan Spirit' in the vicinity of Jebel Dhanna. The emergency response teams worked well to transfer the cargo and re-float the vessel with no spillage of oil.

ADNOC Petroleum Ports Authority (PPA) is responsible for operating the two ADNOC Oil Spill Response Centres (OSRC) located at Ruwais and Mussafah. During 2002, the Ruwais OSRC was totally rebuilt and equipped with the latest oil pollution-combating equipment and training facilities, while the Mussafah OSRC was established at ESNAAD premises to meet requirements of the Federal Environmental Agency for two such centres in Abu Dhabi. The PPA is tasked with responding to all oil spills in Abu Dhabi offshore waters caused by ADNOC and other parties. The OSRC annual operating costs are 6 million Dirhams, shared between all ADNOC companies with potential to cause oil spills. In 2002, the oil spill response capability was increased to 2,000 tonnes, with the purchase of new and replacement equipment worth 18 million Dirhams.

ADNOC SUPPORTS REGIONAL AND INTERNATIONAL AGENCIES FOR LIMITING THE ENVIRONMENTAL DAMAGE CAUSED BY OIL SPILLS



AFFILIATIONS

ADNOC is a full member of Oil Spill Response Ltd (OSRL), the world's largest international oil spill response company, who assists ADNOC with limiting environmental damage. The Group is also a member of the Abu Dhabi Emergency Support Committee for Offshore Operators (ADESCO). This is an affiliation of companies involved in oil exploration and production in the near-shore and offshore waters of Abu Dhabi, together with government agencies such as the FEA and ERWDA. Recent activities include issuing new guidelines for the use of oil dispersants, revision of the Search & Rescue manual, oil spill exercises, and the development of a new website.

ADNOC submits annual environmental statistics for its Exploration & Production (E&P) sector to the International Association of Oil & Gas Producers (OGP). These are used in preparation of OGP's annual report on the environmental performance of the global E&P industry, allowing members to benchmark their own performance.

NATIONAL CONTINGENCY PLAN

ADNOC has played a major role in the development of a joint industry-government team to create an oil spill contingency plan for the Emirate of Abu Dhabi. On behalf of this team, ADNOC has now completed the first draft of this plan, currently under review.

STANDARDISED EMERGENCY APPROACH

While all Group companies have developed their own emergency response systems that comply with the relatively broad corporate guidelines, there are still significant differences between some companies. As a result, in 2003, ADNOC introduced a Standardised Emergency Response Strategy to ensure a common corporate approach for a number of emergency response issues. This will facilitate centralised training, joint exercises and response to real events that cross company boundaries.

Specifically for these purposes, ADNOC is developing a corporate Incident Command System (ICS) that will eventually be implemented by all Group companies. ICS is a generic, all-risk emergency system that enables companies to function effectively in a multi-organisational environment. Originally conceived to respond to wildfires in North America, it then evolved into an emergency response system that can be used in any type of emergency. ICS is very useful where multiple jurisdictions and different organisations need to work together.



ADNOC PLAYED A MAJOR ROLE IN INTRODUCING UNLEADED FUEL TO THE UAE IN JANUARY 2003

UNLEADED GASOLINE

A key project carried out during 2003 was the 'UAE Goes Green' campaign for the phasing out of leaded gasoline throughout the UAE. This required converting 500 service stations nationwide, training transport and service station personnel, and an awareness campaign for 750,000 UAE motorists. This marks the start of a new era in preserving the environment and ensuring cleaner air for future generations in the UAE.

NATURAL GAS VEHICLE FUEL

Following the project launched in 2002 to introduce natural gas as fuel for road vehicles, a pilot scheme involving taxis and trucks was implemented in 2003. This involves conversion of vehicles, setting up a specialised filling station, and constructing an underground supply pipeline. If successful, the longer-term goal is to use natural gas to fuel all Abu Dhabi taxis, and then extend it to cover other transportation such as buses and trucks. Natural gas is cheaper, cleaner and safer as a vehicle fuel. Vehicles run more quietly, with less engine wear, extended service intervals, and reduced maintenance costs. Fuel tanks do not explode in normal accidents, while underground gas pipelines are safer than petrol pipelines and petrol tankers.

LOW SULPHUR GAS OIL

Agreement in principle has been reached between the Ministry of Petroleum and Mineral Resources, the Emirates Authority for Standardisation & Metrology, federal environment agencies and national oil companies for a step reduction in the sulphur content of gas oil (fuel used for diesel trucks) supplied to the local market. This is planned to decrease from the current level of 5,000 PPM to 2,500 PPM by the end of 2005, and to 50 PPM by the end of 2010. TAKREER has already initiated a feasibility study, taking into consideration the current facilities at both refineries, future technologies, and ongoing projects. The company is also planning to conduct a detailed techno-economic study to review the various options available for future ultra-low sulphur gas oil and unleaded gasoline production.

FLORA AND FAUNA PROJECTS

ADNOC continues to be involved in a number of projects to limit the impact of emissions and waste streams on flora and fauna. These include extensive work to protect and reinstate environmentally sensitive areas on Zirku Island; removing redundant flow lines under minimum impact conditions; minimising the impact and footprints of onshore rigs; monitoring the progress of the 'Rigs to Reefs' artificial reef project on Das Island; and keeping the desert clean of debris and litter.

ORGANISATIONAL
ACHIEVEMENTS

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As a modern and professional organisation, ADNOC places great importance on the implementation of the highest international standards across all its activities. These are used to guide the Group's strategic direction and ongoing diversification, and also to provide management guidance and support for all ADNOC operating companies.

GLOBAL BEST PRACTICE

All Group companies share a common vision and values, and adopt global best practice policies and procedures for HSE, human resources, information technology, financial control and business development.

ADNOC's corporate philosophy is based on a combination of traditional values and modern business practice. Mutual trust, respect and integrity share equal importance with strategic planning, inspired management and strict financial control.

HUMAN RESOURCES

Realising that its people are its most important asset, ADNOC makes a significant, ongoing investment in developing a highly qualified and committed workforce. This involves not only a comprehensive programme of staff training and management development, but also a focus on employee motivation, recognition and reward.

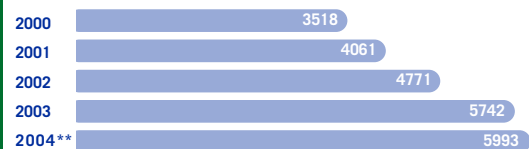
DEVELOPMENT OF UAE NATIONALS

In the past few years, human resources activity has focused on the development of existing UAE nationals in ADNOC and its operating companies, together with ongoing efforts to recruit more young nationals. To achieve this strategic goal, the Group's HR policies have been comprehensively revised, with changes to salary structure, benefits and job evaluation.



COMMITTED TO PROVIDING UAE NATIONALS WITH OPPORTUNITIES TO DEVELOP A CAREER IN THE OIL AND GAS INDUSTRIES

ADNOC GROUP UAE NATIONAL MANPOWER (2000-2004*)



* Excluding ADNOC Distribution, ADNATCO & NGSCO

** As at the end of March 2004

The number of UAE nationals recruited since 1999 totals 3,136, in various engineering, technical, vocational and administrative disciplines. By the end of this five-year period, UAE nationals numbered 40 percent of the total workforce. The Group Nationals Recruitment Department continues to spearhead efforts to attract, motivate, develop and retain this national workforce.

COMPETENCY-BASED DEVELOPMENT

The Group's Competence Assurance Management System (CAMS) has been continuously revised and updated during the past five years, and is now adopted by all operating companies. ADNOC fully appreciates that the need for a competent workforce is greater than ever, due to reasons of safety, efficiency, reputation and increasing technical complexity.

Guidelines for 'Structured Skills Development using a Competency-based Approach' have been updated, and individual development frameworks have been further developed. The aim is to ensure the right combination of awareness, knowledge, skills and attitude that will enable performance to the required standard in each job. Incentives and processes have been established to encourage the development of specialist skills by all staff.



SCHOLARSHIP PROGRAMME

ADNOC introduced its Scholarship Programme in 1974. This selects outstanding secondary school students who are interested in a career in the oil, gas and petrochemical sectors. The programme forms part of ADNOC and its Operating Companies' commitment to develop a qualified national cadre that meets the requirements of various technical specializations and speeds up the process of human resourced development in the industrial sector.

ADNOC sends between 100 and 130 students every year to universities around the world, located in the USA, UK, Australia and Japan, as well as inside the country to the UAE University, Higher Colleges of Technology, American University in Sharjah and the Petroleum Institute. The number of graduates participating in this programme every year has risen dramatically from 10 in 1979 to 325 in 1994. To date, the Scholarship Programme supervises more than 600 students.

ADNOC TECHNICAL INSTITUTE

Established in 1978 to train young UAE technical students, the ADNOC Technical Institute (ATI) has

since graduated nearly 2,000 technicians in the fields of instrumentation, mechanical and electrical maintenance and process operations.

In 2003, the Institute launched a new development project to enhance and expand its services. This includes curriculum development, a new examination system, accreditation to international educational standards, modernisation of training facilities, and the introduction of a total quality management system.

In the same year, the Institute inaugurated a new Pilot Training Plant. This simulates separation of oil and gas, and provides hands-on training for all ATI process operation trainees. Fully equipped with the latest equipment, including an emergency shutdown system (ESD) and a distributed control system (DCS), the pilot plant will provide trainees with practical experience in the control of four basic variables – flow rate, temperature, pressure and level – supported by the highest standards of safety.

ADNOC PETROLEUM INSTITUTE

In 2000, the Petroleum Institute (PI) was formed by Emiri decree as an independent higher education body operating in the Emirate of Abu Dhabi. It is co-funded by ADNOC and four industrial partners: British Petroleum (BP), Japan Oil Development Company, Shell, and TotalFinaElf. The aim is to establish a world-class centre in the field of engineering, applied sciences and research. PI is the first educational establishment in the country to provide programmes of instruction leading to baccalaureate degrees in Chemical Engineering, Petroleum Engineering, Petroleum Geosciences, Mechanical Engineering and Electrical Engineering.

A ten-year contract has been signed with the Colorado School of Mines (CSM) to provide leadership in programme and curricula design towards achieving international accreditation for the Institute. CSM was chosen in recognition of its longstanding reputation for excellence in engineering, education and applied sciences, as well as its focus on energy and natural resource technologies.

As part of its mission, the Institute will evolve into a fully-fledged educational and research institution, and provide advanced programmes leading to Masters and PhD qualifications. Currently, there are over 384 students at the Institute undertaking five-year degree programmes.





OTHER TRAINING INITIATIVES

During the past five years, many developments have taken place to further the creation of a learning culture and environment within ADNOC, where staff are given every opportunity to enhance their competencies and skills, both for their personal benefit and for the Group as a whole. New initiatives include greater provision of PC-based training, with expansion of the computerised learning laboratory at the Training Institute, and an increased choice of both in-house and external training courses.

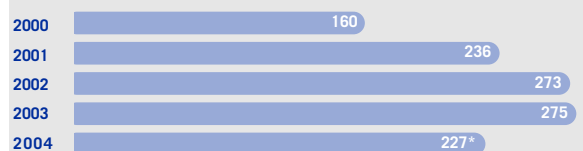
INFORMATION TECHNOLOGY

Investment in the latest information and communications technologies remains a key priority for ADNOC. Recent enhancements to the Group's IT infrastructure have placed it among the top 500 international companies for the use of the most sophisticated computerised systems.

THE PETROLEUM INSTITUTE IS THE FIRST OF ITS KIND IN ABU DHABI TO PROVIDE DEGREES IN OIL AND GAS ENGINEERING DISCIPLINES



ADNOC TECHNICAL INSTITUTE GRADUATES (2000-2004)



* Including 106 students expected to graduate in July 2004

The Group is committed to keeping pace with the latest IT developments to ensure the quality, efficiency and productivity of its operations. Recent initiatives include plans for introducing e-procurement systems and procedures for centralised purchasing, while ADNATCO has launched an e-management project for its entire fleet that will reduce costs, save time and space, improve performance and provide greater protection for the environment.

**ECONOMIC
ACHIEVEMENTS**

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08
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As one of the world's leading oil and gas companies, ADNOC plays a major role in the ongoing growth of the economy of the Emirate of Abu Dhabi. Between 2000 and 2004, ADNOC continued to support Abu Dhabi's key contribution to the importance of the United Arab Emirates (UAE) in the regional and global energy markets. Through its oil and gas reserves – among the largest in the world – the UAE has long been a major contributor to the development of the Gulf Cooperation Council (GCC) region as one of the world's most dynamic developing markets.

“MONEY IS OF NO VALUE IF NOT UTILISED FOR THE BENEFIT OF SOCIETY.”

SHEIKH ZAYED BIN SULTAN AL NAHYAN

ECONOMIC GROWTH

The combined Gross Domestic Product (GDP) of the six GCC member countries – Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the UAE – grew during 2003 by about 5 percent to \$ 350,000 million. This placed the GCC in 16th place in the world economic league, above Belgium, Sweden and Switzerland. On GDP per capita, the GCC also ranks highly, with some member countries enjoying income levels similar to those in North America and Europe.

The UAE has a GDP per capita of \$ 22,000 and boasts one of the most vibrant economies in the GCC. According to International Monetary Fund (IMF) figures, nominal GDP of the UAE grew by 2.5 percent in 2002, and real GDP by 1.5 percent. This positive trend is likely to be sustained, with analysts forecasting real GDP growth of 4.5 percent in 2003, with nominal GDP growth likely to reach double digits.

OIL

The GCC accounts for nearly 45 per cent of global proven oil reserves and 20 percent of world gas. It currently produces almost 15 million barrels per day (b/d), which is close to 20 percent of the world total. Most of this is sold into a market that is forecast to grow by at least 1 million b/d for the foreseeable future.

The UAE's proven oil reserves now stand at around 98 billion barrels, representing just under 10 percent of total world oil reserves. This places UAE as the fourth largest OPEC producer, after Saudi Arabia, Iran and Venezuela. Abu Dhabi's proven oil reserves have doubled in last decade and now account for 94 percent of the UAE's total oil reserves. This is the result of significantly increasing the rate of recovery, continuing to identify new finds, especially offshore, and discovering new oil-rich structures in existing fields.

ADNOC's oil production capacity has risen to over 2 million barrels per day, ranking it among the top 10 oil producers in the world. This has been achieved through major investments in a number of recent and ongoing development projects.

These include a \$ 300 million project to increase capacity of the onshore Bu Hasa field from 100,000 to 480,000 b/d, a natural gas re-injection project for the onshore Bab field, and a \$ 480 million project to increase capacity of the Ruwais refinery from 145,000 to 500,000 b/d. These form part of the overall goal of raising UAE's production capacity to 3 million b/d by 2006.

GAS

The GCC accounts for around 20 percent of world gas. Global demand is rising by just under 4 percent a year and forecast to reach 12,200 million cubic feet per day (cf/d) by 2025. The GCC's share of world gas consumption, the most dynamic part of the global energy market, is also growing rapidly, fuelled by rising domestic and industrial demand. Capitalising on its gas feedstock cost advantage, the GCC will account for most future capacity additions in world olefins. A similar trend is developing in fertilisers.

THE UAE IS
THE FOURTH
LARGEST OPEC
PRODUCER





The UAE's natural gas reserves are 212 trillion cubic feet (tcf), the fifth largest in the world after Russia, Iran, Qatar and Saudi Arabia. The largest reserves, amounting to 196 tcf, are located in Abu Dhabi, where the non-associated Khuff natural gas reservoirs beneath Umm Shaif and Abu Al Bukhush oil fields, rank among the world's largest.

Increased domestic consumption of electricity and growing demand from the petrochemical industry have provided incentives for the UAE to increase its use of natural gas. Consumption has doubled in Abu Dhabi over last decade, and is projected to reach 4 billion cubic feet by 2005. The development of natural gas fields also results in increased production and export of condensates, which are not subject to OPEC quotas. Gas exports provide a more stable source of revenue than oil, since quantity is fixed for a contracted period, and prices are less changeable.

ADNOC continues to play a major role in capitalising on the UAE's vast gas reserves. Between 2003 and 2007, an estimated \$ 1,000 million per year is planned to be invested in new gas infrastructure, with the lead being taken by ADNOC subsidiaries – GASCO, ADMA-OPCO, ADCO and ZADCO.

INVESTMENTS IN NEW UAE GAS INFRASTRUCTURE ARE ESTIMATED TO EXCEED \$ 1,000 MILLION PER YEAR OVER THE NEXT FIVE YEARS



These include the third phase of the onshore gas development (OGD-III), the second phase of the Asab gas development (AGD-II), expansion of the gas complex at Habshan, and the Umm Shaif gas re-injection project. In 2001, ADNOC commenced supply of natural gas to Dubai via the Maqta-Dubai pipeline, delivering 200 million cf/d of natural gas. Pipeline throughput is expected to reach 900 million cf/d by 2003, with the completion of additional compressor stations. Prior to this pipeline, Dubai's natural gas supply came entirely from Sharjah.

Another key intra-regional initiative is the Dolphin Project, which aims to develop links between the national gas infrastructures of Qatar, UAE and Oman. A Statement of Principles was signed in 1999 between UAE Offsets Group (UOG) and Qatar General Petroleum Corporation (QGPC), followed by the signing of a sales agreement in 2002, with natural gas supplies expected to start in 2005. In 1999, ADNOC and UOG issued a joint declaration dividing up natural gas distribution between them. Natural gas from the Dolphin project will be the exclusive supply for natural gas-fired power plants, except in the Western Region of Abu Dhabi, and will also supply natural gas for ADNOC contracts with Dubai.



THE UAE IS NOW
THE NUMBER ONE
CRUDE EXPORTER
TO JAPAN, AND
SUPPLIES 25 PER
CENT OF ITS
ANNUAL NEEDS

PETROCHEMICALS

The GCC is the rising star of the global petrochemicals industry. Abundant supplies of oil and gas, coupled with low feedstock and production costs, give the region a major advantage over other major global producers. Based on projects planned and underway, the GCC's ethylene capacity will jump to over 15 percent of global capacity by 2010. A decade later, it is forecast that the Gulf will overtake the US – currently the biggest petrochemical producer with a market share of 25 percent – and have the world's largest concentration of petrochemical capacity.

In Abu Dhabi, ADNOC's fast-growing petrochemicals activities include the production of ammonia and urea by Fertil since 1983, as well as the production of polyethylene by Borouge, which commenced in 2001. These are helping to diversify the Emirate's economic base, creating more employment for UAE nationals, and supporting the Government's privatisation policies by promoting downstream industry linkages.



UAE-JAPAN ECONOMIC TIES

The year 2002 marked the 30th anniversary of economic ties between the UAE and Japan. In 1972, Japan Oil Development Company Ltd. (JODCO), as a partner in ADMA, was the first Japanese oil company to participate in the development of Abu Dhabi's offshore fields. Today, the UAE supplies more than 1 million b/d to Japan, surpassing Saudi Arabia as the number one crude exporter to Japan. The UAE now supplies Japan with 25 per cent of its total crude oil import needs.

ADNOC and JODCO have developed a mutually beneficial working relationship over the last 30 years. Benefits include the utilisation of state-of-the-art subsurface technology to enhance oil recovery, the implementation of international health and safety standards, and the introduction of environmental programmes such as the project to preserve Abu Dhabi's mangrove plantations.

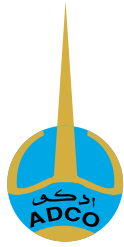


MAJOR ANNIVERSARIES AND MILESTONES

| | |
|------|--|
| 2003 | <p>45th anniversary of discovery of oil in Abu Dhabi.</p> <p>40th anniversary of first shipment of Abu Dhabi offshore crude oil from Bab field.</p> <p>40th anniversary of discovery of oil at Zakum field.</p> <p>35th anniversary of production from Upper Zakum reservoirs.</p> <p>25th anniversary of establishment of ADCO.</p> <p>20th anniversary of start of ammonia and urea production by FERTIL.</p> <p>10th anniversary of NGSCO.</p> |
| 2002 | <p>40th anniversary of first shipment of Abu Dhabi onshore crude oil from Umm Shaif field.</p> <p>40th anniversary of discovery of oil at Bu-Hasa field.</p> <p>25th anniversary of establishment of ADMA-OPCO and ZADCO.</p> <p>25th anniversary of first shipment of Liquefied Natural Gas (LNG) from Das Island.</p> <p>20th anniversary of commissioning of Ruwais refinery.</p> <p>First exports of polyethylene from Borouge petrochemicals plant.</p> |
| 2001 | <p>30th anniversary of incorporation of ADNOC.</p> <p>25th anniversary of inauguration of Umm Al Nar refinery.</p> |
| 2000 | <p>40th anniversary of discovery of oil at Bab field.</p> <p>25th anniversary of establishment of ADNATCO.</p> <p>20th anniversary of establishment of FERTIL fertiliser plant.</p> |
| 1999 | <p>30th anniversary of discovery of oil at Umm al Dalkh field.</p> <p>20th anniversary of establishment of IRSHAD (previously ADPPOC).</p> <p>20th anniversary of commissioning of Lubricant Oils Blending Plant at Umm Al Nar.</p> <p>3,000th tanker loaded with crude blend at Zirku Island.</p> |

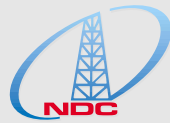
GROUP OVERVIEW

EXPLORATION AND PRODUCTION OF OIL AND GAS



Abu Dhabi Company for Onshore Oil Operations (ADCO)
Oil exploration, production and export operations from onshore oil fields on behalf of the partners.

EXPLORATION AND PRODUCTION SERVICES



شركة الحفر الوطنية
NATIONAL DRILLING COMPANY

National Drilling Company (NDC) Onshore and offshore drilling.

OIL AND GAS PROCESSING



Abu Dhabi Gas Industries Limited (GASCO)
Operation and production of liquefied gas products.



Abu Dhabi Marine Operating Company (ADMA-OPCO)
Offshore oil and gas production operations.



National Petroleum Construction Company (NPCC)
Construction and fabrication facilities for the oil industry.



Abu Dhabi Gas Liquefaction Company limited (ADGAS)
Producing, marketing and exporting LNG and LPG.



Zakum Development Company (ZADCO) Oil development and production from the Upper Zakum field. Operation of Umm Al Dalkh and Satah on behalf of the partners.



ESNAAD Production and marketing of mud chemicals, material handling services, waste management, specialty chemicals blending, chartering or leasing specialised vessels.



Abu Dhabi Oil Refining Company (TAKREER)
Refining of crude oil and condensate. Production of chlorine and related chemicals. Sulphur granulation.



Abu Dhabi Petroleum Ports Operating Company (IRSHAD)
Operating Ruwais, Jebel Dhanna and other oil ports.

CHEMICALS AND
PETROCHEMICALS



Ruwais Fertiliser Industries (FERTIL) Operation of ammonia and urea plant at Ruwais, and marketing its products.



Abu Dhabi Polymers Company Limited (Borouge) Processing and production of ethylene and polyethylene.

MARITIME
TRANSPORTATION



شركة ناقلات ابوظبي المحدودة
ABU DHABI NATIONAL TANKER CO.

Abu Dhabi National Tanker Company (ADNATCO) Transporting crude oil and refined products.



National Gas Shipping Company (NGSCO) Shipping liquefied gas products from Das Island.

REFINED PRODUCT
DISTRIBUTION



ADNOC Distribution Storage, transportation and distribution of refined products.

