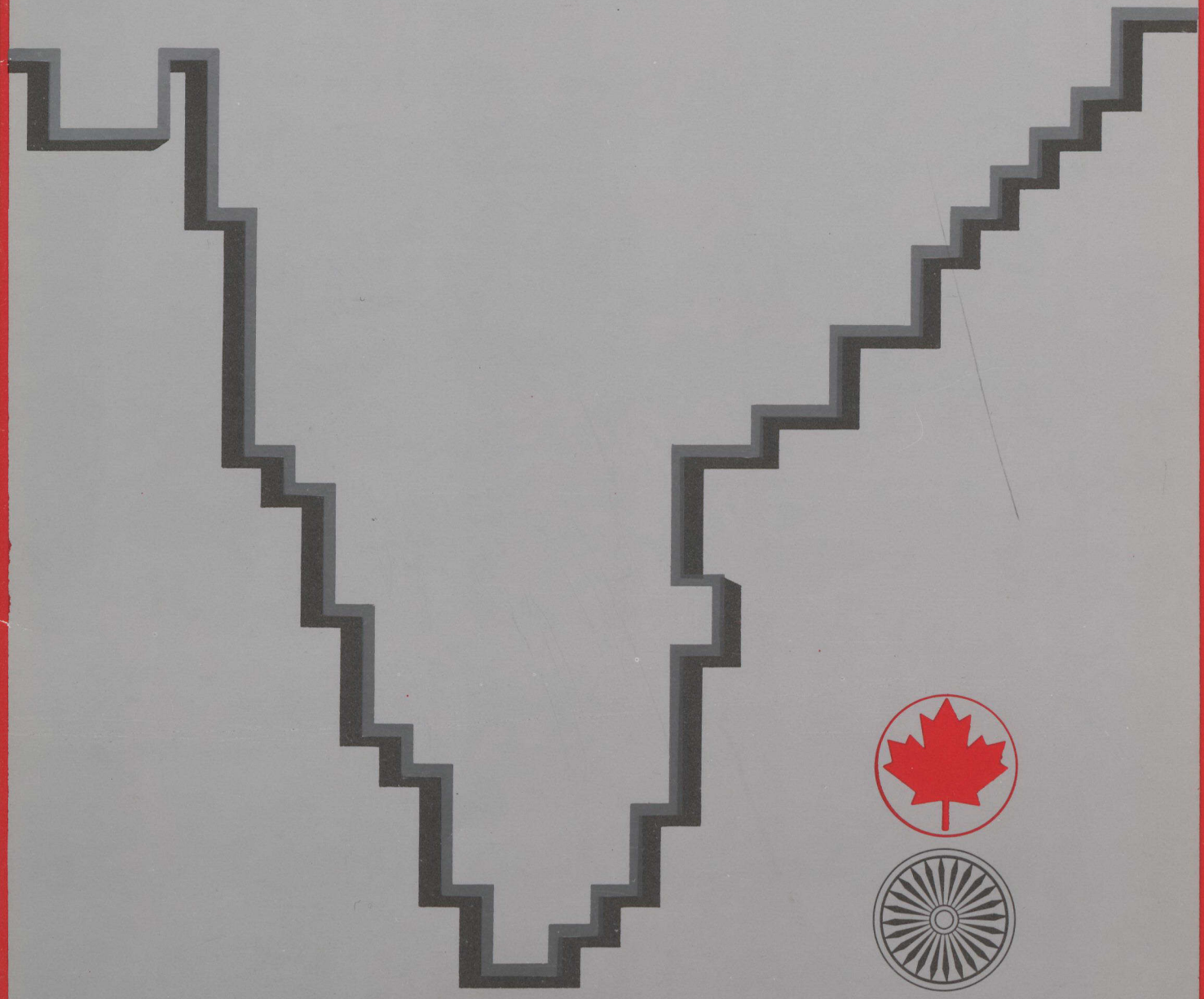
India's Oil And Gas Market — Opportunities For Canada



This publication is designed to acquaint Canadian firms with the potential for doing business in India's oil and gas sector and provides practical information and advice on how to approach this potentially large market.

It gives an overview of the development of India's oil and gas resources, describes the major organisations comprising the industry, the magnitude of their operations and parameters of their foreign-sourcing requirements and discusses the role of local representation, India's tendering systems, and Canadian government assistance available to interested companies.

The Annexes contain a listing of major international oil and gas companies doing business in India, and descriptions of the industrial indigenisation policy and pricing preference scheme applicable to the Indian industry.

Overview of India's Oil & Gas Industry—A $ 13 Billion Commitment

The Oil and Gas Sector has emerged as a front ranking industry in India. Approximately one third of India's foreign exchange earnings are committed to meeting the cost of its petroleum imports. Having been adversely affected by rapid price escalations in the past, the Government of India (GOI) has since the early 1970's, strongly emphasised increased self-sufficiency in hydrocarbon production. During the period of its Seventh Five Year Plan (1985-1990), India committed in excess of $ Cdn 13 billion to the exploration, production, refining and marketing of oil and gas. Energy self-sufficiency will continue to be central to India's economic planning, as the demand for commercial energy by an ever growing population continues to accelerate.

India presently produces approximately 33 million tonnes of crude oil per annum (MTA) meeting about 70% of demand. Recoverable oil reserves are estimated at 500 million tonnes or 15 years production at current levels. Gas production is at an early stage of development and stood at 9853 million cubic metres (MCM) in 1986-87. With over one half of the hydrocarbon reserves being in the form of natural gas, this relatively undeveloped resource holds an especially bright promise for the future. Estimates indicate that less than one quarter of commercially recoverable reserves of oil and gas have been proven.

According to present scenario, the gap between demand and supply is growing as rapidly increasing requirements continue to outstrip production improvements. In an effort to bridge this gap, the Government of India is strongly committed to an accelerated program of exploration and production.

The commitment to increasing self-sufficiency is aimed at reducing India's economic vulnerability to fluctuations in world oil prices over the long term. Temporary fluctuations, even significant down turns in world oil prices, are not taken into consideration when making investment commitments. For example, during periods of world wide recession in the oil industry caused by falling prices, India's program for oil and gas development continued to grow as planned. The Indian market therefore, is relatively isolated and its industry is protected from the major upheavals in expenditure and planning patterns experienced worldwide.

Details of expenditures in the Oil and Gas industry for the period of the Seventh Five Year Plan (1985-90) are given on page 3. Exploration and Production, at $ 10.65 billion account for about 80% of total commitments. Refining, marketing, engineering and petrochemicals account for the remaining 20%. The oil and natural commission demand production for the remainders of the seventh plan are detailed on page 4.

Initial planning for the Eighth Five Year Plan (1990-95) has begun. Expenditures in the Oil and Gas industry are expected to continue to increase. Details of preliminary ONGC demand projections for the Eighth plan period are likely to exceed $ 10 billion (page 3).

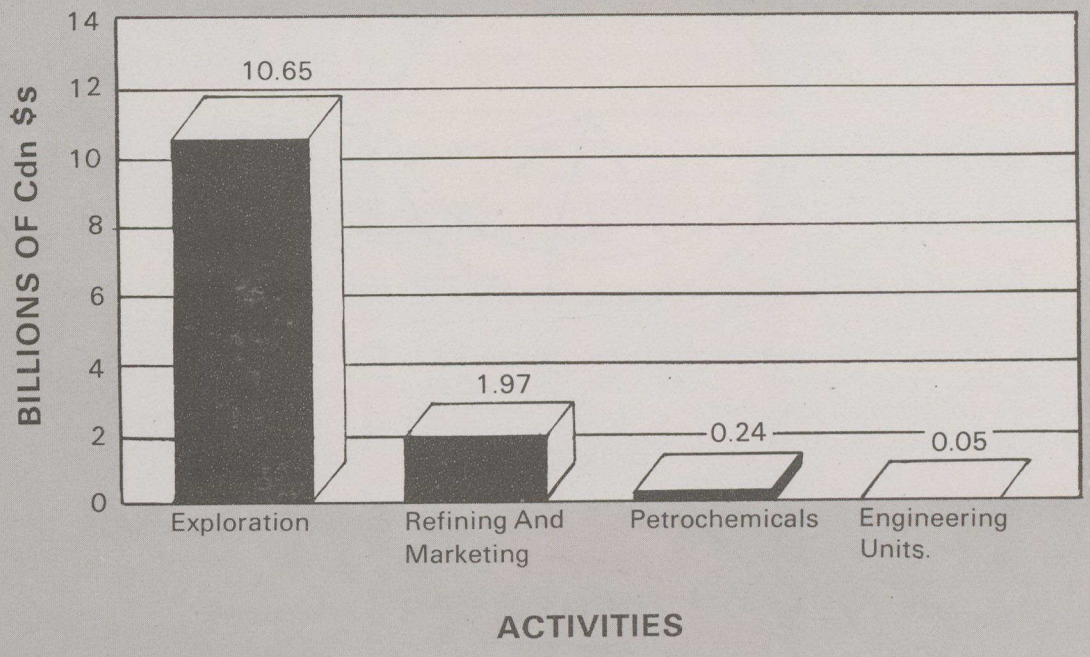
Historical Perspective—An Elephant's Oily Feet

The history of oil exploration in India can be traced back to 1825 when explorers first discovered oil clinging to the feet of wild elephants in the jungles of Upper Assam. Systematic exploration and production began in 1889 at the Digboi oil field which attained a maximum production of 1000 barrels a day in 1920.

In 1955, a Petroleum Division within the Geological Survey of India was established to develop a wider oil base and facilitate exploratory work. This became the forerunner of the Oil and Natural Gas Commission (ONGC) which is the single largest agency in the country for exploration, drilling, production and transportation of oil and gas.

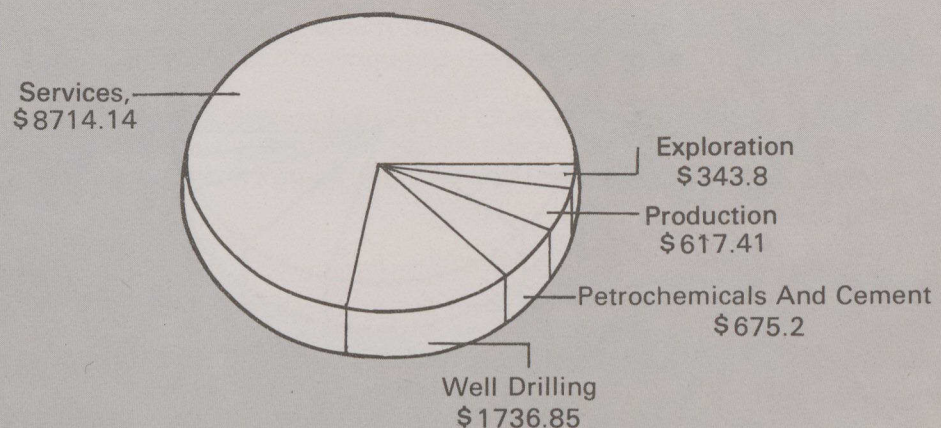
In 1961, Oil India Limited (OIL) was incorporated as a joint venture, between the Government of India and the Burma-Shell Oil Company. It was engaged in the exploration, production and transportation of crude oil from Assam and Arunachal Pradesh to the refineries in North-East India. In 1981 OIL became a wholly-

INDIA : VII PLAN EXPENDITURE
1985-90



Conversion Cdn $1 = Rs. 10

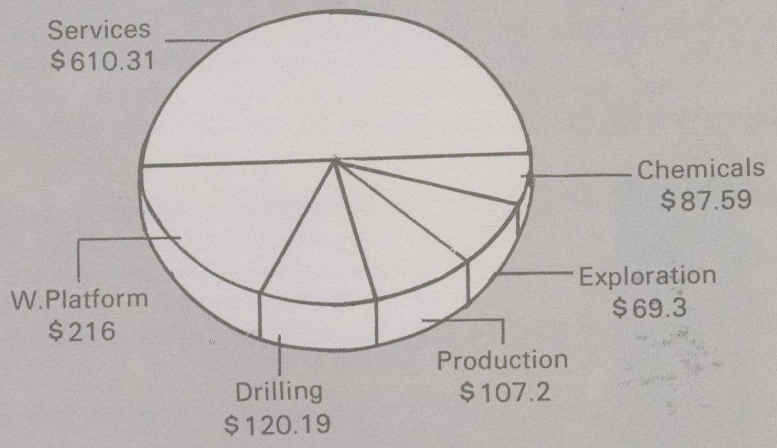
ONGC : DEMAND PROJECTIONS
EQUIPMENT AND SERVICES
VIII PLAN 1990-95



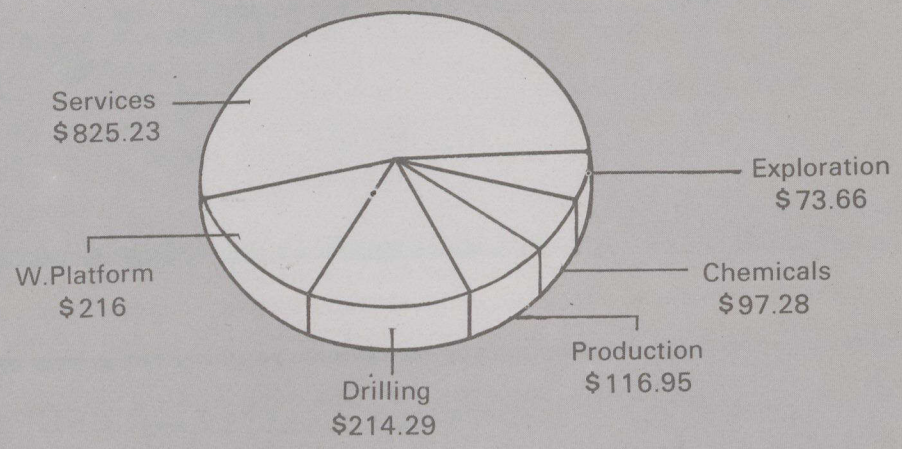
Million Canadian $s
Conversion Cdn $1=Rs. 10

ONGC : DEMAND PROJECTIONS
EQUIPMENT AND SERVICES

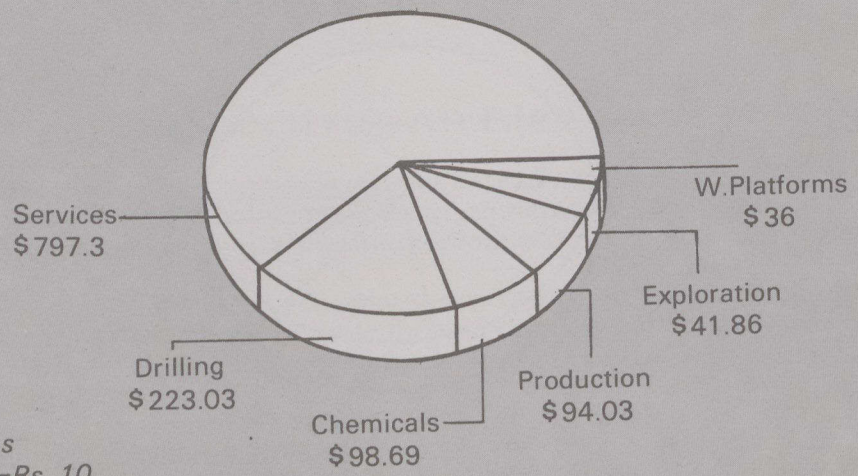
1987-88



1988-89



1989-90



Million Canadian $s
Conversion Cdn $1=Rs. 10

owned Government of India enterprise and its operations today are spread over the States of Assam, Arunachal Pradesh, Orissa, Rajasthan and Andaman Islands.

During the early sixties, oil in commercial quantities, was struck by ONGC at Ankleshwar, Kalol, Sanand and Nawgaon fields in Gujarat and Rudrasagar and Lekwa fields in Assam. Gas was found at Cambay. From 1964 onwards ONGC ventured onto offshore areas in the Gulf of Cambay and off the Madras coast.

Throughout the seventies India continued to meet most of its requirements for petroleum products by refining imported crude. The heightened activity in the offshore however culminated in the discovery of the Giant Bombay High field in 1975 which marked a significant watershed for oil discovery and production in India.

In the early 1980's, about 77% (over 23 MTA) of Indian requirements continued to be imported. Principally as a result of the development of Bombay High, however, this figure dropped to 37% by 1987. A full 70% of domestic production originates at the Bombay High field with the balance being produced in about equal proportions from onshore areas in Gujarat and Assam.

After the discovery of Bombay High, the exploration programme of the late 70's and the early 80's yielded some success but new discoveries were of limited significance. Of note were discoveries made in the Andamans, Krishna-Godavari and Cauvery basins. New fields where production started recently were in Indroda, Nandasan, Gandhar, Linch, Asjol, Baroda-Padre, Denwa, Warason and Jalora Ext. 1 in the Western Region and Panna in the Bombay offshore region. During 1987-88 oil strikes at GS-16 in the Krishna-Godavari offshore area, Bhuvnagiri in Cauveri basin, Kumchai in Arunachal Pradesh, and gas finds at Agartala Dome in Tripura were the major discoveries.

Geology--Future Promise

The total area of India's sedimentary basins is 1.72 million square kilometres of which about 1.4 million (81%) is onshore and 0.3 million square kilometres is offshore. The entire area is divided into 26 sedimentary basins of which 13 are under exploration. These 13 basins can be divided into three categories:

(a) Petroliferous basins with proven commercial production: Cambay basin, Upper Assam shelf and Bombay offshore basin.

(b) Basins with known occurence of hydrocarbons but where no commercial production has yet commenced: Rajasthan, Cauvery, Krishna-Godavari, Andamans, Bengal, Himalayan foothills, Ganga Valley and Tripura-Nagaland fold belt.

(c) Basins where significant shows of hydrocarbons have yet to be found but are considered prospective on general geological grounds: Kutch-Saurashtra, Kerala-Konkan, and Mahanadi.

Several other promising sedimentary basins which may be prospective based on a comparison with analagous hydrocarbon-producing basins in the world are Gondwana, Vindhyan and Deccan Syneclise.

The prognosticated resources of hydrocarbons are about 17 billion tonnes of which 63% are offshore and 37% onshore corresponding to some 4-5 billion tons (30-35 billion barrels) of commercially recoverable reserves. To date approximately 700 million tonnes (MT) of oil and 650 MT oil equivalent of gas reserves have been proven.

Production and Demand—A Growing Gap

Domestic production of petroleum has not kept pace with demand. Oil production from Bombay High has now reached a plateau and is expected to start declining after 1992. Production from other regions is being sustained by improved recovery levels and augmented by marginal discoveries of new reserves.

Even with improvements in demand management and increased energy efficiency, consumption of hydrocarbons is expected to grow by approximately 5% per annum for the rest of the century. Demand will double to about 80 MTA by the year 2000. It is estimated that based on present reserves the corresponding production levels will stagnate at about 40 MTA or 50% of demand.

Though the total refinery capacity has kept pace with the demand of about 40 MTA the composition of refinery output does not match the composition of demand. There is therefore a shortage of middle distillates, particularly kerosene and diesel, which is met primarily through imports.

The Government of India places a high priority on the need to identify new petroleum resources for the 1990s and beyond. One option now receiving increased attention is the potential subtitution of natural gas for liquid petroleum products. The role of Natural Gas is likely to be central to future government planning and expenditure in this sector. Continued high exploration levels and improving yields from present fields will also contribute significantly to the government's plans to reduce its dependence on foreign sources of petroleum.

Exploration—A $ 4 Billion Commitment

Many areas with petroleum potential are still under-explored. It is estimated that some 50% of expected oil reserves and as much as 75% of expected gas reserves are yet to be tapped. By 1990, the end of the Seventh five year plan, India will have committed about $ 4 billion to exploration activities during the plan period. The pace and scope of exploratory activity however, has been uneven and finds have been of limited significance since the discovery of the Bombay High Oilfield.

In an effort to expand exploration activities the Government of India has recently entered into a number of exploration agreements with international oil companies. The Soviet Union is engaged in seismic surveys and exploration in the Cambay and Cauvery basins, Chevron-Texaco are carrying out operations in two blocks in the Krishna-Godavari and Palar basins. International Petroleum Corporation and Shell Oil are exploring other blocks in the Krishna-Godavari basin. BHP of Australia has signed as agreement for the Kerala-Konkan basin and Amoco is expected to close an agreement by mid 1988.

The Government of India is committed to an enhanced exploration program and future expenditures are expected to accelerate.

Natural Gas—Bright Prospects

Geological conditions indicate that India likely has more undiscovered gas reserves than oil reserves. To date gas production in India has consisted almost exclusively of gas produced in association with oil. A large proportion of this gas has been flared due to the absence of distribution and transmission infrastructure and lack of markets. In recognition of the vital role gas will play in India's future energy planning the Government of India has established a separate organisation for Natural Gas planning, marketing and distribution—the Gas Authority of India Limited (GAIL).

India's proven and probable gas reserves are estimated to be about 680 billion cubic metres (BCM), equivalent to about 550 MT of oil. Nearly 80% of these reserves are located in the Western offshore region (550 BCM), 10% in the mountainous region of Assam (70 BCM) and the remaining 10% in the Cambay basin of Gujarat (60 BCM). ONGC is producing both free and associated gas from Cambay basin, whereas only associated gas is being produced from the Upper Assam basin. The biggest increase in gas availability during the Seventh Plan has come from the South Bassein Gas field which began production in 1986-87 (20 million cubic metres per day in 1987-88).

The second major discovery made by ONGC is in the Western Region of the Gandhar belt including the Gandhar, Dahej and Pakhajan fields. The present estimated gas production is over 4 million cubic metres per day.

Gas reserve estimates are still being reviewed as evaluation and development of fields proceed. A long-range countrywide demand forecasting exercise for gas has not yet been completed as GAIL is currently undertaking a series of market assessments on a region-by-region basis. Gas consumption will be

concentrated, at least initially, in feed stock uses as domestic fertiliser requirements are large. The Government of India is also planning to allocate gas to combined-cycle power plants and medium scale industrial users. Based on the World Bank preliminary study on the petroleum product consumption pattern in India, it is estimated that gas would substitute, in the long run, for about one fourth of the total petroleum product consumption in India.

The development of India's gas industry is focussed around the 1700 k.m. Hazira- Bijaipur -Jagdishpur (HBJ) trunk pipeline which has been laid to take gas from South Bassein to the interior of the country. The HBJ pipeline is a major step in expanding the gas market from a local to a regional level.

A national gas grid is in the planning stage. Total investment for the pipeline network is projected to be in the area of Canadian $5000 million.

In addition to the development of a National Grid, areas in the gas sector which will require large investments include the development of smaller fields and pipeline linkages to the National Grid, gas compression and dehydration facilities, gas sweetening and sulphur recovery plants, fractionation facilities, gas receiving terminals, petrochemical complexes etc. The scope for development of gas while being potentially extensive will in fact be limited by India's restricted internal financing capabilities.

India plans to double current production of natural gas by 1991-92. A listing of 10 major projects being developed to meet this goal follows.

Major Gas Projects

(Conversion ¢ Cdn $1 =Rs. 10)

Sl. No.	*Schemes*	*Capital Cost Cdn $s Millions*	*Schedule*	*Gas Million Cubic Metres*
1.	Heera Phase II Development including Heera Uran Gas Pipeline	682.02	15.03.90	1.8
2.	Panna field development	571.43	2.04.90	3.5
3.	Development of mid & South Tapti gas field	627.30	4 years after approval	3.25
4.	Western Offshore Oil Development Project	909.84	June 1990	
5.	Hazira Processing Complex	570.00	end Oct. 89	
6.	Development of South Bassein Phase-II	246.48	Dec. 1989	10.00
7.	Gandhar Development Phase-I (Complete development Phase-II)	—	On going study	1.50
8.	Compression facilities for upgradation of Bassein-Hazira gas line to 27 MCM capacity	100.00	—	—
9.	Gas production Central Region Business Centre (Tripura)	945.46	1992-93	3.00
10.	Gas production South Region Business Centre	469.00	1992-93	3.00
	TOTAL	4998.21		25.00

Source: GAIL

Major Players In The Oil And Gas Sector

The Ministry Of Petroleum And Natural Gas

The Ministry of Petroleum and Natural Gas is responsible for exploration, production, import and export of oil, petroleum products and natural gas as well as refining, distribution and marketing of petroleum products in the country. It exercises considerable supervisory powers over all the agencies under its administrative control and is involved in all major policy and investment decisions pertaining to the sector.

The Ministry of Petroleum and Natural Gas is headed by a Minister of State, a Secretary (equivalent of Deputy Minister) and four Joint Secretaries (equivalent of Assistant Deputy Minister and/or Director General). The Ministry deals with fourteen Public Sector undertakings. The profiles of the major units are listed below.

OIL & NATURAL GAS COMMISSION (ONGC)

ONGC is the largest oil and gas agency in India. It is involved in all phases of exploration, drilling, production and transportation of unprocessed hydrocarbons. Considerable Research and Development is undertaken by the ONGC Institutes of Petroleum Exploration, Drilling Technology and Reservoir Studies.

ONGC is headed by a Chairman. There are six senior members of ONGC having specific functional responsibilities in the areas of Exploration, Drilling Operations, Technical Services, Gas, Finance and Personnel. ONGC operates in six regions of India each headed by a General Manager.

OIL INDIA LIMITED (OIL)

Oil India Limited is the second public sector company engaged in hydrocarbon exploration and production. In addition, it is involved in manufacturing Liquid Petroleum Gas and transportation of crude oil to various refineries in the North east. Oil India's head office is in Duliajan, Assam. It maintains regional offices in Delhi, Bhubaneshwar and Jodhpur.

GAS AUTHORITY OF INDIA LIMITED (GAIL)

Recognising the importance of natural gas to future economic development, GAIL was established in 1984. The main objective of the company is to market free and associated gas in all its forms and fractions by transporting and processing it. GAIL is implementing the construction of the HBJ pipeline project at an estimated cost of Canadian $ 1700 million. The company is expected to play a lead role during this decade when natural gas resources are increasingly exploited and utilised.

ENGINEERS INDIA LIMITED (EIL)

EIL was incorporated in 1965 for the purpose of providing engineering and related technical services for the development of petroleum, petrochemicals, fertilisers, pipelines and other related chemical industries. The R&D division of EIL acts as a link between national laboratories, research institutions and prospective entrepreneurs for the promotion of technology.

EIL operates under the jurisdiction of the Ministry of Petroleum and Natural Gas and has its headquarters in Delhi. A Chairman assisted by a Managing Director, four Directors, several General Managers and over 3000 technical experts constitute the staff.

EIL has undertaken projects within India and has carried out jobs in Malaysia, Algeria, Kuwait, Iraq and Sri Lanka.

INDIAN OIL CORPORATION (IOC)

IOC was established in 1964 with the main objective of coordinating and controlling the refining and distribution facilities of three smaller companies. Today, the Corporation has three divisions, refineries and pipelines, marketing Assam oil and refining, transportation and marketing of petroleum products.

HINDUSTAN PETROLEUM CORPORATION LIMITED (HPCL)

The Corporation has two refineries at Bombay and Vishakapatnam which manufacture petroleum products like Motor Spirits, High Speed Diesel Oil, Kerosene Oil, Industrial Diesel Oil, Industrial Furnace Oil, Hexane, Solvents, Bitumen, LPG, Carbon Black Feedstock, Lubricating Oil, Transformer Oil etc. The products are distributed by pipelines at Bombay and Vishakapatnam and by tankers to other coastal areas. HPCL has a countrywide distribution network of company storage points and 3682 retail dealer outlets.

MADRAS REFINERIES LIMITED (MRL)

MRL is a government company in the joint sector with the Government of India holding 74% of the equity and M/s National Iranian Oil Co. and M/s Amoco India Inc. USA holding 13% each. The refinery at Madras processes imported crude oil to manufacture petroleum products like LPG, MS, ATF, SK, HSD, LDO, FO, lube base stock, asphalt, and other extracts.

COCHIN REFINERIES LIMITED (CRL)

CRL is owned by the Government of India, Phillips Petroleum Co, USA and Duncan Brothers of Calcutta. The company is presently engaged in refining crude oil to manufacture petroleum products and is a leading source of raw materials for the hydrocarbon based process industries. It is diversifying into the petrochemicals field by producing Benzene and Polypropylene.

BHARAT PETROLEUM CORPORATION LIMITED (BPCL)

BPCL is the successor to the Burma Shell group of companies and refines both imported and indigenous crude oil. The Corporation also markets petroleum products in addition to the production of Benzene and Toulene.

IBP COMPANY LIMITED (IBP)

IBP has three divisions namely oil, engineering and chemicals. The Oil Division is engaged in the marketing of petroleum obtained almost entirely on consignment basis from the Indian Oil Corporation. The Engineering Division manufactures LPG regulators and valves, cryocontainers and high vaccum equipment including freeze driers, rotary pumps, etc. The Chemical Division is engaged in the manufacture of slurry explosives at its plants at Korba, Kudremukh and Singrauli.

BIECCO LAWRIE COMPANY LIMITED (BILL)

BILL is a Government of India company under the administrative control of the Ministry of Petroleum and Natural Gas. The company has three divisions, manufacture of electrical motors, switch gears, and electrical repair shop. Presently the company is undergoing rehabilitation and rationalisation of its operations through diversification and induction of modern technology.

BALMER LAWRIE COMPANY LIMITED (BALL)

BALL is subsidiary of IBP Company Ltd. It manufactures and markets a diversified range of products which include steel barrels, drums, marine and special containers, greases and special lubricants, leather chemicals and LPG cylinders. The company also acts as a canalising agency for import of paraffin wax and has recently set up a joint venture in Dubai for manufacturing barrels, kegs, conipails and cans.

LUBRIZOL INDIA LIMITED (LIL)

LIL was set up by the Government of India in 1966 in technical and financial collaboration with the Lubrizol Corporation, USA. It manufactures Chemical Additives which are used by oil companies for treatment of fuels and lubricants.

BONGAIGAON REFINERIES AND PETROCHEMICALS LIMITED (BRPL)

BRPL was incorporated in 1974 as a Government of India company. The refinery utilises the indigenous crude available in Assam and the North-Eastern region to manufacture products like naptha, HSD, LDO, SKO, FO, ATF, CFC, etc. It has also established a petrochemical complex with an installed capacity of Xylene, DMT, and Polyester Staple Fibre.

FINANCIAL PARAMETERS/PROFITABILITY OF VARIOUS ORGANISATIONS

INDIAN OIL AND GAS SECTOR

(Cdn $s/Millions)
(Conversion Cdn $1 =Rs 10)

Name of Organisation	*Budget 1987-88*	*Sales*	*Production cost*	*F. E. Utilisation**	*Imports*	*Profit before Tax*	*Profit After Tax*	*No. of Employees*
ONGC	2056.26	5996.00	1941.00	1107.00	1629.00	2202.00	1629.00	45737
OIL	195.00	524.59	308.88	121.31	48.15	53.14	30.59	8920
GAIL	670.24	35.82	40.34	15.12	277.29	N.A.	N.A.	72
IOC	151.02	13940.00	4503.10	61.18	1500.00	421.68	315.77	25728
HPCL	66.27	3795.53	2235.29	31.36	29.31	13.28	11.28	9050
MRL	27.65	1226.83	1189.60	19.07	25.00	28.06	23.56	1201
CRL	32.70	860.04	841.64	10.01	344.31	2.50	2.12	1094
BPCL	102.81	2851.71	1212.95	23.01	46.57	41.24	35.05	9962
IBP	9.88	808.00	799.43	NIL	1.81	7.84	4.69	1995
BILL	0.20	5.64	12.49	0.03	0.03	(7.22)	(7.22)	1348
BALL	5.60	160.00	152.49	2.52	20.64	6.51	4.01	2550
LIL	3.63	138.31	128.78	NIL	28.72	10.20	6.80	484
BRPL	28.15	317.56	278.87	11.40	7.60	11.48	9.76	1735
EIL	12.61	54.50	N.A.	3.90	N.A.	16.00	10.50	3747

** Foreign Exchange Utilisation*

The Indian Tender System—A Brief Description

The tendering process in India can be long, complex and opaque. Documentation is voluminous and requires considerable precision. Requests for extensions of validity dates are common and considerable time can lapse between tender calls and awards being made. Price negotiations can take place throughout the tender process. Generally all requirements valued at more than $ 500,000 are tendered publicly.

A Notice Inviting Tender (NIT) can call for either a single or double envelope bid. For purchases below $ 2 million and for standard goods and equipment, technical and commercial bids are generally evaluated together. In the double bid system a short list of technically qualified companies will be determined and only those firms' commercial envelopes will be opened.

Purchases by ONGC and OIL are generally initiated by their regional centres of operation. Tender specifications and initial technical evaluation are also conducted at this level. Reviews of tender submissions are carried out by committees representing a broad range of operational, technical and financial expertise. A complex system of committees at various levels have been established to control these major expenditures.

As all major oil and gas companies are government agencies, the tendering system is open to parliamentary scrutiny. Larger tenders (over $ 1 million) are reviewed by a central steering committee made up of representatives primarily from the Ministry of Petroleum and Natural Gas, Ministry of Finance as well as ONGC and OIL. A member of the World Bank sits on the committee when World Bank funded tenders are under consideration.

Once a decision has been ratified a request for financial approval is obtained from the Ministry of Finance—Department of Economic Affairs and approval for foreign exchange clearance from the Reserve Bank Of India is obtained. Offers of financing accompanying tender submissions are evaluated by the Department of Economic Affairs after other committee reviews are completed.

The Government of India, through the Department of Economic Affairs has the prerogative to alter the selection of a tender award to take into account foreign exchange funding that may be available to it. Generally only a small premium in price would be allowed for financing considerations.

Engineers India Ltd will often be closely involved with tenders for large and complex projects. EIL normally draws up the Notice nviting Tenders in collaboration with or on behalf of the lead or implementing agency for the project and tender reviews are carried out jointly.

Indian Taxes And Customs Duties—Implications For Pricing

Indian legislation is complex and constantly changing. However, highly qualified professionals who can assist in interpreting government regulations are readily available at reasonable cost. Seeking expert advice on tax and customs questions is generally a worthwhile investment in developing competitive pricing levels.

The application of customs duties on equipment imported into India and taxes levied on service contracts can significantly affect tender pricing calculations. It is important to ensure that the best information possible has been used to accurately interpret the Government of India rulings on both duty and tax issues.

The Indo-Canadian double taxation agreement has been in effect since early 1987. There are several advantages of the treaty including the elimination of the requirement to pay taxes in both India and Canada, the elimination of Indian taxes on Canadian companies operating in India without a permanent establishment, and a degree of tax sparing to encourage Canadian investments in India.

Employees of Canadian companies are exempt from Indian income tax provided they are not resident in India for a period exceeding 182 days during a particular year as 365 days in the preceding four years. Canadian companies involved in oil exploration and production would be eligible for concessional tax rates on dividends as a result of the treaty.

Customs duties are governed by detailed and confusing regulations which are subject to frequent changes. Different duty rates can apply to the same piece of equipment depending on which state agency is the purchaser. For example, in offshore exploration contracts entered into with ONGC, all duties can be waived provided the appropriate certificate is obtained from ONGC. Equipment for onshore exploration and exploitation activites may be exempt from duty provided that a certificate of essentiality is issued by the secretary of the empowered committee on indigenisation and services in the Ministry of Petroleum. The same exploration equipment sold to a private company planning to offer services to the oil industry would attract higher levels of duty. A special regulation exists for the HBJ pipeline with all material purchased by GAIL entering India at the 25% level.

While duty rates can reach levels as high as 200%, the rates applicable to the oil and gas industry tend to be in the 0-40% range. Certain agencies appear to consistently attract larger duty concessions than others. A Canadian firm's local representative can assist in determining the details of applicable duties. Expert advice from specialised firms is also available.

Entering the Indian Oil and Gas Market—Practical Advice

The Indian market is complex and difficult to enter. Despite the magnitude of India's foreign-sourced equipment and services, international firms generally require considerable effort & resources in order to become firmly established. Entry could be a time consuming process, often taking about three years.

The major purchasers In the Indian Oil and gas industry are government—owned agencies which are subject to scrutiny by the Indian Parliament. All major purchases of products not available in India are made through international competitive tenders according to highly regulated procedures. Contracts are normally awarded to the lowest-priced bidder who meets tender specifications. No margin is allowed for features such as improved quality, safety standards or environmental controls. The tendering process is bureaucratic and decision-making tends to be slow. Decision-makers are averse to risk and resist accepting new and unfamiliar companies and technologies.

However, the list of foreign firms successfully doing business in India's oil and gas market is impressive (see Annex I & II for a representative listing). Generally, successful approaches by foreign companies can be characterised by the following features:

(a) Accurate identification and selection of the most appropriate type of local representation.

(b) A marketing strategy emphasizing flexibility and perseverance.

(c) A marketing plan which focuses on the medium to long term as opposed to short term returns.

(d) Highly competitive pricing of both end products, services, and technology transfers.

Avenues For Entry—Local Representation in India

The single most important element in developing a successful approach to the Indian market, is the proper selection of local representation. Depending on the product, service or project, there are a number of suitable options. The choice may include a local agent working on a commission basis, a local representative as an employee of the foreign company, an Indian company as a licensing recipient, an Indian company as a joint venture partner with or without Canadian equity participation, etc. A combination, or series of these options over a period of time, is often the best way to maximise the contribution of local representation towards meeting a foreign firm's marketing goals.

There are a number of reasons for according a pivotal role to local Indian representation. These may range from basic nuts and bolts issues such as poor communications infrastructure to obtaining tenders on time, or to assistance with the development of an intricate, highly sophisticated marketing plan.

Not unlike other Asian countries, India's business enviornment requires a great deal of direct personal

contact. Numerous meetings at all levels, high ranking contacts and longstanding relationships are essential to developing in Indian oil and gas officials, the confidence and enthusiasm required to support a foreign firm's business interests. The lead time and cost that a foreign company may require to develop this network of contacts and relationships could well be exorbitant. A collaboration or a link up with an influential Indian company, either as a partner or in an agency role, would enable a Canadian company to acquire access to already well established contacts and relationships.

Indian representation is important to ensure early market intelligence and appropriate follow-up activities. A good representative knows months, even years ahead of time that a tender of interest to a foreign principal would be called. They would be in a position to track developments of interest from the early planning stages right through the evolution of relevant government policies to the stage of drawing up tender specifications. Early lead time is important to ensure that a foreign firm is positioned as advantageously as possible.

Good representatives are invaluable in translating what is taking place with a particular project or contract and offering advice on appropriate strategies. They are in a position to inform the principal when a visit is required and at what level. A local representative's input is essential in determining what the competition is and for advise on the implementation of potential counter-strategies.

Indian representatives would know all the key decision-makers and would be able to determine where, in the often intensely bureaucratic system, a particular tender or project has become lodged. Their advice is often central to determining a successful approach to breaking the logjam.

A well-informed Indian representative would be fully familiar with certain aspects of the Canadian principal's business as well. In fact, Indian companies/agents are often as well versed as the Canadian company, about financing and other support services available from various government levels in Canada.

Local representation is also essential to deal with the day-to-day difficulties presented by India's tendering system. For example, obtaining a tender document from within India can be a two-day exercise. It is generally not possible to obtain documents from outside India without local assistance. Due to the relative underdevelopment of India's communications infrastructure, local representation is often essential to communicating with the oil industry's outlying regional head-quaters, as telex and telephone links can be virtually inoperative.

The Government of India has set a priority on the indigenisation of oil and gas equipment and services. At present, about 70% of Indian requirements in this sector come from abroad and the Government of India is determined to reduce this continued large outflow of scarce foreign exchange. Increasingly, a foreign company's strategy for India will need to include local representation in some form of partnership.

A system of price preferences has been introduced to support Indian suppliers of oil and gas equipment and services. In the equipment area, domestic producers are eligible for preferences ranging from 15% to 35%, depending on the degree of domestic content. Indian companies offering services are eliglible for preferences ranging from 10% to 40%.

The Indian manufacturing industry, assisted signigicantly by the confederation of Engineering Industry—its representative association, is developing a sound working relationship with the state-owned oil and gas industry. The growing confidence of the Indian private sector, coupled with the increased awareness and determination of the Indian Government policy makers, will cause the emphasis on indigenisation to accelerate in the coming years. Foreign firms then will increasingly be required to link up with India's manufacturing and servicing capabilities if they are to successfully enter the Indian oil and gas market.

Choosing An Indian Representative—Priority Decision

The selection of an Indian representative requires a significant commitment of resources. While an agency relationship is appropriate for an initial entry into the market, the development of a more long term association is required if success is to be ensured over a medium to long term time frame.

In essence, a Canadian company may well be looking for a partner for the next 10 year period. The importance of a good local representative has been discussed previously. However, this longer term view necessitate not only excellent relationships with the entire oil and gas industry, but in addition would require

of the local representative, considerable financial, management and technical skills. The time required for both the Canadian and Indian parties to assess their mutual capabilities can be lengthy. However, it is in the building of this knowledge, confidence and most importantly, mutual trust, that the success of a collaboration is likely to be ensured.

For products or services that can be adequately represented through an agency relationship, a shorter period to establish appropriate representation would normally be required. Considerable effort to select the best amongst numerous potential agents is nonetheless required. It is advisable to visit the local offices of potential representatives. Tasking agents to set up high-level appointments, and provide details on previous tenders of interest can assist a foreign firm's efforts to verify a potential agent's knowledge of the oil and gas industry.

The local Indian representative regardless of his particular role, be it agent or full partner should normally be a fully trusted and integrated member of a Canadian firm's team. Time invested in the selection process usually pays dividends in the form of open and high quality communications that yield well coordinated marketing strategies and optimal results.

EDC/CIDA $ 198 Million Financing Facility Available For India

The government of Canada, through the Export Development Corporation (EDC) and the Canadian International Development Agency (CIDA), has established a financing facility valued at $ 198 million for the Indian oil and gas sector. The facility provides financing for the purchase of Canadian capital goods and services by buyers from the Indian oil and gas sector. Both EDC and CIDA funds are used in parallel to provide low cost financing for up to 100% of the Canadian export value with 62% of the funds originating from EDC and 38% from CIDA. The administration of the financing facility is handled by EDC.

In order to qualify for financing, the Indian buyer must be a state agency or government owned corporation involved in the development of India's oil and gas resources. The procurement of Canadian capital goods and services would normally be transacted through international competitive bidding. To qualify under the financing facility, the Canadian content level of Canadian exports to India must be optimised and meet the minimum requirements of EDC and CIDA.

The Canadian exporter generally approaches EDC at the bid preparation stage and provides details of the transaction, including a copy of the commercial proposal and related documentation. The EDC and CIDA funds are disbursed directly by EDC to the Canadian exporter. For further information please contact EDC in Ottawa or the Canadian High Commission in New Delhi.

Assistance Available From The Government Of Canada

1. **The Department of External Affairs** manages a program of Trade Development activities in support of Canadian companies interested in exporting to India. The program includes missions, technical seminars, trade fairs, incoming buyers, and market studies.

The Deputy Director
Asia Pacific South Trade Development Division
Department of External Affairs
125 Sussex Drive
Ottawa, Ontario, K1A OG2
Telephone: 613-996-1989
Telex: 053-3745

2. **The Canadian High Commission, New Delhi and the Canadian Government Trade Office in Bombay** are in touch with the Indian oil and a gas sector on a daily basis. They can provide information on

Indian market conditions, Indian companies, government regulations, reputable agents, and a range of other commercial information pertinent to doing business in India.

First Secretary (Commercial)
Canadian High Commission
P.O. Box 5208
Shantipath, Chanakyapuri
New Delhi 110021, India
Telephone: 60-8161
Telex: 031-72362 DMCN IN

or First Secretary and Trade Commissioner
Canadian Government Trade Office
Hotel Oberoi Towers, Suite 2401 & 2406
Nariman Point
Bombay 400 021
Telephone: 202-4343 Extn. 2401
Telex: 011-4153 OBBY IN

3. **The Department Of Regional Industrial Expansion (DRIE)** cooperates closely with External Affairs to develop and manage programs in support of Canadian exporters of oil and gas equipment and services. The Department receives copies of Indian tender documents issued for international competition and informs interested Canadian companies.

— Energy Equipment Division
Department of Regional Industrial Expansion
235 Queen Street
Ottawa, Ontario K1A 00H5
Telephone: 613-954-3192

— Director, Trade and Investment
Department of Regional Industrial Expansion
Cornerpoint Building, Suite 505
10179—105th Street
Edmonton, Alberta T5J 3S3
Telephone: 403-420-2944

— Director, Trade and Investment
Department of Regional Industrial Expansion
Harry Hays Building, Suite 630
220—4th Avenue S.E.
Calgary, Alberta T2P 3C3
Telephone: 403-292-4575

4. **The Canadian International Development Agency (CIDA)** administers Canada's official international development assistance program which includes more than 1000 programs in over 100 countries, and supports more than 400 non-governmental organisations in over 120 countries.

Country Program Director
India/Nepal Program
Asia Branch
Canadian International Development Agency
200 Promenade du Portage
Hull, Quebec K1A OG4
Telephone: 613-997-4747
Telex: 053-4140

5. **The Export Development Corporation** is a Canadian crown corporation, wholly owned by the Government of Canada, that provides financial services to Canadian exporters and their foreign buyers to

facilitate and develop Canada's export trade. EDC administeers the Canadian oil and gas facility for India.

Manager, South Asia Department
Export Development Corporation
151 O'Connor Street
P.O. Box 655
Ottawa, Ontario K1P 5T9
Telephone: 613-598-2802
Telex: 053-4136

6. **The Department of Economic Development & Trade, Alberta Government** in addition to its traditional trade promotion role, is well informed about business prospects in India and actively participates with federal departments in developing and implementing a program of support services for Canadian exporters.

Trade Development Division
Department of Economic Development & Trade
Government of Alberta
11th Floor Sterling Place
9940 — 106 Street
Edmonton, Alberta T5K 2P6
Telephone: 403-427-4809
Telex: 037-2197

7. **The Canadian Manufacturers Association** has established a close partnership with India's Confederation of Engineering Industry, which represents the Indian private sector. The CMA has organised a series of missions to India and is well informed about the climate for doing business.

Manager, Export Development
The Canadian Manufacturers Association
1 Yonge Street
Toronto, Ontario M5E 1J9
Telephone: 416-363-7261
Telex: 065-24693

Vice President, Alberta Division
831 Esso Tower
10060 Jasper Avenue
Edmonton, Alberta
Telephone: 403-426-6622

8. **The Confederation of Engineering Industry (CEI)** represents the Indian manufacturing industry and maintains a strong link with Indian policy makers in a wide spectrum of government departments. CEI have a partnership relationship with the Canadian Manufacturers Association and through their Oil and Gas Division can offer assistance with identifying Indian companies which are interested in foreign technology and expertise.

Director
Oil & Gas Division
Confederation of Engineering Industry
23-26 Institutional Area
Lodi Road
New Delhi 110003, India
Telephone: 615115
Telex: 031-66655 AIEI IN

Succeeding In The Indian Market

The Indian market offers significant potential for Canadian suppliers of oil and gas equipment, expertise and services despite its apparent complexity and diversity. The five most important considerations key to the development of a successful marketing strategy for India can be summarized as follows:

1. Selection of appropriate local representation is an important requirement in a successful marketing plan.

2. The Indian market is of considerable interest to foreign firms due to its size, excellent payment record and relative isolation from the vagaraties of international oil price fluctuations. Prices tendered are therefore highly competitive. Companies not generally well known to Indian officials may need to offer better competitive pricing levels than the well entrenched competition in order to achieve a first success.

3. Conservative fiscal attitudes towards foreign exchange expenditures, cause Indian officials to strongly favour contract awards made on the basis of the lowest price. Added features such as offering higher quality than specified are not taken into consideration during tender evaluation. Intense negotiation on price is common. A successful strategy incorporates these features of the Indian market in developing tender pricing.

4. The Indian tendering system is bureaucratic and demands a high degree of detail and accuracy in completing bidding documents. It is particularly important that exhaustive documentation of a company's international performance and experience be included. Such items as incomplete client lists, and confusing terminology, can cause bids to be needlessly rejected.

5. Decision making in the tendering system is slow and the process can be unclear. Requests for extensions of validity periods are frequent and multiple requests are not uncommon. Price negotiations can take place at any time during a tender. A flexible attitude, a view to the medium term, and considerable patience are important to successful tendering in India.

ANNEX I

List Of Major Recent Joint Ventures/Collaborations Approved By The Government of India

INDIAN CO.	*FOREIGN CO.*	*PRODUCT/SERVICE*
Essar Construction Ltd. Bombay	GEOPOL Gmbh West Germany	Onshore Drilling Services
Ferro Alloys Corporation Ltd. New Delhi	Dresser Europe SA Italy	Integrated online mud logging units
Southern Pneumatic Rockdrill Co. (P) Ltd. Madras	BOMAG, West Germany	Hydraulic rotary drilling rigs
Eastern Circuits Ltd. Bhopal	Precision Well Logging Inc. USA	Mud logging services
Palmer Surveys (I) (P) Ltd. Bombay	Palmer Survey Ltd. U.K.	Offshore drilling
Transpek Industry Ltd. Baroda	S & S OIL Technics B.V. Netherland	Oil field & related chemicals
Auro Pumps (P) Ltd. Ahmedabad	Pompe Vergeni SPA Italy	Submersible Pumps
Aban Constructions Madras	Seipem, Spa Italy	Onshore oil drilling
Jakson Marial India Ltd. Goa	Westburne Drilling Ltd. Canada	Onshore drilling services
United Drilling Tools Ltd. Delhi	AFECO Inc. USA	Gas Lift Equipment
Hindustan Shipyard Ltd. Vishakapatnam	ODE/HDL, U.K.	Offshore & Onshore structures, Subsea systems & associated components—Well Platforms
Essar Investment Ltd. Bombay	Itag Geopal JV West Germany	Onshore drilling services
Balmer Lawerie & Co. Ltd. Calcutta	C.K.S. France	Mud Engg. Services
Nassar Construction Ltd. Bombay	Neddrill Netherland BV, Netherland	Offshore drilling services
Amteck Geophysical Pvt. Ltd. Hyderab Bombay	Alpha Tech International Inc. Kores India Ltd.	Seismic Data Acquisition Drilltech, USA Blast hole drills
Petroleum services & supply Co. Bombay	MGA Consultancy services, U.K.	Mud Engg. Services
The Shipping Corporation India Ltd. Bombay	Global Marine drilling Co. USA	Charter hire of Jack-up rigs
Polmer Papers Ltd. New Delhi	Global drilling fluids Inc. USA	Offshore drilling chemicals & fluids
Navin Chemicals Manufacturing & Trading Co. Ltd. New Delhi	Centre for Surface Science & Engg. Univ. of Florida USA	Auxiliary oil field chemicals
Hindustan Magcober Chemicals Ltd. Baroda	Dresser Industries Inc. USA	Mud Engg. Services for oil & well chemicals
Jindal Drilling & Leasing Ltd. New Delhi	Analysts International S.A. Panama	Mud Logging Services
National Organic Chemical Industries Ltd. Bombay	Shell International Chemicals Netherland	Technical Services for Petrochemicals
Indian Oil Corp. Ltd. Bombay	Chevron Research Co. California, USA	Petroleum products viz. LPG, Naptha, ATE/SK, HSD
High Tech Drilling Tata Industries Ltd. New Delhi	Forex-Neptune Intl. Incorporated U.S.A. Schlumberger	Offshore & Onshore Drilling Services
Greaves Cotton & Co. Ltd. Bombay	Dresser Atlas USA	Logging, perforating and data analysis
Korloskar Brothers Ltd. Pune	Oil Tool Specialities Ltd. USA	Christmas trees & Conventional well-head assemblies

ANNEX II

Select List Of Major International Oil And Gas Companies Doing Business In India

1. Chevron Texaco, U.S.A
2. International Petroleum Corporation, Canada
3. Broken Hill Propriety, Australia.
4. V/O Techno Export, USSR.
5. Hyundai Heavy Industries, South Korea.
6. Samsung, South Korea
7. Nippon Kokkan, Japan.
8. ETPM, France.
9. Sai Pem, Italy.
10. DST, West Germany.
11. Deu Tag, West Germany.
12. Snam Progetti, Italy.
13. Spie Cpag, France.
14. IPS Cordwell, U.S.A.
15. Branham International Inc., U.S.A.
16. Aramco, U.S.A.
17. Ingersoll Rand, U.S.A.
18. Norsco. Canada.
19. BASF, West Germany.
20. Dupont, U.S.A.
21. ICI, U.K.
22. Caterpillar, U.S.A. Catterpillar, U.S.A.
23. Cummins, U.S.A.
24. General Motors, U.S.A.
25. Oilwell Inc., U.S.A
26. Manes mann Demack, West Germany.
27. Valrick, France.
28. Nippon Steel Corporation, Japan.
29. Sumitomo, Japan.
30. Kawasaki, Japan.
31. Interceanic, U.K.
32. Sider Algeria, Aigeria.
33. Siderca, Argentina.
34. Thyssen, West Germany.

ANNEX III

Price Preference For Indigenously Supplied Equipment And Material

The Government of India has initiated a substantive preference system to encourage Indian industry to enter the oil and gas sector. Indian companies supplying goods to ONGC are eligible for the following pricing preferences on finished goods:

Extent of Domestic Content	Extent of Price Preference
Upto 20%	0
More than 20% and upto 50%	upto 15%
More than 50% and upto 70%	upto 25%
More than 70%	upto 35%

The price preferences available to domestic bidders of oil field services are as follows:

Bids based on indigenously manufactured owned equipment	40%
Bids based on indigenously manufactured leased equipment	25%
Bids based on imported owned equipment	25%
Bids based on imported leased equipment	10%

Indian companies are further exempted from paying duty on materials and components imported for the manufacture of goods which are to be supplied to ONGC. A range of other benefits are available to domestic companies under India's "deemed export scheme."

ANNEX IV

Indian Government Guidelines For Approval Of Financial And Technical Collaborations

Set out below are the highlights of Indian government policy for the establishment of technical collaborations between Indian and foreign companies. Expert legal advice from experienced Indian lawyers can be of invaluable assistance in translating this policy into a framework with which foreign companies feel comfortable.

* Foreign equity investment should be in the form of cash, without being linked to imports of machinery or payment for knowhow, trademarks or brand names.

* The Indian party should be free to sub-licence the technical knowhow, product design or engineering design under the agreement to another Indian party, on terms to be mutually agreed upon by all the parties concerned, including the foreign collaborator and the Government of India.

* Royalty payments should be linked to the value of production, payable annually. The royalty should not ordinarily exceed 5%. The royalty is calculated on the basis of ex-factory selling price of the product, net of excise duties and the cost of standard purchase components and landed cost of imported components. Payment of a fixed amount of royalty per unit of production will be preferred, wherever appropriate. There should not be a requirement for the payment of a minimum guaranteed royalty regardless of the quantity and value of production.

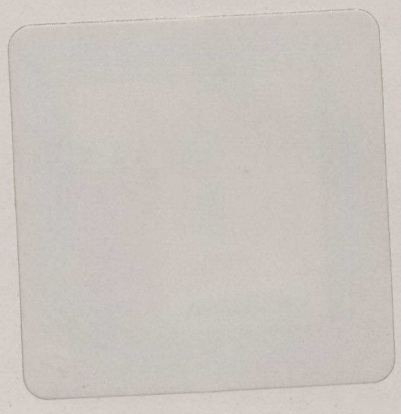
* There should be no provision for the use of foreign brand names on the products for internal sale, although there is no objection to their use on products to be exported.

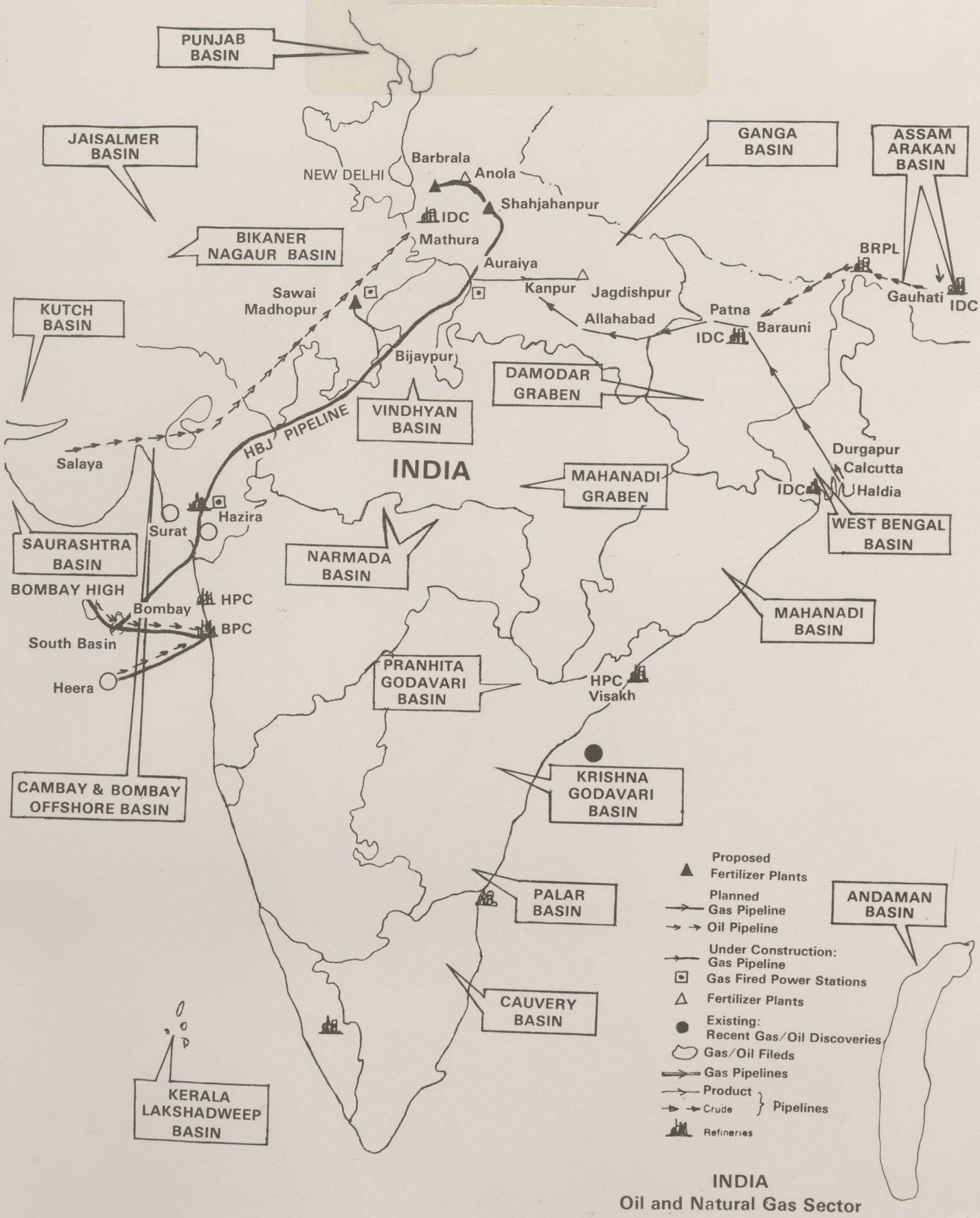
* Large sum payments may be considered for the import of drawings, documentation and other forms of knowhow. Wherever applicable in deciding on the reasonableness of such payments, account will be taken of the value of the production so that the lump sum plus the recurring royalty, if any, is an acceptable proportion of the value of production. Such payments will be subject to applicable Indian taxes. The lump sum payments should ordinarily be scheduled as follows: 1/3 after the agreement has been approved, 1/3 to be paid on the transfer of documentation, 1/3 to be paid at the commencement of production or 48 months after the signing of foreign collaboration agreement, whichever is earlier.

* Except in countries where the foreign collaborator has pre-existing production licensing arragements, there should be no restrictions on the free export of products to all countries.

* The Indian party should have the right to produce the product after the expiration of the colloboration agreement without any additional payments even if the products are covered by an unexpired patent at the end of the collaboration agreement.

* Adequate provision should be made for the training of Indian personnel in production, management, research and development.





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