

In fact, no company other than major oil companies can undertake the whole process of studies, modeling and finalizing the projects in a continuous and consecutive process. Such majors have the monopoly of development and production technology.

Q: How do you evaluate the trend of restructuring in NIOC?

Restructuring is a time consuming task, it can not be concluded within a period of 2 or 3 years. Even in high riding companies, it takes 5 to 10 years to define new relationships, train staff, settle down the management and operational systems and finally clean up and streamline such systems. We started restructuring 2 years ago. In the first step, each oil and gas production procedure in a specific geographical region was defined as an independent company or a benefit center. Within some NIOC companies, like National Company of Oil Regions which produces 80 percent of Iranian oil, five subsidiary commercial companies have been defined and geographically classified. For example, by defining some discrete companies within Central Regions Company which covers operations in all parts of Iran (excluding Khuzestan), management and executives of each subsidiary are able to calculate real figures of oil and gas production and costs. Cost recovery rates are clearly defined in these units so that they can predict their annual income. Therefore, they have to increase their production rate and decrease their overhead charges in order to enhance profit and perform well. Although, we are at early stages, we have gained desirable results so far. Currently, more of directors and executives are paying attention to production rate, income, and costs, which demonstrates consolidation of the task.

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some 19 oil and gas field development projects
are being carried out by Oil Engineering and Development Company
requiring \$12 billion of investment**

Q: What value has been given to R&D in the new structure of NIOC?

For the first time, R&D department was established in NIOC as an independent office. NIOC is willing to support R&D activities within a framework devised by the Ministry of Petroleum. In this wake, NIOC allocated one percent of all its subsidiaries' budget to R&D. Besides, all NIOC facilities and potentials are to be used to run research projects. Of course we do not confine our resources to NIOC dexterities, but seek help from universities, research centers, commercial and producing companies to expedite projects and gain better achievements.

Q: What are the upstream impediments for gaining modern technologies?

In the past 20 years, there was no significant plans to develop technologies needed for upstream. Although it is claimed that our fields are of low recovery factor (about 20%) there are some evidence showing that similar fields in other parts of the world have been able to reach some 40 percent of recovery factor. That is why, Minister Zanganeh, has always stressed on transferring and customizing upstream technologies and regards it as the most decisive factor. We have already signed several contracts with Iranian companies to carry out some Joint research

projects on reserves with foreign companies. And we are planning to support those companies capable of upgrading their exploration technologies. We believe there are reliable and efficient resources in our country which would be able to assist NIOC to develop and transfer needed technologies if only organized in the form of a company.

Q: What measures have been taken to train work force?

Comprehensive plans have been devised in this wake. One of the most favorable features of buy-back contracts is that, one percent of the project costs should be allocated to training Iranian staff. We have also planned to send some people abroad to attend highly specialized and hi-tech courses. There are some attempts to upgrade courses relevant to upstream in Iranian universities. Therefore, the current capacity has been tripled in the past 4 or 5 years. There are some schemes to send students to foreign universities for postgraduate and Ph.D levels.

Moreover, we are trying to promote applied training courses by employing Iranian and foreign teachers and equipping training centers with modern software and hardware. About \$100 million will be spent for education and training programs within the next five years.

Source: Mash'at, No. 196

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development plan of our country,
the top priority
is given to exploration of new oil fields**

310 million cubic meters to some 585 million cubic meters per day i.e 80 to 90 percent increase by the end of the third five year plan in 2005.

Q: What are responsibilities and obligations of Oil Engineering and Development Company?

Based on this company's statute, Oil Engineering and Development Company acts as a technical assistant of NIOC. Not only does it supervise and manage the projects, but undertakes relevant staff responsibilities. Therefore, the company's chief executive, will be recognized as a member of NIOC board of directors and in charge of NIOC development department as well.

Q: Would you please elaborate on projects carried out by Oil Engineering and Development Company?

At present, some 19 oil and gas field development projects are being carried out by Oil Engineering and Development Company. A total of \$12 billion investment is needed for these projects.

Oil Engineering and Development Company is a matrix company comprising different departments specialized in oil engineering, construction, project planning, financial, personnel and legal affairs, and contracts.

On one side of this company, there are managers and executives who are

responsible for schedule and budget management, creating goals and carrying out the projects. On the other side specialized departments act as policy makers, system designers and instructors. Currently, 19 projects have been scheduled by Oil Engineering and Development Company; such as development projects of Soroush, Nowrooz, Doroud, Belal, and Salman oil fields; development projects of such gas fields as Salman, Farzam, Nosrat, Forouzan, Esfandyar and Pars gas basin including Tabnak, Shanoool, Varavi, and Gordan oil Fields, underground storage of natural gas project; the project of gas injection into Aghajari oil field, and Amak Project for NGL collection and separation in Ahwaz.

There are also some important projects under discussion, namely development projects of such oil fields as Darkhowein, Cheshmekhosh, Bangestan, Ahwaz, Aab Teymour, Mansouri, Masjed Soleiman, and 16 other oil fields in central regions of Iran. It is worth mentioning that 13 out of the 19 projects have already started up and remaining 6 projects are being negotiated.

Q: What obstacles and difficulties, upstream is facing to develop?

Exploration, development and production of an oil field inevitably entails risks stemming out of geological, drilling and production uncertainties. The probability of such risks is nearly

zero in other industries.

This feature of the industry forces the investors to keep close track of technical, design and engineering knowledge and proper project management in carrying out the projects. In other words, investments in development projects are heavily reliant on companies' skills in their studies, assessments, selection of proper production and management methods. Investors should also be aware of risks involved.

Lack of advance technology and existing high risks, lead oil rich states to sign development contracts with international oil companies. That is, even if there is a sufficient capital to run projects, we have to rely on major oil companies' technology, because our technology is too outdated to reduce risks and increase efficiency. In fact, financing the projects with the help of domestic resources is just one side of the coin, and required technology, management, and the likely risks is another side which differentiates oil industry from others. Thus, we have to find ways to transfer such know-how to domestic companies. Once, recoverable reserves capacity was announced some 100 billion barrels. It means that by increasing only one percent of our recovery factor, about one billion barrels of oil or at least \$20 billion dollars would be added to our country's foreign currency reserves.

Q: How are these projects executed?

Except for oil companies, no consulting or contract company can carry out A to Z of development projects by itself. In downstream, like petrochemicals, refineries, distribution and gas sector, it is possible to ask for loans, or put work out for tender in order to finance the project. While, in upstream, it is a different story.

billion saved through oil products replacement, our country will enjoy an annual revenue of \$11 billion through direct sales of such products.

Q: What are the features of field development contracts?

A: All contracts including buy-backs and field development contracts are supervised by two NIOC subsidiary companies, namely Pars Oil and Gas Company and Oil Engineering and Development Company. Development projects of different phases of South Pars are supervised by the former and the latter is in charge of other oil and gas development projects. Since fields in Iran are generally going through the second half of their lifetime, in recent years, we endeavoured to prevent any decrease in production. Such projects as, gas injection, vertical drilling and ... are underway to prolong fields lifetime and enhance their recovery factor.

Q: How do you see the oil production conditions?

At present, our production is about 4 million b/d compared with 3.8 million b/d in August 1997. Such an increase was attained partly by maintaining the capacity of existing fields through injection and in part by producing from Siri new oil field.

We have been able to improve our production capacity by 5 percent in addition to stopping the natural depletion put at 8 to 10 percent annually. Concerning gas production, the capacity is exceeding 300 million cubic meters, which demonstrates a growth of 25 percent, comparing with 240 million cubic meters in 1997. Of course, when different phases of South Pars come into operation, such growth will be remarkable.

Q: What about exploration?

Endorsement of objectives and

Oil and gas fields depletion will be well tempered with newly explored fields in the next 4 and 6.5 years respectively

policies for exploration, was the most pivotal measure taken by NIOC board of directors.

In the third five-year development plan of our country, the top priority is given to exploration of new oil fields. Considering huge gas fields such as South Pars and relevant limitations to transfer and export gas, exploration of oil fields rather than gas fields is in focus. Such priority has been given to joint oil and gas reserves. Right now, NIOC policies regarding such sediment basins as Zagros, Dezful, the Persian Gulf, the Oman Sea, Fars and Lorestan, have been well defined.

In other sediment basins such as Kopeh Dagh and Gorgan, Moghan and Central Iran, South Caspian and other regions, measures regarding geology, geophysics, geochemistry, seismic, and drilling have been taken and priorities have been set. An emphasis is put on transferring the latest exploration technologies through cooperation with major oil companies, universities, research centers, service companies and consulting engineers. Introduction of exploratory administration as a policy maker rather than an executive body in parallel with reinforcing consulting companies and contractors is considered one of the most decisive guidelines laid down by NIOC.

One of the most important projects being executed by NIOC ever, is the completion of seismic study of the Oman Sea and northern parts of the

Persian Gulf.

Q: Who will be in charge of the projects in NIOC?

A: Following the policy suggesting that each development and exploration project should be carried out by a particular contractor or organization, all activities in field exploration or a development project will be undertaken by a contractor.

Q: Some forecasts show that by 2010 there will be an increase in OPEC's market share from current 27 million b/d to 42 million b/d and a consequent rise in Iran's current quota of 3.7 mb/d. This quota is expected to exceed 5 million b/d. Is it possible for NIOC to reach by then such production capacity?

Our goal is to reach such a rate at the end of the third five year plan in 2005. As mentioned earlier, some 370 thousand barrels were added to our production capacity through buy-back schemes. We are expecting another extra 450 to 480 thousand barrels through the under discussion contracts. Besides, we plan to increase our current capacity by 150 thousand b/d through development projects. In all, we hope to increase our capacity by 1 million b/d, and maintain our quota within OPEC. In gas sector, considering the fact that our activities are largely concentrated on the South Pars gas field, we expect to raise production capacity from current



Interview

An Interview with Mr. Mirmoezi,
the deputy managing director of
National Iranian Oil Company

Transferring and Customizing Upstream, the Most Decisive Factor

Translated by: Homayoon Nassimi



Oil industry is considered pivotal in Iran's third 5 year socio-economic development plan. To meet the requirements at domestic and international levels, it bears a double burden of financing domestic industrial and developmental projects on the one hand, and promoting and upgrading its capabilities and potentials on the other. A successful approach

does palpably require such measures as providing oil industry with knowledgeable and efficient work force, advance technology, and modern equipments.

Following is the text of an interview with Mr. Mirmoezi to elaborate on the above-mentioned objectives:

Q: what are the responsibilities and activities of NIOC?

A: The main activities of NIOC involve upstream, including oil and gas fields exploration and production (E&P), both offshore and onshore, marketing and sales of crude oil, natural gas, and their products.

Q: How do you evaluate the performance of NIOC through recent years?

In the past two years, achievements in exploration were enormous. About 5 billion barrels of oil and NGL and 680 to 700 billion cubic meters were added

to recoverable capacity of reserves. Oil and gas fields depletion will be well tempered with newly explored fields in the next 4 and 6.5 years respectively. In other words, since the Khatami administration, oil and gas production rates have been far less than the added capacity. Such a ratio is regarded as a success index for NIOC, therefore, it can be claimed that exploration sector has performed relatively well in this period.

Q: To what extent, have the development projects been successful?

A: Perhaps the most eye catching

measure during the past three years, was the development of oil and gas fields through buy-back schemes. Some 220 million cubic meters of gas and 385 thousand barrels of crude oil are being added to our production capacity each day, through such schemes. Including the under discussion contracts, an annual revenue of some \$11 billion will be expectable for Iran.

Currently, we can save 13 cents, by replacing each cubic meter of gas with other oil products. Such being the case, a sum of \$16 billion will be saved when 8 phases of South Pars project come into operation. In fact, besides \$16