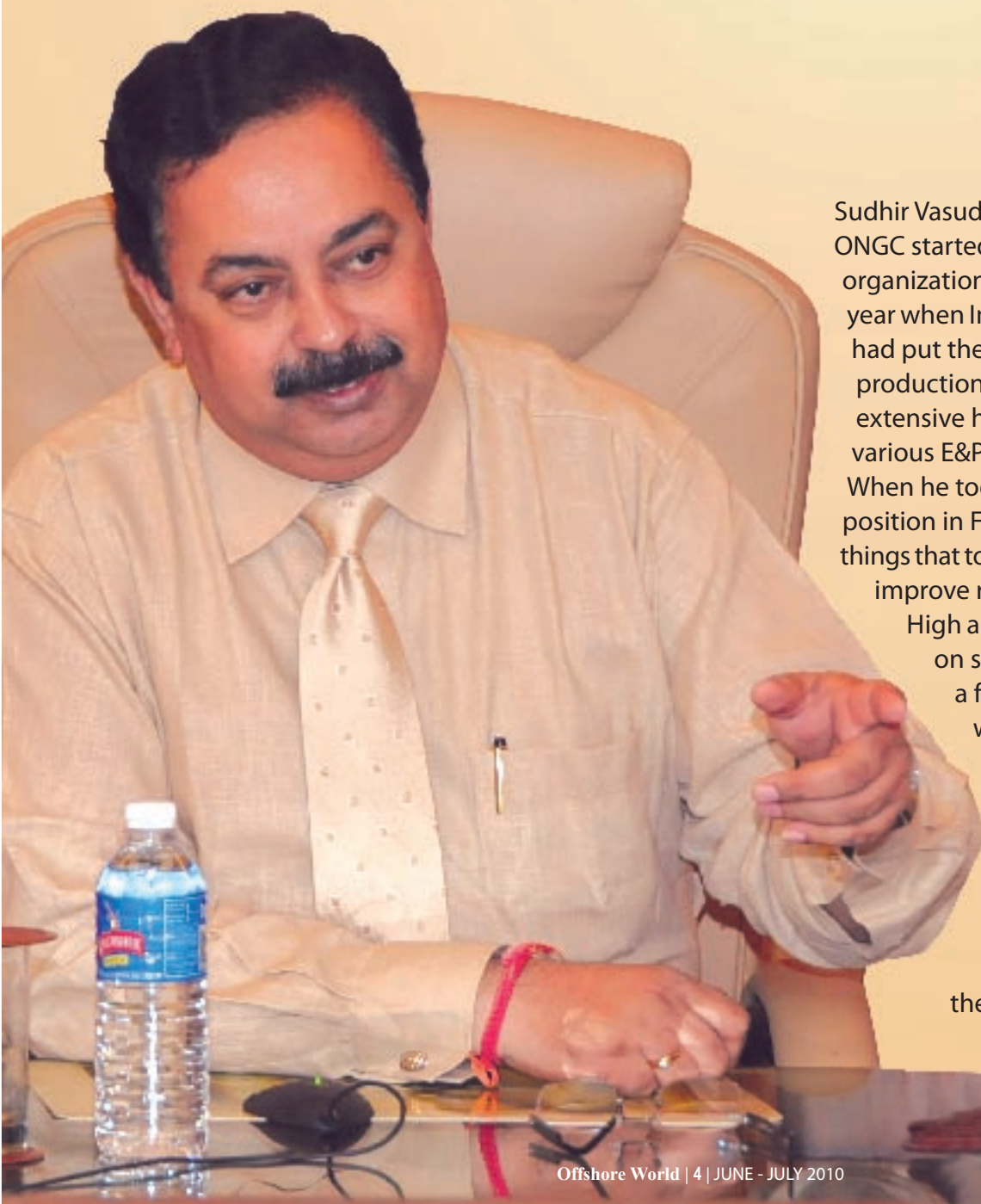


“We are scouting for younger fields, with proven oil and gas reserves that are in need of investments”.....



Sudhir Vasudeva, Director (Offshore), ONGC started his career with this organization, as trainee in the same year when India's hydrocarbon major had put the Mumbai High field into production. He is the oilman with extensive hands on experience in various E&P projects of the ONGC. When he took charge of his current position in February 2009, two main things that topped the agenda were to improve recoveries from Mumbai High and bring East Coast fields on stream at the earliest. In a free wheeling interview with Mittravinda Ranjan, he talks about various projects the company is working on and the strategy of the corporation to augment the hydrocarbon supplies in the country.

ONGC discovered Mumbai High field in 1974 and developed the field under the leadership of Dr M V Prasad, then Chairman of ONGC. Vasudeva elucidates, "We must appreciate the fact that despite the limited knowledge and resources at that point of time, the first oil was produced in 26 months time and till date Mumbai High is one of the fastest developed oil fields." During 1984-85, the field reached its peak production of 400,000 bopd and maintained the same production levels for six consecutive years. From 1990, the field experienced decline in oil production due to increase in Gas to Oil Ratio (GOR) and water cut. He recapitulates, "Mumbai high field is divided into two blocks -North and South as a zone of relatively low permeability acts as a barrier between two blocks, which facilitates independent exploitation of Mumbai High North and Mumbai High South."

**Aging and Young Fields**

When Vasudeva took over the reins as Director Offshore for ONGC in February 2009, two things that topped his agenda were to improve the recoveries from aging fields and bring the Krishna Godavari offshore fields on the East Coast to production in the shortest possible time. Off late, ONGC has not made any significant discoveries but is investing heavily to improve the production from the existing fields, which have reached maturity. "We are investing Rs 7133.39 crores for Mumbai High's North redevelopment plan phase-II with expected incremental oil and gas gain is 17.354 MMT and 2.987 BCM by the year 2030," he states. The redevelopment plan of Mumbai High South phase II involves investment of Rs 8813.41 crores with expected incremental yields of oil and gas of 18.31 MMT and 2.70 BCM respectively by the year 2030.

He reiterates that after successful implementation of Phase I redevelopment, which was in line with

organizational goal to achieve global recovery factor of 40 percent from major oil producing fields, now the company is in the process of executing rolling development program in other projects. This is based on the lifecycle approach wherein development activities for about five years have been identified and will be implemented in the due course. Presently, ONGC is executing this through three to four of its projects over a 12 year period commencing 2006-07 that includes the current redevelopment project phase II. Apart

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from these, ONGC is already pursuing various other revamping projects to handle high liquid production. Domain experts are upgrading and reviewing the existing models to understand the midcourse correction.

Biggest challenge for the team is at operational level to encounter the possible scenario to handle higher liquid production from depleting reservoir in terms of falling pressures. Volatility in crude prices, fluctuating rig rates and increase in facility capex on account of rupee depreciation are some of the challenges are other concerns that we have to address, he adds.

"As evident, there has been no major discovery onshore and offshore by ONGC," he says and most of the producing fields are reaching their maturity levels. The organization has taken cognizance of aging basins with progressively subtle nature of hydrocarbon accumulations and formulated long term strategies to augment oil and gas production to cater to the growing energy demands in the

country. ONGC is already implementing rolling development projects based on life cycle approach in its offshore fields Mumbai High and Heera; and plans to commence Neelam redevelopment project for which feasibility studies are underway. Similarly, the company is in the process of identifying fields where redevelopment gains in terms of recovery from oil fields would commensurate with investments and revisiting ongoing Improving Oil Recovery (IOR) schemes in Rudrasagar, Geleki and Lakwa fields of upper Assam for mid course appraisal.

**Petrobras and Statoil Back Out**

Talking about KG -DWN 98/2 gas block in India's East coast, Vasudeva says that subsequent to Memorandum of Understanding (MoU) that Norsk Hydro signed with the Indian E&P major in 2007, ONGC offered the Statoil Hydro 10 percent participating interest with an investment cap of USD 26 million in the appraisal phase and the option to increase its stake by another 10 percent after establishment of commerciality. ONGC had farmed out 15 percent interest in the block to Petrobras also, in 2007, under swap agreement. "We did this as a part of our strategy to capitalize on technological experience of international companies of repute in development of deepwater discoveries," he says. However, owing to delay in signing Joint Operating Agreement (JOA) and finalization of Production Sharing Contract (PSC), Brazil's Petrobras and Norway's Statoil called it quits.

"To my best of belief, till the time of quitting the project both the companies had not much contribution in terms of knowledge and technology sharing which was one of the major factors for association," he comments. The block now has ten discoveries and ONGC is moving ahead to develop the acreage KG DWN 98/2 where three appraisal wells were planned. As of now, ONGC has already completed drilling of two

wells and drilling of third one is already in progress. He indicates that some oil majors are already in touch with the Indian hydrocarbon major for equity participation in the block.

Though Vasudeva has no qualms about these majors quitting the project but he feels that faster approvals at the government level would certainly help in faster implementation of the projects.

**Developing Inherent Competence**

Energy demand of India's rapidly growing economy is increasing at an enormous pace. In spite of various discoveries that have been made along country's coasts in deepwater, the projects invariably have to go through long approval channels before they are put into production. India produces only 25 percent of its crude demand and for the rest relies heavily on imports. Vasudeva opines that lack of indigenous technology is one of the major challenges that Indian offshore sector is currently facing to bridge the demand supply gap.

He adds that Indian companies always have to look forward to foreign companies for major supplies for plant and machinery. It is high time for domestic sector to develop inherent strength and develop adequate infrastructure enhanced mass production capacity to overcome the challenge. In recent years, Indian companies have been collaborating with the foreign majors to meet with the requirements to execute offshore projects. He feels that there is a need for Indian companies to imbibe the best work practices of these foreign partners and develop indigenous industry. Further adopting latest practice in project management, adopting new technology are few areas that would facilitate faster project implementation in offshore sector. He adds, at the government level, the industry expects faster approval process preferably single window clearances if possible.

**Going Global**

To supplement the efforts of company and augment the energy supplies in the country, ONGC operates overseas through its wholly owned subsidiary ONGC Videsh Limited (OVL) that is engaged in exploration and production of oil and gas.

This can be understood from the fact that at close of the financial year 2009-10, the proven reserves (1P) of OVL stood

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at 185.995 MMTOE, the second largest holding of proven oil and gas reserves (1P) by any Indian Company, next only to ONGC. Out of its total 39 oil and gas projects spread over 16 countries, OVL has at present nine producing assets in six countries namely, Sudan, Russia, Vietnam, Syria, Brazil and Colombia. The total production from these assets in the year 2009-10 is 6.49 MMT of oil and 2.38 BCM of gas, averaging 130,000 bopd of oil and 6.5 MMSCMD of gas.

OVL has been the flagship Indian company for global acquisition of hydrocarbon resources by India. In contrast with China, OVL follows a different strategy and continues to acquire comparatively newer oil and gas assets that are less costly as against matured fields that are available at higher costs. Funding is not a constraint for OVL and ONGC projects, he says, however it should be of strategic value for us in case of OVL and for other projects it should justify the investment to increase the value of stakeholders.

"We are scouting for younger fields, with proven oil and gas reserves that

are in need of investments for being developed into producing assets. Concurrently, we are not averse to big acquisitions if it offers value but as a strategy we would prefer newer assets," he says. In this pursuit, ONGC is focused on Russia, Africa, CIS countries and Latin America for acquisitions.

**Taking Lesser Travelled Road**

The field of unconventional gas sources has caught the attention of hydrocarbon companies worldwide. E&P from these sources is still in nascent stage in India and we understand that we would be able to put these areas in the production map states Vasudeva. "We have immense interest in Coal Bed Methane (CBM) under which exploration work is undergoing in nine blocks that include nomination as well as NELP blocks." Shale gas has become a source of intense interest because there are more shale gas reservoirs than conventional gas reservoirs in the world. A massive 32,500 trillion cubic feet of gas has been identified worldwide from gas reservoirs. He also informs about ONGC's interest in the field of shale gas and points out about how USA augmented their overall gas output by increasing shale gas production, which accounts for 17 percent of country's total gas production. Canada too has begun shale gas production while China Australia and EU nations are venturing in a big way into commercial exploitation of shale gas. ONGC has tied up with Schlumberger (through Tera Tek, which has over a 100 years of experience in geo-mechanical studies) for a pilot project. Further, Keshava Deva Malviya Institute of Petroleum Exploration (KDMIPE), Dehradun, has entered into a Shale Gas Research Consortium Agreement with the University of Utah, USA. Vasudeva articulates that the corporation has undertaken research projects in the field of gas hydrates, however the technology to extract gas from these is still in preliminary stages. Once the technology is available, then



these too can contribute substantially in the energy supply mix.

### The Lost Decade

Oil industry refers to the 1990s as the lost decade as the oil prices were at all time low and there was not much demand of skilled professionals during this period. People opted for various other career options that promised better prospects and offered lucrative salaries. So the oil and gas industry has had pent up demand for people for quite some time but for simple financial reasons the E&P companies had kept delaying the inevitable, the director points out. Currently the demand has reached critical levels and the industry is facing shortage of availability of competent staff at various levels. Post independence, India had just two companies OIL India and ONGC in the hydrocarbon sector. But after the introduction of New Exploration Licensing Policy (NELP), the number of players today stands at 40 in the country and there has been a significant increase in number of service providers for the upstream industry. With the limited number of colleges offering petroleum-engineering courses, organizations pick up the students from these institutes on day zero of the campus interviews. According to Vasudeva, the crunch of availability of professionals in this field is expected to stay for a while.

Poaching is another problem that E&P companies encounter very often which results in high attrition rates. "We have taken slew of initiatives to retain the staff and implemented employee friendly policies to retain them in their services. I am happy to inform you that attrition rate in drilling services has been coming down in the last five years and is presently only four for the year 2010. Year wise attrition was 19 (2009), 42 (2008), 88 (2007) and 123 (2006)." ONGC conducts extensive programs round the year to develop new competencies and capabilities of employees and provide opportunity in decision making to inculcate sense of ownership amongst them. "Special training programs are conducted from time to time to update the employees to upgrade technical and managerial skills of the staff." However, we are not complacent, says Vasudeva. Although ONGC has taken a proactive approach towards retaining the employees but we do have an aggressive manpower-hiring program in place, he emphasizes.

### Future Outlook

In NELP VIII, ONGC has been the biggest winner with allotment of 17 blocks that include four blocks in KG Basin, six in Andaman, one in Cauvery basin, four onland blocks and two blocks in Gujarat offshore. Out of these

blocks, 11 are in highly prospective and high potential basins. Vasudeva informs that ONGC is progressing steadily as per the Minimum Work Program (MWP) and is aware of high commitment levels expected out of bidders in the current rounds of NELP.

As per the guidelines of Directorate General of Hydrocarbons (DGH) the new finds have been categorized into two categories, new pool and new prospect. New pools are generally in the area where we already have infrastructure available so these finds are put in the production as soon as these are notified. He emphasizes that the new prospects in offshore take some time before these are put into production. However they are trying to develop small marginal fields making clusters wherever feasible. In this regard ONGC is in the process of developing 33 small fields.

ONGC has kept Rs 14,063 crores net profit I FY -11 as MOU target signed with MOP & NG, says Vasudeva. In FY 10 ONGC had sales income of Rs 60, 205 crores at a pre discount rate of 71.65 USD/bbl and 55.94 USD/bbl respectively. He expects that oil sales revenue may hover in the same range while with increased gas price in view of recent notification there would be higher revenue from gas sales. In this background, ONGC is likely to achieve the targeted net profit comfortably. ■