

Prospects to Indian Valve Manufacturers

Oil & Gas

Present Scenario

- ▶ India is the 5th largest consumer of energy.
- ▶ With a GDP growth of around 8% energy consumption at a conservative estimate increase 5% per annum.
- ▶ With the buoyant economy India is poised to take 4th largest consumer of energy after us, China & Japan.
- ▶ Oil and gas constitute around 45% of energy source with coal as primary source at around 50%.
- ▶ Per capita consumption in India is quite less (around 300Kg OE) compare to a developed country (400 Kg OE for Japan) and hence there is a big potential for growth.

Oil Sector Growth

- ▶ India is 6th largest crude oil consumer with import of 99 MMTPA crude oil.
- ▶ With an indigenous production of around 31 to 32 MMT per annum the total domestic crude oil need is presently around 132 MMT (Import – 72%)
- ▶ By 2012 the crude oil processing

capacity is projected to grow to a level of 230 MT with no significant growth to indigenous production.

- ▶ The share of import of crude oil hence is likely to increase to nearly 85%.
- ▶ India is presently having refining capacity of 138 MMT per annum.
- ▶ With the commissioning of Essar Refinery in the near future the installed capacity of refineries to go up by 148.9 MMTPA.
- ▶ Indian Oil Corporation Ltd., alongwith its associate oil companies (CPCL & Bongaigaon Refinery) owns major share (60.2 MMTPA) out of the present refining capacity (43.5%).
- ▶ With the present level of refining around 134.2 MMTPA and demand of petroleum product at 114 MMTPA India is already exporter of petroleum products.
- ▶ By 2012 domestic demand expected to grow around 135 MMTPA and the export of petroleum products.
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petroleum product is likely to touch 80 MMTPA.

Natural Gas - Growth

- ▶ Natural Gas as energy source is increasing in the last decade. With soaring oil price natural gas has already become a substitute to Naphtha and other fuel oil. Finds of large gas reserves in domestic and presence of important gas producers, Myanmar, Thailand and Iran in the region Enhanced the prospects of natural gas further.
- ▶ The natural gas as energy source and feed stock is expected to grow from 26.88 billion cubic meter in the year 1999-2000 to around 4 fold by 2011-12.
- ▶ With present level of 10% of total commercial energy supply sources, natural gas expected to enhance its share to 14% by 2010.
- ▶ By 2020 with the cumulative average growth rate the gas consumption is expected to touch around 130 BCM.
- ▶ Petronet LNG Limited has already set up LNG importing terminal for a 5 MMTPA capacity at dahej.
- ▶ Shell's LNG terminal at Hazira is

presently importing 2.5 MMTPA.

- ▶ In recent years CNG (City Gas) for domestic and automotive sector has already been established in 10 major cities.

Oil & Gas Growth - Initiative

- ▶ In the upstream side apart from ventures for new discoveries, improving oil recovery factor and technological innovations to extract significant quantities of oil and gas from abandoned and marginal fields are being carried.
- ▶ Indian has 26 sedimentary basins with prognosticated reserves of 28billion tonne of oil equivalent of gas. Only 25% has been established.
- ▶ RIL struck gas in the offshore Krishna godavari basin with estimated reserve of 14TCF.
- ▶ Cairn energy Indian has oil finds in onshore in Rajasthan (4.9 MMTPA).
- ▶ In the downstream side both public sector and private sector companies are putting up Greenfield refinery projects as well as augmentation of existing capacity of their refineries.
- ▶ Increased environment awareness and fuel efficiency has already triggered quality up gradation program of existing refinery process system. Huge investments are already being made.
- ▶ Inland transportation of crude oil and movement of petroleum products to port and consumer centers has enhanced development of number of crude oil and products pipelines.

- ▶ Prospective crude oil pipeline in next 5 years is around 2500Km and petroleum products pipeline the same is around 12500Km.
- ▶ GAIL, RIL, GSPL and IOCL are coming up with investment for nearly 12000 Km gas pipelines.
- ▶ New LPG pipelines, tankage and bottling facilities are planned meeting with cumulative average rate of growth of 4%.
- ▶ Strategic storage of crude oil and its transportation is opening up new area for investment / infrastructure growth.
- ▶ To augment natural gas supply, apart from exploration, importation of natural gas by pipeline from neighboring regions are under active consideration. Trans-national pipelines are to be built in the near future.
- ▶ To meet shortfall of natural gas demand, LNG terminals are planned at Kochi, Dabhol, Kakinada and Ennore.
- ▶ Existing LNG Terminal at Dahej and Hazira are being augmented for enhancing handling capacity to 10 and 7.5 MMTPA respectively.
- L City gas supply is planned for expanding the supply to 28 cities. This would involve huge network of pipelines.

Investment horizon for Oil & Gas sector in next five years

| Field | Scale of Investment Billion US \$ (Approx.) |
|--------------------------|---|
| Exploration & production | 10 |
| Refinery expansion | |

| | |
|-------------------------------|------|
| & green field refineries | 24 |
| LNG Terminal / regasification | 2 |
| Domestic gas grid | 4.5 |
| Cross Border pipeline | 13.0 |
| Gas retailing / city gas / | |
| CNG / Auto LPG | 1.8 |

Challenge Ahead

- ▶ Over the year import of valves on technological ground in the country is limited to few areas like sub-sea valves, blow down valves, metal seated valves and valves for certain special applications.
- ▶ The economic growth and infrastructure investment plan in oil & gas industries is poised to give ample opportunity to Indian manufacturing sectors including valve industries.
- ▶ The threat perception due to import duty reduction and large international valve manufacturers competing is a challenge to Indian valve manufacturers to enhance their productivity & quality to grow as global players.
- ▶ Strategic sourcing, enhancing mechanization, improving infrastructure and developmental activities will have high yield in short period considering all-round buoyant economic scenario.
- ▶ With more LNG import terminals valves for cryogenic services is one of the focus area.
- ▶ With huge network of pipeline in the offing pipeline valves requirement in 5 years is expected to surpass the entire procurement made in the past two decades. Incentives are high for ventures in pipeline valves viz. Gate, Ball,

Taperplug, Check and pressure / flow control valves.

Expectation

- ▶ With open economy expectation from oil and gas industries is for supply of valves to global standards.
- ▶ Quality assurance plans are laid to international standards and followed maintaining high level of professional focus.
- ▶ Adoption of world class technology in design and manufacturing process.
- ▶ Delivery in time.
- ▶ Good after sale service.
- ▶ Focus area.

Prospects to Indian Valve Manufacturers

- ▶ Design improvisation / copycat technology.
- ▶ Poor quality control.
- ▶ Lack of ethics in consortium ventures.
- ▶ Poor out sourcing.
- ▶ Commitment beyond capacity – resource crunch.
- ▶ Inadequate development and testing facilities.
- ▶ Need of sensitivities to end users.
- ▶ Concern of environment / fugitive emission.

Focus areas of requirement of valves for petroleum pipeline

| S.No. | Concerned area | Issue | Focus |
|-------|---------------------|--|---|
| 1. | Positive Isolation | Multi-product handling demands positive isolation. Passage of valve has resulted in many costly failures such as <ul style="list-style-type: none"> ▶ Over pressure of low pressure piping During shut down condition ▶ Migration of product ▶ Contamination of product due to intermix | Sealing |
| 2. | Quality of material | Valve installation & testing on pipeline is carried at the fag end of the project. Failure of valve body / seat to hold pressure cause considerable delay to commissioning and handling over. | Adhere NCE to Better Quality control |
| 3. | | Reliability Cost cutting effect in design / material / selection / quality control measures. | Standard over riding minimum of specification |
| 4. | Maintenance | Oil industry / installations are spreading to nook & corner of the country. Hence valves shall be with minimum maintenance type. | Least Maintenance |
| 5. | Delivery | Consequential effect of delay in delivery of valves will have direct bearing on timely execution of project | Adherence to framed delivery schedule. |

(Courtesy : Indian Oil Corporation Limited)