

## COLLABORATION

**Deepak Nitrite sets up R&D Centre in NCL campus**

Deepak Nitrite Ltd. (DNL) and the National Chemical Laboratory (NCL), Pune have entered into a memorandum of understanding (MOU) on 10 March 2006, that will allow DNL and NCL to work closely together in identifying and pursuing R&D opportunities of mutual interest where fruitful and synergistic collaboration can be achieved.



Deepak Mehta

As part of this MOU, DNL has set up an R&D centre within the 'NCL Innovation Park' in close vicinity to NCL, in order to leverage the expertise and facilities of NCL. The R&D centre has been incorporated as the 'Deepak Research & Development Foundation' (DRDF), a fully-owned subsidiary of DNL, and was inaugurated by Dr. R.A. Mashelkar, Director-General, CSIR. Dr. S. Sivaram, Director, NCL, Prof. M.M. Sharma, Chairman, of NCL Research Council, Dr. L.K. Doraiswamy and Dr. Paul Ratnasamy, former-Directors, NCL, were also present at the inaugural function.

**New model for public-private partnerships**

"This agreement between DNL and NCL will represent a new model for public-private partnerships wherein the research expertise, inventive spirit and resources of a leading publicly funded research laboratory and the process engineering and development skills, manufacturing expertise and business insights of an established private sector company will be combined to develop innovative new processes and products, while also delivering end-to-end re-

search services," a statement issued by DNL said.

The DRDF will be the first facility to be set up in the newly opened 'NCL Innovation Park,' which is an over 43,000-sq. m. facility being developed by the NCL to support the birth, growth and expansion plans of research and knowledge-based busi-

ness entities through critical stages of their growth by providing ready-to-occupy space with easy access to knowledge centers (like NCL), knowledge workers, business networks and other resources.

The park shall also be home to the 'Venture Center', a business incubator. This will initially occupy 10,000-sq. ft. of built up area and aim to nucleate and nurture technology and knowledge-based enterprises.

**'New dimension to innovation and technology creation'**

Speaking at the inauguration of DRDF, Mr. Deepak Mehta, MD, DNL said, "We are very happy with this partnership as it adds a new dimension to innovation and technology creation at DNL. At Deepak Nitrite, R&D and marketing have been the two drivers of growth.

We have always used home grown technologies to fuel our growth. This partnership will give a further boost to our technology development activities and our foray into contract research and outsourcing. We also hope that this partnership will lead to the creation of valuable intellectual property and know-how that will benefit both organizations."

## CORRIGENDUM

**Punjab Chemicals buyout of IA & IC**

In the issue of *Chemical Weekly* dated 7 March 2006 (p. 120), the cost of acquisition of IA & IC, a formulation unit, by Punjab Chemicals has been erroneously mentioned as Rs. 5-lakh.

The correct value is Rs. 5-crore.

The error is regretted.

Editor

"The NCL Innovation Park will operate with the public good in mind, even though it will be privately funded and will have private organizations occupying it. We understand that the environment and culture at NCL Innovation Park will be different than that of an institute like NCL. The synergy of industrial and public research laboratory working hand in hand will be beneficial to both and ultimately to the customers," said Dr. Sivaram.

**Access to 'mind space' of NCL**

Speaking on the occasion, Dr. Mashelkar congratulated DNL and NCL on taking this initiative and said that companies occupying the NCL Innovation Park would actually have the privilege of having access to the "mind space of NCL" which was something much more valuable than the physical resources of NCL.

He hoped that both DNL and NCL would use this opportunity to work together on daring and innovative projects with the potential of creating long-term value for all.

## SUSTAINABLE RURAL DEVELOPMENT

**ICRISAT strengthens partnerships with the private sector**

The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), through its 'Agri Science Park', has strengthened its partnerships with the Confederation of Indian Industry (CII) to work together on improved natural resource management for sustainable rural development. Recently, ICRISAT and CII jointly organized a workshop for finding ways to collaborate on sustainable rural development, presided by the Andhra Pradesh Agriculture Minister, Mr. N Raghuvveera Reddy, who promised the State government's support for the partnership. According to Dr. William Dar, Director-General, ICRISAT, the institute was the first among the 15 international agricultural research centers under the Consultative Group on International Agricultural Research (CGIAR) to initiate partnerships with the private sector. This initiative has yielded successful results, benefiting the poor and marginal farmers of the semi-arid tropics. "We strongly believe that collaborative arrangements and strategic alliances are the ways of winning organizations. Our collaborations are geared towards helping mobilize cutting edge science and technology for the well-being of the poor in the semi-arid tropics of Asia and sub-Saharan Africa, said Dr. Dar.

**Agri Science Park**

The Agri-Science Park at ICRISAT is the 'hub' for public-private partnerships that enhance the development and commercialization of science-generated technologies and knowledge through market mechanisms. It consists of the 'Agri-Biotech Park' (a part of the Genome Valley Initiative of the Andhra Pradesh government); the 'Agri-Business Incubator' with eight private sector partners as incubates; a seeds consortium; and the 'SAT Eco-Venture'.

**Research consortia**

The recognition of the private sector as

a valuable development partner led to the formation of the 'Sorghum and Pearl Millet Hybrid Parents Research Consortia' with 16 private seed companies becoming consortia members for sorghum, 18 for pearl millet, and 11 being common for both the crops. Products developed with consortia grants are available freely to the public sector. The 'Biopesticides Research Consortium' (BRC), with 11 biopesticide manufacturers as members, is meant to develop, promote and commercialize the use of biopesticides by farmers. The partnership research will validate protocols for low-cost, commercial-scale production of microbial biopesticides developed at ICRISAT, and will promote agricultural practices that enable low-cost crop protection. The private sector partners will market the biopesticides. ICRISAT is already partnering with private sector partners for natural resources management (NRM) through watershed development. The institute has been working with Sir Dorabjee Tata Trust to scale-up farmer's participatory watershed development in Guna district of

Madhya Pradesh and Boondi district of Rajasthan. In a recently initiated project, ICRISAT is working on an NRM project in Eruvadi village of Tirunelveli district in Tamil Nadu, in collaboration with the TVS Agri-Sciences Research Institute. Further, ICRISAT has also been collaborating with private sector companies to achieve crop diversification and market linkages and employment generation in the watersheds. This is by growing medicinal and aromatic plants, developing commercial products and marketing them. Biodiesel plantations are also being incorporated in ICRISAT-led watershed projects. The collaboration with CII will greatly enhance ICRISAT's collaboration with the private-sector. Initially ICRISAT will be involved with the NRM component of CII's project in Dungarpur district of Rajasthan. The CII-industry group on Dungarpur is taking up business initiatives, which would lead to overall sustainable development of the district. CII also hopes to start a similar project in Andhra Pradesh, an initiative in which ICRISAT could participate.

**SEMINAR****Power situation in Maharashtra draws response from industry**

In view of the crippling power situation in Maharashtra, the Indian Chemical Manufacturers Association (ICMA) organized one-day seminar on 'Power Situation in Maharashtra & Industries' Response,' on 3 March 2006 at Mumbai. The seminar was inaugurated by Dr. Pramod Deo, Chairman, Maharashtra Electricity Regulatory Commission (MERC). While Mr. P.V. Krishna, Head – Western Region, Wartsila India Ltd. presented the 'CII Pune model', ABPS Infrastructure discussed in detail various press notes issued by MERC. Delegates from the Thane-Belapur Industries Association, Roha Industries Association and Taloja Manufacturers Association presented papers about problems being faced and initiatives being taken up by the respective associations. Delegates from Tata Power Co. Ltd. and Reliance Energy Ltd. presented programs for additional power availability, based on their new investments in Maharashtra. The seminar decided that ICMA and other associations should prepare certain initiatives like franchise model, displacement concept, co-generation plants at specific clusters, surplus power pooling etc. and approach authorities for a way forward.

## PROCESS TECHNOLOGY

## Reliance Petro's PP plant to use Dow Chemical technology

The Department of Chemicals and Petrochemicals has approved Reliance Petroleum Ltd's application for a foreign technology collaboration agreement with Dow Global Technologies (DGT), a subsidiary of Dow Chemical Company, for setting up a polypropylene plant at the Jamnagar special economic zone (SEZ). The agreement will be valid for 10-years and Dow Global Technologies will be paid \$26.55-mn in four installments for the plant.

The plant, to be based on Dow's 'Unipol' fluidised gas process, will be located at Meghpar village, near Lalpur in Gujarat, and will have a capacity of



0.9-mtpa of polypropylene. There is also an option of installing a catalyst plant along with solvent recovery unit, with an initial capacity of 100-tpa, with a provision for expanding the capacity up to 300-tpa by adding two more plants, each having a capacity of 100-

tpa. DGT will receive a payment of \$14-mn for the catalyst technology and \$5.2-mn for the solvent recovery plant, in four tranches.

25 per cent of the total payment will be paid out on signing the licence agreement, the next 25 per cent upon delivery of the process design package, while the subsequent payments of 25 per cent each will be made after the completion of the operations, training and commissioning of the plant.

Reliance already operates PP plants at Hazira and Jamnagar with a capacity of 1.040-mtpa.

## INVESTMENT

## Assam gas cracker cost pegged at Rs. 5,460-crore

The draft cabinet note on the Assam Gas Cracker Project, circulated for inter-ministerial comment by the Department of Chemicals and Petrochemicals, has pegged the cost of the project (without subsidy) at Rs.5,460.61-crore (on-fixed cost basis). The capital subsidy works out to be Rs. 2,138-crore (on fixed cost basis) and recurring feedstock subsidy to Rs. 908.91-crore (on constant price basis).

The feedstock for the project will come from OIL, ONGC and the Numaligarh Refinery Ltd. (NRL). While OIL will supply 6.0-mmscmd of gas, with an average C2 content of 4.17%, ONGC will provide 1.35-mmscmd with a C2+ content of around 7% up to 31 March, 2012 and 1.00-mmscmd thereafter, with a C2+ content of around 5%. NRL will supply 160,000-tons of petrochemical grade naphtha annually.

The Cabinet note has worked out an Internal rate of return (IRR) of 10% based on a constant gas price of Rs.1920 per 1000 scm, a constant naphtha of Rs.15,000 per ton and a net realizable polymer price of Rs. 40,000 per ton.

The project is to be funded with a Debt: Equity ratio of 2:1 and the Cabinet note has mooted the following concessions:

- ◆ Exemption from entry tax on capital goods
- ◆ Exemption from works contract tax during construction and plant operation.
- ◆ Excise duty exemption for 10 years
- ◆ Income tax exemption for 10 years
- ◆ Sales tax/VAT exemption on feedstock and products for 15 years.

The project is proposed to be set-up by a Special Purpose Vehicle (SPV) with

equity contribution from GAIL: 70%; NRL, OIL and Govt. of Assam: 10% each

## DERESERVATION

## Chemicals to be taken off SSI list

Auto components, chemicals and transport equipment are among the 180 items being dereserved from the small scale sector, following the announcement made by the Finance Minister, Mr. P Chidambaram in his recent Budget speech. In addition, the small-scale industry ministry has hiked the investment limit to Rs. 5-crore from Rs. 1-crore for all drugs and pharmaceuticals, PVC pipes, azo dyes.

Officials said several organic chemicals were being removed from the list of items reserved for the sector.

## CLEAN FUEL

## UOP and IOC start-up first Penex process technology isomerization unit

UOP LLC, a Honeywell company, has announced that Indian Oil Corp. Ltd. (IOC), India's largest public sector refiner, has successfully commissioned and accepted an isomerization unit using UOP's 'Penex' process technology.

IOC licensed the UOP technology for the isomerization unit at its refinery in Mathura, Uttar Pradesh, which has a capacity of 12,000 barrels per stream day (bpsd), to meet growing demand for isomerate as India continues to move forward with meeting clean fuel specifications under its 'Bharat Stage-III' initiative, which is aimed at reducing pollution produced by motor vehicles.

Isomerate is used in gasoline blends to increase its octane and reduce aromatic, benzene and olefin content.

UOP's 'Penex' process upgrades light naphtha components to high octane motor gasoline blend stocks, and is now being used at more than 120 refineries worldwide. "UOP and IOC engineers worked together to bring this unit on-stream in a very short timeframe given the growing need for isomerate in the country as India continues to move forward with meeting clean fuel specifications," said Mr. Norm Gilsdorf, Senior Vice President and General Manager of UOP's Process Technology and Equip-

ment strategic business unit. "The ongoing work we do with IOC is a win-win proposition for everyone."

### Technology for LAB unit

In 2004, UOP worked with IOC to commission a linear alkylbenzene (LAB) complex at its refinery in Baroda (Gujarat). The complex marked IOC's entry into the petrochemical field. The complex uses UOP's 'Unionfining', 'Molex', 'Pacol', 'DeFine' and 'Detal' process unit. UOP technology is a key element in the production of LAB; almost all new LAB complexes built in the last two decades have used UOP technology.

## RAW MATERIAL

## Tyre manufacturers to import 25,000-tons of natural rubber

After a six months lull, tyre manufacturers in the country will be importing 25,000-tons of natural rubber between April and September this year to overcome a perceived shortage. According to Mr. D. Ravindran, Director-General, Automotive Tyre Manufacturers' Association (ATMA), the apex body of tyre makers in the country, contracts have been signed and consignments will begin arriving from April onwards.

The tyre sector consumes 54% of the total rubber produced in the country. Last fiscal, production was 7.55-lakh tons, while this fiscal, it is estimated to touch 7.86-lakh tons. Imports last fiscal totalled 68,718-tons. However, tyre makers feel the production growth of around 5% may not match the consumption growth of 5.5%. Moreover, exports of rubber from the country have also reduced availability. Exports last fiscal were

46,619-tons, while during the current fiscal, exports till end of February were 61,000-tons, taking advantage of the wide price difference prevailing in Indian and international markets. What may however put a spanner in the move to import rubber is the high prices prevail-

ing in the international market. During the last six months, tyre companies did not import since global prices were higher than domestic prices. Even now, import prices would be higher, but the tyre companies, concerned about raw material availability, may have no choice.

## FIBRE INTERMEDIATES

### IOC PTA project to commence operations in April-end

Indian Oil Corporation (IOC) will start its purified terephthalic acid (PTA) plant located at Panipat refinery in the last week of April. IOCL will import 10,000-tons of p-xylene (PX) for PTA production, as commissioning of its own PX plant at the same site has been delayed for some technical reasons. IOC officials have said that in the event that the commissioning of the PX plant is delayed further, the company will continue to run the PTA plant on imported PX. Once commissioned, the PTA plant will be the largest unit in India with a capacity of 0.553-mtpa. The aromatics production unit at the site will comprise a 357,000-tpa PX plant, which will also produce about 21,000-tpa of benzene. The feedstock naphtha for the aromatics unit will be sourced from IOC's Panipat and Mathura refineries. Toyo Engineering India Limited (TEIL) has been appointed as project management consultants for the PX plant, which is based on technology provided by UOP.