

Americans and Mexicans share technology know-how

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As negotiations aimed at creating a North American Free Trade Area between Canada, the United States, and Mexico near a conclusion, Mexican pulp and paper producers are looking to learn from the experience of their northern neighbors and pick up new technology.

So it was not surprising that more than 100 engineers, mill technicians and production managers from a variety of Mexican producer firms and supplier companies attended the second seminar run jointly by TAPPI and ATCP, Mexico's technical association, in Guadalajara, Mexico.

The program at this two-day conference was entitled "Advances in Papermaking Technology" and combined papers demonstrating foreign expertise and experiences in various pulping and paper areas, along with analysis and discussion of Mexican techniques.

This seminar, held at the Hyatt Regency Hotel, was particularly concerned with environmental issues and featured a panel discussion focusing on techniques used by several leading Mexican companies to treat and reuse mill effluent.

The panel followed a presentation, especially interesting to delegates, dealing with U.S. handling of the ever-pressing environment theme. A widespread lack of effective environmental control in Mexico has become a major issue in the NAFTA (free trade) talks, whereas producers north of the border face a bewildering array of stiffly enforced regulations.

In a comprehensive paper detailing ecological control progress in the United States, David Peakes, senior consultant with ABB Environmental Services of Maine, outlined state eco-control history, listed American regulations and paper industry control technologies, and suggested possible company strategies.

Peakes outlined several "initiatives" in the United States which could become the basis for United States regulation by the year 2000. Mills in many parts of the United States that are currently meeting local water quality standards may be forced by the Environmental Protection Agency (EPA) to match even lower discharge levels achieved by some southeastern U.S. mills, he forecast.

While not implying that recycling is bad for the environment, Peakes noted "Repulping papers and board increases the waste solids load up to 25% more than virgin fibre." He said "regulatory policy must recognize that recycling and deinking plants generate much more sludge that has to be managed."

Paper mills could now find more room for argument over what the U.S. EPA admits are unmeasurable and restrictive standards for dioxins in water, Peakes predicted. Even so, authorities would look at the impact of pollution on the "most sensitive" members of the population in the future rather than on the average individual.

The industry, Peakes suggested, could now expect to have to control discharges "not simply at the end of the pipe or top of a chimney" but through "waste minimization" or modifying the source process. The consultant concluded by warning that nations planning to model their regulations on those of the United States should understand that, while good environmental work has been accomplished, Americans have also made decisions which "when subjected to the test of time and common sense have been found wanting."

Peakes told one Mexican questioner that U.S. paper companies do comply with EPA rules. Managers in other industries, however, have been jailed or fined heavily for air or water quality violations, he responded.

Major paper machine rebuilds are rapidly taking over from new paper machine construction as the staple diet of the world's main supplier companies. But guidance is often required in planning just how best to improve machine performance.

In what was a deliberately objective paper, Voith Brasil assistant director Harald Schmidt-Hebbel traced the stages of planning a rebuild. The chief objectives for any rebuild, he stated, are to increase productivity, improve quality, and/or alter the type of product. Long-term planning is required, assessing the potential limitations of speed, raw material and size of machine, and defining the paper machine's final configuration, he told the seminar. Schmidt-Hebbel emphasized the need to evaluate modification in each section of the machine and what each improvement would yield. He quoted actual case histories of rebuilds to illustrate his paper.

Later, in a comprehensive review of "The New World of Papermaking," delegates heard of some major "revolutionary" changes in technology now emerging in mills. Oscar May, product development manager of chemicals supplier Buckman Laboratories, provided the review.

Globalization of markets has led to a "quality revolution," with much of the impetus coming to the United States from nations like Japan, he said. Today "total quality management" has become the trend in mills.

In the marketplace, the office revolution had failed to create the much-heralded paperless office and paper use has, in fact, increased, May reminded delegates. The U.S. goal is to increase recycling by 10–40% paper recovery by 1995, but millions of dollars must be spent on new plants and changing mill practice, May added.

Some changes being adopted include conversion to alkaline and recycled papermaking, installation of new high-speed formers, and total computer-integrated manufacturing.

Other U.S. contributions included a detailed paper offering an insight into U.S. government-backed R & D programs likely to promote energy savings of around 10% by the year 2000. Main areas for energy savings would be in kraft pulping, bleaching, papermaking, chemical recovery, and waste management.

There were also papers on paper chemical technology and new developments in pulping and bleaching.

During the panel discussion, presentations giving details of different environmental projects at mills operated by

Scott Paper subsidiary San Cristobel, Smurfit Carton y Papel de Mexico, Cartones Ponderosa, Industrial Papelera Mexicana, Celulosa y Papel de Michoacan, and state-run PIPSA's subsidiary Productora Nacional de Papel Destintado (PRONAPADE) were given.

Significant among these was the PRONAPADE paper which revealed the successful long-term reuse of treated effluent from the 145,000-tons/year recycled fiber-based newsprint mill in semi-arid parts of San Luis Potosi for irrigating peasant communal farms. PIPSA corporate consultant Román Lamas explained that tests over many years showed clearly that, far from polluting the district, the effluent water actually produced better crop yields.

Water originating from deinking plant and paper machines had proved beneficial in irrigating and stock feeding in an area where subsoil water extraction is restricted. Exhaustive tests had been carried out on humans using the treated water and showed no ill effects, Lamas said. □