

Santa Fe pulp mill—a brief profile

Pulping mill was one of three major projects completed in the early 1990s in Chile.

DONALD G. MEADOWS

Like many of the mills built this decade in Chile, Forestal e Industrial Santa Fe S.A. is jointly owned. In this case, Scott Paper Co. owns 20%, Citicorp Banking Co. owns 20%, and Royal Dutch/Shell owns 60%. Along with the short-fiber bleached pulp mill in Nacimiento, the Santa Fe Group owns more than 35,000 hectares of *Eucalyptus globulus* plantations on more than 54,000 ha of land.

Formed in February 1988, the Santa Fe Group acquired the land for its pulp mill through public bidding in March of that year. The site had already been prepared for the 140,000 a.d. metric tons/year Papeles Sudamerica S.A. long-fiber bleached pulp mill, half of which had already been built. The new owners redesigned the original mill to produce 231,000 a.d. metric tons/year of short-fiber bleached pulp. The completed mill, engineered by Jaakko Pöyry, began production May 23, 1991.

Lately the mill has been producing standard and ECF pulp, with some initial production of TCF pulp. About half of the pulp is sold to Scott affiliates in Europe and Asia, said Pentti I. Helminen, Santa Fe's technology development manager. Another 10% of the annual pulp production is sold within Chile. The rest is sold to third parties worldwide.

The mill's wood reserves are all located within 75 km of the facility. Logs are delivered by train or truck, then debarked, chipped, and screened. The chips are cooked with caustic soda and sodium sulfide in a two-stage continuous digester under high pressure and temperatures. An oxygen delignification stage precedes the mill's two bleaching lines.

To obtain standard pulp, the mill uses a three-stage sequence. The first stage is chlorine-chlorine dioxide, with 20% chlorine dioxide substitution. That is followed by a caustic soda-oxygen stage and then a chlorine dioxide stage. For ECF

The Santa Fe mill



South America



Another view of the Santa Fe mill



TAPPI's South American study group and mill hosts



Pulp washers



The dryer line

pulp, chlorine dioxide is used in the first stage. The standard pulp typically has a brightness of 88 ISO, and ECF pulp brightness is about 87 ISO. 

Supplier listing

Company

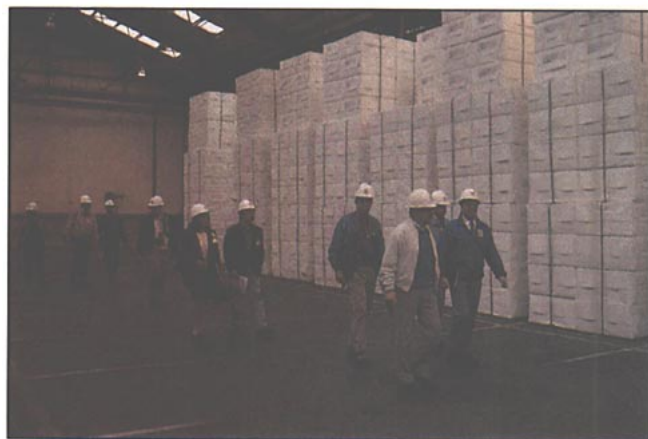
Rauma Repola (Finland)
Kamyr AB (Sweden)
Noss AB (Sweden)

Sunds Defibrator (Sweden)

Dorr Oliver (USA)
Ahlstrom (Finland)
Valmet/KMW (Finland)
Harland Simons Controls
Flakt (Sweden)
Lamb-Grays Harbor (USA)
Ovalstrapping (USA)
MoDo Chemetics (Canada)
HPD (USA)
CBC (Brazil)
Siemens (Germany)

Equipment

Wood preparation
Digester plant
Deknotting, screening, and
bleached pulp cleaning
Oxygen delignification
Bleach plant
Bleach plant
MC pumps
Pulp machine
Pulp machine (drives)
Pulp dryer
Finishing line
Finishing line
White liquor oxidation
Evaporators
Recovery and power boilers
Turbine generator



Baled pulp

Enso/Eimco (USA)	Recausticizing plant
Allis-Chalmers/Ahlstrom (USA)	Lime kiln
Albright Wilson (Canada)	Chlorine dioxide plant
Degremont (Argentina)	Water treatment and effluent clarifiers
Honeywell (USA)	Distributed control system

Meadows is editor of Tappi Journal.