

pleted, to insure that the desired water quality protection objectives are met, and at costs that bear a reasonable relation to the service rendered.

Today we witness a strong surge of interest in public treatment (which we will document later in the talk) stemming from new requirements for additional and more widespread treatment, availability from state agencies of funds for treatment feasibility studies (coupled with some encouragement of regional treatment systems, both for improved program supervision and more economical treatment), and the availability of public funds (both federal and to an increasing degree, state) to underwrite large fractions of the construction cost of publicly-owned systems regardless of the source of effluent being treated.

Recognizing this renewed interest, the Council undertook a study during 1967 designed to establish the degree to which public treatment was being provided, and the specific circumstances surrounding the renewed interest displayed by a growing number of mills, so that we could strengthen our cooperative mill technical program where public treatment came under active consideration.

Today's paper therefore represents a preliminary report on the results of this study, which will be followed by a more detailed technical bulletin on the same subject.

STATUS OF TREATMENT IN PUBLIC FACILITIES

The study showed that of 753 separate pulp and paper manufacturing locations, 123 or 16 percent now discharge their process effluents to publicly-owned treatment facilities. These mills account for approximately 5.5 million tons per year of paper production capacity, or 11 percent of the industry total. This suggests that they tend to the smaller mills, and this is borne out by the results. The mills are concentrated in a number of local areas such as Los Angeles County, Northern Metropolitan New Jersey, Philadelphia, Neenah-Menash, Kalamazoo, Cincinnati and Chicago, which together account for 58 mills, or 47 percent of those discharging to public systems.

The mills tend to produce those grades most closely associated with location in, and adjacent to, major urban centers. Coarse paper grades account for 80 mills, of which 64 produce waste paperboard and 16 roofing felt, while fine paper grades account for most of the remainder (divided evenly between fine papers, specialties and tissue), only four mills are characterized as integrated pulp and paper units. Twenty-five percent are smaller than 50 TPD, and the median size is only 100 TPD. Only twelve mills, or 10 percent, are larger than 300 TPD.

Of the total, 59, or slightly less than half, receive primary treatment, and 64 mills are provided with secondary biological treatment. Median treatment charges reported are 20¢ and 65¢ respectively for primary and secondary treatment for the waste paperboard mills, and 30¢ and 80¢ for all the mills surveyed respectively. Three methods for computing sewer service charges enjoy approximately equal use. These are ad valorem property taxation, and rates based on flow alone, or flow plus effluent strength. Specially negotiated contracts account for only 7 percent of the rates, while the more prevalent systems each are in use at approximately 30 percent of the mills.

MILLS CONSIDERING DISCHARGE TO PUBLIC FACILITIES

This broad category covers mills known to have recently completed arrangements for public treatment, those where feasibility and rate schedule studies are still in progress, and some where such studies have led to a decision to proceed with independent treatment. The entire group includes 92 mills or 12 percent of those now operating. Their annual capacity totals 5.5 million tons, or 11 percent of the total for the industry. Taking both groups together, we find that use of public treatment facilities is more than an academic question for 28 percent of the industry's mills involving 22 percent of its production capacity.

The largest concentration of mills now considering public treatment are located in three states: New York, Massachusetts and Maine, accounting for 55 mills or 60 percent of the total. These are states where effluent treatment has only recently gathered momentum after extended periods of stream classification and abatement program development for both municipalities and industries, and where planning funds have been allocated by the legislatures to assist such regional treatment feasibility studies.

The size distribution profile of these mills is similar to that for mills already in public systems. Nearly 25 percent are smaller than 50 TPD, and the median size is 100 TPD. The coarse paper grades account for a lesser fraction of the mills, being equalled in number by those producing fine grades. We also see a