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EFFECTS UPON SIZES OF ESTABLISHMENTS AND FIRMS TO EXPECT FROM ENFORCED AIR AND WATER POLLUTION CONTROL REGULATIONS

This newsletter examines the nature and importance of effects upon the size of establishments (producing units, including farms) and firms (ownership units, including farmers) which stand to result from strict and uniform enforcement of air and water pollution control regulations. Data are not available to precisely describe such effects. Nevertheless, enough is known to support the following general observations.

Economies of Size

Evidence exists that strict and uniform enforcement would tend to bring about increases in the average size of establishments and firms in several industries, including some related to agriculture. Because of substantial economies of size in means of controlling agricultural and industrial wastes, larger establishments can withhold or remove most types of wasteloads at lower average costs than smaller establishments. Rigorous enforcement, therefore, would reduce the net profit of firms that operate smaller establishments more than the net profits of firms that operate larger establishments. Such an effect upon profits would signal the construction and operation of larger establishments. To the extent that larger establishments are built and run by larger firms, this would bring about larger and fewer firms in some industries. These effects would probably not have much influence upon the average size of establishments and firms within industries that are already characterized by large plants owned by a comparatively small number of firms. Instances of such industries include those that manufacture breakfast cereals, motor vehicles, steel, synthetic fibers, and tires.

Counteracting Effects

These effects from economies of

size in agricultural and industrial waste control have been counterbalanced to some extent by factors which favor smaller establishments. Past enforcement has focussed upon major point sources which include the larger farms and industrial plants. Regulations upon discharges from smaller establishments have not been enforced as stringently as those upon discharges from larger establishments.

Another past advantage has been available to those smaller establishments (primarily manufacturing and processing plants) whose waterborne wastes are amenable to treatment in public wastewater treatment works. Within a given industry, smaller establishments usually emit lesser volumes of wastewaters than larger plants and can make greater use of public facilities. As a result, greater numbers of small plants have indirectly obtained financial assistance from federal and state grants that have paid part of the costs to construct public treatment works. This indirect assistance has been available because sewer service charges levied by municipalities have normally recovered only the locally borne share of construction costs. Recently adopted federal and South Dakota laws, however, require sewer service charges to be set high enough to recover the total amount of construction costs. If these laws are uniformly enforced, indirect assistance to industrial users of municipal

facilities will be virtually eliminated. Nevertheless, many industrial customers will still be able to obtain other benefits from sending their wastewaters to public works. Such benefits will occur because economies of size also exist in the construction and operation of public waste treatment plants. Larger public facilities can be built when municipalities receive industrial wastes, and these larger facilities ordinarily remove both domestic and industrial wasteloads at lower average costs than smaller public works or separately-operated industrial treatment works.

Importance to South Dakotans

The weight of evidence seems to indicate that if existing air and water pollution control regulations were strictly and uniformly enforced then the average size of establishments and firms in some industries would increase. This conclusion is important to South Dakotans in at least the following three ways.

1. Enforcement would accentuate the trend toward larger farms and a lower on-farm population. Stepped-

up efforts to find off-farm employment opportunities in rural communities would then be likely to result.

2. Rural industrialization efforts attempt to create off-farm jobs by expanding existing establishments and firms and by encouraging new ones to locate within the state. Increases in the average size of some types of industrial plants would require additional workers per establishment. Because larger communities generally have a larger labor pool to draw from, it might become more difficult to create off-farm jobs particularly within the smallest communities.
3. The ability of firms to pass production costs along to consumers is often improved when fewer firms comprise an industry. Therefore, through the prices they pay for processed and manufactured goods, all residents of South Dakota would be affected by changes in industrial structure caused by the enforcement of environmental control laws in other parts of the country.

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