At the other extreme were engineers who worked no hours at all, or less than a few hundred hours during the year. Most of this group received substantial earnings from other activities.

The major impact of seasonality and intermittent employment is felt by about one-third to two-fifths of the members of the Local who are attached to the industry and rely on it as their major or sole source of work.

This is an important matter. Concern over seasonality and irregularity of work has invariably resulted in general increases in wage rates that have gone to all workers, whether employed the year round or not. There is litle justification for continuing a bargaining habit which provides double benefits for those who receive both the higher rates and full annual employment.

It will take a new approach to deal with the problems of the intermediate hours group—those who rely upon operating engineer employment for their livelihod, and who have total annual employment of 700 to 1600 hours.

The Practical Possibilities of Diminishing Scasonal and Intermittent Employ-

There has not been a thorough review of seasonality and its costs since the 1920's. The facts that exist today show little improvemen over those which existed when Herbert Hoover, then Secretary of Commerce, summarized the 1924 report of a labor-management committee of the President's Conference on Unemployment in the following words: "\* \* the committee has well demonstrated the most important fact that the seasonal character of the construction industries is to a considerable extent a matter of custom and habit, not a climatic necessity.

Weeks of additional work each year are feasible if there is a conscious effort to achieve it. A few weeks' inroad into the present four month "off-season" can greatly reduce the employment problem of the great bulk of those affected.

The role of government will be particularly important. The Federal and State governments and the public authorities finance a volume of work sufficient in size to create or eliminate seasonal patterns. Changes in Government contracting practices can also influence practices throughout industry.

A number of practical steps can be taken:

First, the bunching that exists in the awarding of contracts for different types of construction by the State of New Jersey (and in addition by public authorities and local groups) can be diminished by conscious planning at all levels of government by the public agencies responsible for construction. Stabilizing employment has not, in the past, been an assigned mission of these agencies; such an assignment would yield results.

Many large contractors use modern management systems, including computerbased methods, in their own administration. Such systems can be installed by the public agencies, with the additional specific objective of scheduling work for time that is now unused, in periods when construction is possible.

Second, the present technical standards used in government specifications can

be updated to reflect modern advances in technology.

Third, there are a great many tasks in New Jersey which need to be done, which can be done in slack periods, and which call for the skill of operating engineers:

Stream channel improvement and bank protection; windbreaks; sewage and flood control projects; work on parks, ponds, beaches and other recreational facilities all over the State;

Major new developments respecting the meadowlands in Northern New Jersey, and work in the Delaware Water Gap area;

Work on Federal facilities; and

Work for which Federal matching funds are available (other than roads) and for which the availability of operating engineers' time might be calculated in developing a local matching contribution.

Many of these are tasks for which public financing is not now fully available, but which could be organized to provide off-season employment.

Fourth, changes are needed in the present weekly guarantee for workers called in any time during the week and in traditional equipment rental practices. These arrangements inhibit early starts on projects which might begin in late winter or early spring, when severe weather changes might be unusually unpredictable.

Fifth, there is a substantial need for the training and retraining of workers in the operation of new types of equipment and in the maintenance of equip-