

amount to about one-eighth of the entire gross revenue, and these taxes have, of course, been burdensomely increased since the war burdens began to make themselves felt. This influence is the most important one of those responsible for the comparative results referred to. As previously stated, however, limited weight only can be given to these comparative results of operation by municipally and privately owned water works.

Taxes Paid by Privately Owned Works

The analysis of taxes paid by privately owned water works shows interesting results. Excluding the returns

from water works located in the state of Pennsylvania, because the basis of taxation is quite different there and incomparable with that prevailing in other states, it appears with respect to the privately owned water works that, under average conditions:—

1. One-eighth of their gross income is paid out in taxes;
2. The tax payments are equivalent to nearly 30% of the net income applicable to depreciation, interest, dividends and surplus;
3. The increase in taxes paid in the year

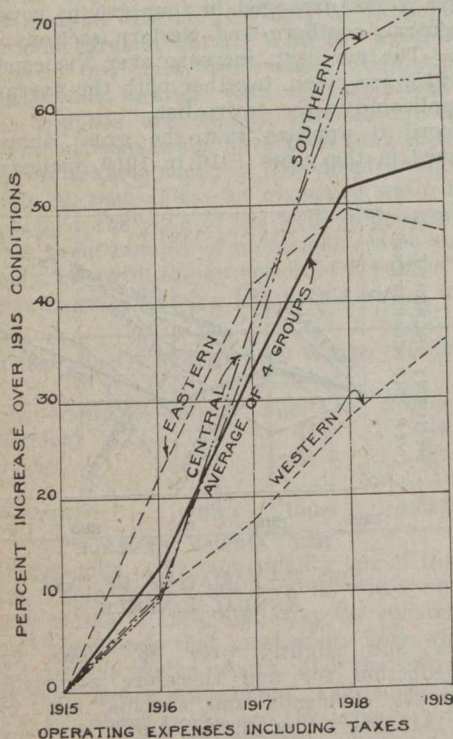


FIG. 3—VARIATION OF OPERATING EXPENSES, INCLUDING TAXES

1919, over those paid in 1915, was 68%, or slightly over two-thirds;

4. The increase in the taxes paid in 1919 over those paid in 1915, constituted 27%, or slightly over one-fourth of the increase in the cost of operation (including taxes) of these works.

It is generally conceded that the summit of the high prices has been reached, where it has not been passed, and that, as to materials at least, and probably in lesser degree as to labor also, some recession in price is to be looked for. There is still, however, so marked a shortage of materials and labor, comparable with the demand, that construction costs are certain to remain high during the year 1920.

The financial outlook for existing water works is not encouraging. It is evident that the earnings during the war period have not been adequate to maintain the properties and pay a fair return upon their value. Such a condition cannot long continue without serious future embarrassment. The position that may be taken by the public service commissions or their regulatory authorities, will be reflected later in the character of the service rendered. If fair advance in rates be granted, first class service can be maintained. If this advance be retarded or be not adequate, a declining service must result. The increase in rates in the face of the present high cost of living will be very distasteful to the public and in some cases induce active opposition. Therefore, it is important that in making application for relief, the evidence should be clearly presented by the water works authorities, that the facts may speak for themselves and the difficulties of the commissions be minimized.

ANGLO-AMERICAN STANDARDIZATION OF STRUCTURAL SHAPES

DISCOVERING during the war that British standard sections of ship channels and bulb angles were peculiarly adapted to economical ship construction, the steel makers of the United States decided in 1918 to discontinue rolling American standard sections in order that they might compete on an even basis for ship steel at home or overseas. When the matter of revision of the British standards came up, the British Engineering Standards Association requested the co-operation of the American steel manufacturers, and, as a result, a sectional committee was organized under the auspices of the American Engineering Standards Committee to confer with the British organization.

This sectional committee gave very careful consideration to the entire routine of structural practice in the United States, not only as it affects the profiles of structural shapes themselves, but also in so far as it affects methods of order practice, calculation and publication of weights, areas, properties, etc., with the idea to insure as far as possible a complete accord between maker and users wherever the sections rolled in English-speaking lands were used. At its meeting held on April 27, 1920, the sectional committee formulated its recommendations for submission to its sponsor organizations—the American Engineering Standards Committee and the British Engineering Standards Association as a basis for common Anglo-American standards. Its conclusions are now to go before these organizations for further discussion and endorsement. The essential features of the recommendations are as follows:—

1. The adoption of the decimal system for the expression of dimensions, thicknesses and other elements of order practice.

2. The adoption as an Anglo-American standard of the standard order practice adopted by the Association of American Steel Manufacturers on February 20, 1920, under which structural shapes are to be ordered by weights per foot and not by thickness.

3. The adoption as an Anglo-American standard of American standard practice as it relates to ranges of thicknesses, methods of computation and methods of publication.

4. The adoption of definite ranges in thicknesses of angles and other structural shapes, under which are established two zones of variations between minimum and maximum thicknesses. Under .60" thick variations are fixed at four one-hundredths inch (0.04") and above .60" thick at eight one-hundredths inch (0.08").

5. Included in the list of angles is an equal angle (9 x 9) and four unequal angles (8 x 4, 9 x 4, 9 x 6 and 10 x 4) which are not now rolled in the United States, but are subject to the considerations which weigh with manufacturers when new rolls are contemplated.

6. The adoption of a new line of bulb angle sections as proposed by the British Engineering Standards Association that are recommended on account of their greater efficiency as compared with present British and American standards.

7. The adoption of a single line of channel sections with a 5° flange taper to displace the present two American lines, the structural line with its flange taper 9° 27' 42" and the shipbuilding line with its flange taper of 2°. This line of channel sections is not quite in accord with that proposed by the British Engineering Standards Association, but is believed to be more suitable to the requirements of the American trade and better proportioned.

8. The adoption of a new line of beam sections to take the place of the present American standards adopted in 1896. These sections have wider flanges than present American standards and do not agree very closely with the British proposals, but are believed by the sectional committee to be more nearly in accord with the recent developments in the fabrication of buildings and bridges.