

Standardization is one of the most valuable phases of the federation's possibilities, he said. For instance, at present there are 26 manufacturers of freight elevators in the United States, each making about 30 types of elevators. The basic variations in an elevator are only three: Floor area, lifting capacity and speed. Probably five types could be designed, said Mr. Frazee, which would meet all conditions, if the co-operation of the engineers and architects could be secured, and then these five types could be produced upon a quantity basis, saving enormously in labor costs.

The federation had not been a medium for the raising of prices, but, to the contrary, had lent all its efforts to keeping prices within bounds. This was reflected in the fact that the advance in building materials has been 23% less than the advance in other lines.

Organized upon proper lines, said Mr. Frazee, a federation of construction industries is not a menace to labor, government or anyone. There are always some short-sighted people who want to do the wrong thing, but only a small percentage of business men are rascals and the tendency of the big organizations is to keep these few in line, and it is therefore a power for good instead of evil.

In regard to labor, if we are to avoid radicalism we must be just, said Mr. Frazee. There are just as basic fundamentals in labor as in freight rates or anything else.

Foreign Trade Division

Mr. Frazee referred to the foreign trade division which the federation has organized and which is sending scores of enquiries daily to its members throughout the United States. This trade division is fully organized upon a running basis, and has correspondents in all parts of the world.

Every phase of legislation is receiving the careful attention of the federation, as well as matters such as freight rates after the return of the railways to private ownership.

Emergency situations have also been met by the federation from time to time. For example, at the time of the coal strike, the common brick industry appealed to the federation, stating that its fire-protection systems were freezing for lack of coal. Within a few days the federation had secured an order from the fuel controller, authorizing shipments of coal to brick plants.

In conclusion, Mr. Frazee stated that there is undoubtedly a big place in Canada for an organization of construction industries, but to fill this place two essentials were needed: (1) Money; and (2) unselfish service on the part of all members, because for the first years comparatively few have to carry the load and are required to put more into the organization than they get out of it for the time being, but the big returns are sure to come in due time.

Charles P. Craig, of Duluth, vice-president-at-large and executive director of the Great Lakes-St. Lawrence Tidewater Association, states that the proposed inland waterways system should be completed within four years. "This project," Mr. Craig says, "has passed the diplomatic stage. The governments of Canada and the United States have come together on the proposition to the extent of granting the International Joint Commission power to prepare a plan of action. It is the intention of this commission to hold hearings in the larger cities of the fourteen states so far committed to the project. Much already has been done in clearing the way for this route, and when the last obstructions—the St. Lawrence river rapids—are converted into smooth water by a system of dams, making the river a series of lakes, the way will be opened to the sea. Inland mountains and plains will be brought 1,000 miles nearer to the world markets. Drowning out the rapids by means of dams will cost approximately \$60,000,000 and provide water power as well as waterways. Rentals from water power rights will pay the expenses. This power is needed to relieve fuel shortage, while the water route is needed to relieve traffic congestion and bring down the most of commodities by increasing production and market facilities."

POWER POSSIBILITIES OF NOVA SCOTIA*

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NOVA SCOTIA'S enormous coal resources of themselves place this province in an enviable position from the standpoint of electrical power. Great strides have been made during recent years in the improvement and perfection of steam power plant apparatus, and the art of electrical transmission is now in such a stage that large economies may be effected by generating power in large units strategically located as to fuel supply, water supply and distribution. In this connection it must not be forgotten that even steam power plants require large quantities of water for condenser and boiler purposes and it is frequently not possible to locate such plants immediately at coal mines, due to lack of sufficient water supply. The Acadia Coal Co. has a modern steam power plant at Stellarton, located at the pit mouth, while for some years a similar plant but now somewhat obsolescent has been operating at Chignecto mines.

In recent years internal combustion engines using oil fuels have come into increasing use and, under certain circumstances, they are unexcelled. This type of prime mover already fills an important field for comparatively small power demands in isolated districts where central station service is not or cannot be made commercially available. For intermediate power capacities, Diesel or semi-Diesel engines using crude oil or at least the heavier grades of oil are exceedingly economical and it is quite possible that the Diesel engine, which is being built in increasingly larger units both for stationary and marine service, may in time, partially at least, supplant the steam units. Now it appears that in Nova Scotia there are large areas of commercial oil shales so that in the oil engine field, also, Nova Scotia has possibilities.

Must Choose Power Source

In addition to these power resources, investigations during the last four or five years have shown that Nova Scotia unquestionably has considerable water power, and it is this that we wish to discuss here particularly. It should always be carefully remembered, however, that only by a careful co-ordination and combination of power resources of all kinds will the best interests of the province be served. Undoubtedly one of the greatest factors in the well-being and prosperity of any country is an adequate supply of electrical energy, but electricity is the same whether produced from wind, water, coal, oil, gas or any other source. It is the field of engineering and economics to decide which is the best possible source or combination of sources in any given set of circumstances. In certain places there are obviously no alternatives, as for example, Italy, Spain, and New Zealand, where there is no native coal but considerable water power.

Rainfall and Stream Conditions

Certain outstanding facts in regard to Nova Scotia indicate at the outset that there are likely to be commercial power possibilities.

In the first place there is an abundant rainfall, which is fairly well distributed over the various periods of the year, thus indicating not only a large flow of water in the streams but also a fairly constant flow. Generally speaking, with the exception of certain small sections of British Columbia, the rainfall in Nova Scotia is larger than in any other part of Canada and larger than that in most other countries. Taking Halifax as typical, the average yearly rainfall for 50 years is 56 inches, while for Montreal, Toronto, Winnipeg and Calgary, the average yearly rainfall is about 41, 34, 21, and 16 inches, respectively.

Another feature is that most of the streams are short and rapid with frequent rock outcrops in their beds and along their banks. While the shortness of the streams presupposes small tributary drainage areas and consequent small amounts of water in the streams, still their rapidity and

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