

Lake Winnipeg to the Manitoba-Ontario boundary, when the full potentiality of the river has been developed. The navigation features have been fully worked out for the total distance, and have been approved by the engineers of the Dominion Department of Public Works.

One necessary and vital factor for the success of such a scheme of development as outlined, is that the regulations under which the leases are granted are fair and generous to the investor and at the same time protect the public. Lack of space forbids a discussion of the regulations governing the granting of leases; it is sufficient to say that these are eminently fair and should induce capital to invest with guarantees of just treatment on the part of the government.

No review of this volume would be complete without a reference to the policy of the Water Power Branch as outlined in the report. The policy is "to encourage desirable development of water power resources; to discourage and prevent the initiation and development of uneconomic and wasteful projects; to ensure that river systems are developed along comprehensive lines wherein each unit is a component link in a system; to ensure adequate storage measures in the interests of all powers affected; to prevent unnecessary and costly duplication of expenditures on the part of competing plants and dams; to safeguard the public from monopolistic control, by regulation and periodical revision of rates; to see to the early carrying into effect of agreements issued by the department for the development of power; to compel the development of existing plants to their limit when the market demands; and to promote in every way the fullest conservation of the power resources of the West."

The investigations, as outlined in this report, are among the first of their kind to be made by the Dominion Government. The manner of their presentation leaves nothing to be desired; the thorough way in which the field data were obtained, and the concise and interesting manner in which the results are presented are in most refreshing contrast to the ordinary stereotyped departmental report.

To summarize, a comprehensive scheme of water power development to the maximum extent of the unusual possibilities of the Winnipeg River has been mapped out, and a general policy for the proper control of the same is enunciated, by which the needs of the future can be met, through increased storage and the regulation of the run-off. The report reflects great credit on the superintendent and hydraulic engineer of the Dominion Water Power Branch, their officials, and the consulting engineer, Mr. McRae.

It is understood that the present studies will be aggressively continued, since proper future control of the water resources of the river are dependent on continuous hydrographic and meteorological data, on accurate knowledge of storage requirements and possibilities, and upon the compilation of such miscellaneous information as is necessary for proper and economical design.

Companies interested in obtaining accurate information preparatory to financing an individual development on the river will undoubtedly find the greatest use for the report. For the preliminary purposes of finance the information presented is quite sufficient to determine the feasibility of any of the sites for the needs of the interested parties. It should save the usually unavoidable expense of reconnaissance and preliminary survey, often a serious item, and will allow an accurate forecast without loss of time. Should conditions suggest the possible use of sites other than those shown, sufficient information is given in

the shape of topographic plans and hydrographic data, to allow the engineer to prepare his own estimates, thus entailing a great saving of expense and time.

From this standpoint alone, the report is amply justified. The result of its publication will doubtless be the acceleration of water power installations on the river, and the consequent development of manufacturing industries which always follows in the wake of cheap power.

NOTE—We hope to publish very shortly in these columns further articles dealing with the general administrative policy of the Dominion Government with respect to water power administration, with especial reference to the investigations on the Winnipeg River, also dealing with the more technical and engineering features as brought out by the report just issued by the Dominion Water Powers Branch, herein reviewed by Mr. Hogg.—[EDITOR.]

STANDARD SPECIFICATION FOR CEMENT.

A revised standard specification for Portland cement has been issued by the Canadian Society of Civil Engineers. This specification was adopted by the society at its last annual meeting, the specification having been prepared and recommended by a committee consisting of E. Brown (chairman), J. A. DeCew, Walter J. Francis, P. Gillespie, J. A. Jamieson and G. E. Perley.

The specification requires cement to be delivered in bags each containing 94 lbs. net weight, four bags to constitute a barrel. The bags are to be plainly marked with the net weight of the cement and the name of the manufacturer and the brand of the cement or the name of the mill where it was manufactured.

All tests are to be made in accordance with the American Society of Civil Engineers' report on uniform tests of cement. Detailed instructions for testing cement are appended to the specification.

The required minimum specific gravity is 3.10. The cement must not leave a residue of more than 8 per cent. by weight on a No. 100 sieve, nor more than 25 per cent. by weight on a No. 200 sieve. The cement shall not develop initial set in less than 30 minutes or final set in less than one hour or in more than ten hours. The cement must not contain more than 1.75 per cent. SO_3 , nor more than 4 per cent. MgO . The minimum required tensile strengths of briquettes of various ages are tabulated for ready reference.

Copies of the specification are sold at a nominal fee by the society, 176 Mansfield Street, Montreal.

The supply of creosote, because of its use in preserving sleepers, telegraph poles, and other timber employed in railway purposes, is a matter that appertains to railways. It will, therefore, be of interest to know that, according to statistics published by the Bureau of Foreign and Domestic Commerce, the amount of creosote imported into the United States fell from 48,839,020 gallons in 1914 to 34,432,028 gallons in 1915, a decrease of 34 per cent. Owing to the average value per gallon having increased from 6.2 cents to 7.8 cents the imports only decreased 11 per cent. In 1914 33,873,137 gallons came from the United Kingdom, 9,861,996 from Germany, 3,868,786 from Belgium, 777,662 from the Netherlands, 3,000 from Sweden, and 454,430 from Canada. In 1915 only four countries were concerned in the supply—the United Kingdom with 31,695,587 gallons, Germany 5,527 gallons, Canada 2,680,809 and Japan 50,105.