

creased by decreasing the infra-red radiation. In this case a helical filament has its luminous efficiency reduced by making the radiation from the interior more nearly the same as that from a black body, but the advantage gained by cutting down the losses of energy by conduction and convection more than counterbalances this effect, so that there is a net gain in efficiency.

NEWS NOTES

License Fees for Electric Lines.—The Pennsylvania Legislature is considering a bill, introduced by Senator McKee, Allegheny, authorizing counties to impose license fees for all poles, wires, conduits and cables maintained on public roads or highways in the state.

Uniform Annual Utility Reports in Pennsylvania.—The Public Service Commission of Pennsylvania has called a meeting of representatives of all power companies operating in the state on June 6, to devise plans for the adoption of a suitable uniform annual report to be utilized by the utilities.

Protect Industrial Plant with Charged Wire Barricade.—To prevent any further explosions which might be due to unfriendly agents, the Federal Dyestuffs & Chemical Company, at Kingsport, Tenn., will erect a wire barricade around the big plant, charging it with 2,200 volts. A recent explosion caused damage to the extent of \$20,000.

Severe Weather Affects Michigan Company's Operating Conditions.—Owing to the severe weather which has been experienced in Michigan during the past winter, the Commonwealth Power, Railway & Light Company was unable to utilize its water-power facilities to the usual degree and was forced to substitute a larger proportion of steam power at high cost. With the return of spring, the company is able to depend more upon its water power. New hydroelectric facilities in Michigan, with 46,000 horsepower capacity, will be completed within ten or twelve months and will materially benefit the company when completed.

Legislature Kills Bill for Milwaukee Municipal Plant.—The Wisconsin Senate last week killed the Arnold bill authorizing the city of Milwaukee to establish a heat, light and power plant and furnish service for public and private purposes. The action of the Senate followed a long discussion of the measure, which was on the calendar with an adverse report by the committee on corporations. Effective argument of opponents of the bill was that its passage would mean an abandonment of the established policy of the state in suppressing competition among public utilities and establishing a state regulation. The city of Milwaukee has purchased a site and issued bonds for the construction of the proposed lighting plant, but could not furnish service to private parties without a special act of the Legislature.

Winnipeg River's Power Greater Than Niagara's.—That there is as much power available from the Winnipeg River as is now being developed at Niagara is stated in a report of the Dominion Water Power Branch of the Canadian Government. It says that after fully providing for the interests of the Winnipeg Electric Railway Company and the municipal plant of the city of Winnipeg in the Winnipeg River, the remainder of the river drop is divisible into seven power developing centers with possible output of 175,000 continuous 24-hour horsepower, available at 75-per-cent efficiency under present unregulated minimum flow, and 313,000 continuous 24-hour horsepower available for the proposed 20,000 second feet dependable minimum flow under regulated conditions. Total resources of the nine sites or centers are 249,000 and 418,000 continuous 24-hour horsepower under the above respective conditions of flow.

Seattle Company Takes Military Census.—Officers of the Puget Sound Traction, Light & Power Company have started taking a war census of its 3800 officers and employees. The company was first of the northwestern employing corporations to anticipate the federal government's conscription of men for the army and desires to know at once the number of its men liable for draft, the number qualified for promotion in their present lines of service and those who have special training in other lines who could be called to new work by the Stone & Webster interests.

New York National Guard Recruits Sought from Electrical Industry.—At the suggestion of Governor Whitman of New York, a conference, presided over by Col. Charles Sherrill, leader of the preparedness parade in New York City last May, and attended by the trade marshals, it was decided to apportion a certain shortage in war strength of the National Guard among the various trades of the state. Under instructions from this committee and as representative of the electrical industry, C. P. Lashelle, vice-president of W. R. Ostrander & Company, has sent a circular letter to every manufacturer, jobber, central station and telephone company in the state asking them to bring the shortage to the attention of their employees and help in the securing of recruits to the New York National Guard.

Enlistment of Electrical Men in Kansas City.—Recruiting officers in Kansas City, Mo., are suggesting to industrial corporations that employees who wish to enlist, investigate the various branches of the service, that they may get someplace where their technical experience will be of value. The regular army lieutenant in charge of one station, who in the army is in the artillery service, finds especial difficulty getting recruits for this attractive branch, where technical men and mechanics of any kind, would find work to their liking which they can do well. It is said that the enlistments from the electrical industry have been fairly satisfactory; the signal corps is in good shape. Many men of some electrical experience have, however, enlisted in the infantry.

Chicago, Milwaukee & St. Paul Railway to Extend Electrification of Its Lines.—To meet the increasing cost of fuel oil the Chicago, Milwaukee & St. Paul Railway Company has begun to electrify the Puget Sound division of its transcontinental line. This part of the system traverses the great virgin forests of Washington, and oil has been used to avoid danger of forest fire from sparks. Electrification of the stretch from Othello to Cle Elum had been started, but the crews have now been shifted to Cle Elum, to work from there to the Puget Sound terminals. As previously stated the cost of preparing the line between Othello and Seattle for the operation of electric locomotives will be about \$6,000,000, including material, wages and the construction of six substations. It is estimated that electric locomotives will be in use on this line by October 1, 1918.

Franklin Medals Awarded.—The Franklin Medal, which is awarded annually by the Franklin Institute, Philadelphia, Pa., to "those workers in physical science or technology, without regard to country, whose efforts, in the opinion of the Institute, have done most to advance a knowledge of physical science or its applications," were awarded May 16 to Hendrik Antoon Lorentz, president of Royal Academy of Sciences, Amsterdam, and professor of mathematical physics, University of Leiden, in recognition of his "researches which have so largely contributed to laying on a new foundation our knowledge of the nature of light and in developing our ideas concerning the ultimate constitution of matter"; also to David Watson Taylor, chief constructor and chief of Bureau of Construction and Repair, United States Navy, in recognition of his "fundamental contributions to the theory of ship resistance and screw propulsion, and of his signal success in the application of current theory to the practical design of varied types of war vessels in the United States Navy."