

Water-Power Utilization in the West Considered by Governors.

The eighth annual Conference of Governors was held at Boston, Mass., August 24-27. About 30 present executives and 15 ex-governors, many of them with their wives, were in attendance.

The subjects discussed included national defense and preparedness, the development of the West, the governor's initiative, economy and efficiency in state administration, the abolition of capital punishment and the vital questions relating to the proper utilization of water powers in the arid states of the West.

Gov. George A. Carlson of Colorado was on the program for a paper on "State or National Control of Water-Power Sites," but was unable to be present. Instead, a paper by Ex-Gov. James H. Hawley, of Idaho, was received by the Conference as a part of the proceedings. The following forms part of this paper:

Federal or State Control of Water Power.

"To my mind, the subject presents two phases—(1) a broad question of constitutional law, involving the great potential interests dependent upon the control of the public lands and the unused water power, not yet reduced to private ownership; and (2) a question of sound public policy equally important to the states directly affected and to the nation. Upon both questions a seemingly irreconcilable conflict has developed; theories directly antagonistic are urged. There is apparently no middle ground upon which the contenders can meet and there weld their divergent views into a common idea."

Mr. Hawley holds that the issue involves the idea of state sovereignty as to the control, use and flow of the waters of a state, except navigable streams—a principle in which the Federal Government has concurred, in its policy of admitting new states to the Union.

"The right to use the waters means the right to use the abutting lands necessarily involved in perfecting such use. The conditions existing in the arid regions and mining sections of the West have since their first development necessitated the use of the nearby waters and made it equally necessary to have the right of way over the adjoining lands for the conduits used in conveying the waters to the farm or mining claim. Ordinarily, the places of diversion were in localities where the land was of no intrinsic value and therefore remained the property of the United States.

"The act of 1866 embodied in the

statutes of the United States was the first Federal legislation on this subject and did 'grant, acknowledge and confirm' the right of way for the construction of ditches and canals over the public lands 'whenever by priority of possession, rights to the use of water for mining, agricultural, manufacturing or other purposes has vested or accrued, and the same are recognized by the local customs, laws and the decisions of courts, the possessors or owners of such vested rights shall be maintained and protected in the same.'"

Mr. Hawley pointed out that rights of way over public lands do not depend on the section quoted, but on the local laws themselves, the underlying principle of which being the right to acquire, divert and use the streams, and an easement over the lands necessarily crossed by conduits conveying the waters to the place of use.

"The sovereign control of the waters within their territorial limits concededly being in the states, and an easement over adjoining lands being necessary to utilize such waters, and such easement having from time immemorial been recognized by the United States, is there any authority on the part of the general government either through future legislation or by action of its officers under existing statutes, to prevent the full use of such waters under the statutes of the states affected, by reserving the ultimate ownership of the lands necessary to be used in the development of hydroelectric energy, and preventing the use by the state or under its laws of its waters for such purpose?"

It was pointed out that the water powers of most of the inter-mountain states are their most valuable asset. An arbitrary refusal by the national government to dispose of lands so they can be used by owners of the water would render such waters valueless, and places the government in a position to hold up the developer of waterpower, after the manner of the highwayman. The writer characterized the Ferris bill, now pending before the Senate, as a deliberate attempt to deprive the states of the control of their streams.

This act directs the Secretary of the Interior to lease public lands for 50 years for the construction and operation of power houses, dams and conduits, and transmission lines, and provides that no lease shall be granted without the applicant first having obtained the right from the state or states in which the project is located to sufficient water to develop the power. The Interstate Commerce Commission is given the power to regulate and control service, rates, and stock

and bond issues, when the lessee operates an inter-state system. Section V of the bill gives the United States the right to take over after three years prior to the expiration of the lease all property dependent on the continuance of the lease. Section VI provides for re-leasing of the property. Section VIII authorizes the Secretary to fix the rental, and provides that 50 per cent shall be paid to the state and 50 per cent to the reclamation fund, and Section IX gives the Secretary full power to regulate rates and service in states where no public utility commission exists.

The objection is made that government regulation and control of properties within a state is a measure of interference not warranted by the Constitution, and that the provision which authorizes the Secretary to fix charges on the amount of power developed and sold by the lessee makes an excise tax on the industry.

"I concede," says Mr. Hawley, "that the general government has full power of regulation and control of matters of this kind devoted to interstate uses, but laws conferring such control should be uniform. * * * No serious attempt is made by the friends of the Ferris bill to deny that by this legislation it is intended to vest in the government powers which have heretofore been exercised wholly by the states. The main argument in favor of the bill is one of expediency.

"The proposed legislation is ostensibly a conditional grant for a limited time of the right of way over the public domain for the uses incidental to the development of hydroelectric power. In reality it amounts to an effort to establish a new system of government for the control of all future water-power industries established on or requiring the use of the public domain, and to vest all authority regarding it in the administrative department of the Federal Government, and divest the states of any power therein.

"The argument is used that waters in arid states are of use only with the land of the public domain, and the United States being the owner, it is proper for it to assume control of industries built up by the combined use of land and water. If this reasoning is correct, then the state might pass a law prohibiting the use of water on the public domain and thus confront us with a situation under which the development of our power resources would be forever impossible."

It was pointed out that the government, in being vested with the ownership of public lands, held them merely as trustee for the future states. An act like the Ferris bill would tend to centralize control in the general gov-

ernment, of many matters over which the states heretofore have had sole jurisdiction.

"The theory of renting the abutting lands essential to power sites is an injustice to the renter himself, as against the fortunate ones who have already become owners in fee of similar facilities," the writer of the paper maintained. "The rental system would make values uncertain and prevent the ready sale of bonds for new enterprises. The amount received from rentals would be immaterial to the government. The provision that the state shall receive a part of the proceeds is merely a sop.

"The worst feature of the bill is that under it the ownership of abutting lands will give absolute control over the adjacent water power. The land may be valueless; the water has great value. Still, the control of the valuable asset is attempted to be usurped by the government because it owns the lands.

"The northwestern states are blessed with an almost unlimited amount of water power. The necessities of these states demand the fullest development of their power facilities. The gravity systems of irrigation have practically been completed; the remaining supply of running water is below the lands upon which it should be used, and this water can be put upon these lands only by the use of hydroelectric power. Mining and manufacturing also require cheap power. It is held by some that a definite demand should precede the development of power. This is not a correct doctrine. When electric power is developed, the owners are bound to find markets for it. When opportunities offer, all mining, agricultural and manufacturing machinery will be run by electric power. Our urban and interurban railways, and even transcontinental railroads, can use electricity alone as motive power; the use of electricity will enter into every phase of our domestic and business lives."

The paper concluded with a plea that the states be given the same right of control over power sites as they have now over the water which generates the power. Or, if this is impracticable, suggests Ex-Governor Hawley, give opportunity to investors to acquire absolute title to the sites, in the same easy manner as for government lands for other purposes, and at a reasonable cost, to be determined beforehand by the proper officials. There would be no possibility of hurtful monopoly, with public utility commissions existing in every state.

Conservation of Natural Resources.

Another address of the session was by Governor Ernest Lister, of Wash-

ington, on "Conservation of Natural Resources." He said that of the 69,000 square miles of area of his state or 44,241,000 acres, 9,828,000 acres are held by the United States as forest reserve, and 1,831,000 acres are owned by the state or held by private interests as forest reserves. He held that conservation of resources means not withdrawal from use, but development and wise utilization. Great undeveloped water powers are running to waste. Power aggregating 4,932,000 horsepower is available for hydroelectric generation, basing the estimate on an efficiency of but 75 per cent, while developed power amounts to but 306,000 horsepower or only six per cent. In Oregon, 3,148,000 horsepower are available and only 105,000 horsepower, or three per cent used; and in California 3,424,000 horsepower are available and only 430,000 horsepower, or eight per cent utilized.

In Oregon and Washington vast tracts of land could be reclaimed from arid desert by electrically driven pumping. One tract of 160,000 acres could be reclaimed by the utilization of a single hydroelectric project on the Columbia River. Electric power, he claimed, is the only power practicable for reclaiming the dry lands for human habitation; the lands thus irrigated would furnish homes for hundreds of thousands of people.

In Washington are 7,386 miles of steam railroads which could advantageously be operated by hydroelectric power. Governor Lister cited the Chicago, Milwaukee & Puget Sound Railroad, which has undertaken the electrification of 450 miles of main line, which, he said, is proof that electrification is a good business proposition. He quoted John D. Ryan, of the Montana Power Company, who testified before the Public Land Committee of the Senate that this railroad will pay about \$550,000 a year for electrical energy. Heretofore its coal has cost about \$1,750,000 per annum, besides requiring about one-third of the railroad's equipment to haul the coal. The Butte, Anaconda & Pacific Railroad pays about \$96,000 for energy to operate 80 miles of railroad, whereas coal formerly used cost \$270,000 a year. It is estimated that all the railways in the three Pacific Coast states would require between 700,000 and 800,000 horsepower for operation, and this amount of power would be but a small part of the available supply. Besides these economies, Governor Lister pointed out that forest fires, now a source of great loss, and in a large measure attributable to steam railroads, would be greatly diminished under electric operation.

In addition to manufacturing, mining and railway operations, the production of fertilizers through atmospheric fixa-

tion of nitrogen by means of electric power would be a source of great wealth to the whole country. It is said that the nitrates of Chile are fast being exhausted and will be extinct in about 20 years. The use of 200 pounds of this fertilizer to the acre in Europe, as compared with 28 pounds in the United States, results in wheat crops of thrice the number of bushels per acre. This larger figure would be possible here, if the production of fertilizers were undertaken with the aid of electrical energy.

Governor Lister held that investments in water powers should be assured of a reasonable return. Under present Federal laws, such a condition is lacking, and it should be the work of Congress to legislate favorably to hydroelectric development. He believed state public service commissions should exercise authority over water powers, and that provision should be made for the people to acquire plants at a reasonable value, which should leave out of account the intrinsic value of the waters. He said the streams are the country's "most valuable resources."

Youngstown Dedicates Street-Lighting System.

On August 18, Youngstown, O., dedicated a new street-lighting system which is notable because it is one of the most extensive exclusively Mazda C street-lighting systems in the United States and also because of the short period required for installing a large number of ornamental standards which required the laying of nearly five miles of underground circuits along downtown streets. In addition to the ornamental standards there are 185 miles of streets lighted by lamps supported by brackets extending from wood poles. Operations were begun on March 3, 1915.

The installation consists of 257 1,000-candlepower, 20-ampere series Mazda C lamps and 288 600-candlepower 6.6-ampere series type C lamps mounted on ornamental metal standards and inclosed in Novalux Polycase glassware. The higher candlepower units are confined to and in the immediate vicinity of the downtown section known as "The Diamond," a public square at the intersection of Federal and Market Streets and Wick Avenue.

A feature of the Youngstown installation is the use of a series transformer in the concrete base of each lighting standard which leaves the standard free from high-tension circuits.

Standards are space from 50 to 75 feet, opposed, on downtown streets, which affords an unusually high light intensity. The light center of the lamps is 14 feet 6 inches above the curb.

The installation was made by the Mahoning & Shenango Railway & Light Company, of Youngstown.