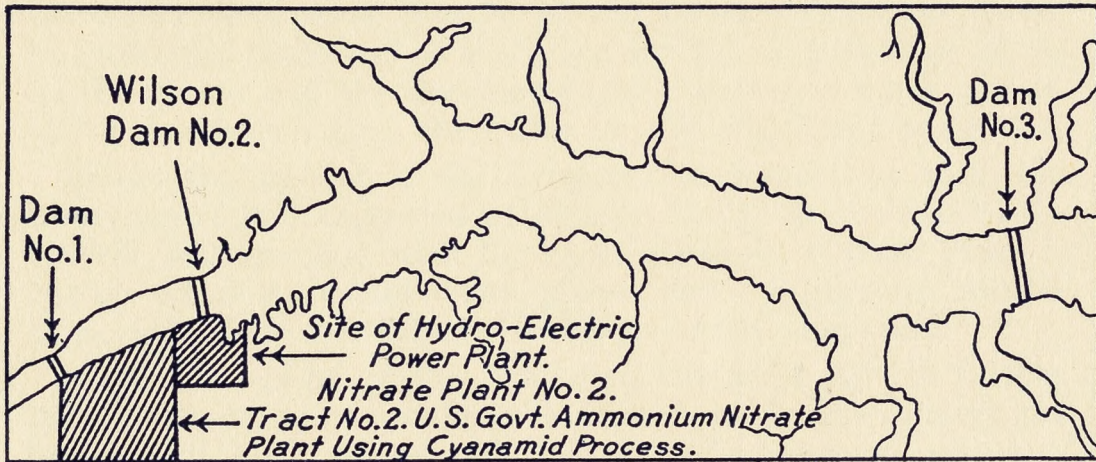


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# Congress And Muscle Shoals



*Muscle Shoals, Tennessee River, Alabama*

## Pamphlet

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## Muscle Shoals—What and Why?

**T**HE World War made clear that the United States ought not to be dependent on any other country for the nitrogen necessary for the manufacture of explosives in time of war and for the production of fertilizer in time of peace. While most of our nitrates had previously come from Chile, scientists were aware that nitrogen could be extracted from the air. However, to make such extraction under any known process a large amount of power is required.

In June, 1916, Congress authorized the President to select one or more places in the United States where an abundance of cheap water power could be developed for the purpose of extracting nitrogen from the atmosphere. President Wilson thereupon designated Muscle Shoals, on the Tennessee River in Northern Alabama, as the place for the construction of required plants and the development of necessary water power. Work was begun soon thereafter on this important enterprise.

Before the signing of the Armistice in November, 1918, the Government had expended at Muscle Shoals more than \$105,000,000 in connection with the construction of Nitrate Plant 1, Nitrate Plant 2, certain steam plants, and the gigantic Wilson Dam, only about one-third of which has been completed.

After the signing of the Armistice, Congress cut off further appropriations, and since then the question before the country has been—shall this investment of \$105,000,000 be scrapped or wasted, or shall this project be finished so as to provide electric power adequate to run the factories of a new industrial region, to manufacture nitrates for cheap fertilizer, and to be available for the manufacture of explosives?

Various plans for the completion and utilization of the Government's Muscle Shoals Plant have been presented in recent sessions of Congress. Among these, two are being most seriously considered at present. One is the Norris proposal, providing for Government ownership and operation. The other is a proposal to accept an offer of Henry Ford.

### The Norris Proposal

The Norris Bill (S. 3420), introduced in the Senate on April 10, 1922, provides for the manufacture of explosives for army and navy use, of fertilizer for agricultural purposes, and for the incorporation of the Federal Chemical Corporation.

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The Bill authorizes the Secretary of War to construct Dams 2 and 3 at Muscle Shoals, Alabama, to make surveys above such dams for the purpose of locating storage reservoirs, and, if sites can be found, to build the necessary dams for impounding water. In the construction of such dams consideration is to be given to the development of hydroelectric power and the necessities of navigation. Having reference to Dam 3, the Secretary is to be authorized to use and to remove any temporary buildings at Muscle Shoals now owned by the Government, providing such removal does not interfere with the operations of the Federal Chemical Corporation.

In building storage reservoirs the Secretary is to require persons maintaining power development dams on the Tennessee River, and receiving benefits from such construction, to contribute proportionately to the expense of such authorized construction. If rights are given by law to persons to dam the river for the development of hydroelectric power, such persons are to contribute proportionately to the construction of reservoirs. Provisions are included for necessary court action to compel contributions.

To carry out the provisions of this Act the Federal Chemical Corporation is to be created. Three Directors, with salaries of \$7,500 per annum, are to be appointed by the President and confirmed by the Senate, and are to transact the corporation's business. Members of the Board, subject to fine, imprisonment, and subsequent removal from office for violation of the requirement, are not to be permitted to recognize political or partisan influences in the appointment or promotion of employees.

The President and the Secretary of War, subject to such use as the Secretary may elect, are to turn over to the Federal Chemical Corporation, on the completion of its organization, Nitrate Plants 1 and 2 at Muscle Shoals, the Fixed Nitrogen Research Laboratory at Washington, the Waco Quarry in Franklin County, Alabama, the Warrior steam plant at Gorgas, Alabama, the railroad and all other auxiliary power units and transmission lines.

Upon completion, any of the dams constructed under the provisions of this Act are to be turned over to the Federal Chemical Corporation for control and management. Power is to be given that corporation to acquire and operate other laboratories and experimental plants necessary to carry out the provisions of the Act.

One of the stated objects of the Norris Bill is to regulate the sale of fertilizer and to prevent monopoly in such sale.

The Federal Chemical Corporation is to have power to establish agencies for the sale of its products; to manufacture fertilizer ready for use; to sell the same direct to farmers; and, in cases of sale of chemical parts of fertilizer to manufacturers, to prescribe the prices to be charged for the completed product.

Authorization is also to be granted to the Federal Chemical Corporation to negotiate with the Alabama Power Company to settle difficulties between the Government and that Company arising from joint ownership of the power plant at Gorgas, Alabama. The Federal Chemical Corporation is to be further authorized, subject to the approval of the President, to sell to the Alabama Power Company the Government's interest in the power plant at Gorgas, and to use the money in the operation of the Federal Chemical Corporation's business.

The Federal Chemical Corporation is to remodel Nitrate Plant 1 for the possible manufacture of explosives, and for the manufacture of fertilizer; and equip Nitrate Plant 2 for the manufacture of fertilizer.

The Board of Directors of the Federal Chemical Corporation is to be permitted to sell to public or private interests any surplus power developed at Dams 2 and 3, giving precedence in such sale to States, Counties, and other Governmental agencies. In the sale of surplus power to private interests, the board is to be authorized to regulate the price to be charged consumers in a resale of such power.

It is to be the duty of the Board of Directors, upon periodical notice from the Secretary of War, to supply the army and navy with the amount of explosives required; and, in time of war or when war is imminent, the President is to have authority to take possession of all the properties controlled by the Federal Chemical Corporation and use the same for the manufacture of explosives, or to instruct the Board of Directors to cease the manufacture of fertilizer and to manufacture explosives to such extent as the President may direct.

At the close of each year the Board of Directors is to make to Congress a detailed report of its operations. In addition, at least once each year, the Secretary of War is to make a complete audit of all accounts of the corporation, and to include a detailed statement concerning the same in his annual report to Congress.

#### The Ladd Proposal

The Ladd Bill (S. 3802), introduced in the Senate on July 8, 1922, provides for the acceptance of the offer of Henry Ford; for the completion and leasing of the dams and hydroelectric



power plants at Muscle Shoals, Alabama; and for the purchase of Nitrate Plants 1 and 2, the Waco Quarry, and the Government interest in the Gorgas Warrior River steam plant.

The Ford offer provides for the immediate incorporation of a company, to be controlled by Henry Ford, which is to complete Dam 2 and construct Dam 3, for and at the expense of the United States, at actual cost, without profit to the Ford Company, and is to install hydroelectric equipment adequate for generating approximately 600,000 horsepower and 250,000 horsepower, respectively. The Company to be organized is to lease Dams 2 and 3 from the United States for a period of 100 years, and is to pay, as annual rental therefor, 4% of the actual cost of acquiring lands and flowage rights and of completing the locks. The Company is also to pay annually to the United States, during the lease period, for repairs, maintenance, and operation, \$35,000 for Dam 2, and \$20,000 for Dam 3; it being understood that all necessary repairs, maintenance, and operation, with the exception of necessary renewals and repairs incident to efficient operation to be made by the Company, shall be under the direction and responsibility of the United States during the lease period. The Company is to furnish to the United States, free of charge, at any point on the lock grounds, power to an amount necessary for the operation of the locks.

In order to create a sinking fund to retire the cost of Dams 2 and 3 at the end of the lease period, the Company is to pay for Dam 3, \$3,505 semi-annually, after the fourth year of the lease; and for Dam 2, \$19,868 semi-annually, after the seventh year.

The Company is also to pay to the United States, in five equal installments with interest on deferred payments, \$5,000,000, as the purchase price for Nitrate Plants 1 and 2, the Waco Quarry, and the Government interest in the Gorgas Warrior River steam plant.

The Company is to manufacture at Nitrate Plant 2 nitrogen and other commercial fertilizers, and the annual production of these fertilizers is to have a nitrogen content of at least 40,000 tons of fixed nitrogen.

The Company is also to determine by research whether or not higher-grade and lower-priced fertilizer compounds may be produced, and what the application of electricity and industrial chemistry may accomplish for the agricultural industry of the country. It is to maintain Nitrate Plant 2 in readiness for immediate operation in the manufacture of materials necessary for the production of explosives in time of war; and is to place such production promptly at the disposal of the United States.

The Company is also to supply the United States with hydroelectric power for such operation.

In order to insure fair prices to farmers the Company is to agree that its profits in the sale and manufacture of fertilizer shall not exceed 8 per cent of the cost of production, and for the purpose of carrying out this provision, a Board of not more than 9 members nominated by the President and confirmed by the Senate is to be created. Appointees on the board are to be chosen from candidates designated by the American Farm Bureau Federation, the National Grange, and the Farmers' Educational and Co-operative Union of America, or their successors, and the Secretary of Agriculture is to make the designations for such farm organizations if for any reason they fail to do so. The members of the board are not to draw compensation from the Government for their services, though some provision is made for expenses. A representative of the Bureau of Markets, in the Department of Agriculture, is to be appointed by the President and is to be an advisory member of the Board, without the right to vote. The Board is to determine the cost of manufacture and is to regulate the sale and prices of fertilizer products. When the Board can not agree upon its findings, points of disagreement are to be referred to the Federal Trade Commission, and the decision of that Commission is to be final.

At the expiration of the lease period, if the United States elects not to operate the power plants, the Company is to have the right to negotiate with the United States for their lease or purchase upon terms to be prescribed by Congress.

It is also to be provided that the Attorney General may, upon the request of the Secretary of War, institute proceedings in equity in the District Court of the United States for the Northern District of Alabama for the purpose of canceling the lease of Dams 2 and 3 for the violation of any of the terms of the Henry Ford offer.

#### Committee Reports on the Proposals

On July 20, 1922, Senator Norris, Chairman of the Agricultural Committee, reported to the Senate a joint resolution (S. J. Res. 227), rejecting all bids for the acquisition of Muscle Shoals, together with a minority report of the Committee (Rept. 831, Part 1) on Senator Norris' bill, S. 3420.

On August 4, 1922, Senator Ladd submitted to the Senate a minority report (Rept. 831, Part 2) of the Committee on Agriculture on Senator Ladd's bill, S. 3802.



### Comparison of the Two Proposals

The principal arguments in the respective Committee Reports may be summarized as follows:

#### Arguments for Norris Proposal

In support of the Norris proposal, it is said:

That provision is made during time of peace for the manufacture of fertilizer, without profit to the Federal Chemical Corporation, and for the sale of such fertilizer at reasonable prices to consumers.

That Government property and funds will be made available for chemical experiments and improvements which will cheapen the production of fertilizer.

That improvements developed at Muscle Shoals in the extraction of nitrogen from the air may be used by any other producers of fertilizer.

That fully developed power on the Tennessee River and subsequent cheapening of electric energy should benefit all the people rather than private enterprise.

That the sale of surplus power will equalize and stabilize the cost of electrical energy throughout the South.

That the power possibilities of the Tennessee River will be many times extended; that increased manufacturing throughout the valley and similar improvement throughout the South will result; and that construction by the Government, which will involve an obligation upon those deriving benefits to share in the cost, will include storage reservoir dams which will equalize the flow of the river and will change secondary power into primary power.

That, by means of storage of the flood waters of the Tennessee River, assistance will be automatically extended to lessen the periodic danger of overflow on the Ohio and Mississippi Rivers.

That sale of the Gorgas plant for at least \$3,000,000 would give the Government a better return on its investment than acceptance of the Ford offer, and that the retention of the transmission line from Muscle Shoals to Waco Quarry is also in the Government's interest.

That the Government is going into business only to the extent of caring for its own property and handling its own business.

#### Arguments Against Norris Proposal

In opposition to the Norris proposal, it is said:

That Government ownership and operation at Muscle Shoals

is fraught with difficulties, many of them of a specialized and technical sort involving problems in the field of commercial chemistry, and that conservatism and prudence are necessary in the use of the people's money at Muscle Shoals.

That an estimated appropriation of \$64,000,000, with no guaranteed return of principal or interest, will be required from Congress to carry out the provisions of the Norris Bill.

That no provision is contained in the Norris proposal requiring the cost of maintenance of locks and dams to be met out of the sale of surplus power.

That no sinking fund is provided in the Norris bill for any return of the Government's investment.

That under the Norris proposal no provision is made for the annual production of a minimum amount of fixed nitrogen.

#### Arguments for Ladd Proposal

In support of the Ladd proposal, it is said:

That waste and losses at Muscle Shoals will continue unless the Ford proposal is accepted.

That from a military standpoint it is very important to maintain Plant 2 and operate it continuously through the lease period of 100 years as a means of supplying fixed nitrogen.

That the great importance of nitrate of soda during the World War period, as shown by the "staggering" quantities imported, proved the necessity for establishing the nitrate industry in this country both for peace-time purposes and for the emergencies of war.

That fuel and transportation problems could be avoided through the acceptance of the Ford offer.

That to compel Mr. Ford to state specifically what possibilities the application of electrochemistry and electrometallurgy will have at Muscle Shoals must have the effect of limiting operations there.

That the acceptance of the Ford proposal will result in power and industrial development, the national value of which can only be compared with the achievements at Niagara Falls.

That agriculture will benefit through the reduction in the cost of fertilizer which will be made possible at the risk and through the employment of private capital on research experiments.

That American industry will be advanced by the introduction of a thoroughgoing plan of water-power development whereby cheaper hydroelectric power may be obtained in the United States.



That development of navigation on the Tennessee River is an important part of the Ford offer.

That Mr. Ford's proposal of a sinking fund will reduce the cost of power to the mere cost of operation and maintenance.

### Arguments Against Ladd Proposal

In opposition to the Ladd proposal, it is said:

That, if accepted, it will in effect involve a huge gift by the people of the United States to a private corporation, since it is proposed that the Government's investment of more than \$105,000,000 and any additional required investment shall be turned over to the corporation at a nominal rate of interest.

That the Government's obligation to keep Dams 2 and 3 in repair and maintenance will in all probability prove an enormous one.

That this private corporation will be given an unfair advantage over other manufacturers of fertilizer, because the corporation is under no obligations to sell surplus power developed at Muscle Shoals for the benefit of the general public.

That to turn over the electricity generated from the people's property to one corporation will result in inequality in the distribution of electric power manufactured from navigable streams.

That, under the Ford proposal, no guarantee is given of any direct benefit with respect to fertilizer, or power development, or flood control.

### Additional Arguments by Conservationists Against the Ladd Proposal

The Committee arguments against the Ladd proposal have been supplemented by the following additional objections, which have been publicly urged by leading supporters of the practice and principle of conservation of our national resources:

That the Ford offer is not mainly a fertilizer proposition, but is seven parts water power to one part fertilizer, even if the fertilizer part should work out, for, if Nitrate Plant 2 were to be permanently employed in the manufacture of fertilizer, it would consume but 100,000 horsepower out of the 850,000 installation.

That, as a water power proposition, the Ford offer is in every important point directly contrary to the water power policy of President Roosevelt, which, after fifteen years of struggle, was finally enacted in the Federal Water Power Law of 1920.

That the Water Power Law provides that all water power

leases shall be limited to 50 years, whereas the Ford offer asks a lease of 100 years.

That the Water Power Law provides for return of title to the Government at the end of fifty years, whereas the Ford offer provides for indefinite private possession of the Government works.

That the Federal Water Power Law provides for the regulation of prices for the benefit of power consumers, but the Ford offer, so far as the United States is concerned, provides no check on the prices power consumers must pay.

That the Federal Water Power Law provides that public water power, taken for profit, shall return compensation to the public, but the Ford offer asks the free gift of many hundred thousands of horsepower.

That the amount of power which can be developed under the Ford offer is greater by half than all the power now being developed at Niagara Falls, and, if paid for at the rates charged by the Government to other companies which build their own works, it would cost the Ford Company about \$150,000 a year which under its offer that Company is not required to pay.



