MUSCLE SHOALS

by

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PREFACE

During the past twelve years, Muscle Shoals has been a question of vital importance. Much has been written of the subject for the purpose of securing the passage of certain legislation. Material of that type gives us a one sided view and we are apt to wonder why the question has not been settled.

Two years ago I traveled through that section of the country with a historical background of the subject which didn't extend much beyond the fact that Henry Ford had wanted Muscle Shoals and that we didn't let him have it.

While in the little town, Tuscumbia, we stopped at a drug store and asked to buy pictures or folders of Muscle Shoals. They had sold the last ones that day but offered to drive to another town that evening to get some for us. Now just why were they willing to do this? I had heard of the hospitality of the southerner toward the stranger and so far I had not been disappointed, but this was not necessary for hospitality's sake. There were reasons why they were interested and why they wanted us to be interested. From that time I have been interested in Muscle Shoals. It was more than a question, it was the desire of a people.

The material for this paper was gathered mostly from government records which I obtained in our Kansas State College Library at Manhattan and our State Library at Topeka. It was in the form of debates in congress, reports of committees and commissions and proposed legislation.

From these I have endeavored to obtain and present different view points of the question. I have included location, historical background, purpose of project and the after war controversy.

To the librarians of both Manhattan and Topeka, I wish to express my appreciation for their helpful assistance and to Dr. F. A. Shannon, Professor R. R. Price and Professor C. M. Correll, I am indebted for their helpful suggestions and corrections.

MUSCLE SHOALS BEFORE THE WAR

Upon picking up the Sunday paper dated July 17, 1932, I see listed in the accomplishments of the first session of the Seventy-second Congress, that the House has passed a Muscle Shoals Bill but that the Senate did not. This is the same Muscle Shoals we have been reading about these last twelve years.

If we were to turn back the pages of history to the time of George Washington and Thomas Jefferson, we would still read of Muscle Shoals. In order to understand the modern question, it is necessary that we have a definite knowledge of the location and historical background.

The Tennessee river, which has its source a few miles above Knoxville, flows southwestward through a portion of Tennessee, then westward across northern Alabama and then turns north through Tennessee and Kentucky flowing into the Ohio river at Paducah which is forty-seven miles from the confluence of the Ohio and Mississippi rivers.

Two small cities, Florence and Sheffield, are located on the river in the northwest part of Alabama. Florence is on the north side of the river and Sheffield on the south side. About three miles west of Sheffield is another small city, Tuscumbia. In 1922 these three cities had a combined population of twenty thousand but it is much less now.

Between Florence and Sheffield and for many miles east of there, the river has cut deep into its banks. The hard stratum of rock left in the river bed is a hindrance to navigation. This section which has a fall of one hundred and thirty-two feet in thirty-seven miles, is called Muscle Shoals. The part which comprises the

the government project extends from Brown's Island to Florence, a distance of about thirty-seven miles.[1]

The muscular demands on the Indians and early settlers in canoes bound up stream is supposed to have suggested the name "Muscle Shoals." Then I heard that there was a mistake in spelling. However the first derivation is told to the traveler in that section of the country.

This river has received more or less continuous engineering study from the time of George Washington down to 1918 when President Wilson ordered the building of Muscle Shoals project for national defense. Canals which were started in 1828 and completed in 1890 were of very little practical value because of the absence of sufficient tonnage either up or down the river[2] and insufficient water supply during certain times of the year.

In 1907 the Federal Government ordered the chief of army engineers to make a survey of Muscle Shoals for the purpose of ascertaining its navigation and hydroelectric power possibilities. As a result of this survey and some later studies, sufficient data was available to warrant President Wilson's selection of this location for the great war project.[3]

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1. Encyclopaedia Britannica, Vol. 15 (1929), p. 985
2. Ibid.
3. Ibid.

The construction of the present Muscle Shoals project was authorized by Section 124 of the National Defense Act of June 2, 1916 which reads as follows:

"Sec. 124, Nitrate supply - The President of the United States is hereby authorized and empowered to make, or cause to be made, such investigation as in his judgment is necessary to determine the best, cheapest, and most available means for the production of nitrates and other products for munitions of war and useful in the manufacture of fertilizers and other useful products by water power or any other power as in his judgment is the best and cheapest to use; and is also hereby authorized and empowered to designate for the exclusive use of the United States, if in his judgment such means is best and cheapest such site or sites, upon any navigable or non-navigable river, or rivers, or upon the public lands, as in his opinion will be necessary for carrying out the purposes of this Act; and is further authorized to construct, maintain, and operate, at or on any site or sites so designated dams, locks, improvements to navigation, power houses, and other plants and equipment or other means than water power as in his judgment is the best and cheapest, necessary or convenient for the generation of electrical or other power and for the production of nitrates or other products needed for munitions of water and useful in the manufacture of fertilizers and other useful products.

"The President is authorized to lease, purchase, or acquire, by condemnation, gift, grant, or devise, such lands and rights of way as may be necessary for the construction and operation of such plants, and to take from any lands in the United States, or to purchase or acquire by condemnation materials, minerals and processes, patented or otherwise necessary for the construction and operation of such plants and for the manufacture of such products.

"The products of such plants shall be used by the President for military and naval purposes to the extent that he may deem necessary, and any surplus which he shall determine is not required shall be sold and disposed of by him under such regulations as he may prescribe.

"The President is hereby authorized and empowered to employ such officers, agents or agencies as may in his

discretion be necessary to enable him to carry out the purposes herein specified, and to authorize and require such officers, agents, or agencies to perform any and all duties imposed upon him by the provisions hereof.

"The sum of $20,000,000 is hereby appropriated, out of any moneys in the Treasury not otherwise appropriated, available until expended, to enable the President of the United States to carry out the purposes herein provided for.

"The plant or plants provided for under this Act shall be constructed and operated solely by the Government and not in conjunction with any other industry or enterprise carried on by private capital.

"In order to raise the money appropriated by this Act and necessary to carry its provisions into effect, the Secretary of the Treasury, upon the request of the President of the United States, may issue and sell, or use for such purpose or construction herein above authorized, any of the bonds of the United States now available in the Treasury of the United States under the Act of August fifth, nineteen hundred and nine, the Act of February fourth, nineteen hundred and ten, and the Act of March second, nineteen hundred and eleven, relating to the issue of bonds for the construction of the Panama Canal, to a total amount not to exceed $20,000,000: Provided, that any Panama Canal bonds issued and sold or used under the provisions of this section may be made payable at such time after issue as the Secretary of the Treasury, in his discretion, may deem advisable, and fix, instead of fifty years after date of issue, as in said Act of August fifth, nineteen hundred and nine, not exceeding fifty years."[1]

MUSCLE SHOALS PROPERTY

Soon after this act was passed, in September, Dr. Charles L. Parsons, then chief chemist of the Bureau of Mines, and Mr. Eysten Berg were sent abroad by the

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1. National Defense Act, United States Statutes At Large, 64th Congress, Vol. 39, Part 1 (1915-1917) pp. 215-216

Ordinance Department to study nitrogen fixation methods. They visited plants in France, Italy, England, Norway and Sweden. They reported that three methods were being used: the arc, the cyanamide and the Haber. These processes are described in a later chapter.[1]

Upon the recommendation of Dr. Parsons, Nitrate Plant No. 1 was to be erected for the purpose of fixing nitrogen by the Haber process.[2] On September 28, 1917, the Secretary of War notified the Chief of Ordinance that the President had selected Sheffield as the location of this plant.[3]

Authorities differ as to whether this plant was a success. At first only one unit was completed and this produced seven and one half tons a day. Later attempts to operate the plant were ineffective even after $710,476.12 were spent.[4] Whether this was due to construction or operation of the process or whether it wasn't completed seems to be an unanswered question. However operation ceased in January, 1919.[5]

The plant covers about 1900 acres. The plant buildings are all of steel frame construction with walls

1. House Doc., No. 119, 69th Cong., 1st Sess., p. 14
2. Ibid.
3. Ibid., p. 15
4. Ibid.
5. Ibid.

of brick or asbestos protected metal. Besides the chemical plant, there are shops, power house, village and public works.

The village is located about one mile southwest of the manufacturing area and consists of 85 stucco dwellings, 27 frame dwellings, 25 construction barracks, and several accessory buildings, including a heating plant and an incinerator. The houses have all modern conveniences and are connected with the city of Sheffield by an interurban street railway system. There are nearly ten miles of macadam roads on the reservation.[1]

Nitrate Plant No. 2 which is located at Muscle Shoals, Alabama about four miles from Nitrate Plant No. 1 and just across the river from Florence, covers about 2306 acres of land.[2] It was constructed because there was a growing demand for ammonia and nitric acid which were used in the manufacture of explosives.

On December 4, 1917 the government contracted with the American Cyanamid Company to design and construct an air nitrogen plant having a capacity of 40,000 tons of nitrogen gas per year. This was done through a subsidiary

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1. Ibid., p. 27
2. House Report, No. 1430, 71st Cong., 2d Session, (May 12, 1930) p. 8

company, the Air Nitrates Corporation, which was organized to protect their assets.[1]

This plant required about 120,000 horse power of electricity which would be available when the steam power plant was completed.[2] As it would be some time before this could be completed the government contracted with the Alabama Power Company to furnish the power.[3]

The company enlarged its plant at Gorgas and built an 88 mile transmission line and substations at the expense of the government. There was a contract that when the government ceased to need this property that it would be junked or the Power Company could buy it if they so desired. The price was to be fixed by arbitration.[4]

The entire plant consisted of chemical plants, shops, power house, village and public works. Besides these the government bought Waco Quarry which was located about twenty miles from the plant. This covered about 441 acres and was equipped to quarry and crush limestone for use at the plant.[5]

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1. House Doc., No. 119, 69th Cong., 1st Session, (Dec. 10, 1925) p. 16
2. Ibid.
3. House Report, No. 1084, 67th Cong., 2d Sess., (Jan. 30, 1922) p. 18
4. Ibid.
5. House Doc., No. 119, 67th Cong., 1st Sess., (Dec. 10, 1925) p. 32

The village consisted of 186 frame houses of one or two stories, a one story administration building, 263 three room negro houses, 10 apartment houses and temporary barracks. Besides these the plant has a water and fire system, sewage disposal plant, ice plant, 22 miles of slag road and 37 miles of railroad track.[1]

It was ready for operation November 25, 1918 which was after the Armistice had been signed and there was no need of operating it for national defense. After a successful test run of two weeks during which time 1600 tons of nitrogen was produced,[2] the plant was closed in a stand-by condition.

The navigation power project consists of Dam No. 1 and lock, Dam No. 2 or Wilson Dam, Dan No. 3 and Cove Creek Dam. Of these four only the first two have been built. Dam No. 1 is purely a navigation proposition. It connects Patton Island with the north bank of the Tennessee river. This controls the water for the lower lock of Dan No. 2.[3]

The first appropriations made for the hydroelectric project or Dam No. 2 was made November 16, 1917 but the work wasn't really started until after the Armistice.

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1. Ibid., p. 33
2. Congressional Record, (May 4, 1932) p. 9875
3. House Doc., No. 119, 69th Cong., 1st Sess., p. 33

By April 30, 1921 when work ceased, the construction was only 35 per cent completed.[1] Later the work was resumed and the construction was completed by September, 1925.[2] However only four of the eighteen units were installed.[3]

Wilson Dam which is the largest masonry dam in the world is about 4500 feet long and 100 feet high.[4] It consists of three parts: the lock section, the dam section, and the power house section. It carries the highway and a railroad track. The lock section consists of two locks each 60 feet by 300 feet and having a lift of 45½ feet.[5] The lower is connected with Patton Island by means of a concrete wall. The lock is spanned by a bridge which carries the highway.[6] The Dam section is also divided into three parts: A spillway section 2660 feet, non-overflow section 180 feet and 230 feet between the south end of spillway and the power house. It is 101 feet wide at bed rock while the width of the apron varies from 59 to 259 feet.[7] The power house section consists of a

1. Ibid., p. 13
2. Moody's Public Utilities, (1931) p. 32
3. Muscle Shoals, (Government Printing Office, Washington, 1931) p. 99
4. Ibid.
5. House Doc., No. 119, 69th Cong., 1st Session, p. 36
6. Ibid.
7. Ibid.

building which contains the generating machinery. It is 1250 feet long, 160 feet wide and 134 feet high. The installed capacity is 240,000 horse power.[1] The entire cost of Nitrate Plant No. 1, Nitrate Plant No. 2, Wilson Dam, Waco Quarry, Gorgas Project and all the other equipment is estimated at $140,000,000 to $150,000,000. That includes the initial cost of building, supplies, maintenance and interest. The interest has to be considered because the Government is paying interest on the bonds which furnishes the capital.

In the table which follows I have listed the Initial cost taken from a report of the Chief of Ordinance which was prepared for the Secretary of War.[2] It is impossible for me to include the interest charges and other items which made up the $140,000,000 because the bonds were for different lengths of time and the interest varies. Besides all this money was not spent or provided for at one time.

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1. Ibid., 37
2. House Report, No. 1430, 71st Congress, 2d Session (May 12, 1930)

Cost of Properties[1]

Wilson Dam	$47,000,000.00

This includes the power plant cost and the cost ($10,000,000) spent for the improvement of Navigation.

Nitrate Plant No. I

Chemical Plant	$ 7,134,785.00
Shops	314,076.00
Power House	1,271,665.23
Land	615,127.20
Village	2,526,276.28
Public Works	1,026,011.60
	$12,887,941.31

Nitrate Plant No. II

Chemical Plant	$35,984,090.55
Shops	2,696,481.30
Power House	12,326,392.23
Land	237,711.00
Village	3,121,193.31
Public Works	8,843,007.62
Inventories	3,043,516.20
Waco Quarry	1,302,962.88
	$67,555,355.09

1. House Report, No. 1084, 67th Congress, 2d Session, p.21

Other Items of Expense

Warrior Generating Plant	$ 3,417,702.70
Warrior Substation	383,756.35
Transmission Line	938,057.35
Muscle Shoals Substation	189,843.99
Drifton Railroad	50,421.94
	$ 4,979,782.33

Entire Cost

Nitrate Plant No. I	$12,887,941.31
Nitrate Plant No. II	67,555,355.09
Wilson Dam	47,000,000.00
Other Items	4,979,782.33
	$132,423,078.73

MUSCLE SHOALS SINCE THE WAR

Muscle Shoals has been called our "White Elephant" because it was something with which we didn't know what to do. As long as the war continued, there wasn't any question concerning the purpose of the project but when the war ceased there was debate even about completing the plans.

The project could be developed for the power value or it could be developed for the purpose of making fertilizer. Both policies would benefit the south. The power could be used for the development of new industries and to supply other power companies when there was a scarcity due to drouth. For example in the summer of 1921 the rainfall in North Carolina was not sufficient to develop the power which was needed. Think of the distress if she had not been able to secure the needed amount from South Carolina. South Carolina could sell this because she was able to buy from Georgia and Georgia secured what she needed from the Alabama Power Company. Now where did the Alabama Power Company get this extra electrical energy? It was supplied by the steam plant at Nitrate Plant No. 2.[1]

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1. Senate Report, No. 678, 68th Congress, 1st Session, (May 31, 1924) pp. 9, 10

However development for the production of fertilizer in the time of peace seemed to be the current sentiment of the people. The project had been dedicated to this policy by the National Defense Act. Besides farm organizations all over the country favored this policy.

This could be carried out by three methods. (1) The government could operate the plants for making fertilizer and use the power developed. (2) It could lease the plants to some industrial company with the understanding that it was to manufacture fertilizer. (3) The plants could be sold.

The National Defense Act makes it plain that the government is to operate this project but whether this will be done seems quite doubtful. Public sentiment is against government operation. It is declared to be socialistic. Russia is pointed out as an example of the results of government operation. Besides the government has made several attempts at operation which have seemed to be failures. In the first session of the Seventy-second Congress, Mr. Underhill referred to a $2,000,000,000 loss sustained in twenty-one months by the Railroad Administration and also a loss of $2,000,000,000 by the Shipping Board when it tried to run the Merchant Marine

of this country for 23 months.[1] Government operation of the mails has also been a financial loss to the government.

I don't mean to convey the idea that I think all our government operation has been a failure. There are gains besides those which have a financial balance. Besides war time is a poor time to pass judgment upon a policy. Nevertheless this problem has been before the people at a time when all the war profiteering investigations and reports have been made.

The second policy that the property could be leased to some individual or company with the understanding that fertilizers be manufactured has been advocated by some as the only means of obtaining cheap fertilizers. There seems to have been three reasons why this policy hasn't been adopted. Individuals and companies lacked the capital necessary for operation. This has been due to the fact that it has been a large undertaking which contained an element of risk. How would a company know whether they could make a profit in the fertilizer business and what payments could be made to the government. For these reasons there weren't many bids made and most of these were considered unsatisfactory.

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1. Congressional Record, (May 4, 1932) p. 9868

The second reason for the failure of this policy is that companies have been more interested in the development of power. With the natural resources such as coal, minerals, cotton and other raw material which this valley affords, it could be made the Ruhr section of America.

And the third reason is that there seems to have been a surplus of fertilizers on the market. Many companies had enlarged their plants during the war to help supply the demand and after the war these companies were operating much below their capacity and some have closed entirely. That is reason enough why not many people were willing to undertake the manufacture of fertilizer of Muscle Shoals and those who did make offers worded their proposals in such a way that the fertilizer agreements were very indefinite. A certain Senator spoke of them as jokers.

And why didn't the government sell or junk this property as they did the other war material? I don't think many wanted this to be done unless they happened to want to buy it. Judging from how the other war material sold they wouldn't have recovered very much of their investment. Besides the agricultural sections which needed fertilizer wanted cheap fertilizer made at Muscle Shoals. They had been paying such high prices for it that cheap fertilizer sounded good to them.

At the present time we still have Nitrate Plant No 1, Nitrate Plant No. 2, Waco Quarry, and Wilson Dam. The Gorgas Plant and transmission line have been sold to the Alabama Power Company as we had agreed to do when they were built.[1] They payed $3,472,487.25 for this property.[2]

Besides this about one-fourth of the power generated is sold to them for two mills per kilowatt hour with a minimum of $560,000 per year. This is a very low rate to receive but it is all that can be obtained under a lease which can be terminated at any time. The amount varies according to the additional amount needed at certain seasons but doesn't go much above the minimum. About half of the amount received is used for operation, maintenance and repair.[3]

The Nitrate plants are kept in a stand-by condition by a few workmen. Nevertheless the machinery is deteriorating in value. The homes are still there but vacant. Some of the temporary barracks and buildings were sold. Because of the deflation in values and deterioration I doubt whether we can ever recover the capital invested.

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1. T-69, House Report, No. 1084, 67th Congress, 2d Session, p. 18
2. Muscle Shoals, Senate Report, No. 678, 68th Congress, 1st Session, (May 31, 1924) p. 3
3. Congressional Record, 72nd Congress, 1st Session, (May 4, 1932) p. 9867

THE FERTILIZER QUESTION

Fertilizers are artificial foods, mostly of mineral and chemical origin. These are put on the soil to replace three elements which are lacking either because the soil is naturally poor or because the crops have used the supply. These three elements are (1) nitrogen, (2) phosphorus, and (3) potash.

Materials containing nitrogen are usually referred to as nitrates or ammoniates. They are more closely connected with the Muscle Shoals question than the other two because they are also used in making explosives. They are referred to as (a) organic, (b) mineral, (c) by-product, or (d) synthetic, because of the source from which they are obtained.

Organic ammoniates are obtained from packing house and rendering plant tankage; fish or fish scrap; cotton-seed, castor and soy bean meal; garbage disposal and sewage reclamation plants, and other sources. These are being used less and less as a fertilizer because they are used in commercial feeds for live stock.

Mineral nitrogen is obtained chiefly from Chilean Nitrate of soda. This is a popular plant food which is used both as a mixed fertilizer and separately. However

it is quite expensive because of the taxes imposed upon it by the Chilean Government and the transportation costs.

By-product ammonia in the form of sulphate is obtained from the coking of coal in connection with steel, city gas and coking plants. This is the most important ammoniate in complete fertilizer.

There is another form in which it is obtained, ammonia liquor. This is generally expressed in terms of sulphate equivalent as four tons of sulphate can be made from one ton of ammonia. In 1918 about 700,000 tons of sulphate of ammonia was produced yearly and it was expected that this amount would gradually increase.[1]

The synthetic ammonia or fixed atmospheric nitrogen is obtained by four commercial processes: (1) the arc, (2) the cyanamid, (3) the direct synthetic, and (4) the cyanide. These processes were discovered after Sir William Crookes called attention to the fact that it wouldn't be long until the nitrate deposite of Chile would be exhausted.

The arc process is an imitation of the fixation of nitrogen as a result of lightning. This requires air, water and electricity. It hasn't been used as much as the cyanamid and the direct synthetic because 67,000

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1. Muscle Shoals Commission, "Muscle Shoals," (May 7, 1928) p. 24

kilowatt hours are required for every ton of fixed nitrogen. Nevertheless 40,000 tons of nitrogen were fixed by this process in 1926.[1]

The cyanamid process is the process which was used at Nitrate Plant No. 2. Coal and limestone are heated together to form calcium carbide. After this has been heated to a very high temperature, nitrogen gas is passed over it which fixes the nitrogen in the form of calcium cyanamid. This requires 15,000 to 16,000 kilowatt hours of electricity per ton which is not very much in comparison with the amount required by the other process.

The direct synthetic process was the plan which was tried at Nitrate Plant No. 1 and wasn't considered a success. Since then successful plants have been operated in Germany and Syracuse, New York. By this process nitrogen and hydrogen are passed under pressure over a catalyst to produce ammonia gas, which is condensed and absorbed. Only 4,000 to 5,000 kilowatt hours of electrical energy is required. In 1926 about 519,000 tons of the world's supply was fixed by this process.[2]

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1. National Fertilizer Association, Muscle Shoals and Fertilizer, (1928), p. 17
2. Ibid.

The Cyanide process is as yet in rather a preliminary stage of development. Soda ash, carbon, and iron are mixed and heated in the presence of nitrogen gas. The nitrogen combines with the soda ash and carbon forming sodium cyanide. This may be treated with steam to produce ammonia.[1]

Phosphorus the second plant food is lacking in most American soils. It can be added in three froms - phosphate rock, superphosphate and bones. Large beds of phosphate rock are located in Florida, Tennessee, Idaho, Wyoming and Montana. It is estimated that we have the greatest deposits in the world.

Phosphate rock forms superphosphate when treated with sulfuric acid. Phosphate rock contains more phosphorus per ton than superphosphate but it becomes available for plant use too slowly to supply the needs of the plant.

Bones yield a small amount of phosphorus but they are not plentiful enough to be of any real service. Slag in this country contains very little phosphorus but that in Europe is the chief source of phosphorus acid for agriculture.

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1. Ordinance Office War Department, Report on the Fixation and Utilization of Nitrogen, (1922) p. 8

We obtain about nine-tenths of the third plant food, potash, from Germany and France. The other one-tenth is obtained as a by-product of sugar beet plants, industrial alcohol plants, cement plants and as a direct product from California. The four forms most common are potassium oxide, manure salts, chloride and sulphate. We have potash bearing minerals but as yet we have not been able to compete with European supplies.

And now the question may arise as to the value of these fertilizers to the soil. Phosphoric acid stimulates early root growth thus producing an early maturity of crops. Nitrogen produces rapid development of the foliage of plants and hastens the blooming period of such crops as cotton. Potash stimulates the formation of starch, gives rigidity and produces a disease resistance.

Fertilizers are prepared containing a certain per cent of each of these plant foods. For example a fertilizer with a formula grade 5-8-7 would contain five per cent ammonia, eight per cent phosphoric acid and seven per cent potash. The other eighty per cent which is called filler is composed of substances which are commonly found combined with these elements.

More concentrated forms of fertilizer are being made now than in 1914. Then the commercial fertilizer contained

only about 12 per cent plant food.[1] Some are advocating that the government should make a concentrated form at Muscle Shoals. This would lower the freight rates and thus the cost would be reduced.

The cry has been "Muscle Shoals for cheap fertilizer." During the last few years the farmers have not been able to buy fertilizers as they did during the previous years. During this time the price has come down. Twenty pounds of Nitrate of Soda cost $4.54 in 1918 and now only $2.25. The same amount of Sulphate of Ammonia which cost $4.74 then is 97 cents now.[2] It isn't any wonder that there was a question of whether cheaper fertilizers could be made at Muscle Shoals. This has become almost a sectional question. Both the north and the south need fertilizer but they obtain it in a different manner. The north fertilizes by crop rotation and the application of barnyard manure while the south depends mostly upon commercial fertilizers.

If the south were to stop raising cotton and raise crops which return nitrogen to the soil think what the effect would be. There would be an overproduction of

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1. Muscle Shoals Commission, Muscle Shoals, (1928) p. 50
2. Congressional Record, 72nd Congress, 1st Session (May 4, 1932) p. 8384

these crops. Then if the south were to go into the dairy business what would some of our northern states do? What at first seemed sectional becomes national in scope.

Before and during the war we obtained most of our nitrates from Chile. In 1918 we imported 1,800,000 tons from there and would have imported more had the war continued.[1] This required one-third of the Merchant Marine.[2] After the war Germany began exporting nitrates. She shipped phosphate rock from Florida, made phosphoric acid and combined it with nitrogen from the air. Then she shipped it back to the United States.[3] In 1929 we imported 159,000 tons and made 84,000 tons here.[4]

Nitrogen is necessary for national defense because of its use in making munitions of war. But this is not the only reason why it is valued for national defense. Nations are made up of people and they live on the products of the soil. In the past nations had to migrate when their soil became worn out but that can't be done now.

What is the matter with China and India to-day? India's soil is so worn out that she can't feed her people.

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1. Congressional Record, 72nd Congress, 1st Session, (June 2, 1932), p. 12240
2. Congressional Record, (May 4, 1932), p. 9883
3. Ibid., p. 9882
4. Ibid., p. 9882

It is said that a certain per cent of her people are always hungry. In China the situation is similar. Some of the land produces only one crop in seven years.[1]

Are we going to let our soil deteriorate or are we going to replenish the plant food as it is taken from the soil? At present United States uses 6.4 pounds of plant food per acre, Germany 200, Belgium 513, Holland 675, France 150, and Italy 150.[2]

POLICIES WHICH AFFECTED PROPOSED LEGISLATION FOR MUSCLE SHOALS

The Muscle Shoals question has received considerable attention during the last six congresses. Committees have held hearings which have occupied considerable time. Commissions have been appointed to make special studies of the question and still it is unsolved. The public has been interested in the question and has taken some very definite stands in regard to certain proposed legislation. At times it has become almost a sectional question between the north and the south. Organizations have been formed for the purpose of influencing congress.

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1. Ibid., p. 9883
2. Ibid.

An example of this is given in a report made by the Judiciary Committee.[1]

According to this report the major portion of the propaganda has been carried on by the Tennessee River Improvement Association organized many years ago by the people in that district for the purpose of furthering the development of that valley drained by the Tennessee river. At first its efforts were made to obtain appropriations for navigation but power problems have engaged a large share of its attention in more recent times. Muscle Shoals became the central feature in its activities.

Its funds were contributed by the people of the communities directly interested in its work. The contributions were usually made through the local chamber of commerce or some similar organization. Later other organizations which were interested in the passage of certain bills made large contributions to its work. It did a considerable amount of engineering work, assembled data in support of the enterprises which it was forwarding and produced maps and charts which made clear its contentions and helped forward its purpose. An office was maintained in the city of Washington in charge of Col.

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1. Senate Report, No. 43, pt. 7, 71st Congress, 2nd Session, (May 31, 1930)

J. W. Worthington, an engineer. It occupied part of his residence. Up until 1925 meetings were held and a strict account of the money received and spent was kept but after that the committee was unable to find any records. The office force consisted of two capable assistants who declared that they knew nothing of the accounts. Their salary was paid by the Colonel from his private account. At the time of the investigation he was in the Ford Hospital in Detroit. According to the record which had been kept they received about $60,000 per year but in about 1925 the original source of their funds seemed to stop. This was caused by dissentions among the contributors concerning proposals for the development and utilization of Muscle Shoals.

Since that time Col. Worthington and Mr. C. H. Huston have been active in advocating the acceptance of the offer made by the American Cyanamid Company which came before congress in the form of the Madden-Wright bill. This company had some agreement with the Union Carbide Company in regard to the utilization of the excess power. At first the Colonel received a salary of $10,000 a year but later he was often in need of money. In 1929 he received $36,000 from the Union Carbide Company through Mr. Huston. It was claimed that this payed the association for data

and maps.

Later Chester H. Gray, legislative representative of the American Farm Bureau Federation became interested in the organization. Through him Samuel Thompson, the president also became interested. However, no formal action was taken by the American Farm Bureau Federation. By arrangements of Gray and the American Cyanamid Company the National Agricultural Publishing Company printed and circulated in the name and as though issued by the American Farm Bureau Federation articles, advocating the passage of the Madden-Wright Bill. These were sent to farm papers and journals throughout the country. This cost the American Cyanamid Company $7,000. Later it was estimated that the amount payed by both companies was $45,000. Besides sending out literature they sent R. F. Bower, who had written many of the articles published, to different states to lecture for the bill. He was introduced as one who favored the Muscle Shoals proposition. For his services he was payed $725 per month.

This I think is enough to give an idea of the work of some organizations. While some were working for a bill others were opposing it. Is it any wonder that congresses adjourned without action on some bills and

that President Coolidge pocket vetoed one bill and President Hoover vetoed another?

During these last six congresses proposed legislation has been measured by certain fundamental and prevailing principles. These determined the action of committees to which bills were referred. This first formal expression of these ideas was dated April 24, 1922 and is as follows:

Committee on Military Affairs

House of Representatives,

April 24, 1922

"It is the judgment of this subcommittee that any proposition for the purchase, lease, or use of the Muscle Shoals property of the Government of the United States shall be based upon the following as fundamentals and essentials:

1. That the property shall at all times be subject to the absolute right and control of the Government for the production of nitrates or other ammunition components of munitions of war, and that nitrate plant No. 2 must be kept available therefore by the purchasers, lessees, or users of the property.

2. That the purchasers, lessees, or users of the property shall be obligated in the strictest terms to the manufacture and sale to the public of fertilizers in time of peace.

3. That any proposal for the purchase, lease, or use of Muscle Shoals property of the United States Government must be for the entire property except the so-called

Gorgas plant and the transmission line therefrom."[1]

Frank L. Greene
John F. Miller
Richard Wayne Parker
(So far as it goes)
Percy E. Quin
William C. Wright

The next expression of these principles is found in the concluding statement of the majority report of the commission appointed by President Coolidge on March 26, 1925.[2]

Concluding Statement

"It is the mature judgment of the undersigned members of the inquiry that the Muscle Shoals property is primarily a part of our national defense and we are convinced that this view is generally shared by the people of the United States. It is obvious that when these plants are needed for the production of munitions in time of war they will be needed quickly. The government should, therefore, hold the title to the plants and prevent their being so changed as to make impracticable their immediate conversion for the manufacture of munitions, and arrangements should be made that will assure the maintenance of a trained operating force. These needs can best be served, in our judgment, by operating the plant. Fortunately, these plants are of such a character that they can render an important peace-time service to agriculture, and this vast expenditure of the Government need not remain idle or unproductive

"We therefore unhesitatingly recommend legislation be enacted by Congress to lease this property on such terms as have been herein enumerated, and in event of failure to obtain a lease the President should have authority to cause these plants to be immediately operated as a Government enterprise.

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1. House Report, No. 1430, Pt. 2, 71st Congress, 1st Session, (May 12, 1930), p. 4
2. House Doc., No. 119, 69th Congress, 1st Session, (Dec. 10, 1925) p. 5

"It is with great reluctance that we turn toward Government operation, being well advised of all of the infirmities inherent in such an undertaking. The great investment of the Government at Muscle Shoals, however the importance of its continued maintenance as a part of our National defense, the crying need of agriculture for more and cheaper fertilizer, and the favorable opportunity for meeting that need, all compel us to disregard our prejudices, for we are convinced that to longer permit this great investment to stand idle when it can be of such great service to our people would be little less than a public calamity. Delay in this case is expensive. Legislative action is imperative. Dated this 14th day of November, 1925."

John C. McKenzie
Nathaniel B. Dial
R. F. Bower

The next expression of these ideas is found in the House Resolution No. 4, adopted by the Sixty-ninth Congress, first session, 1926, and is as follows:[1]

"Resolved by the House of Representatives (the Senate concurring), that a joint committee, to be known as the Joint Committee on Muscle Shoals, is hereby established to be composed of three members to be appointed by the President of the Senate from the Committee on Agriculture and Forestry and three members to be appointed by the Speaker of the House of Representatives from the Committee on Military Affairs.

"The committee is authorized and directed to conduct negotiations for a lease or leases (but no lease or leases shall be recommended which do not guarantee and safeguard the production of nitrates and other fertilizer ingredients mixed or unmixed primarily as hereinafter provided) of the nitrate and power properties of the United States at Muscle Shoals, Alabama, including the quarry properties at Waco, Alabama, for the production of nitrates primarily and incidentally for power purposes, such power to be

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1. House Report, No. 980, 69th Congress, 1st Session, (April 26, 1926) p. 1

equitably distributed between the communities and States to which it may be properly transported in order to serve national defense, agriculture, and industrial purposes, and upon terms which so far as possible shall provide benefits to the Government and to agriculture equal to or greater than those set forth in H. R. 518, Sixty-eighth Congress, first session, except that the lease or leases shall be for a period not to exceed fifty years."

The next expression of these same ideas is found in the report of this (Military) committee to the Sixty-ninth Congress, second session, and dated March 3, 1927. The subcommittee reports upon two bills. In their report they refer to and list these ideas which were given to them by the full committee to determine and limit their decisions concerning the bills.[1]

PROPOSED LEGISLATION FOR MUSCLE SHOALS

Mr. Glasgow, who has been appointed Fixed Nitrogen Administrator, spent the summer of 1919 trying to interest private capital in the operation of the nitrate plants. The presidents of all the large fertilizer companies in the United States were seen and the matter was discussed with them. They were asked if they would undertake the operation if they were to pay no rental to the government until they had received nine per cent on their investment and after that the profit was to be divided between the

1. House Report, No. 2303, 69th Congress, 2d Session, (March 3, 1927) p. 2

government and the company. The government agreed to complete the plants and have them in readiness for operation.

Failing to obtain any offers from them, he next tried to get the financiers of New York to organize a company for operation. An appeal was also made to the coke-oven interests with the same result.

On October 22, 1919 Mr. Glasglow wrote a letter to the Secretary of War in which he explained the situation. If the nitrate plants were to be of any value to the government in the time of war, they would have to be operated and kept in an efficient condition. As no offer had been made, he recommended that plants be operated by a government corporation.

This recommendation was introduced into the Senate November 3, 1919 by Senator Wadsworth, as S. 3390 and into the House by Representative Kahn as H. R. 10329. This bill with amendments passed the Senate and was sent to the House. Here both bills were still in the Committee on Military Affairs when congress adjourned March 4, 1921.

In February, 1921 an amendment was added to a sundry civil appropriation bill calling for an appropriation of $10,000,000 for the continuation of construction at Wilson Dam. This was defeated as nothing definite had been

decided as to what they were going to do with Muscle Shoals. Some felt that it was useless to spend more money.

In March, 1921 Secretary Weeks stated that when he received a bid which he thought would pay adequate returns to the government for what they would have to spend, he would send it to congress. The Chief of Engineers was then directed to ask for bids.[1]

The first bid received was that of Henry Ford on July 8, 1921. It was transmitted to Congress February 1, 1922 where hearings were begun at once by the Committee on Military Affairs. This bid offered a fixed annual rental of $1,200,000 for Dam No. 2 and its power plants and appurtenances. This rental was to commence six years after the installation of equipment capable of producing 100,000 horse power. During those six years a rental of $200,000 would be paid.[2]

On proposed Dam No. 3, he offered a fixed annual rental of $480,000 commencing three years after 80,000 horse power should be developed. During those three years he would pay $160,000 per year.

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1. House Doc., No. 119, 69th Congress, 1st Session, (Dec. 10, 1925) p. 19
2. House Doc., No. 167, 67th Congress, 2nd Session, (Feb. 2, 1922) p. 1

Provision was made for certain upkeep charges and payments which if applied to a fund would amortize about $48,000,000 of the cost in one hundred years. Besides we were to sell nitrate plants No. 1 and No. 2, Waco Quarry, the equipment at Gorgas steam plant and the transmission line to him for $5,000,000.

As the cost of completing the two dams would be about $50,000,000, the Secretary suggested to Mr. Ford that he change his bid and make the payments equivalent to a rate of interest on the total cost to the government of completing the projects.

On January 13, 1922 Mr. Ford presented his modified offer. He agreed to undertake the construction and completion of the dams at actual cost and without profit. Then he would lease them for a rental equivalent to four per cent on the amount necessary to complete Dam No. 2 and to construct Dam No. 1 exclusive of the cost of acquiring lands and flowage rights for Dam No. 3.

The rentals at four per cent were to commence in six years after Dam No. 2 had been completed to the point where equipment for 100,000 horse power was ready for service and three years after the equipment to develop 80,000 horse power was ready for service at Dam No. 3. During the six and three year periods, he offers to pay

annual rentals of $200,000 on Dam No. 2 and $160,000 on Dam No. 3.

He agreed to maintain the power houses and equipment at his expense but the government would be responsible for the repair and maintenance of the two dams. However he was willing to pay part of this cost. He would pay $35,000 for repair and upkeep of Dam No. 2 and locks and $20,000 for Dam No. 3. He also agreed to furnish electricity for operating the locks at each of the dams without charge to the government and to pay $23,373 semi-annually for the purpose of building up a sinking fund which if invested at four per cent would amount to $49,000,000 by the end of the lease.[1]

In this bid he also wished to buy the nitrate plants, Waco Quarry and the Gorgas property for $5,000,000. He agreed to operate plant No. 2 at its annual capacity at that time for the production of nitrogen and other fertilizer compounds and to maintain it in readiness for war purposes. The fertilizer would not be sold at a profit in excess of eight per cent of the cost of production.[2]

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1. Ibid., p. 2
2. Ibid., p. 3

He also asked for a preference in opportunity to purchase or lease the property at the end of the lease period, one hundred years. There were also some provisions which applied if the company failed to release the property. The bid could not be accepted by parts. The government had to accept all of it or none would be good.

There were other bids made at this time. Of those the bids of Engstrum Parsons and the Alabama Power Company were also considered at the hearings. The hearing of the House Committee on Military Affairs began the first of February and lasted until March 13. The Committee on Agriculture and Forestry in the Senate began its hearing February 16 and continued intermittently until June 22. From March 25th to 31st both committees visited Muscle Shoals.[1]

The Engstrum proposal was made by Fredrick E. Engstrum, president of the Newport Ship Building Company. By this proposal all the property was to be leased for a term of 50 years, with the exception of the Gorgas-Warrior Steam Plant. The Government would retain title to the various properties. Nitrate Plants No. 1 and No. 2 were

1. House Doc., No. 119, 69th Congress, 1st Session (March 26, 1925) p. 19

to be remodeled. Dam No. 2 was to be finished and Dam No. 3 was to be constructed by the Engstrum Corporation under the supervision of the government and the government was to pay five per cent on the construction costs.

The manufacture of nitrates was to be financed by the sale of excess power. It was estimated that the returns from 400,000 kilowatts of power would be about $3,500,000 per year. This would easily finance the project. In this way it was believed that cheaper fertilizers could be made. The profits were to be divided by the Government and the Engstrum Corporation.[1]

The Parsons offer was made by Chas. L. Parsons, formerly Chief Chemist for the Bureau of Mines and employed by the Government during the war as an expert to investigate nitrogen fixation processes. He agreed to form a company to be known as Southern Nitrate Company. Stock would be open for the public to buy.

The company agreed to do the following:

1. To purchase the first 100,000 kilowatts of secondary power at .75 mill per kilowatt hour.
2. To purchase Nitrate Plant No. 1 for $600,000.

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1. House Doc., No. 193, 67th Congress, 2d Session, (Feb. 27, 1922) pp. 2, 3

The company required the following:

1. The option to lease the carbide plant, constituting a portion of plant No. 2 with land, transmission lines, rights of way, and other necessities appropriate to its operation now on the premises, including the buildings, materials, machinery, fixtures, equipment appurtenances, housing facilities, tools and supplies together with the liquid air plant and its lands, buildings and appurtenances for the sum of $50,000 per annum.
2. An option to purchase all the property constituting the Waco Quarry for $200,000 or to lease for $20,000 per annum.

If the offer is accepted the company will operate this plant for the fixation of nitrogen. In case the ammonia nitrate plant is leased they agree to furnish it calcium carbide at six per cent profit to furnish at cost power and nitrogen gas which may be necessary.[1]

The last offer which I will explain is that of the Alabama Power Company. They felt that they had a better right to this property than any one else because they had

1. House Doc., No. 220, 67th Congress, 2d Session, (April 5, 1922) p. 3

owned the site of Wilson Dam at the outbreak of the war and were planning for power development at that point. They turned over to the government for $1 that which had cost them $500,000.[1]

Besides they granted to the government the use of foundations and under-structures then in reserve for their own use, that they might build the 30,000 kilowatt extension to their Gorgas-Warrior Plant.[2] By contract (T-69) they agreed to buy this at a fair price when the government ceased to need it.[3]

According to their offer they agreed to carry out the following terms:

1. To take out license under Water Power Act, complete Dam No. 2 locks and power house at company's expense and provide 240,000 horse power which could be increased later at the will of Federal Water Power Commission.[4]
2. To furnish 100,000 horsepower for fertilizer use and experimentation.

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1. House Doc., No. 192, 67th Congress, 2d Session, (Feb. 22, 1922) p. 4
2. Ibid.
3. House Report, No. 1084, 67th Congress, 2d Session, (Jan. 30, 1922) p. 18
4. Ibid., p. 3

3. To purchase the government's interest in the Warrior extension of the steam plant and facilities, and the Warrior and Sheffield substations, the transmission line from Warrior to Sheffield, and the steam plant at Nitrate Plant No. 2, also the necessary rights of way, lands, and housing facilities and to pay therefor in five equal installments the sum of $5,000,000 less an amount to be agreed on to cover the cost of locks and navigation structure at Wilson Dam.[1]
4. To operate and maintain the power plant, dam and gates. The government was to operate and maintain the locks for which the power company would supply the necessary power without cost.
5. To take over Wilson Dam property and plant but not the locks and navigation structures.
6. To turn property over to the government for any purpose involving the safety of United States.
7. To lease for 50 years.
8. To organize new company for operation.

1. Ibid., p. 4

On April 10, 1922 Senator G. W. Norris introduced his bill (S-3420) which provided for a Government Corporation to control and operate the Muscle Shoals property. On April 20, 1922, as chairman of the Committee on Agriculture and Forestry, he submitted a report to the Senate which unanimously rejected all bids except that of Mr. Ford and reported that the committee stood seven in favor of its acceptance and nine for its rejection and that his report was a minority report in advocating government operation.[1]

In June, 1922, Senator Norris introduced an amendment to an Army Bill which provided $7,500,000 for continuing the work on Wilson Dam. The amendment passed and was adopted by the House. The appropriation was made available October 1, 1922 and work on Dam No. 2 was resumed.[2]

One June 9, 1922, the Committee on Military Affairs brought in a majority report on the Muscle Shoals propositions which recommended the acceptance of the Ford proposal. Two minority reports opposed his proposal. However, on March 3, 1922 the Sixty-seventh Congress adjourned without considering the Muscle Shoals legislation.[3]

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1. Senate Report, No. 831, Part 1, 67th Congress, 2d Session, (Aug. 3, 1922) p. 1
2. House Doc., No. 119, 69th Congress, 1st Session, (Dec. 10, 1925) p. 19
3. Ibid.

With the opening of the Sixty-eighth Congress came new bids. The chairman of the Military Committee, Hon. Julius Kahn, telegraphed Mr. Ford to ask if his offer of May 31, 1922 was still good. Mr. Ford replied that it was and that the McKenzie bill with the so called Madden amendment would be satisfactory to him.[1]

Since the last session of the Sixty-seventh Congress, the Secretary of War had sold the Gorgas plant and transmission line to the Alabama Power Company for $3,472,487.25.[2] When Mr. Ford heard of the sale, he became very angry and condemned the Secretary of War and the administration in unmeasured terms. To appease his anger the administration announced that in case his offer was accepted the amount received would be credited on the $5,000,000. This evidently appeased him for he withdrew as a candidate for President.[3]

The Madden amendment to the McKenzie bill, H.R. 518, to which Mr. Ford was willing to agree, did not carry out the exact agreement of the administration, but promised another plant near the Gorgas Plant and to secure another right of way for a transmission line. The money received

1. House Report, No. 143, 68th Congress, 1st Session, p.15
2. Senate Report, No. 678, 68th Congress, 1st Session, p. 26
3. Ibid.

from the Alabama Power Company was to be used for this purpose. The other provisions of the bill were practically the same as H.R. 11,903 of the Sixty-seventh Congress.[1]

The Alabama Power Company, Tennessee Electric Power Company and the Memphis Light and Power Company submitted a proposal to lease Dam No. 2 and to furnish 60,000 horse power therefrom at cost to anyone who would undertake to use it solely for the manufacture of fertilizer.[2] This was introduced into congress as H.R. 6300.[3]

The Union Carbide Company submitted a proposal to lease 50,000 horse power from the United States for their own purpose and an additional 50,000 for the production at nitrate plant No. 2 of fertilizers having a nitrogen content of about 20,000 tons of fixed nitrogen, agreeing to pay for power on a sliding scale set out in the proposal.[4]

On January 24, 1924, the Alabama Power Company and Associates presented another proposal. By this one they

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1. House Report, No. 143, 68th Congress, 1st Session, p. 13
2. House Doc., No. 158, 68th Congress, 1st Session, (Jan. 21, 1924)pp. 1-5
3. House Report, No. 143, 68th Congress, 1st Session, p. 13
4. House Doc., No. 166, 68th Congress, 1st Session, (June 23, 1924) pp. 1-6

agreed to utilize under certain conditions as much as 140,000 horse power for the manufacture of fertilizers, agreeing to produce a minimum of 5,000 tons of fixed nitrogen as soon as possible after power was available.[1]

Besides these there were three proposals which provided for government operation. One was made by Messrs. Hooker, Atterbury and White. Another was Senator Norris's Bill and the other was introduced by him by request.

After considerable debate, the Ford proposal (H.R. 518) passed the House and was sent to the Senate where it was referred to the Committee on Agriculture and Forestry. The first session recessed June 7, 1924 without a vote on it.

In October, Mr. Ford notified the President that his offer was withdrawn.[2] He had decided upon another location as he couldn't wait any longer. This was probably when he decided to operate in foreign countries.

During the second session this bill (H.R. 158) was amended and sent to a conference committee. The conference report was not accepted because new material had been added. Thus the Sixty-eighth Congress ends with no settlement of the question.

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1. House Doc., No. 173, 68th Congress, 1st Session, pp. 1-3.
2. House Doc., No. 119, 69th Congress, 1st Session, (March 26, 1925) p. 20.

On March 26, President Coolidge appointed an "inquiry" of five members to aid in assembling reliable information as to the production of nitrates.[1] This report was made December 10, 1925. I have already given their concluding statements in which they make recommendations for Muscle Shoals property. They favored private operation but rather than have it idle they advised that the government operate the project.[2]

During the Sixty-ninth Congress bids were made by the Farmers Federated Fertilizers Corporation, Muscle Shoals Power Distributing Corporation, Air Nitrates Corporation, and Muscle Shoals Fertilizer Company.[3] These and some which were made during the last congress were considered but no legislation was passed.

The Seventieth Congress made more progress. On December 19, 1927, Senator Norris introduced Senate Joint Resolution No. 46 which provided for government operation of the Muscle Shoals properties. The Committee on Agri- and Forestry reported favorably and recommended that it

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1. House Doc., No. 119, 69th Congress, 1st Session, (Dec. 10, 1925) p. 21
2. Ibid., p. 5
3. Senate Doc., No. 131, 69th Congress, 1st Session, (June 21, 1926) p. 1

pass.[1]

The House Committee on Military Affairs advised that certain amendments be made.[2] Finally it was passed by both Houses but was pocket vetoed by President Coolidge.

The Seventy-first Congress didn't have any more success than the preceding one. Senatory Norris introduced a bill, Senate Joint Resolution No. 49, which was very similar to the one he introduced in the Seventieth Congress. This passed both Houses but was vetoed by President Hoover. When he returned the bill he sent a message explaining why he did not approve of it.[3]

The following are some of the reasons which I think are outstanding. He did not approve of government operation. It would stop all private operation in that vicinity. It would infringe upon the rights of the states and he did not think that it would be profitable.[4] He believed that the development should be done by the states of that vicinity and recommended that they appoint a commission to plan with the government and to provide for leasing this property.

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1. Senate Report, No. 228, 70th Congress, 1st Session, (Feb. 1, 1928) p. 1
2. House Report, No. 1095, 70th Congress, 1st Session, (March 30, 1928) p. 1
3. Muscle Shoals Commission, Muscle Shoals, (Government Printing Office, Washington, 1931) p. 100
4. Ibid., p. 103

The states, Alabama and Tennessee, each appointed three men and with three others appointed by the President, they made a study of the question. Their report was made in November, 1931 and presented to Congress by President Hoover, December 17, 1931. I will list some of their conclusions and recommendations.

1. That it was desirable that this property be used for making fertilizer, for research and for the manufacture of chemicals.[1]

2. That the President shall be given the power to lease this property.

3. That the lease should contain certain provisions which were listed.

4. That it be privately operated.

5. That surplus power and property should be sold.

6. Suggest how returns to the government should be spent.

7. That preference as a lessee should be given to farm organizations.

8. That Cove Creek Dam should be constructed by the government.

9. That Alabama and Tennessee be given the right to recapture the dams at the end of fifty years.

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1. Ibid., p. 17

During the last session of Congress which is the first session of the Seventy-second Congress, the House passed H.R. 11051 which provided for government operation if the President failed to lease it within eighteen months.[1] A very similar one S.J. Resolution No. 15 was introduced into the Senate by Senator Norris.[2] It was approved by the Committee on Agriculture and Forestry but was not passed. As before the question was left unsettled.

From reading and studying, I have come to this conclusion. At present I favor government operation. The times are such that it is impossible to sell or get a profitable lease. We shouldn't hold up development in that country. The wasted power should be sold. It belongs to those people. I think the country needs fertilizer. Let the country put a tariff on that which is imported to keep it out. This has been done for other industries. Then later maybe it could be leased for private operation.

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1. Congressional Record, (May 5, 1932)
2. Congressional Record, (Dec. 9, 1931)

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