MUSCLE SHOALS

LETTER ADDRESSED TO
SENATOR CHARLES S. DENEEN

by the Secretary of War, dated December 14, 1926, in response to his request regarding the proposed offer of the Farmers' Federated Fertilizer Corporation for the Muscle Shoals project together with an analysis of the proposed offer and a detailed analysis by Lieut. Col. M. C. Tyler, Corps of Engineers, and Senate bill 4632, introduced December 7, 1926, by the Senator from Kentucky (Mr. ERNST) and referred to the Committee on Agriculture and Forestry

PRESENTED BY MR. DENEEN
JANUARY 6, 1927.—Ordered to be printed

WASHINGTON
GOVERNMENT PRINTING OFFICE
1927
MUSCLE SHOALS

WAR DEPARTMENT,
Washington, December 14, 1926.

Hon. CHARLES S. DENEEN,
Chairman Muscle Shoals Joint Committee,
Washington, D. C.

DEAR SENATOR DENEEN: In accordance with your request, I transmit herewith an analysis prepared by Lieut. Col. M. C. Tyler, Corps of Engineers, of the proposed offer of the Farmers' Federated Fertilizer Corporation for the Muscle Shoals project.

Sincerely yours,

Dwight F. Davis,
Secretary of War.

[Sixty-ninth Congress, second session]

IN THE SENATE OF THE UNITED STATES,
December 7, 1926.

Mr. Ernst (by request) introduced the following bill, which was read twice and referred to the Committee on Agriculture and Forestry:

A bill (S. 4632) to provide for the preservation, completion, maintenance, operation, and use of the United States Muscle Shoals project for war, navigation, fertilizer manufacture, electric-power production, and other purposes, and in connection therewith the incorporation of the Farmers' Federated Fertilizer Corporation and the lease to it of the said project.

Be it enacted, etc.—

(1) That this act shall constitute the charter of the Farmers' Federated Fertilizer Corporation and a contract and lease by and between the United States of America and the said corporation covering the Muscle Shoals project, upon the terms and under the conditions as in this act set forth.

INCORPORATION OF THE FARMERS' FEDERATED FERTILIZER CORPORATION

(2) There is hereby created and incorporated a corporation, under the name Farmers' Federated Fertilizer Corporation, for the purposes and objects, and to have, possess, and exercise the powers, rights, privileges, and authorities in this act provided, and to exist for a period of 55 years from the passage of this act, or until five years after the termination of operation by the corporation under terms of the lease of the Muscle Shoals project provided for in this act, whichever may be the later date.

(3) In addition to the purposes, objects, rights, powers, and authorities elsewhere in this act conferred upon the corporation, it shall
have and possess the following: To exist and have succession by the name Farmers' Federated Fertilizer Corporation for the period of its corporate existence; to adopt, use, and, at pleasure, alter a common or corporate seal; to sue and be sued and to complain and defend in any court of law or equity; to make, amend, repeal, and reenact by-laws, not inconsistent with the Constitution of the United States of America or with this act, for the management of its property and business, the regulation and government of its affairs, the holding of meetings of its stockholders, directors, and committees, the certification, issue, transfer, and voting of its capital stock, the election, appointment, powers, duties, and terms of office of its directors, officers, committees, and agents, and the manner of filling vacancies, and fixing and altering the number of its directors (not less than five); to appoint such officers, attorneys, agents, and other employees as the business of the corporation shall require, and to allow them suitable compensation; to make and enforce all contracts, and to acquire, hold, own, and dispose of all property, real, personal, and mixed, necessary, appropriate, convenient, or suitable in carrying on its business, including all processes, letters patent, formulas, and rights pertaining to or connected with the business of the corporation or available for use therewith, whether located at Muscle Shoals, Ala., or elsewhere; to issue and dispose of its capital stock; to borrow money for its proper corporate purposes, and to issue and dispose of its bonds, notes, and other evidences of indebtedness therefor, bearing such rates of interest as the board of directors of the corporation may fix and determine; to engage in foreign trade; to conduct its business and to hold, purchase, convey, and otherwise dispose of real, personal, and mixed property anywhere in the United States of America or elsewhere; to have, possess, and exercise all purposes, objects, rights, powers, and privileges provided for in or conferred upon it by this act or requisite to carry out the provisions of this act and of the lease and contract provided for herein on its part to be observed, or performed; to enter upon and take possession of the Muscle Shoals project as lessee under and by virtue of this act to the extent herein leased and during the term of the lease herein provided, and to construct, extend, and complete, demolish, salvage, reconstruct, maintain, manage, use, and operate the same and each any every part or portion thereof; and to do any act or thing that any other corporation or individual may or could do.

(4) The business of the corporation shall be managed and controlled by a board of directors and executive committee, if so provided in the by-laws, a president, a vice president, a secretary, a treasurer, and any such other officers and agents as the by-laws shall provide. The president and vice president shall be directors but the secretary and treasurer need not be directors. Any two offices except that of president and vice president may be held by one person. A director of the corporation need not be a stockholder therein.

(5) John W. Newman, Versailles, Ky.; A. P. Sandles, Ottawa, Ohio; and A. L. Sponeker, Hutchinson, Kans., shall be, and are hereby, selected and designated as the incorporators of the corporation, and as such shall adopt its initial by-laws, shall prescribe the number of and elect the first board of directors and take such other action as may be necessary to complete the organization of the corporation.
(6) If the by-laws of the corporation shall so provide, the board of directors may, by resolution, designate three or more of their number to constitute an executive committee who, to the extent provided in said resolution or in the by-laws, shall have and may exercise the powers of the board of directors in the management and conduct of the business and affairs of the corporation between meetings of the board of directors, including the power to authorize the seal of the corporation to be affixed to all instruments which may require it.

(7) The corporation shall have such authorized capital stock, divided into such number of shares and into such class or classes, each class to have such par value or to be without par value, and to have and be subject to such preferences, privileges, limitations, and restrictions as to dividends, voting powers, or otherwise, as the by-laws of the corporation shall from time to time prescribe. After the adoption of initial by-laws by the incorporators, every provision inserted in the by-laws, dealing with the authorized capital stock of the corporation and the classification or reclassification thereof, shall be adopted, and shall be subject to alteration, amendment, or repeal, only with the vote or consent of the majority of the shares outstanding at the time entitled, under the by-laws, to vote therefor. Until otherwise provided by the by-laws, the authorized capital stock of the corporation shall consist of—

Three hundred thousand shares of nonvoting 7 per cent cumulative preferred stock, of the par value of $100 per share, redeemable at the option of the corporation at any time after three years at not to exceed $110 per share and accrued dividends, and of which 10,000 shares are to be immediately subscribed for, issued, and paid for when and as called for by the board of directors.

Three hundred thousand shares of common stock without nominal or par value. Said preferred stock may be issued from time to time and sold for cash at not less than par to such face amount as shall, in the judgment of the board of directors, be at the time necessary to provide the funds required by the corporation. Shares of stock of no par value may be issued for such consideration as shall be fixed by the board of directors, if authorized to do so by the by-laws of the corporation and, if not so authorized, then such consideration shall be fixed by the stockholders of the corporation at the time entitled to vote. As and when any shares of stock of whatever class are issued, the corporation shall file, within 30 days thereafter, with the Secretary of War, a certificate, signed and verified by its president or a vice president and by its treasurer or an assistant treasurer, stating the number of and describing the shares so issued and the consideration to the corporation therefor. All shares of stock of the corporation of whatever class, when issued, shall be fully paid and nonassessable in the hands of the holders.

(8) The corporation shall file with the Secretary of War, within 30 days after the adoption thereof, certified copy of its by-laws and of each and every alteration, amendment, repeal, or reenactment thereof. The corporation shall also, as and when requested by the Secretary of War, file with him a certified list showing the names and addresses of its stockholders and the number of shares of each class of stock respectively held. The corporation shall at all times keep on file with the Secretary of War certified reports showing the per-
sons constituting its board of directors and the names of its president, secretary, and treasurer, and their respective addresses.

(9) The principal office and place of business of the corporation shall be located at Muscle Shoals, Ala. The corporation may have offices for the transaction of its business and hold meetings of its stockholders, directors, and committees at such other place or places as the by-laws may designate or permit.

LEASE

(10) All of the property and rights, real, personal, and mixed, of whatever kind and character and wherever located, now or hereafter constructed by or for, or owned by, the United States of America in connection with or forming a part of, or for use in connection with, the Muscle Shoals project, and the rents, income, issues, and earnings thereof, are, by virtue of this act, and without further act or deed, leased to the Farmers Federated Fertilizer Corporation at the rental and upon the terms and provisions in this act provided, together with full license for use of all processes, letters patent, formulas, shop practices, shop rights, and other rights appertaining to or connected with this project or available for use therewith, whether located at Muscle Shoals, Ala., or at other places, owned or controlled by the Government, the latter guaranteeing the corporation against any and all actions which may be instituted because of use of same; and also all records, statements, lists, maps, schedules, and the property described therein, connected with this project, and these, when received for by the corporation, shall be parts of the said lease and this act as though written herein. The duration of this lease shall be 50 years from the date of passage of this act, but after the expiration of such 50-year period the lessee shall continue to hold, occupy, and use the leased property upon terms and conditions similar to the provisions of this lease, except as to date of expiration, until a new lease therefor has been fully consummated, and in the negotiation for and completion of such new lease the Farmers Federated Fertilizer Corporation will be given primary consideration.

(11) The corporation shall pay an annual rental for all of the leased property in completed condition as hereinafter provided; said rental to be taken from the receipts from the sale of power, commencing with the calendar year following the placing in commercial operation of Dam No. 2 with eight generating units, at the rate of $22.29 per kilowatt-year of 8,760 kilowatt-hours for all primary power generated and sold by the corporation from the power plants included in the leased property. After the completion of all of the items of uncompleted work mentioned in section (55) herein, the rentals shall be raised to $22.50 per kilowatt-year for all primary power generated and sold by the corporation from the power plants included in the leased property. A kilowatt-year shall be taken as 8,760 kilowatt-hours and all calculations of the rentals shall be made at such corresponding unit price per kilowatt-hour for the primary power sold. Primary power, as heretofore mentioned, is hereby defined to be all and any power which could be generated for 8,000 hours per year from the actual river flow or by any storage reservoirs, together with such portion of added power generated by
the hydroelectric plant which would be brought up to the standard of primary power by means of power generated by the steam plants of the leased property. The corporation does not require that any further amounts be appropriated by the Government for the completion of additional facilities as enumerated in section (55) herein or for construction of further up-river power development; and the corporation will pay rental at the rates stated in this section for the use of any or all additional facilities installed for the generation either of hydroelectric or of steam-electric power, whether the completion of such facilities is financed directly by the Government or the corporation for the Government; and the Government shall exercise its right at any time to undertake any future power development, but upon failure by the Government to undertake such development, within one year after notice to the Government by the corporation that a specific power development is desirable, the corporation may, at its discretion, undertake the development of such necessary additional power facilities; but, in the event that the construction of such additional power facilities is financed by the corporation, for such expenses of the power division there shall be deducted from the gross rentals, before payment is made to the Government, a yearly amount sufficient both to amortize and to pay interest upon any bonds or other securities issued by the corporation for the specific purpose of financing the construction of such additional power facilities.

(12) If in any calendar year the receipts from the sale of power are not sufficient to pay the full gross rental due for that year and all other operating expenses, interest, and all general and miscellaneous expenses allocated to the power division, and including the actual expenditures for maintenance and repairs, together with the amounts mentioned in section (64) hereof and the amounts to be set aside each year for the farmers' board, research, the emergency fund, and for the amortization of the debenture bonds, then for such calendar year the said rental shall be reduced by the amount of the deficit; and the corporation shall not in subsequent years be required to make up such deficit.

(13) Any and all by-products, excess and waste, produced or recoverable from the processes used for the production of nitrates and fertilizers and/or fertilizer bases shall belong to the corporation for its own use and benefit and shall not in any way be credited to the cost of manufacturing fertilizers and/or fertilizer bases. Any cost of further treatment, refinement, or manufacture of such by-products, excess and waste, to make the same commercially salable shall be at the expense of the corporation, and all costs of plant and investment and all working capital incident to such further treatment or manufacture shall be the obligation of the corporation, except as mentioned in section 16 herein, and shall not be included in or considered in arriving at the cost of fertilizers and/or fertilizer bases.

(14) All letters patent, processes, and formulas now or hereafter discovered at the leased property or laboratories of the Government for and in connection with fertilizers and/or fertilizer bases shall be the property of the Government, but shall be included in the leased property and shall be held from publication in the same manner as other Government processes of like character; the Gov-
ernment having the right to use the same direct at all times without charge. All letters patent, processes, and formulas discovered and controlled by the incorporators of this corporation prior to the passage of this act which may be used in connection with the manufacture of products at this project shall be and remain the property of the incorporators individually; the Government having the right to use the same direct at all times without charge during the life of said lease in connection with the manufacture of explosive bases.

(15) Inasmuch as the corporation is to produce and deliver in the control of the farmers' board, as defined in section (38) of this act, fertilizers and/or fertilizer bases without any profit, it shall be exempt from tax of any sort whatsoever now enacted or later to be enacted.

(16) The decision of the Secretary of War shall be final in all matters pertaining to the nitrate plants or changes therein, as such changes may affect the use of the same for war purposes, preparedness for war, or other military purposes.

(17) If plant No. 1 or plant No. 2, or parts of either, or other plants or parts of same, or facilities are not required or fully used for the manufacture and storage of fertilizers and/or fertilizer bases, the corporation may make use of such plants, parts, and facilities for its own purposes not inconsistent with their regular use or restoration for war uses.

(18) Upon the termination of operations by the corporation under terms of the said lease, as heretofore defined in section (10), the entire project shall be returned to the Government in good condition and repair, the period of use duly considered, and any moneys then in the fertilizer fund, construction fund, salvage fund, research fund, emergency fund, and renewal and replacement funds shall be paid to the Government together with all funds which may have accumulated for amortization of the Government's total investment in the dams and plants leased to the Farmers' Federated Fertilizer Corporation.

(19) The corporation is hereby authorized, with the approval of the board of industrial development (hereinafter defined) to sell, transfer, rent, or otherwise dispose of any real estate, materials, supplies, or other property, real, personal, or mixed, pertaining to the project at the time of taking over the lease, which said board shall determine to be not needed for the construction, maintenance, and operation of the project, or for war, military, or navigation purposes, giving good and indefeasible title in fee simple to the purchasers thereof. The net consideration received upon any such sale or other disposition by the corporation, except moneys received for rents, shall be credited to a salvage fund, and said fund shall form part of the leased property and may be used by the corporation for the purchase of other useful property for the project and for working capital of the corporation. Upon the termination of operations by the corporation under terms of the lease said fund, as then constituted, shall be turned over to the Government. Any of the property which may be sublet by the corporation under this act shall be sublet for such term, expiring not later than the termination of the lease period, for such rental and upon such terms as the corporation may determine.

(20) The corporation may construct at its own cost any additional buildings, structures, or facilities and equipment at any location on
the project and for any use, with the approval of the board of industrial development, and the same shall remain the property of the corporation. Upon the termination of operations by the corporation under terms of the lease the Government may purchase such property from the corporation at its appraised value not to exceed the actual cost thereof, or, at the option of the corporation, the latter may remove the same; but if the lease is terminated by the Government prior to its expiration by reason of any default by the corporation in complying with the terms of the lease, then the Government shall, as penalty for such default by the corporation, acquire without cost all power and fertilizer facilities of any nature installed by the corporation upon the leased premises.

(21) The corporation shall have the power and authority to purchase, construct, appropriate, enter upon, or otherwise acquire, use, own, maintain, and operate any property or right, real or personal, tangible or intangible, which may, in the judgment of the board of directors, be necessary or desirable to accomplish the purposes of this act, including any water and/or flowage rights and lands along such portions of the Tennessee River and its tributaries above Dam No. 1 as are necessary or desirable for the development of water storage and/or water power, and the regulation of the flow of such river and tributaries. In case the owner of any such property or right and the corporation are unable to agree upon the damage or compensation be paid for such property or right, or in case, by reason of the absence or legal incapacity of such owner, no such agreement can be made, the corporation shall have the right to acquire such property or right by the exercise of the right of eminent domain in the district court of the United States or in the State courts for the district in which said property or right, or the property in respect whereof such right is desired, may be located. In all cases where the parties can not agree as aforesaid, the corporation shall tender a bond, with sufficient security to the party claiming or entitled to any damage, or to the attorney or agent of any absent person, or to the guardian, committee, or other representative of anyone under legal capacity, the condition of which bond shall be that the corporation will pay or cause to be paid such amount of damages as the party shall be entitled to recover, if the amount thereof shall have been agreed upon or assessed in the manner provided for by this section: Provided, however, That in case the party or parties claiming or entitled to damages refuse or do not accept the bond as tendered, the corporation shall then give the party written notice of the time when the same shall be presented for filing in court and thereafter the corporation may present said bond to the court having jurisdiction, and if approved, the bond shall be filed in said court for the benefit of those interested, and recovery may be had thereon for the amount of damages thereafter assessed, if the same is not paid. Upon the tender and acceptance of such bond, or the filing thereof as aforesaid if not accepted, the corporation shall have the power to enter upon and take possession of the property condemned. The practice and procedure in any action or proceeding for the purpose aforesaid and for the assessment of the damages that any such owner shall be entitled to receive, instituted in the district court of the United States, shall conform as nearly as may be with the practice and procedure in similar actions in the courts of the State where the prop-
property aforesaid is situated. At the termination of operations by the corporation under terms of the lease, the Government may purchase property acquired by the corporation under the conditions of this section at its appraised value, not to exceed the actual cost thereof to the corporation.

(22) The corporation shall not sell, transfer, or license any of the letters patent, processes, and formulas forming part of the leased property, nor shall the corporation sell, transfer, or assign this lease or the leased property, except as otherwise provided in section (19) herein. Nothing in this section shall apply to the letting or sub-letting of construction contracts.

(23) The Secretary of War is hereby authorized to enter into and execute such agreements with the corporation, consistent with the provisions of this act, as will provide for omissions, if any, or as may be necessary in order to carry out the purpose of this act.

POWER DIVISION

(24) The power needed in the manufacture of fertilizers and fertilizer bases and/or explosive bases shall be furnished by the power division of the corporation on as favorable terms as supplied to any other customer under similar conditions and times of use, and the corporation, the research board, and the farmers’ board (both of which boards are hereinafter defined), shall endeavor to discover or perfect processes and methods of manufacture and operation that will enable the corporation to produce fertilizer and/or fertilizer bases, using the cheapest classification of power consistent with maximum over-all economy.

(25) The rates to be charged by the corporation for electric service shall be subject to regulation by any State commission or other governmental body at the time having jurisdiction in the premises. For the purpose of determining the rate base, but for no other purpose, the corporation shall be deemed the owner in fee simple of such property, and any power used by the corporation, except that which is used only in the operation of the electric generating, transforming, and switching portions of the plants, shall be considered on the same basis as any other customer under similar conditions of use. The rates to be charged for any other public service rendered by the corporation shall be similarly based and regulated. Certain current will be supplied to the Government, free of charge, for navigation as set forth in section (69) herein.

(26) In order to use more completely and advantageously the power resources of the project, and if necessary for the purpose of giving wider distribution of electric power, the corporation is hereby authorized to use any amount in the salvage fund, provided in section (19) of this act, and/or moneys received from the sale of construction debenture bonds, to construct for the Government such transmission lines—including appurtenant substations, transformers, and other works—as in the judgment of the board of industrial development may be necessary and desirable, under the same terms and conditions as other construction work mentioned herein. Any transmission lines which may be so constructed shall immediately become a part of the leased property and shall be returned to the Government at the same time and under similar conditions as the
other leased property of this project, upon the termination of operations by the corporation under terms of the said lease.

(27) The corporation may enter into agreements with the owners of electric generating stations and/or transmission lines, now or hereafter constructed, to bring about the exchange of power wherever the same can be advantageously done; may enter into contracts with persons, partnerships, corporations, municipalities, districts, and individual States of the United States of America for the joint construction and use of transmission lines and may organize, join with, or associate with, a superpower or other organization for the better distribution of electric energy through a combination of sources of supply or transmission systems or operating organizations, as and when such agreements or contracts, in the opinion of the board or directors of the corporation, can be advantageously made.

FERTILIZER DIVISION

(28) The corporation shall manufacture fertilizers and/or fertilizer bases as a separate department or division of the project, and shall make no profit and incur no loss in such fertilizer division.

(29) The “cost” of fertilizers and/or fertilizer bases shall include all items of expense and charge incident thereto, including provision for taking care of past deficits or previous unintended profits, to the end that no profit or loss will result to that division of the corporation.

(30) During the first year of production of fertilizers and/or fertilizer bases the corporation shall furnish the farmers’ board with as reliable estimation of the cost of production thereof as circumstances will permit, and thereafter shall report regularly, and at such times and in such form as the farmers’ board may reasonably prescribe, the actual cost of production.

(31) The methods or processes to be initiated for the production of fertilizers, and/or fertilizer bases shall be recommended by the board of research, in accordance with the terms of this act. The extent of the production will be specified by the farmers’ board (see section (40) hereof) and predicated on the expenditures for construction as specified in sections (55) and (63) hereof. The quantity shall be measured in tons of fixed nitrogen content of finished fertilizers and/or fertilizer bases, and is expected to be not less than 40,000 tons annually after the fourth year of operation; this amount is expected to be reached in increasing stages of 10,000 tons per year beginning the second year. The corporation agrees to further extend the quantity of fertilizers produced under this plan after consideration of the market demand and authorization of the farmers’ board and only dependent on the requirements of further additions to the Government’s plants for such production, which additions may, if found desirable, be financed from the fertilizer fund hereinafter defined. The methods and prices used in the distribution and sale of the fertilizers and/or fertilizer bases shall be determined and carried out by the farmers’ board.

(32) All maintenance, repairs, renewals, and replacements on the plants and equipment solely incident to this division shall be made by the corporation, and such expense shall be considered as part of the cost of production.
(33) As an incentive to perfecting processes and formulas and to discovery of more efficient business and manufacturing methods and to cheapening in any other way the cost of the product the corporation shall be allowed and paid, as a bonus, an amount equal to 50 per cent of any such reduction in the production cost in each calendar year over the production cost of the preceding year, commencing after the contemplated changes in the nitrate plants are made and in use, which changes are to be made immediately; the amounts so paid to the corporation, if any, to be determined by the Secretary of Agriculture for each calendar year, are to become an item of production cost, anything in section (28) herein to the contrary notwithstanding.

CONTROLLING BOARDS

(34) A board of industrial development shall be constituted, as hereinafter provided, to consist of an executive officer of the corporation, who shall be the chairman thereof, the Secretary of War or a person appointed by him, the Secretary of Agriculture or a person appointed by him, the Secretary of Commerce or a person appointed by him, and three others (who may be employed or retained by the corporation) appointed by the directors of the corporation. Each member shall serve for a term of one year, and any vacancy in the board, whether caused by death, resignation, or expiration of term of any member, or for any other reason, shall be filled in like manner. No member of the board shall receive any compensation for his services as a member thereof. The board shall, for the guidance of the corporation—

(a) Confer with the Secretary of War, and work out, and from time to time whenever necessary or advisable, amend, alter, or supplement a general plan covering the war uses of the project, particularly as to the use thereof by the corporation being at all times subject to the use of the Government in time of war; and subject to such plan.

(b) Confer with the Secretary of Agriculture, and work out, and from time to time whenever necessary or advisable, amend, alter, or supplement a general plan covering the fertilizer uses of the project; and the corporation shall observe and conform to the provisions of such plans; and subject to the foregoing plans.

(c) Confer with the Secretary of Commerce, and work out, and from time to time whenever necessary or advisable, amend, alter, or supplement recommendations for the development of the industrial activities on the project and within transmission distance thereof, and as to classes of industry best suited to the locality, taking into consideration the industrial and commercial life of the Nation as a whole.

(35) A board of research, to consist of five members, shall be appointed by the Secretary of Agriculture, of which he may be a member. The remaining members shall be selected from the staff of the nitrogen research laboratory, Bureau of Soils, or other technical forces under his jurisdiction, as well as the technical staff of the corporation, except that the corporation shall be entitled at all times during the term of the lease to representation by two members on said board. The corporation shall supply from the research fund.
hereinafter provided for, $150,000 per annum toward the maintenance of the nitrogen research laboratory, as and when a like amount is contributed by the Government for the same purpose. The members of said board and the term of office of each member shall be one year, and all vacancies shall be filled and successors appointed by the Secretary of Agriculture, provided that at all times at least two members thereof shall be representatives recommended by the corporation. Each member of said board, other than the representatives of the corporation shall receive such compensation as shall be fixed by the Secretary of Agriculture, the same to be approved by the farmers' board and paid out of the fertilizer fund.

(36) The board of research shall, as promptly as possible after the passage of this act, recommend processes and formulas for use by the corporation on the project for the production of fertilizers and/or fertilizer bases and the nature and extent of the changes, additions, and extensions to the nitrate and other plants, and shall have advisory powers in the completion of such construction and placing of same in operation and thereafter shall, through continued research and experimentation, recommend or advise as to changes, betterments, and substitutions required in connection with the processes and formulas to be employed by the corporation.

(37) Any action of this board shall be submitted for review to the Secretary of War, and, unless disapproved by him within 30 days thereafter, shall become available to the corporation as though with his approval.

(38) A farmers' board to consist of not more than five members shall be appointed by the Secretary of Agriculture, of which board he, or one of his assistants, shall be a member and shall act as chairman. The remaining members shall be appointed by him for one year, and the board originally selected by him shall include one representative from each of the following associations, or their successors, or others representing farmers' welfare:

- American Farm Bureau Federation.
- The National Grange.
- National Farmers Union.
- National Council of Cooperative Marketing Associations.

Each of said associations or their successors shall be requested by the Secretary of Agriculture to recommend its representative on said board at such time as in his judgment said board should commence to function, and the said Secretary of Agriculture shall fill all vacancies, by appointment, and the representatives on said board shall, in so far as possible, during the term of said lease be identified with said associations or their successors, or branches of the farm industry, or organizations nationally interested in the farmers' welfare. Compensation not to exceed $10,000 a year shall be paid to each member of the board at the direction of the Secretary of Agriculture, and such compensation shall be paid from the fertilizer fund.

(39) The said board shall hire a secretary whose whole time shall be devoted to the work of the board and the gathering of data for its use in the marketing and distribution of fertilizers and/or fertilizer bases to the farmers of the United States, and the salary and expenses of said secretary shall be paid from the fertilizer fund, not to exceed the sum of $20,000 per annum. The expenses will include
(40) The said farmers' board shall have full power and authority to prescribe the methods and policies to be carried out as to the marketing and distribution of the fertilizers and/or fertilizer bases and any expense in carrying out the said methods and policies shall be considered as an item of final cost of said products and paid from the fertilizer fund.

CONSTRUCTION

(41) If the foundations of the Dam No. 2 shall prove defective, and/or any of its equipment or the power house shall in any way be defective or unsatisfactory, after the completion of all the work incident to a complete operative hydroelectric project, and after all operative and other usual tests have been made, then the Government shall make all repairs, changes, or replacements at its expense to make the same an efficient, safe, and complete operative hydroelectric project, and the corporation shall take over the hydroelectric project at Dam No. 2 within 60 days thereafter and shall place the same in commercial operation as promptly as possible.

(42) The existing steam-electric plant at nitrate plant No. 2 shall be given an operative test, and any repairs, renewals, and replacements necessary to place it in an efficient operating condition shall be made by the Government, and when completed in such condition, it shall be taken over by the corporation.

(43) The corporation shall be notified in advance as to each such test and be permitted to have representatives present, and shall be furnished with all data and information as to the results of each such test.

(44) In case any other item of the leased property, when delivered into the possession of the corporation, shall be in need of any repairs, renewals, or replacements, the same shall be made by the Government and at its expense, and if not so made promptly the corporation shall have the right to make the same and the Government shall furnish or reimburse to the corporation all funds requisite therefor.

(45) The corporation shall, upon notice in writing in each case from the Secretary of War, act as agent for the Government for the designing and construction of each or any of several items of uncompleted work referred to in section (55) herein, or for any other construction work of the Government incident to the project now planned or hereafter to be planned, and in any such event the corporation shall, as soon as possible after receipt of such notice, submit to the Secretary of War plans and specifications for such work and estimate of the cost thereof.

(46) If the Secretary of War shall elect to have the corporation so act for the Government, the corporation shall in each case act as a Government engineering, construction, and purchasing department, and shall as such and for such capacities at all times be subject to instructions from the Secretary of War. As engineers, the corporation shall make or cause to be made all necessary studies, recommend the type and character of equipment and of construction required, and prepare plans and specifications for material, equipment, and construction work, and the estimate of the cost thereof. The
corporation shall follow the usual commercial practice without advertising for bids unless it shall so elect.

(47) All actions of the corporation, as defined in section (46) herein, and all contracts and orders for such construction for the Government which are handled or placed by the corporation, pay rolls and other obligations resulting therefrom, shall be in the name of the United States Government by the corporation as agent, and the corporation shall not thereby assume any financial liability under or by reason of such obligations.

(48) The corporation shall be paid a fixed fee equal to 6 per cent of the estimated cost of such work, which estimated cost shall be agreed upon by the Secretary of War and the corporation prior to the commencement of work. Such estimated cost shall include the following items, whether commitments therefor or expenditures are made or to be made by the Government or by the corporation for the Government:

(a) The cost of all property, real, personal, and mixed, rights, royalties, material, machinery, equipment, labor, tools, plant, and equipment purchased and the rental of any equipment hired, salaries and expenses of all officers and employees of the corporation for that portion allocated to construction work, and all expenses of office and office help and supplies for such officers and employees, in connection with exploration, investigation, preliminary and final engineering, or designing, in the choice of material and purchase of same, equipment and supplies, and the inspection thereof, at the works or elsewhere.

(b) The cost of expert and consulting services, including all legal services and expenses incident thereto.

(c) The cost of traveling and incidental expenses.

(d) Other expenditures made directly, incident to this work, but not including interest during construction.

Installments of the said fee shall be paid monthly to the corporation on the basis of 6 per cent of the actual expenditures made during the preceding month until 90 per cent of the total fixed fee shall have been paid, and the remaining 10 per cent shall be paid on completion of the work. If material change in the scope of the work shall be ordered by the Secretary of War at any time after the determination of the amount of the said fee, the amount of said fee shall be increased by an amount equal to 6 per cent of the estimated additional cost of such additional work. The amount of the said fee shall not be changed because of any difference between the actual cost and the estimated cost.

(49) The corporation shall make all payments incident to the construction work executed by it, for the account of the Government, out of funds supplied to the corporation, and if such funds are not supplied directly by the Government, but are acquired through the sale of obligations of the corporation, guaranteed by the Government, the cost of acquiring such funds shall be considered as an item of construction cost in arriving at the said estimated cost. All such payments shall be under such regulations as the Secretary of War may prescribe, and the Government shall reimburse the corporation each month for its expenditures for Government work made during the preceding month.
(50) All correspondence, records, vouchers, and books of account of the corporation relating to the construction work shall at all reasonable times be open to the inspection of the Secretary of War or his authorized representative.

(51) The Secretary of War shall have a representative inspector on the construction work at all times, and any official communication from him to the corporation, or any of its agents, shall be made in writing, and such communication shall be deemed an official communication of the Secretary of War. In case of disagreements, the decision of the Secretary of War shall be final as to the results to be accomplished.

(52) If at any time the Secretary of War shall become dissatisfied with the manner in which any construction work is being executed or shall for any reason wish to discontinue such work, he shall have the right, after 10 days' notice in writing, to terminate the employment of the corporation as agent on such work and to take possession of such work and material for the construction thereof and complete the same. In case the Secretary of War shall take such action, the corporation shall, before possession is so taken, receive in payment for its services all installments of the fixed fee which shall have become due or accrued to it in connection with such work, reimbursement for all funds expended by it in connection therewith, and a release from the Government of all responsibility incident to such work. The approval by the Secretary of War of any expenditure made by the corporation shall be final.

(53) The refitting of the nitrate plants to manufacture the required fertilizers and/or fertilizer bases shall be commenced by the Government or by the corporation for the Government as soon as recommendations have been made by the the board of research and the plans and specifications for the same have been made and the estimated cost thereof shall have been agreed upon.

(54) The corporation, if directed by the Secretary of War in writing, shall construct for the Government all storage dams and/or power plants or other works desired by the Government and designed for the regulation and augmentation of this project or its extensions and not mentioned in this act under the same terms and conditions as mentioned for the other construction work.

(55) In order to insure the development of the project to take full advantage of the natural resources at Muscle Shoals and above, the following items of uncompleted work are considered necessary for and included in the lease herein made, and shall be constructed and completed as quickly as shall be considered consistent with the provisions of this act and good engineering and commercial practice, namely:

(a) Changes and additions in the nitrate plants for their up-to-date use in the manufacture of fertilizers and/or fertilizer bases.

(b) Completion of Dam No. 2 with its full-power equipment of 18 generating units.

(c) Construction of Dam No. 3 with its full-power equipment and electric transmission tie line to Dam No. 2.

(d) Additions to the generating capacity of the steam electric plant located at nitrate plant No. 2 to bring the total generating capacity up to at least 120,000 kilowatts; such additions to be in the form of steam, gas, oil, or other forms of electric-generating equip-
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ment; the form and location of which being subject to the approval of the board of industrial development.

(56) The time of commencing work under item (a) shall be as defined in section (53), and the items (b), (c), and (d) on the approval of the board of industrial development of plans and specifications therefor, and when the estimated cost thereof shall have been agreed upon.

(57) After the completion of requisite tests, showing each item mentioned in section (55) hereof to be safe, satisfactory, and complete for operating conditions, they shall be taken over by the corporation and thereupon become part of the leased property.

(58) Immediately upon the enactment of this bill it shall become a law, and the incorporators heretofore denominated shall have a period of six months thereafter in which to take over such portions of the leased property as at that time would be in functioning order and shall continue from that period until the entire project has been transferred as defined elsewhere herein.

SPECIAL FUNDS

(59) Research fund: The corporation shall deduct $300,000 annually from the rental, during the operation by the corporation under terms of the lease, for the purpose of a research fund, to be used under the direction of the corporation as provided in section (35) hereof, and additionally to partially reimburse the corporation for research work carried on other than that by the research board, but incidental to the further development of the industrial, chemical, and/or power phases of the project. Any balance in the said fund at the termination of operations by the corporation under terms of the lease shall be paid to the Government.

(60) Emergency fund: The corporation shall deduct annually the sum of $100,000 from the rental, during the operation by the corporation under terms of the lease, and set aside for an emergency fund, to be used by the corporation for extraordinary repairs, renewals, or replacements of any part of the hydroelectric portion of the project, made necessary by some cause other than ordinary operation and customary depreciation, but directly incident to the operation of the hydroelectric portion of the project. Any such repairs or replacements which may be necessary prior to, or at any time in excess of the accumulated fund, and all restorations of any part or parts of the project necessary because of floods, fires, explosions, or other causes not directly incident to the operation of the hydroelectric portion of the project, shall be made by the corporation for the Government under the same terms and conditions as other construction work provided for in this act. Any balance in the said fund at the termination of operations by the corporation under terms of the lease shall be paid to the Government.

(61) Fertilizer fund: The annual net rental herein provided would, if treated as amortization payments and placed at compound interest, be sufficient to retire more than the total expenditures made and to be made on the project by the Government, but, inasmuch as a large part of this expenditure has been made directly incident to the World War and can and should be considered as part of the cost of that war,
and as much of this project is, under this act, to be preserved for the
Government's use in any future war, and in the meantime, if utilized,
to aid in the national problem of improving the productivity of the
soil, the total investment in war and fertilizer facilities can and
should be carried by the Government without burdening such use
with the cost of interest. Therefore such rental, in excess of
amounts otherwise indicated or specified, shall be used directly to
increase the production facilities and/or cheapen the cost of fer-
tilizers and/or fertilizer bases by the corporation depositing such
net rentals each year as due in a separate fund designated as fer-
tilizer fund, and whereas the corporation is relieved of all taxes on
this project, it does agree that after 8 per cent has been earned on
its investment, then, thereafter all excess profits shall be divided
equally (50–50) between the fertilizer fund and the corporation.

(62) Withdrawals from the fertilizer fund by the corporation
will be made only as and when and for the purposes specified herein
and by approval of the farmers' board.

(63) The farmers' board may each year direct the corporation by
resolution to withdraw and use all or any part of said fertilizer
fund as a credit against the cost of fertilizers and/or fertilizer
bases in such manner as it may decide, except as otherwise specified
herein.

(64) If at any time the farmers' board determine that all or any
part of the then balance in the fertilizer fund is not needed for
assisting the production and marketing of the fertilizer products on
such basis as will encourage the purchase and use by the farmers,
or that the interests of the Government will be better protected by
such action, such board may instruct the corporation to set aside any
part of the moneys in the said fertilizer fund in a construction fund
for use in the establishment of other plants at other locations. The
withdrawal from this construction fund shall be made only on ap-
proval of the farmers' board. Any balance in the said fertilizer
fund or in the accumulating construction fund at the termination of
operations by the corporation under terms of the lease shall be paid
to the Government.

(65) Renewal and replacement fund (power division) : The cor-
poration shall deduct each year from the rental, commencing with
the calendar year following the completion of all work referred to
in section (54) herein, and during each calendar year thereafter
until the termination of the lease, amounts as in this section speci-
fied, and set aside for a renewal and replacement fund to cover
renewals and replacements of the hydroelectric and other electric
generating, controlling, and transmission portions of the leased
property incident to the operation thereof. The annual charge, to
cover renewals and replacements, to be used for the purpose of
setting up this fund, shall be not more than 3 per cent of the total
cost, exclusive of navigation facilities, of Dam No. 2 with power
house and all appurtenances, Dam No. 3 with power house and all
appurtenances, and any and all other hydroelectric, controlling, and
transmission installations now or later a part of the project, and the
replacement value of the steam plant at nitrate plant No. 2, and
actual cost of other thermic plants now or later a part of the
project. This is a composite rate made up of varying rates for the
different portions of the project. Any balance in this fund at the
termination of operations by the corporation under terms of the lease shall be paid to the Government.

(66) Renewal and replacement fund (fertilizer division): The corporation shall set aside such amounts for renewals and replacements of the plants and equipment solely incident to the fertilizer division as may be ordered by the farmers' board for the purpose of setting up a renewal and replacement fund, and these amounts shall be considered as part of the cost of fertilizer production. All renewals and replacements shall be paid from this fund unless otherwise provided by the Government or by the farmers' board. Obsolescence of plant and equipment shall be cared for by the corporation setting aside annually, as part of the cost of fertilizer production, sums, as determined by the corporation in collaboration with the research board, sufficient to keep the fertilizer division fully abreast of the most economic developments of the industry. All maintenance and repairs on the plants and equipment solely incident to the fertilizer division shall be made by the corporation and such expense shall be considered as part of the cost of production. Any balance in this fund at the termination of operations by the corporation under terms of the lease shall be paid to the Government.

(67) Retirement of debenture bonds (fertilizer division, power division): The corporation shall deduct each year from the rental amounts sufficient to amortize in series in 20 years the debenture bonds of the corporation (fertilizer debenture bonds, construction debenture bonds) issued for the purpose of acquiring funds for construction and operation in the fertilizer division and extensions and construction in the power division, beginning with the fourth year of issuance of such debenture bonds (fourth year after issue).

(68) Compound interest: All funds which are set aside by the corporation may be deposited in any bank or banks which, in the judgment of the corporation, considering safety and all other conditions, will permit of the accumulation at compound interest.

NAVIGATION

(69) The corporation shall furnish, free of charge to the Government, all power and lighting current necessary for the operation of the navigation facilities forming part of the leased property, the quantity to be determined by the Secretary of War when each of such facilities are ready for operation. This current, not being sold, is not subject to rental payments thereon.

(70) The Government may have first call on any excess power at the disposal of the corporation for use as additional facilities in navigation and shall pay for same at the regular rates charged for such class or classes of power.

(71) The Government shall furnish and pay for all labor, supervision, operation, maintenance, repairs, and depreciation connected with the navigation facilities.

(72) The Secretary of War shall have a representative located at Muscle Shoals continuously, with power to regulate navigation through the locks at Dams Nos. 2 and 3, within such hours and at such times as will materially conserve the water for use when it can be disposed of as power to the best advantage, or for accumulation above the dams.
(73) Inasmuch as it is herein provided that fertilizers and/or fertilizer bases are to be manufactured by the corporation without profit, as specified in section (28) hereof, and therefore the corporation will be unable to acquire capital through the sale of securities solely based upon that enterprise, and inasmuch as title to the present project and any extension made thereto will be vested in the United States of America, the said corporation is hereby authorized to issue debenture bonds (fertilizer debenture bonds and construction debenture bonds) in series, as may be needed, bearing such rates of interest as, in the judgment of its board of directors, may be required by market conditions at the time, for the best interests of the corporation, redeemable at the option of the corporation at any time after three years at such premium as the board of directors of the corporation may determine; secured as to principal and interest by the annual gross rental of the project, and the said fertilizer debenture bonds shall be a direct obligation of the fertilizer division and not a lien on the earnings of the other divisions of the corporation, except as to the amount paid by the corporation for rental of the project, and the said construction debenture bonds shall be a direct obligation of the power division and not a lien on the earnings of the other divisions of the corporation, except as to the amount paid by the corporation for rental of the project.

(74) The corporation is hereby authorized to sell the said debenture bonds, mentioned in section (73) hereof, through the usual commercial channels and to pay the usual charges for such sales, and this authority shall extend to the sales of its preferred stock, notes, other bonds, or other forms of securities issued for the purpose of acquiring capital.

(75) The interest on the said fertilizer debenture bonds, mentioned in section (73) hereof, shall be a direct charge or expense in calculating the manufacturing cost of said fertilizers and/or fertilizer bases. The interest on the said construction debenture bonds, mentioned in section (73) hereof, shall be deducted from the rental of the entire project.

(76) The capital acquired by the corporation through the sale of the said debenture bonds, mentioned in section (73) herein, shall be used for no other purposes than to meet the requirements of the fertilizer and power divisions of the project, either for the remodeling of existing plants, the building of new plants and facilities, including additions to the existing steam-electric generating plant, or for working capital in connection with fertilizer production, and extension of construction of other and additional power facilities.

(77) The Committee on Agriculture is hereby authorized and shall include manufactured fertilizers and/or fertilizer bases among the commodities eligible for storage under the provisions of the United States warehouse act (39 U. S. Stat. L. p. 436, as amended July 25, 1919, and February 23, 1923), and to make such rules and regulations under authority of said act as he may deem necessary.

(78) The Secretary of Agriculture is hereby authorized and shall issue warehouse certificates for all fertilizers and/or fertilizer bases produced by the corporation, which certificates shall be guaranteed by the Government and which shall bear on their faces, as the value
of such materials, the cost of same as defined in this act, and the warehouse utilized for the purposes of storing such materials shall be under Government license and supervision in the same manner as provided in the United States warehouse act above described. Any costs, commissions, fees, interest, and other expenses incident to such storage and/or the issue and use of such warehouse certificates shall become a part of the cost of fertilizers and/or fertilizer bases as defined in section (29) hereof, and shall be paid out of the fertilizer fund.

(79) The farm loan bank, credit-extension division, shall be empowered and shall advance moneys and hold the United States fertilizer bonded warehouse certificates as it now functions in connection with cotton, wool, grain, etc.

(80) Upon the termination of operations by the corporation under terms of the lease all of the capital received through the sale of the debenture bonds mentioned in section (73) hereof, and remaining in the hands of the corporation as cash, shall be paid to the Government.

(81) Any other capital required by the corporation and not otherwise provided for, shall be acquired through the sale of its own securities, entirely independent from responsibility or action of the Government or lien upon the rental.

(82) That portion of the expenses of the corporation is any calendar year, which is not in its nature directly allocated to its various divisions of the project, shall be allocated to such divisions in the ratio of the total expenditures of money in each such division in such calendar year.

(83) The account books of the corporation shall at all times be so kept that the elements of any one of the various divisions of the project may be easily segregated from other divisions, and the project, for accounting purposes, shall be divided into the following divisions:

(a) Construction division.
(b) Power division.
(c) Fertilizer division.
(d) Utilization division (all other activities of the corporation).

GOVERNMENT RECAPTURE IN TIME OF WAR

(84) The Government may in time of war take over the entire project and the whole or any part of the organization of the corporation, and the same shall be returned to the corporation in as good condition as when taken over as soon as the Secretary of War shall determine that the project is no longer needed for such purpose, but in no event shall the project be returned later than 90 days after the cessation of active hostilities.

(85) In the event of such taking over by the Government, the term of the lease and the term of the charter of the corporation shall be automatically extended for an additional time equal to the period during which the project shall be taken over and retained by the Government.

(86) In case the project is so taken over, all rental and all payments into the special funds in this act provided, and all obligations of the corporation to the Government shall be abated during the period in which the project is retained by the Government, without
liability on the part of the corporation to make good the abated payments and obligations which may have been omitted during such period.

(87) During such period the Government, as full compensation to the corporation for the use of the project and all losses and damages sustained by the corporation by such taking over, shall pay to the corporation an amount equal to the sum of the following as and when the same shall become due and payable or shall be incurred by the corporation:

(a) All liabilities of the corporation accrued or accruing during the period of Government use, including interest: Provided, That the refunding of maturing capital liabilities of the corporation shall be deemed satisfaction of this clause exclusive of the interest.

(b) The expenses of the corporation in maintaining whatever part of its plant and organization is not taken over and compensated for by the Government.

(c) All taxes accrued or accruing for such period, if any, due to any taxing authority.

(d) All dividends on the corporation's preferred stock outstanding at the beginning of such taking over and accrued or accruing during such period.

(e) Yearly amounts equal to the amounts which the corporation has been setting aside into sinking funds to retire the debenture bonds, or which the corporation has planned to set aside for this purpose at a predetermined time or times.

(f) A fair return on all money invested by the corporation; such return to be equal to the average cost to the corporation of such moneys obtained from the sale of its securities and an equivalent rate on such moneys obtained from the sale of common stock, and from this amount shall be deducted all interest and dividend payments provided for in subdivisions (a), (b), (c), (d), and (e).

(88) If any breach of any of the covenants in this act and agreement contained, on the part of either party, be alleged by the other, or if any difference shall arise at any time between the parties hereto in relation to the construction of this act and agreement, or the due performance of any of the covenants thereof, the question shall be submitted to arbitration. All questions or disputes relating to any matters or things under this act shall be submitted to arbitration in the following manner: The Secretary of War shall name an arbitrator and the Farmers Federated Fertilizer Corporation shall name an arbitrator, and the judge of the United States district court in which the principal part of the Muscle Shoals properties are located shall name an umpire, and the board of arbitrators thus constituted shall thereupon proceed to determine the matter in dispute. In any case in which arbitration is resorted to the party aggrieved or moving in the matter shall give to the other party written notice of its desire to have an arbitration, in which it shall state generally its grievance and name an arbitrator; the other party shall thereupon name an arbitrator within 30 days after the receipt of such notice. Then the Secretary of War and the Farmers Federated Fertilizer Corporation shall join in the application to the United States district judge to name an umpire as aforesaid. The board of arbitrators constituted as herein set out shall proceed to determine the matter in dispute as well as adjudge the costs of the arbitration, and shall make its award
in writing. In case either party does not accept or act on the award of these arbitrators, then in that case the procedure shall be as in section (89) of this act. Any decision as to any clause, sentence, paragraph, section, or part of this act so arbitrated or adjudged shall not affect any other clause, sentence, paragraph, section, or part of this act, but such award shall be confined in its operation to the clause, sentence, paragraph, section, or part of this act directly involved in the controversy in which such award shall have been rendered, and shall not affect or invalidate any other clause, sentence, paragraph, section, or part of this act. No resort to the arbitration provision of this act shall be had in relation to the right of the United States to recapture the plant in time of war, as provided in sections (84), (85), (86), and (87) of this act.

(89) In the event of the failure of arbitration, as provided in section (88), to settle any dispute between the United States and the corporation, then the district court of the United States for any district shall have jurisdiction to hear and determine all claims of the United States against the corporation, and of the corporation against the United States, under this act, the lease or the contract herein.

(90) The corporation shall not at any time be obligated to manufacture, handle, or store on the project any war material or supplies of an explosive nature, but, subject to instructions as given from time to time by the Secretary of War, the corporation shall produce explosive bases for the Government incident to the operation of the fertilizer division, as herein provided, without either profit or loss to the corporation.

(91) If any clause, sentence, paragraph, section, or part of this act shall for any reason be adjudged by any court of competent jurisdiction to be invalid, such judgment shall be confined in its operation to the clause, sentence, paragraph, section, or part thereof directly involved in the controversy in which such judgment shall have been rendered, and shall not affect or invalidate any other clause, sentence, paragraph, section, or part of this act.

(92) Appropriations necessary to carry out each and every one of the provisions of this act on the part of the Government are thereby authorized and made.

(93) All laws and parts of laws in conflict herewith shall be, and the same hereby are, repealed.

(94) This act shall take effect immediately.
BILL To provide for the preservation, completion, maintenance, operation, and use of the United States Muscle Shoals project for war, navigation, fertilizer manufacture, electric power production, and for other purposes, and in connection therewith, the incorporation of the Farmers Federated Fertilizer Corporation, and the lease to it of the said project.

Be it enacted, etc.

(1) That this act shall constitute the charter of the Farmers Federated Fertilizer Corporation and a contract and lease by and between the United States of America and the said corporation covering the Muscle Shoals project, upon the terms and under the conditions as in this act set forth.

INCORPORATION OF THE FARMERS FEDERATED FERTILIZER CORPORATION

(2) There is hereby created and incorporated a corporation, under the name Farmers Federated Fertilizer Corporation, for the purposes and objects, and to have, possess, and exercise the power, rights, privileges, and authorities, in this act provided, and to exist for a period of 55 years from the passage of this act, or until 5 years after the termination of operation by the corporation under the terms of the lease of the Muscle Shoals project provided for in this act, whichever may be the later date.

(3) In addition to the purposes, objects, rights, powers, and authorities elsewhere in this act conferred upon the corporation, it shall have and possess the following: To exist and have succession by the name Farmers Federated Fertilizer Corporation, for the period of its corporate existence; to adopt, use, and, at pleasure, alter a common or corporate seal; to sue and be sued and to complain and defend in any court of law or equity; to make, amend, repeal, and reenact by-laws, not inconsistent with the Constitution of the United States of America or with this act, for the management of its property and business, the regulation and government of its affairs, the holding of meetings of its stockholders, directors, and committees, the certification, issue, transfer, and voting of its capital stock, the election, appointment, powers, duties, and terms of office of its directors, officers, committees, and agents, and the manner of filling vacancies, and fixing and electing the number of its directors (not less than five); to appoint such officers, attorneys, agents, and other employees as the business of the corporation shall require, and to allow them suitable compensation; to make and enforce all contracts, and to acquire, hold, own, and dispose of all property, real and personal,
necessary, appropriate, convenient, or suitable in carrying on its business, including all processes, letters patent, formulas, and rights pertaining to or connected with the business of the corporation or available for use therewith, whether located at Muscle Shoals, Ala., or elsewhere; to borrow money for its proper corporate purposes, and to issue its bonds, notes, and other evidences of indebtedness therefor, bearing such rate of interest as the board of directors of the corporation may fix and determine; to engage in foreign trade; to conduct its business, and to hold, purchase, convey, and otherwise dispose of, real and personal property anywhere in the United States of America or elsewhere; to have, possess, and exercise all purposes, objects, rights, powers, and privileges provided for in, or conferred upon it by, this act, or requisite to carry out the provisions of this act and of the lease and contract provided for herein on its part to be observed or performed; to enter upon, take possession of, the Muscle Shoals project, as lessee under and by virtue of this act, to the extent herein leased and during the term of the lease herein provided, and to construct, extend, and complete, demolish, salvage, reconstruct, maintain, manage, use, and operate the same and each and every part or portion thereof; and to do any act or thing that any other corporation or individual may or could do.

(4) The business of the corporation shall be managed and controlled by a board of directors and executive committee, if so provided in the by-laws, a president, a vice president, a secretary, a treasurer, and any such other officers and agents as the by-laws shall provide. The president and vice president shall be directors, but the secretary and treasurer need not be directors. Any two offices, except that of president and vice president, may be held by one person. A director of the corporation need not be stockholder therein.

(5) Name Address

shall be and are hereby selected and designated as the incorporators of the corporation, and as such shall adopt its initial by-laws, shall prescribe the number of and elect the first board of directors, and take such other action as may be necessary to complete the organization of the corporation.

(6) If the by-laws of the corporation shall so provide, the board of directors may, by resolution, designate three or more of their number to constitute an executive committee, who, to the extent provided in said resolution or in the by-laws, shall have and may exercise the powers of the board of directors in the management and conduct of the business and affairs of the corporation between meetings of the board of directors, including the power to authorize the seal of the corporation to be affixed to all instruments which may require it.

(7) The corporation shall have such authorized capital stock divided into such number of shares and into such class or classes, each class to have such par value or to be without par value, and to have and be subject to such preference, privileges, limitations, and restrictions as to dividends, voting power, or otherwise as the by-laws of the corporation shall from time to time prescribe.
provision contained in the by-laws dealing with the authorized capital stock of the corporation and the classification or reclassification thereof shall be adopted, and shall be subject to alteration, amendment, or repeal only with the vote or consent of the majority of the shares outstanding at the time entitled under the by-laws to vote therefor. Until otherwise provided by the by-laws the authorized capital stock of the corporation shall consist of 300,000 shares of nonvoting 7 per cent cumulative preferred stock, of the par value of $100 per share, redeemable at the option of the corporation at any time after three years at not to exceed $110 per share and accrued dividends, and of which 10,000 shares are to be immediately subscribed for; issued and paid for when and as called for by the board of directors.

Three hundred thousand shares of common stock without nominal value and $20,000,000 par value of fertilizer debenture bonds, said preferred stock may be issued from time to time and sold for cash at not less than par to such face amount as shall in the judgment of the board of directors be at the time necessary to provide the funds required by the corporation. Shares of stock of no par value may be issued for such consideration as shall be fixed by the board of directors if authorized to do so by the by-laws of the corporation and if not so authorized, then such shall be fixed by the stockholders of the corporation at the time entitled to vote. As and when any shares of stock of whatever class are issued, the corporation shall file within 30 days thereafter, with the Secretary of War, a certificate signed and verified by its president or a vice president and by its treasurer or an assistant treasurer, stating the number of and describing the shares so issued and the consideration to the corporation therefor. All shares of stock of the corporation of whatever class when issued shall be fully paid and nonassessable in the hands of the holders.

(8) The corporation shall file with the Secretary of War within 30 days after the adoption thereof a certified copy of its by-laws and of each and every alteration, amendment, repeal, or reenactment thereof. The corporation shall also, as and when requested by the Secretary of War, file with him a certified list showing the names and addresses of its stockholders and the number of shares of each class of stock respectively held. The corporation shall at all times keep on file with the Secretary of War certified reports showing the persons constituting its board of directors and the names of its president, secretary, and treasurer, and their respective addresses.

(9) The principal office and place of business of the corporation shall be located at Muscle Shoals, Ala. The corporation may have offices for the transaction of its business and hold meetings of its stockholders, directors, and committees at such other place or places as the by-laws may designate or permit.

II. DURATION OF CONTRACT

(10) The duration of this lease shall be 50 years from the date of passage of this act, but after the expiration of such 50-year period the lessee shall continue to hold, occupy, and use the leased property upon terms and conditions similar to the provisions of this lease except as to date of expiration until a new lease therefor has been
fully consummated, and in the negotiation for and completion of such new lease the Farmers' Federated Fertilizer Corporation will be given primary consideration.

III. Property to Be Purchased from the United States, and Payments to Be Made Therefor

No property to be purchased from the United States, but section (1) provides "That this act shall constitute * * * a contract and lease by and between the United States of America and the said corporation covering the Muscle Shoals projects, upon the terms and under the conditions as in this act set forth."

IV. Properties to Be Leased

Sec. (1) That this act shall constitute * * * a contract and lease by and between the United States of America and the said corporation covering the Muscle Shoals project, upon the terms and under the conditions as in this act set forth.

Sec. (2) * * * to have, possess, and exercise all purposes objects, rights, powers, and privileges provided for in, or conferred upon it by this act, or requisite to carry out the provisions of this act and of the lease and contract provided for herein on its part to be observed or performed; to enter upon, take possession of, the Muscle Shoals project as lessee under and by virtue of this act to the extent herein leased and during the term of the lease herein provided, and to construct, extend and complete, demolish, salvage, reconstruct, maintain, manage, use, and operate the same and each and every part or portion thereof; * * *.

Sec. (10) All of the property and rights, real, personal, and mixed, of whatever kind and character and wherever located, now or hereafter constructed by or for, or owned by, the United States of America in connection with or forming part of, or for use in connection with the Muscle Shoals project, and the rents, income, issues, and earnings thereof, are, by virtue of this act, and without further act or deed, leased to the Farmers' Federated Fertilizer Corporation at the rental and upon the terms and provisions in this act provided, together with all processes, letters patent, formulas, shop practices, shop rights, and other rights, appertaining to or connected with this project or available for use therewith, whether located at Muscle Shoals, Ala., or at other places, owned or controlled by the Government, and also all records, statements, lists, maps, schedules, and the property described therein, connected with this project, and these, when receipted for by the corporation, shall be parts of the said lease and this act as though written herein.

LETTERS PATENT, FORMULAS

Sec. (14) All letters patent, processes, and formulas now or hereafter discovered at the leased property or laboratories of the Government, for and in connection with fertilizers and/or fertilizer bases, shall be the property of the Government, but shall be included in the leased property and shall be held from publication in the same
manner as other Government processes of like character; the Government having the right to use the same direct at all times without charge. All letters patent, processes, and formulas discovered and controlled by the incorporators of this corporation, prior to the passage of this act, which may be used in connection with the manufacture of products at this project, shall be and remain the property of the incorporators individually; the Government having the right to use the same direct at all times without charge during the life of said lease, in connection with the manufacture of explosive bases.

EXEMPT FROM TAXES

Sec. (15) Inasmuch as the corporation is to produce and deliver in the control of the farmers’ board, as defined in section 38 of this act, fertilizers and/or fertilizer bases, without any profit, it shall be exempt from tax of any sort whatsoever, now enacted or later to be enacted.

RETURN OF PROPERTY

Sec. (18) Upon the termination of the said lease, as heretofore defined in section (10) the entire project shall be returned to the Government in good condition and repair, the period of use duly considered, and any moneys then in the fertilizer fund, construction fund, salvage fund, research fund, emergency fund, and renewal and replacement funds shall be paid to the Government, together with all funds which may have accumulated for amortization of the Government’s total investment in the dams and plants leased to the Farmers’ Federated Fertilizer Corporation.

CORPORATION AUTHORIZED TO SELL GOVERNMENT PROPERTY

Sec. (19) The corporation is hereby authorized, with the approval of the board of industrial development (hereinafter defined), to sell, transfer, rent, or otherwise dispose of any real estate, materials, supplies, or other property pertaining to the project at the time of taking over the lease, real or personal, which said board shall determine to be not needed for the construction, maintenance, and operation of the project, or for war, military, or navigation purposes, giving good and indefeasible title in fee simple to the purchasers thereof. The net consideration received upon any such sale or other disposition by the corporation, except moneys received for rents, shall be credited to a salvage fund, and said fund shall form part of the leased property and may be used by the corporation for the purchase of other useful property for the project and for working capital of the corporation. Upon the termination of the lease, said fund, as then constituted, shall be turned over to the Government. Any of the property which may be sublet by the corporation under this act shall be sublet for such term, expiring not later than the termination of the lease period, for such rental and upon such terms as the corporation may determine.
(20) The corporation may construct at its own cost any additional buildings, structures, or facilities and equipment at any location on the project and for any use, with the approval of the board of industrial development, and the same shall remain the property of the corporation. At the expiration of the lease the Government may purchase such property from the corporation at its appraised value, not to exceed the actual cost thereof, or at the option of the corporation the latter may remove the same; but if the lease is terminated by the Government prior to its expiration by reason of any default by the corporation in complying with the terms of the lease, then the Government shall, as penalty for such default by the corporation, acquire without cost all power and fertilizer facilities of any nature installed by the corporation upon the leased premises.

(21) The corporation shall have the power and authority to purchase, construct, appropriate, enter upon, or otherwise acquire, use, own, maintain, and operate any property or right, real or personal, tangible or intangible, which may, in the judgment of the board of directors, be necessary or desirable to accomplish the purposes of this act, including water and/or flowage rights and lands on and along such portions of the Tennessee River and its tributaries above Dam No. 1 as are necessary or desirable for the development of water storage and/or water power and the regulation of the flow of such river and tributaries. In case the owner of any such property or right and the corporation are unable to agree upon the damage or compensation to be paid for such property or right, or in case, by reason of the absence or legal incapacity of such owner no such agreement can be made, the corporation shall have the right to acquire such property or right by the exercise of the right of eminent domain in the district court of the United States or in the States courts for the district in which said property or right, or the property in respect whereof such right is desired, may be located. In all cases where the parties can not agree as aforesaid the corporation shall tender a bond, with sufficient security, to the party claiming or entitled to any damage, or to the attorney or agent of any absent person, or to the guardian, committee, or other representative of anyone under legal capacity, the condition of which bond shall be that the corporation will pay or cause to be paid such amounts of damages as the party shall be entitled to recover, if the amount thereof shall have been agreed upon or assessed in the manner provided for by this section: Provided, however, That in case the party or parties claiming or entitled to damages refuse or do not accept the bond as tendered the corporation shall then give the party written notice of the time when the same shall be presented for filing in court, and thereafter the corporation may present said bond to the court having jurisdiction, and if approved the bond shall be filed in said court for the benefit of those interested, and recovery may be had thereon for the amount of the damages thereafter assessed if the same is not paid. Upon the tender and acceptance of such bond or the filing thereof as
aforesaid, if not accepted, the corporation shall have the power to enter upon and take possession of the property condemned. The practice and procedure in any action or proceeding for the purpose aforesaid and for the assessment of the damages that any such owner shall be entitled to receive, instituted in the district court of the United States, shall conform as nearly as may be with the practice and procedure in similar actions in the courts of the State where the property aforesaid is situated. At the expiration of the lease the Government may purchase property acquired by the corporation under the conditions of this paragraph at its appraised value, not to exceed the actual cost thereof to the corporation.

(22) The corporation shall not sell, transfer, or license any of the letters patent, processes, and formulas forming part of the leased property, nor shall the corporation sell, transfer, or assign this lease or the leased property, except as otherwise provided in section (19) herein. Nothing in this section shall apply to the subletting of construction contracts.

(23) The Secretary of War is hereby authorized to enter into and execute such agreements with the corporation, consistent with the provisions of this act, as will provide for omissions, if any, or as may be necessary in order to carry out the purposes of this act.

**TRANSMISSION LINES**

(26) * * * The corporation is hereby authorized to use any amount in the salvage fund, provided in section (19) of this act, to construct for the Government such transmission lines, including appurtenant substations, transformers, and other works, as in the judgment of the board of industrial development may be necessary and desirable, under the same terms and conditions as other construction work mentioned herein. Any transmission lines which may be so constructed shall immediately become a part of the leased property and shall be returned to the Government at the same time and under similar conditions as other leased property of this project upon the termination of the said lease.

(88) If any breach of any of the covenants in this act and agreement contained on the part of either party be alleged by the other, or if any difference shall arise at any time between the parties hereto in relation to the construction of this act and agreement, or the due performance of any of the covenants thereof, the question shall be submitted to arbitration. All questions or disputes relating to any matters or things under this act shall be submitted to arbitration in the following manner: The Secretary of War shall name an arbitrator and the Farmers Federated Fertilizer Corporation shall name an arbitrator, and the judge of the United States district court in which the principal part of the Muscle Shoals properties are located shall name an umpire, and the board of arbitrators thus constituted shall thereupon proceed to determine the matter in dispute. In any case in which arbitration is resorted to the party aggrieved or moving in the matter shall give to the other party written notice of its desire to have an arbitration, in which it shall state generally its grievance, and name an arbitrator; the other party shall thereupon name an arbitrator within 30 days after the receipt of such notice. Then the Secretary of War and the Farmers Federated Fertilizer Corporation
shall join in the application to the United States district judge to name an umpire as aforesaid. The board of arbitrators constituted as herein set out shall proceed to determine the matter in dispute, as well as adjudge the cost of the arbitration, and shall make its award in writing. In case either party does not accept or act on the award of these arbitrations, then in that case the procedure shall be as in section (89) of this act. Any decision as to any clause, sentence, paragraph, or part of this act so arbitrated or adjudged shall not affect any other clause, sentence, paragraph, or part of this act, but such award shall be confined in its operation to the clause, sentence, paragraph, or part of this act directly involved in the controversy in which such award shall have been rendered, and shall not affect or invalidate any other clause, sentence, paragraph, or part of this act. No resort to the arbitration provision of this act shall be had in relation to the right of the United States to recapture the plant in time of war as provided in sections (84), (85), (86), and (87) of this act. (89) In the event of the failure of arbitration as provided in section (88) to settle any dispute between the United States and the corporation, then the district court of the United States for any district shall have jurisdiction to hear and determine all claims of the United States against the corporation and of the corporation against the United States, under this act, the lease, or the contract herein. (91) If any clause, sentence, paragraph, or part of this act shall for any reason be adjudged by any court of competent jurisdiction to be invalid, such judgment shall be confined in its operation to the clause, sentence, paragraph, or part thereof directly involved in the controversy in which such judgment shall have been rendered, and shall not affect or invalidate any other clause, sentence, paragraph, or part of this act. (93) All laws and parts of laws in conflict herewith shall be, and the same hereby are, repealed. (94) This act shall take effect immediately. (58) Immediately upon the enactment of this bill it shall become a law, and the incorporators heretofore denominated shall have a period of six months in which to take over such portions of the leased property as at that time would be in functioning order and shall continue from that period until the entire project has been transferred as defined elsewhere herein.

V. ADDITIONAL EXPENSE FOR CONSTRUCTION BY THE UNITED STATES REQUIRED BY PROPOSAL

(11) The corporation does not require that any further amounts be appropriated by the Government for the completion of additional power facilities, either those enumerated in section (55) herein or for further up-river power development; and the corporation will pay rental at the rates stated in this section for the use of any or all additional facilities installed for the generation either of hydroelectric or of steam-electric power, whether the completion of such facilities is financed by the Government or the corporation; and the Government shall exercise its right at any time to undertake any future power development, but upon failure by the Government to exercise such right within one year after notice to the Government by the corporation that a specific power development is desirable the corpora-
tion may, at its discretion, undertake the development of necessary additional power facilities; but in the event that the completion of additional power facilities is financed by the corporation there shall be deducted from the gross rentals to be paid to the Government a yearly amount sufficient both to amortize and to pay interest upon any bonds or other securities issued by the corporation for the specific purpose of financing the completion of such additional power facilities.

BOARD OF INDUSTRIAL DEVELOPMENT

(34) A board of industrial development shall be constituted, as hereinafter provided, to consist of an executive officer of the corporation, who shall be chairman thereof, the Secretary of War or a person appointed by him, the Secretary of Agriculture or a person appointed by him, the Secretary of Commerce or a person appointed by him, and three others (who may be employed or retained by the corporation) appointed by the directors of the corporation. Each member shall serve for a term of one year, and any vacancy in the board, whether caused by death, resignation, or expiration of term of any member, or for any other reason, shall be filled in like manner. No member of the board shall receive any compensation for his services as a member thereof. The board shall for guidance of the corporation:

(a) Confer with the Secretary of War, and work out, and from time to time whenever necessary or advisable, amend, alter, or supplement a general plan covering the war uses of the project, particularly as to the use thereof by the corporation, being at all times subject to the use of the Government in time of war and subject to such plan.

(b) Confer with the Secretary of Agriculture, and work out, and from time to time whenever necessary or advisable amend or alter or supplement a general plan covering the fertilizer uses of the project; and the corporation shall observe and conform to the provisions of such plans and subject to the foregoing plans.

(c) Confer with the Secretary of Commerce, and work out, and from time to time, whenever necessary or advisable, amend, alter, or supplement recommendations for the development of the industrial activities on the project, and within transmission distance thereof, and as to the classes of industry best suited to the locality, taking into consideration the industrial and commercial life of the Nation as a whole.

BOARD OF RESEARCH

(35) A board of research, to consist of five members, shall be appointed by the Secretary of Agriculture, of which he may be a member. The remaining members shall be selected from the staff of the Nitrogen Research Laboratory, Bureau of Soils, or other technical forces under his jurisdiction, as well as the technical staff of the corporation, except that the corporation shall be entitled at all times during the term of the lease to representation by two members on said board. The corporation shall supply from the research fund, hereinafter provided for, $150,000 per annum toward the maintenance of the Nitrogen Research Laboratory, as and when a like
amount is contributed by the Government for the same purpose. The members of the said board and the term of office of each member shall be one year, and all vacancies shall be filled and successors appointed by the Secretary of Agriculture, provided that at all times at least two members thereof shall be representatives, recommended by the corporation. Each member of said board, other than the representatives of the corporation, shall receive such compensation as shall be fixed by the Secretary of Agriculture. The same to be approved by the farmers’ board and paid out of the fertilizer fund.

CHANGES, ADDITIONS, AND EXTENSIONS TO THE NITRATE AND OTHER PLANTS

(36) The board of research shall, as promptly as possible after the passage of this act, recommend processes and formulas for use by the corporation on the project for the production of fertilizers and/or fertilizer bases and the nature and extent of the changes, additions, and extensions to the nitrate and other plants, and shall have advisory powers in the completion of such construction and placing of same in operation, and thereafter shall, through continued research and experimentation, recommend or advise as to changes, betterments, and substitutions required in connection with the processes and formulas to be employed by the corporation.

(37) Any action of this board shall be submitted for review to the Secretary of War, and unless disapproved by him within 30 days thereafter shall become available to the corporation as though with his approval.

(53) The refitting of the nitrate plants to manufacture the required fertilizers and/or fertilizer bases shall be commenced by the Government or by the corporation for the Government as soon as recommendations have been made by the board of research and the plans and specifications for the same have been made and the estimated cost thereof shall have been agreed upon.

(55) In order to insure the development of the project to take full advantage of the natural resources at Muscle Shoals and above, the following items of uncompleted work are considered necessary for and included in the lease herein made, and shall be constructed and completed as quickly as shall be considered consistent with the provisions of this act and good engineering practice, viz:

(a) Changes and additions in the nitrate plants for use in the manufacture of fertilizers and/or fertilizer bases.

(b) Completion of Dam No. 2, with its full power equipment of 18 generating units.

(c) Construction of Dam No. 3, with its full power equipment and electric transmission tie line to Dam No. 2.

(d) Additions to the generating capacity of the steam electric plant located at nitrate plant No. 2 to bring the total generating capacity up to at least 120,000 kilowatts; such additions to be in the form of steam, gas, oil, or other forms of electric generating equipment, the form and location of which being subject to the approval of the board of industrial development.

(56) The time of commencing work under item (a) shall be as defined in section (53) and the items (b), (c), and (d) on the
approval of the board of industrial development of plans and specifications therefor and the estimated cost thereof shall have been agreed upon.

(57) After the completion of requisite test, showing each item mentioned in section (55) hereof to be safe, satisfactory, and complete for operating conditions, they shall be taken over by the corporation and thereupon become part of the leased property.

(41) If the foundations of Dam No. 2 shall prove defective, and/or any of its equipment or the power house shall in any way be defective or unsatisfactory, after the completion of all the work incident to a complete, operative hydroelectric project, and after all operative and other usual tests have been made, then the Government shall make all repairs, changes, or replacements at its expense to make the same an efficient, safe, and complete operative hydroelectric project, and the corporation shall take over the hydroelectric project, at Dam No. 2 within 60 days thereafter and shall place the same in commercial operation as promptly as possible.

(42) The existing steam-electric plant at nitrate plant No. 2 shall be given an operative test, and any repairs, renewals, and replacements necessary to place it in an efficient operating condition shall be made by the Government, and when completed in such condition it shall be taken over by the corporation.

(43) The corporation shall be notified in advance as to each such test and be permitted to have representatives present, and shall be furnished with all data and information as to the results of each such test.

(44) In case any other item of the leased property, when delivered into the possession of the corporation, shall be in need of any repairs, renewals, or replacements, the same shall be made by the Government at its expense, and if not so made promptly the corporation shall have the right to make the same, and the Government shall furnish or reimburse to the corporation all funds requisite therefor.

**APPROPRIATIONS**

(92) Appropriations necessary to carry out each and every one of the provisions of this act on the part of the Government are hereby authorized and made.

(45) The corporation shall, upon notice in writing in each case from the Secretary of War, act as agent for the Government for the designing and construction of each or any of the several items of uncompleted work referred to in section (55) herein, or for any other construction work of the Government incident to the project now planned or hereafter to be planned, and in any such event the corporation shall as soon as possible after receipt of such notice submit to the Secretary of War plans and specifications for such work and estimate of the cost thereof.

(46) If the Secretary of War shall elect to have the corporation so act for the Government, the corporation shall in each case act as a Government engineering, construction, and purchasing department, and shall as such at all times be subject to instructions from the Secretary of War. As engineers, the corporation shall make or cause to be made all necessary studies, recommend the type and character of equipment and of construction required, and prepare
plans and specifications for materials, equipment, and construction work and the estimate of the cost thereof. The corporation shall follow the usual commercial practice, without advertising for bids unless it shall so elect.

(47) All contracts and orders for such Government construction which are placed by the corporation, pay rolls and other obligations resulting therefrom, shall be in the name of the United States Government by the corporation as agent, and the corporation shall not thereby assume any financial liability under or by reason of such obligations.

(48) The corporation shall be paid a fixed fee equal to 6 per cent of the estimated cost of such work, which estimated cost shall be agreed upon by the Secretary of War and the corporation prior to the commencement of work. Such estimated cost shall include the following items, whether commitments therefor or expenditures are made or to be made by the Government or by the corporation for the Government:

(a) The cost of all property, real, personal, and mixed, rights, royalties, material, machinery, equipment, labor, tools, plant, and equipment purchased and the rental of any equipment hired, salaries and expenses of all officers and employees of the corporation for that portion allocated to construction work, and all expenses of office and office help and supplies for such officers and employees, in connection with exploration, investigation, engineering, or designing, in the choice of materials and purchases of same, equipment and supplies, and the inspection thereof at the works or elsewhere.

(b) The cost of expert and consulting services, including all legal services and expenses incidental thereto.

(c) The cost of traveling and incidental expenses.

(d) Other expenditures made directly incident to this work, but not including interest during construction.

Installments of the said fee shall be paid monthly to the corporation on the basis of 6 per cent of the actual expenditures made during the preceding month until 90 per cent of the total fixed fee shall have been paid, and the remaining 10 per cent shall be paid on completion of the work. If material change in the scope of the work shall be ordered by the Secretary of War at any time after the determination of the amount of the said fee, the amount of said fee shall be increased by an amount equal to 6 per cent of the estimated additional cost of such additional work. The amount of the said fee shall not be changed because of any difference between the actual cost and the estimated cost.

(49) The corporation shall make all payments incident to the construction work executed by it, for the account of the Government out of funds supplied to the corporation, and if such funds are acquired through the sale of obligations of the corporation, the cost of acquiring such funds shall be considered as an item of construction cost in arriving at the said estimated cost. All such payments shall be under such regulations as the Secretary of War may prescribe, and the Government shall reimburse the corporation each month for its expenditures for Government work made during the preceding month.
(50) All correspondence, records, vouchers, and books of account of the corporation relating to the construction work shall at all reasonable times be open to the inspection of the Secretary of War or his authorized representative.

(51) The Secretary of War shall have a representative inspector on the construction work at all times, and any official communication from him to the corporation, or any of its agents, shall be made in writing, and such communication shall be deemed an official communication of the Secretary of War. In case of disagreement, the decision of the Secretary of War shall be final as to the results to be accomplished.

(52) If at any time the Secretary of War shall become dissatisfied with the manner in which any construction work is being executed or shall for any reason wish to discontinue such work, he shall have the right, after 10 days' notice in writing, to terminate the employment of the corporation as agent on such work and to take possession of such work and material for the construction thereof and complete the same. In case the Secretary of War shall take such action, the corporation shall, before possession is so taken, receive in payment for its services, all installments of the fixed fee which shall have become due or accrued to it in connection with such work, reimbursement for all funds expended by it in connection therewith and a release from the Government of all responsibility incident to such work. The approval by the Secretary of War of any expenditure made by the corporation shall be final.

VI. CONDITIONS COVERING OTHER CONSTRUCTIONS FOR POWER PURPOSES AS STATED BY BIDDER

(54) The corporation, if directed by the Secretary of War in writing, shall construct all storage dams and/or power plants or other works desired by the Government and designed for the regulation and augmentation of this project or its extensions, and not mentioned in this act, under the same terms and conditions as mentioned for other construction work.

VII. PAYMENTS TO UNITED STATES BY LESSEE

(11) The corporation shall pay an annual rental for all of the leased property in completed condition as hereafter provided; said rental to be taken from the receipts from the sale of power, commencing with the calendar year following the placing in commercial operation of Dam No. 2 with eight generating units, at the rate of $22.29 per kilowatt-year for all primary power generated and sold by the corporation from the power plants included in the leased property. After the completion of all of the items of uncompleted work, mentioned in section (55) herein, the rental shall be raised to $25.50 per kilowatt-year for all primary power generated and sold by the corporation from the power plants included in the leased property. A kilowatt-year shall be taken as 8,760 kilowatt-hours, and all calculations of the rental shall be made at such corresponding unit price per kilowatt-hour for the primary power sold. Primary power, as heretofore mentioned, is hereby defined to be all and any power which would be generated for 8,000 hours per year from the
actual river flow or by any storage reservoirs together with such portion of added power generated by the hydroelectric plant which would be brought up to the standard of primary power by means of power generated by the steam plants of the leased property.

(12) If in any calendar year the receipts from the sale of power are not sufficient to pay the full gross rental due for that year, and all other operating expenses, interest, and all general and miscellaneous expenses allocated to the power division, and including the actual expenditures for maintenance and repairs, together with the amounts mentioned in section (64) hereof (sec. 64. Farmers’ board to authorize corporations to deposit in a sinking fund part of the moneys in the fertilizer fund), and the amounts to be set aside each year for the research and emergency funds and for the amortization of fertilizer debenture bonds, then for such calendar year the said rental shall be reduced by the amount of the deficit, and the corporation shall not in subsequent years be required to make up such deficit.

(38) A farmers’ board, to consist of not more than five members, shall be appointed by the Secretary of Agriculture, of which board he, or one of his assistants, shall be a member and shall act as chairman. The remaining members shall be appointed by him for one year, and the board originally selected by him shall include one representative from each of the following associations or their successors or others representing farmers’ welfare:

- American Farm Bureau Federation.
- The National Grange.
- National Farmers Union.
- National Council of Cooperative Marketing Associations.

Each of said associations or their successors shall be requested by the Secretary of Agriculture to recommend its representatives on said board at such time as in his judgment said board should commence to function, and the said Secretary of Agriculture shall fill all vacancies by appointment, and the representatives on said board shall, in so far as possible, during the term of said lease, be identified with said associations or their successors or branches of the farm industry or organizations nationally interested in the farmers’ welfare. Compensation not to exceed $10,000 a year shall be paid to each member of the board at the direction of the Secretary of Agriculture, and such compensation shall be paid from the fertilizer fund.

(39) The said board shall hire a secretary, whose whole time shall be devoted to the work of the board and the gathering of data for its use in the marketing and distribution of fertilizers and for fertilizer bases to the farmers of the United States, and the salary and expenses of said secretary shall be paid from the fertilizer fund, not to exceed the sum of $20,000 per annum. The expenses will include an office for secretary at Muscle Shoals and the necessary clerical help.

(40) The said farmers’ board shall have full power and authority to prescribe the methods and policies to be carried out as to the marketing and distribution of fertilizer and/or fertilizer bases, and any expense in carrying out the said methods and policies shall be considered as an item of final cost of said products and paid from the fertilizer fund.

(59) Research fund: The corporation shall set aside $300,000 annually out of the rental, during the continuation of the lease, for the purpose of a research fund to be used by the corporation as
provided in section (35) hereof, and additionally to reimburse the corporation for research work carried on other than by the research board, but incident to the further development of the industrial, chemical, and/or power phases of the project. Any balance in the said fund at the termination of operation by the corporation under the terms of the lease shall be paid to the Government.

(60) The corporation shall set aside annually the sum of $100,000 out of the rental, during the continuation of the lease, for an emergency fund to be used by the corporation for extraordinary repairs, renewals, or replacements of any part of the hydroelectric portion of the project, made necessary by some cause other than ordinary operation and customary depreciation, but directly incident to the operation of the hydroelectric portion of the project. Any such repairs or replacements which may be necessary prior to, or at any time in excess of, the accumulated fund, and all restorations of any part or parts of the project necessary because of floods, fires, explosions, or other causes not directly incident to the operation of the hydroelectric portion of the project, shall be made by the corporation for the Government under the same terms and conditions as other construction work provided for in this act. Any balance in the said fund at the termination of operation by the corporation under the terms of the lease shall be paid to the Government.

(61) Fertilizer fund: The annual net rental herein provided would, if treated as amortization payments and placed at compound interest, be sufficient to retire more than the total expenditures made and to be made on the project by the Government, but inasmuch as a large part of this expenditure has been made directly incident to the World War and can and should be considered as part of the cost of that war, and as much of this project is, under this act, to be preserved for the Government’s use in any future war, and in the meantime, if utilized, to aid in the national problem of improving the productivity of the soil, the total investment in war and fertilizer facilities can and should be carried by the Government without burdening such use with the cost of interest. Therefore such rental, in excess of amounts otherwise indicated or specified, shall be used directly to cheapen the cost of fertilizers and/or fertilizer bases by the corporation depositing such net rentals each year as due in a separate fund designated as fertilizer fund and whereas the corporation is relieved of all taxes on this project, it does agree that after 8 per cent has been earned on its investment then, thereafter, all excess profits shall be divided equally (50-50) between the fertilizer fund and the corporation. Withdrawals from the fertilizer fund by the corporation will be made only as and when and for the purposes specified herein and by the farmers’ board.

(62) The farmers’ board may each year direct the corporation by resolution to withdraw and use all or any part of said fertilizer fund as a credit against the cost of fertilizer and/or fertilizer bases in such manner as it may decide, except as otherwise specified herein.

(63) If at any time the farmers’ board determine that all or any part of the then balance in the fertilizer fund is not needed for assisting the production and marketing of the fertilizer products on such a basis as will encourage the purchase and use by the farmers, or that the interest of the Government will be better protected by such action, such board may instruct the corporation to set aside any
part of the moneys in the said fertilizer fund in a construction fund for use in the establishment of other plants at other locations. The withdrawal from this construction fund shall be made only on approval of the farmers' board. Any balance in the said fertilizer fund at the termination of operation by the corporation under terms of the lease shall be paid to the Government.

(64) From time to time during the life of this lease the farmers' board shall authorize the corporation to deposit in a sinking fund part of the moneys in the fertilizer fund in sums sufficient with interest to amortize within the 50-year lease period the Government's total investment in the dams and plants herein leased to the Farmers' Federated Fertilizer Corporation. This sinking fund shall be paid to the Government at the termination of operations by the corporation under terms of the lease.

(65) Renewal and replacement fund (power division): The corporation shall set aside each year out of the rental, commencing with the calendar year following the completion of all work referred to in section (54) herein, and during each calendar year thereafter until the termination of the lease, amounts as in this section specified, to a renewal and replacement fund to cover renewals and replacements of the hydroelectric and other electric generating portions of the leased property incident to the operation thereof. The annual charge, to cover renewals and replacements, to be used for the purpose of setting up this fund, shall be not more than 3 per cent of the total cost, exclusive of navigation facilities, of Dam No. 2 with power house and all appurtenances, Dam No. 3 with power house and all appurtenances, and any and all other hydroelectric installations now or later a part of the project, and the replacement value of the steam plant at nitrate plant No. 2, and actual cost of other steam plants now or later a part of the project. This is a composite rate made up of varying rates for the different portions of the project. Any balance in this fund at the termination of operations by the corporation under terms of the lease shall be paid to the Government.

(66) Renewal and replacement fund (fertilizer division): The corporation shall set aside such amounts for renewals and replacements of the plants and equipment solely incident to the fertilizer division as may be ordered by the farmers' board for the purpose of setting up a renewal and replacement fund, and those amounts shall be considered as part of the cost of fertilizer production. All renewals and replacements shall be paid from this fund unless otherwise provided by the Government or by the farmers' board. Any balance in this fund at the termination of the lease shall be paid to the Government. All maintenance and repairs on the plants and equipment solely incident to the fertilizer division shall be made by the corporation and such expense shall be considered as part of the cost of production. Any balance in this fund at the termination of operations by the corporation under terms of the lease shall be paid to the Government.

(67) Retirement of bonds (fertilizer division): The corporation shall set aside, each year from the rental, amounts sufficient to amortize in series, in 20 years, the bonds of the corporation (fertilizer bonds) issued for the purpose of acquiring funds for construction and operation in the fertilizer division, beginning with the fourth year of issuance of such bonds (fourth year after issue).
(68) Compound interest: All funds which are set aside by the corporation may be deposited in any bank or banks which, in the judgment of the corporation, considering safety and all other conditions, will permit of the accumulation at compound interest.

NAVIGATION

(69) The corporation shall furnish, free of charge to the Government, all power and lighting current necessary for the operation of the navigation facilities forming part of the leased property, the quantity to be determined by the Secretary of War when each of such facilities is ready for operation. This current, not being sold, is not subject to rental payments thereon.

(70) The Government may have first call on any excess power at the disposal of the corporation for use as additional facilities in navigation, and shall pay for same at the regular rates charged for such class or classes of power.

(71) The Government shall furnish and pay for all labor, supervision, operation, maintenance, repairs, and depreciation connected with the navigation facilities.

(72) The Secretary of War shall have a representative located at Muscle Shoals continuously, with power to regulate navigation through the locks at Dams Nos. 2 and 3, within such hours and at such times as will materially conserve the water for use when it can be disposed of as power to the best advantage, or for accumulation above the dams.

VIII. PROGRAM FOR THE FIXATION OF ATMOSPHERIC NITROGEN

(7) The corporation shall have such authorized capital stock, divided into such number of shares and into such class or classes, each class to have such par value or to be without par value, and to have and be subject to such preferences, privileges, limitations, and restrictions as to dividends, voting powers, or otherwise as the by-laws of the corporation shall from time to time prescribe. Every provision contained in the by-laws dealing with the authorized capital stock of the corporation and the classification or reclassification thereof shall be adopted, and shall be subject to alteration, amendment, or repeal only with the vote or consent of the majority of the shares outstanding at the time entitled under the by-laws to vote therefor. Until otherwise provided by the by-laws, the authorized capital stock of the corporation shall consist of 300,000 shares of nonvoting, 7 per cent cumulative preferred stock, of the par value of $100 per share, redeemable at the option of the corporation at any time after three years at not to exceed $110 per share and accrued dividends, and of which 10,000 shares are to be immediately subscribed for, issued and paid for when and as called for by the board of directors.

Three hundred thousand shares of common stock without nominal value and $20,000,000 par value of fertilizer debenture bonds, said preferred stock may be issued from time to time and sold for cash at not less than par to such face amount as shall in the judgment of the board of directors be at the time necessary to provide the funds required by the corporation. Shares of stock of no par value may be issued for such consideration as shall be fixed by the board of direc-
tors if authorized to do so by the by-laws of the corporation and, if not so authorized, then such shall be fixed by the stockholders of the corporation at the time entitled to vote. As and when any shares of stock of whatever class are issued, the corporation shall file, within 30 days thereafter, with the Secretary of War, a certificate, signed and verified by its president or a vice president and by its treasurer or an assistant treasurer, stating the number of and describing the shares so issued and the consideration to the corporation therefor. All shares of stock of the corporation of whatever class, when issued, shall be fully paid and nonassessable in the hands of the holders.

(15) Inasmuch as the corporation is to produce and deliver in the control of the farmers’ board, as defined in section 36 of this act, fertilizers and/or fertilizer bases, without any profit, it shall be exempt from tax of any sort whatsoever, now enacted or later to be enacted.

FINANCE

(73) Inasmuch as it is herein provided that fertilizers and/or fertilizer bases are to be manufactured by the corporation without profit, as specified in section (28) hereof, and therefore the corporation will be unable to acquire capital through the sale of securities solely based upon that enterprise, the said corporation is hereby authorized to issue debenture bonds in the sum of $20,000,000 (fertilizer bonds), in series, as may be needed, bearing such rates of interest as in the judgment of its board of directors may be required by market conditions at the time for the best interests of the corporation, redeemable at the option of the corporation at any time after three years at such premium as the board of directors of the corporation may determine, secured as to principal and interest by the annual gross rental of the project, and the said debenture bonds shall be a direct obligation of the fertilizer division and not a lien on the earnings of the other divisions of the corporation, except as to the amount paid by the corporation for rental of the project.

(74) The corporation is hereby authorized to sell the said debenture bonds, mentioned in section (73) hereof, through the usual commercial channels and to pay the usual charges for such sales, and this authority shall extend to the sales of its preferred stock, notes, other bonds, or other forms of securities issued for the purpose of acquiring capital.

(75) The interest on the said debenture bonds, mentioned in section (73) hereof, shall be a direct charge or expense in calculating the manufacturing cost of said fertilizers and/or fertilizer bases.

(76) The capital acquired by the corporation through the sale of the said debenture bonds, mentioned in section (72) herein, shall be used for no other purposes than to meet the requirements of the fertilizer division of the project, either for the remodeling of existing plants, the building of new plants and facilities, including additions to the existing steam-electric generating plant, or for working capital in connection with fertilizer production.

(77) The farm loan bank credit extension division shall be empowered and shall advance moneys and hold the United States fertilizer bonded warehouse certificates as it now functions in connection with cotton, wool, grain, etc.
(78) The Secretary of Agriculture is hereby authorized and shall include manufactured fertilizers and/or fertilizer bases among the commodities eligible for storage under the provisions of the United States warehouse act (39 U. S. Stat. L., p. 436, as amended July 25, 1919, and February 23, 1923), and to make such rules and regulations under authority of said act as he may deem necessary.

(79) The Secretary of Agriculture is hereby authorized and shall issue warehouse certificates for all fertilizers and/or fertilizer bases produced by the corporation; which certificates shall be guaranteed by the Government, and which shall bear on their faces, as the value of such materials, the cost of same as defined in this act, and the warehouse utilized for the purpose of storing such materials shall be under Government license and supervision in the same manner as provided in the United States warehouse act above described. Any costs, commissions, fees, interest, and other expenses incident to such storage and/or the issue and use of such warehouse certificates shall become a part of the cost of fertilizers and/or fertilizer bases as defined in section (29) hereof, and shall be paid out of the fertilizer fund.

(80) Upon the termination of the lease all of the capital received through the sale of the debenture bonds mentioned in section (73) hereof, and remaining in the hands of the corporation as cash, shall be paid to the Government.

(81) Any other capital required by the corporation shall be acquired through the sale of its own securities, entirely independent from responsibility or action of the Government or lien upon the rental.

(82) That portion of the expenses of the corporation in any calendar year which are not in their nature directly allocated to the various divisions of the project shall be allocated to such divisions in the ratio of the total expenditures of money in each such division in such calendar year.

(83) The account books of the corporation shall at all times be so kept that the elements of any one of the various divisions of the project may be easily segregated from other divisions, and the project, for accounting purposes, shall be divided into the following divisions:

(a) Construction division.
(b) Power division.
(c) Fertilizer division.
(d) All other activities of the corporation.

(13) Any and all by-products, excess, and waste, produced or recoverable from the processes used for the production of nitrates and fertilizers and/or fertilizer bases, shall belong to the corporation for its own use and benefit, and shall not in any way be credited to the cost of manufacturing fertilizers and/or fertilizer bases. Any cost of further treatment, refinement, or manufacture of such by-products, excess, and waste, to make the same commercially salable shall be at the expense of the corporation, and all cost of plant and investment and all working capital incident to such further treatment or manufacture shall be the obligation of the corporation except as mentioned in section (16) herein, and shall not be included in or considered in arriving at the cost of fertilizers and/or fertilizer bases.
(17) If plant No. 1 or plant No. 2, or parts of either, or other plants, or parts of same, or facilities, are not required for the manufacture and storage of fertilizers and/or fertilizer bases, the corporation may use such plants, parts, and facilities for other purposes not inconsistent with their restoration for war uses.

(19) The corporation is hereby authorized, with the approval of the board of industrial development (hereinafter defined), to sell, transfer, rent, or otherwise dispose of any real estate, materials, supplies, or other property pertaining to the project at the time of taking over the lease, real or personal, which said board shall determine to be not needed for the construction, maintenance, and operation of the project, or for war, military, or navigation purposes, giving good and indefensible title in fee simple to the purchasers thereof. The net consideration received upon any such sale or other disposition by the corporation, except moneys received for rents, shall be credited to a salvage fund, and said fund shall form part of the leased property and may be used by the corporation for the purchase of other useful property for the project and for working capital of the corporation. Upon the termination of the lease said fund, as then constituted, shall be turned over to the Government. Any of the property which may be sublet by the corporation under this act shall be sublet for such term expiring not later than the termination of the lease period for such rental and upon such terms as the corporation may determine.

(20) The corporation may construct at its own cost any additional buildings, structures, or facilities, and equipment at any location on the project and for any use, with the approval of the board of industrial development, and the same shall remain the property of the corporation. At the expiration of the lease the Government may purchase such property from the corporation at its appraised value, not to exceed the actual cost thereof, or, at the option of the corporation, the latter may remove the same; but if the lease is terminated by the Government prior to its expiration by reason of any default by the corporation in complying with the terms of the lease, then the Government shall, as penalty for such default by the corporation, acquire without cost all power and fertilizer facilities of any nature installed by the corporation upon the leased premises.

CONTROLLING BOARDS

(34) A board of industrial development shall be constituted, as hereinafter provided, to consist of an executive officer of the corporation, who shall be the chairman thereof, the Secretary of War or a person appointed by him, the Secretary of Agriculture or a person appointed by him, the Secretary of Commerce or a person appointed by him, and three others (who may be employed or retained by the corporation) appointed by the directors of the corporation. Each member shall serve for a term of one year, and any vacancy in the board, whether caused by death, resignation, or expiration of term of any member, or for any other reason, shall be filled in like manner. No member of the board shall receive any compensation for his services as a member thereof. The board shall, for the guidance of the corporation:
(a) Confer with the Secretary of War and work out, and from time to time, whenever necessary or advisable, amend, alter, or supplement, a general plan covering the war uses of the project, particularly as to the use thereof by the corporation being at all times subject to the use of the Government in time of war; and, subject to such plan—

(b) Confer with the Secretary of Agriculture and work out, and from time to time, whenever necessary or advisable, amend, alter, or supplement a general plan covering the fertilizer uses of the project; and the corporation shall observe and conform to the provisions of such plans; and, subject to the foregoing plans—

(c) Confer with the Secretary of Commerce and work out, and from time to time, whenever necessary or advisable, amend, alter, or supplement, recommendations for the development of the industrial activities on the project and within transmission distance thereof, and as to the classes of industry best suited to the locality, taking into consideration the industrial and commercial life of the Nation as a whole.

(35) A board of research, to consist of five members, shall be appointed by the Secretary of Agriculture, of which he may be a member. The remaining members shall be selected from the staff of the nitrogen research laboratory, Bureau of Soils, or other technical forces under his jurisdiction, as well as the technical staff of the corporation, except that the corporation shall be entitled at all times during the term of the lease to representation by two members on said board. The corporation shall supply from the research fund, hereinafter provided for, $150,000, per annum toward the maintenance of the nitrogen research laboratory, as and when a like amount is contributed by the Government for the same purpose. The members of the said board and the term of office of each member shall be one year, and all vacancies shall be filled and successors appointed by the Secretary of Agriculture, provided that at all times at least two members thereof shall be representatives, recommended by the corporation. Each member of said board, other than the representatives of this corporation, shall receive such compensation as shall be fixed by the Secretary of Agriculture. The same to be approved by the farmers’ board and paid out of the fertilizer fund.

(36) The board of research shall, as promptly as possible after the passage of this act, recommend processes and formulas for use by the corporation on the project for the production of fertilizers and/or fertilizer bases and the nature and extent of the changes, additions, and extensions to the nitrate and other plants, and shall have advisory powers in the completion of such construction and placing of same in operation, and thereafter shall, through continued research and experimentation, recommend or advise as to changes, betterments, and substitutions required in connection with the processes and formulas to be employed by the corporations.

(53) The refitting of the nitrate plants to manufacture the required fertilizers and/or fertilizer bases shall be commenced by the Government or by the corporation for the Government as soon as recommendations have been made by the board of research and the plans and specifications for the same have been made and the estimated cost thereof shall have been agreed upon.
(37) Any action of this board shall be submitted for review to the Secretary of War and, unless disapproved by him within 30 days thereafter, shall become available to the corporation as though with his approval.

(38) A farmers' board, to consist of not more than five members, shall be appointed by the Secretary of Agriculture, of which board he, or one of his assistants, shall be a member and shall act as chairman. The remaining members shall be appointed by him for one year, and the board originally selected by him shall include one representative from each of the following associations or their successors, or others representing farmers' welfare:
- American Farm Bureau Federation.
- The National Grange.
- National Farmers' Union.
- National Council of Cooperative Marketing Associations.

Each of said associations or their successors shall be requested by the Secretary of Agriculture to recommend its representative on said board at such time as in his judgment said board should commence to function, and the said Secretary of Agriculture shall fill all vacancies by appointment, and the representatives on said board shall, in so far as possible, during the term of said lease be identified with said associations or their successors or branches of the farm industry or organizations nationally interested in the farmers' welfare. Compensation not to exceed $10,000 a year shall be paid to each member of the board of direction of the Secretary of Agriculture, and such compensation shall be paid from the fertilizer fund.

(39) The said board shall hire a secretary, whose whole time shall be devoted to the work of the board and the gathering of data for its use in the marketing and distribution of fertilizers and/or fertilizer bases to the farmers of the United States, and the salary and expenses of said secretary shall be paid from the fertilizer fund, not to exceed the sum of $20,000 per annum. The expenses will include an office for said secretary at Muscle Shoals and the necessary clerical help.

(40) The said farmers' board shall have full power and authority to prescribe the methods and policies to be carried out as to the marketing and distribution of the fertilizers and/or fertilizer bases, and any expense in carrying out the said methods and policies shall be considered as an item of final cost of said products and paid from the fertilizer fund.

FERTILIZER DIVISION

(28) The corporation shall manufacture fertilizers and/or fertilizer bases as a separate department or division of the project, and shall make no profit or incur any loss in such fertilizer division.

(29) The "cost" of fertilizers and/or fertilizer bases shall include all items of expense and charge incident thereto, including provisions for taking care of past deficits or previous unintended profits, to the end that no profit or loss will result to that division or the corporation.

(30) During the first year of production of fertilizers and/or fertilizer bases the corporation shall furnish the farmers' board with as reliable estimation of the cost of production thereof as circumstances will permit, and thereafter shall report regularly, and at such times
and in such form as the farmers’ board may reasonably prescribe, the actual cost of production.

(31) The methods of processes to be initiated for the production of fertilizers and/or fertilizer bases shall be those recommended by the board of research, in accordance with the terms of this act. The extent of the production will be determined by the expenditures for construction as specified in paragraphs (53) and (63). The quantity shall be measured in tons of fixed nitrogen content of finished fertilizers and/or fertilizer bases, and is expected to be not less than 40,000 tons after the fourth year of operation, this amount is expected to be reached in increasing stages of 10,000 tons per year beginning the second year. The corporation agrees to further extend the quantity of fertilizers produced under this plan after consideration of the market demand and authorization of the farmers’ board and only dependent on the requirements of further additions to the Government’s plants for such production, which additions would be financed from the fertilizer fund hereinafter defined. The method of distribution and sale of the product shall be determined by the farmers’ board.

(32) All maintenance, repairs, renewals, and replacements on the plants and equipment solely incident to this division shall be made by the corporation and such expense shall be considered as part of the cost of production.

(33) As an incentive to perfecting processes and formulas and to discovery of more efficient business and manufacturing methods and to cheapening in any other way the cost of the product, the corporation shall be allowed and paid, as a bonus, an amount equal to 50 per cent of any such reduction in the production cost in each calendar year over the production cost of the preceding year, commencing after the contemplated changes in the nitrate plants are made and in use, which changes are to be made immediately; the amounts so paid to the corporation, if any, to be determined by the Secretary of Agriculture for each calendar year, are to become an item of production cost; anything in section (28) herein to the contrary notwithstanding.

POWER DIVISION

(24) The power needed in the manufacture of fertilizer and fertilizer bases and/or explosive bases shall be furnished by the power division of the corporation on as favorable terms as supplied to any other customer under similar conditions and times of use, and the corporation, the Research Board, and the farmers’ board (both of which boards are hereinafter defined), shall endeavor to discover or perfect processes and methods of manufacture and operation that will enable the corporation to produce fertilizers and/or fertilizer bases, using the cheapest classification of power consistent with maximum over-all economy.

(25) The rates to be charged by the corporation for electric service shall be subject to regulation by any State commission or other governmental body at the time having jurisdiction in the premises. For the purpose of determining the rate base, but for no other purpose, the corporation shall be deemed the owner in fee simple of such property, and any power used by the corporation, except that which is used only in the operation of the electric generating, transforming,
and switching portions of the plants, shall be considered on the same basis as any other customer under similar conditions of use. The rates to be charged for any other public service rendered by the corporation shall be similarly based and regulated. Certain current will be supplied to the Government, free of charge, for navigation as set forth in section (69) herein.

IX. PROVISIONS FOR NATIONAL DEFENSE

(14) All letters patent, processes, and formulas now or hereafter discovered at the leased property or laboratories of the Government for and in connection with fertilizers and/or fertilizer bases shall be the property of the Government, but shall be included in the leased property and shall be held from publication in the same manner as other Government processes of like character, the Government having the right to use the same direct at all times without charge. All letters patent, processes, and formulas discovered and controlled by the incorporators of this corporation prior to the passage of this act, which may be used in connection with the manufacture of products at this project, shall be and remain the property of the incorporators individually; the Government having the right to use the same direct at all times without charge during the life of said lease in connection with the manufacture of explosive bases.

CONTROLLING BOARDS

(34) A board of industrial development shall be constituted, as hereinafter provided, to consist of an executive officer of the corporation, who shall be the chairman thereof, the Secretary of War or a person appointed by him, the Secretary of Agriculture or a person appointed by him, the Secretary of Commerce or a person appointed by him, and three others (who may be employed or retained by the corporation) appointed by the directors of the corporation. Each member shall serve for a term of one year, and any vacancy in the board, whether caused by death, resignation, or expiration of term of any member, or for any other reason, shall be filled in like manner. No member of the board shall receive any compensation for his services as a member thereof. The board shall, for the guidance of the corporation:

(a) Confer with the Secretary of War and work out, and from time to time, whenever necessary or advisable, amend, alter, or supplement a general plan covering the war uses of the project, particularly as to the use thereof by the corporation, being at all times subject to the use of the Government in time of war, and subject to such plan.

GOVERNMENT RECAPTURE IN TIME OF WAR

(84) The Government may in time of war take over the entire project and the whole or any part of the organization of the corporation, and the same shall be returned to the corporation in as good condition as when taken over as soon as the Secretary of War shall determine that the project is no longer needed for such purpose, but in no event shall the project be returned later than 90 days after the cessation of active hostilities.
(85) In the event of such taking over by the Government the term of the lease and the term of the charter of the corporation shall be automatically extended for an additional time equal to the period during which the project shall be taken over and retained by the Government.

(86) In case the project is so taken over, all rental and all payments into the special funds in this act provided and all obligations of the corporation to the Government shall be abated during the period in which the project is retained by the Government, without liability on the part of the corporation to make good the abated payments and obligations which may have been omitted during such period.

(87) During such period the Government, as full compensation to the corporation for the use of the project and all losses and damages sustained by the corporation by such taking over, shall pay to the corporation an amount equal to the sum of the following, as and when the same shall become due and payable or shall be incurred by the corporation:

(a) All liabilities of the corporation accrued or accruing during the period of Government use, including interest, provided that the refunding of maturing capital liabilities of the corporation shall be deemed satisfaction of this clause.

(b) The expenses of the corporation in maintaining whatever part of its organization is not taken over and compensated for by the Government.

(c) All taxes accrued or accruing for such period, if any, due to any taxing authority.

(d) All dividends on the corporation’s preferred stock outstanding at the beginning of such taking over, and accrued or accruing during such period.

(e) Yearly amounts equal to the amounts which the corporation has been setting aside into sinking funds to retire the fertilizer bonds, or which the corporation has planned to set aside for this purpose at a predetermined time or times.

(f) A fair return on all money invested by the corporation; such return to be equal to the average cost to the corporation of such moneys obtained from the sale of bonds and preferred stock and an equivalent rate on such moneys obtained from the sale of common stock, and from this amount shall be deducted all interest and dividend payments provided for in subdivisions (a), (b), (c), (d), and (e).

(90) The corporation shall not at any time be obligated to manufacture, handle, or store on the project any war material or supplies of an explosive nature, but, subject to instructions as given from time to time by the Secretary of War, the corporation shall produce explosive bases for the Government incident to the operation of the fertilizer division, as herein provided, without either profit or loss to the corporation.

(16) The decision of the Secretary of War shall be final in all matters pertaining to the nitrate plants, or changes therein, as such changes may affect the use of the same for war purposes, preparedness for war, or other military purposes.
(24) The power needed in the manufacture of fertilizers and fertilizer bases and/or explosive bases shall be furnished by the power division of the corporation on as favorable terms as supplied to any other customer under a similar condition and times of use, and the corporation, the research board, and the farmers board (both of which boards are hereinafter defined), shall endeavor to discover or perfect processes and methods of manufacture and operation that will enable the corporation to produce fertilizer and/or fertilizer bases, using the cheapest classification of power consistent with maximum over all economy.

(25) The rates to be charged by the corporation for electric service shall be subject to regulation by any State commission or other governmental body at the time having jurisdiction in the premises. For the purpose of determining the rate base, but for no other purpose, the corporation shall be deemed the owner in fee simple of such property, and any power used by the corporation except that which is used only in the operation of the electric generating, transforming, and switching portions of the plants, shall be considered on the same basis as any other customer under similar conditions of use. The rates to be charged for any other public service rendered by the corporation shall be similarly based and regulated. Certain current will be supplied to the Government, free of charge, for navigation as set forth in section (69) herein.

(26) In order to use more completely and advantageously the power resources of the project, and for the purpose of giving wider distribution of electric power, the corporation is hereby authorized to use any amount in the salvage fund, provided in section (19) of this act, to construct for the Government such transmission lines—including appurtenant substations, transformers, and other works—as in the judgment of the board of industrial development may be necessary and desirable, under the same terms and conditions as other construction work mentioned herein. Any transmission lines which may be so constructed shall immediately become a part of the leased property and shall be returned to the Government at the same time and under similar conditions as the other leased property of this project, upon the termination of the said lease.

(27) The corporation may enter into agreements with the owners of electric generating stations and/or transmission lines, now or hereafter constructed, to bring about the exchange of power wherever the same can be advantageously done; may enter into contracts with persons, partnerships, corporations, municipalities, district, and individual States of the United States of America for the joint construction and use of transmission lines and may organize, join with, or associate with, a superpower or other organization for the better distribution of electric energy through a combination of sources of supply or transmission systems or operating organizations, as and when such agreements or contracts, in the opinion of the board of directors of the corporation, can be advantageously made.
(34) A board of industrial development shall be constituted, as hereinafter provided, to consist of an executive officer of the corporation, who shall be the chairman thereof, the Secretary of War or a person appointed by him, the Secretary of Agriculture or a person appointed by him, the Secretary of Commerce or a person appointed by him, and three others (who may be employed or retained by the corporation) appointed by the directors of the corporation. Each member shall serve for a term of one year, and any vacancy in the board, whether caused by death, resignation, or expiration of term of any member, or for any other reason, shall be filled in like manner. No member of the board shall receive any compensation for his services as a member thereof. The board shall, for the guidance of the corporation:

(c) Confer with the Secretary of Commerce, and work out, and from time to time, whenever necessary or advisable, amend, alter, or supplement recommendations for the development of the industrial activities on the project and within transmission distance thereof, and as to the classes of industry best suited to the locality, taking into consideration the industrial and commercial life of the Nation as a whole.

DETAILED ANALYSIS, PROPOSAL OF FARMERS' FEDERATED FERTILIZER CORPORATION FOR MUSCLE SHOALS PROJECT

I. BIDDER

Paragraph 1. The bill under sections 1 to 9, inclusive, sets up the organization and general powers of the Farmers Federated Fertilizer Corporation. The powers of the corporation are very broad. It is not required to possess any capital before the lease of the Government’s property to it is authorized but is to raise its capital by the sale of stock and of debenture bonds secured as to principal and interest by the gross rentals due for the use of the properties.

II. DURATION OF CONTRACT

Paragraph 2. The duration of the lease is specified as 50 years from the date of passage of the act (sec. 10), but the company is to hold, occupy, and use the leased property upon terms and conditions similar to the provisions of the lease until a new lease has been fully consummated, and in the negotiations for and completion of such new lease the Farmers Federated Fertilizer Corporation is to be given primary consideration.

Paragraph 3. This provision seems to turn over to the corporation all the Government’s property for an indefinite period, as it requires that the Government shall again lease at the end of the 50-year period and can not sell or operate the property. The lease, therefore, appears to deny to the Government the usual right of being a free agent at the end of the lease period.

III. PROPERTY TO BE PURCHASED

Paragraph 4. The bill does not contemplate the purchase outright of any property from the Government by the bidder.
IV. PROPERTIES TO BE LEASED

Par. 5. Section 1 defines the properties to be leased as the "Muscle Shoals project."

Par. 6. There is no Muscle Shoals project authorized by Congress as such.

Par. 7. Nitrate plants Nos. 1 and 2 were built under authority of the national defense act approved June 3, 1916.

Par. 8. A report by Maj. H. Burgess, Corps of Engineers, covering Dams No. 1, No. 2, and No. 3 was submitted to Congress June 28, 1916, and is printed in House Document No. 1262, Sixty-fourth Congress, first session. No action was taken by Congress. The construction of Dam No. 2 was begun under authority of the national defense act of 1916 and was completed by specific appropriations for continuing construction.

Par. 9. Dam No. 1 was constructed under authority of the river and harbor act of March 3, 1925.

Par. 10. Dam No. 3 has never been authorized by Congress and is not an adopted project.

Par. 11. It is assumed that the bill contemplates the lease to the corporation of all the Government's property at and in the vicinity of Muscle Shoals, but the property to be leased should be clearly defined and Lock and Dam No. 1 and the locks, their appurtenances, and sufficient housing for their operating force, should be exempted therefrom.

Par. 12. Section 3 gives the lessee the right to construct, extend, complete, demolish, salvage, reconstruct, maintain, and manage, use, and operate all of the leased property; in short, to do anything without any apparent restrictions whatsoever except to sell it.

Par. 13. Section 19, however, gives the corporation the right to sell any property on the approval of the board of industrial development. The proceeds are to be credited to a salvage fund, which may be used by the corporation for the purchase of other useful property for the project and for working capital of the corporation. A majority of the board of industrial development consists of the chairman, who is an executive officer of the corporation, and three other members who are appointed by the directors of the corporation. This section, therefore, appears to give the corporation the right to sell any property which a majority vote of the board of industrial development may authorize, and the corporation controls a majority of the said board.

Par. 14. Section 10 grants the corporation full license for use of all processes, letters patent, formulas, shop practices, shop rights, and other rights appertaining to or connected with this project or available for use therewith, whether located at Muscle Shoals, Ala., or at other places owned or controlled by the Government, the latter guaranteeing the corporation against any and all actions which may be instituted because of use of same. Section 14 would appear to deny the use of discoveries made in Government laboratories of processes or formulas for fertilizer to others than the corporation.

Par. 15. Section 15 exempts the corporation from all taxes.

Par. 16. By section 21 the corporation is given the right of eminent domain anywhere on the Tennessee River and tributaries above Dam No. 1. This section would appear to nullify the Federal water power act in the Tennessee Valley.
PAR. 17. Section 26 authorizes the corporation to use funds secured from the sale of Government property and moneys received from the sale of construction debenture bonds to construct for the Government new transmission lines.

PAR. 18. Section 88 provides for arbitration in case of any breach of any of the covenants in the act and the agreement contained therein on the part of either party, or if any difference shall arise at any time between the parties thereto in relation to the construction of the act and agreement, or the due performance of any of the covenants thereof, the question shall be submitted to arbitration. Such protection as the Government may have under the bill is contained in this section and in section 89. There is no statement as to what shall constitute a default by the lessee. There appears to be no remedy for waste, destruction, or mismanagement of the Government's property except arbitration. The Government may appeal from the award of the arbitrators to the United States district court, but, lacking a clear definition of what facts shall constitute cause for cancellation, it is not apparent how the lease may be terminated even by court action for good cause.

V. ADDITIONAL EXPENSE FOR CONSTRUCTION BY THE UNITED STATES REQUIRED BY THE BILL

PAR. 19. It is stated in section 11 that "the corporation does not require that any further amounts be appropriated by the Government for the completion of additional facilities as enumerated in section (55) herein or for construction of further up-river power development."

PAR. 20. This statement, however, is qualified in the same section (11) by "and the Government shall exercise its right at any time to undertake any future power development, but upon failure by the Government to undertake such development within one year after notice to the Government by the corporation that a specific power development is desirable, the corporation may, at its discretion, undertake the development of such necessary additional power facilities, but in the event that the construction of such additional power facilities is financed by the corporation, for such expenses of the power division there shall be deducted from the gross rentals, before payment is made to the Government, a yearly amount sufficient both to amortize and to pay interest upon any bonds or other securities issued by the corporation for the specific purpose of financing the construction of such additional power facilities."

PAR. 21. Now, section 21 grants to the corporation the right of eminent domain anywhere on the Tennessee River or its tributaries, and power and authority as follows:

"The corporation shall have the power and authority to purchase, construct, appropriate, enter upon, or otherwise acquire, use, own, maintain, and operate any property or right, real or personal, tangible or intangible, which may, in the judgment of the board of directors, be necessary or desirable to accomplish the purposes of this act, including water and/or flowage rights and lands along such portions of the Tennessee River and its tributaries above Dam No. 1 as are necessary or desirable for the development of water storage and/or water power and the regulation of the flow of such river and tributaries."
Par. 22. The corporation, therefore, "does not require that any further amounts be appropriated by the Government for the completion of additional facilities as enumerated in section 55 or for construction of further up-river power development," but it is clearly granted the right to construct any future power development in the Tennessee watershed, if the Government does not undertake it within one year after notification that such development is desired by the corporation.

Par. 23. Further, the corporation has the right to condemn any property necessary for such development; and

Par. 24. Further, the Government must finance such new developments desired by the corporation out of the rentals for property leased to the corporation.

Par. 25. It is evident from the foregoing that the bill commits the Government to an indefinite amount of large-scale work on the Tennessee River and tributaries as and when desired by the corporation.

Par. 26. Section 35 sets up a board of research to consist of five members appointed by the Secretary of Agriculture.

Par. 27. Section 36: "The board of research shall, as promptly as possible after the passage of this act, recommend processes and formulas for use by the corporation on the project for the production of fertilizers and fertilizer bases and the nature and extent of the changes, additions and extensions to the nitrate and other plants, and shall have advisory powers in the completion of such construction and placing of same in operation * * * ."

Par. 28. Section 53: "The refitting of the nitrate plants to manufacture the required fertilizers and/or fertilizer bases shall be commenced by the Government or by the corporation for the Government as soon as recommendations have been made by the board of research and the plans and specifications for the same have been made, and the estimated cost thereof shall have been agreed upon."

Par. 29. Section 55: "In order to insure the development of the project to take full advantage of the natural resources at Muscle Shoals and above, the following items of uncompleted work are considered necessary for and included in the lease herein made, and shall be constructed and completed as quickly as shall be considered consistent with the provisions of this act and good engineering practice; namely:

(a) Changes and additions in the nitrate plants for their up-to-date use in the manufacture of fertilizers and/or fertilizer bases.

(b) Completion of Dam No. 2 with its full power equipment of 18 generating units.

(c) Construction of Dam No. 3 with its full power equipment and electric-transmission tie line to Dam No. 2.

(d) Additions to the generating capacity of the steam electric plant located at nitrate plant No. 2 to bring the total generating capacity up to at least 120,000 kilowatts; such additions to be in the form of steam, gas, oil, or other forms of electric-generating equipment; the form and location of which being subject to the approval of the board of industrial development."

Par. 30. Section 56: "The time of commencing work under item (a) shall be as defined in section 53 (viz, as soon as recommendations are made by the board of research) and the items (b), (c) and (d) on
the approval of the board of industrial development of plans and specifications therefor, and the estimated cost thereof, shall have been agreed upon.”

Par. 31. In addition to these specified projects for new construction an indefinite amount of renewals and repairs at Government expense is required, as follows:

Par. 32. Section 57: “After the completion of requisite test, showing each item mentioned in section (55) hereof to be safe, satisfactory, and complete for operating conditions, they shall be taken over by the corporation and thereupon become part of the leased property.”

Par. 33. Section 41: “If the foundations of the Dam No. 2 shall prove defective, and/or any of its equipment or the power house shall in any way be defective or unsatisfactory, after the completion of all the work incident to a complete, operative hydroelectric project, and after all operative and other usual tests have been made, then the Government shall make all repairs, changes, or replacements at its expense to make the same an efficient, safe, and complete operative hydroelectric project, and the corporation shall take over the hydroelectric project at Dam No. 2 within 60 days thereafter and shall place the same in commercial operation as promptly as possible.”

Par. 34. Section 42: “The existing steam-electric plant at nitrate plant No. 2 shall be given an operative test, and any repairs, renewals, and replacements necessary to place it in an efficient operating condition shall be made by the Government, and when completed in such condition it shall be taken over by the corporation.”

Par. 35. Section 43: “The corporation shall be notified in advance as to each such test and be permitted to have representatives present, and shall be furnished with all data and information as to the results of each such test.”

Par. 36. Section 44: “In case any other item of the leased property, when delivered into the possession of the corporation, shall be in need of any repairs, renewals, or replacements, the same shall be made by the Government and at its expense, and if not so made promptly the corporation shall have the right to make the same, and the Government shall furnish or reimburse to the corporation all funds requisite therefor.”

“Sec. (60). * * * and all restorations of any part or parts of the project necessary because of floods, fires, explosions, or other causes not directly incident to the operation of the hydroelectric portion of the project shall be made by the corporation for the Government under the same terms and conditions as other construction work provided for in this act * * *.”

Par. 37. Under sections 45, 46, 47, 48, 49, 50, 51, and 52 the corporation shall, upon notice in writing in each case from the Secretary of War, act as agent for the Government for the designing and construction of each or any of the several items of uncompleted work referred to in section (55) herein, or for any other construction work of the Government incident to the project now planned or hereafter to be planned, and for such services the corporation is to be paid a fixed fee equal to 6 per cent of the estimated cost of such work.

Par. 38. Section 92 reads as follows:
“Appropriations necessary to carry out each and every one of the provisions of this act on the part of the Government are hereby authorized and made.”

Par. 39. This section, when read in connection with sections 36, 53, 55, 56, 41, 42, and 44, appears to appropriate funds for the following work to be done by the Government direct, or by the corporation for a fee of 6 per cent of the estimated cost, viz:

Addition of 10 generating units to Dam No. 2.
Addition of 60,000 kilowatt capacity to nitrate plant No. 2, steam station.
Construction of Dam No. 3, complete, with tie line to Dam No. 2.
Changes, additions, and extensions to the nitrate and other plants, as recommended by the board of research.
Complete repairs, renewals, and replacements to all of the property to be leased.

Par. 40. The additional expense for construction by the United States required by the proposal consists of two classes:

First. Definite items, specifically mentioned in the act and for which funds are appropriated; and which may be done by the Government direct, or by the corporation as agent for a fee of 6 per cent of the estimated cost.

Second. An indefinite number of items up river from Dam No. 3, which may be built by the Government if Congress appropriates funds therefor; but which at the option of the corporation, should the Government not appropriate funds, may be constructed at the Government’s expense, by deducting from the rentals for works completed all interest and sinking fund charges on securities issued by the corporation for such up-river developments.

Par. 41. The nitrate plants have not been operated since the spring of 1919, or nearly eight years. While the care taken of these plants has been the best that could be given with a small caretaking force and with very limited funds, the deterioration of machinery and piping over so long a period of idleness must be considerable. Nitrate plant No. 1, moreover, never operated successfully, and to make it operative will cost a very considerable sum. The expense to put nitrate plant No. 2 in operating condition without changes in the chemical system on which designed also will be considerable.

Par. 42. But all plans discussed for operating nitrate plant No. 2 by bidders and experts have contemplated extensive changes, or additions at some point in the existing manufacturing process so as to produce a chemical more suitable to the fertilizer business than ammonium nitrate for the production of which the plant was designed. It has been stated by one or more bidders that the most economical procedure would be to scrap nitrate plant No. 2, or at least not to operate it, and instead to build a new plant to produce ammonia and nitric acid direct from coke.

Par. 43. The research board (sec. 36) is to recommend “processes and formulas for use by the corporation on the project for the production of fertilizer and for fertilizer bases and the nature and extent of the changes, additions, and extensions to the nitrate and other plants * * *. It is not unlikely that such board may recommend an entire change in the process for the use of which nitrate plant No. 2 was designed and that by retaining certain parts of that plant, the construction of a practically new plant
using a more modern and economical process can be construed as “a change, addition, and extension” of nitrate plant No. 2. This could easily involve an expenditure of $8,000,000 to $10,000,000.

Par. 44. Repairs to buildings, particularly to the housing of the two industrial villages, water and sewer systems, roads and railway trackage, etc., required by the act will be a very considerable sum.

Par. 45. While only a careful estimate of all necessary repairs could determine these items with any degree of accuracy, and while the cost of “changes, additions, and extensions” can be estimated only after the board of research has determined on the chemical process or processes to be used, it appears that the expenditures by the Government for these purposes may easily be $12,000,000 and that no limit can be set at this time.

Par. 46. Summarizing, the additional expense for construction by the United States by the proposal may be approximately stated as follows:

I

Par. 47. Items for which appropriations are made by the act and on which work may be done by the Government or at the option of the Government by the corporation for a fee of 6 per cent of the estimated cost:

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changes, additions, and extensions and repairs to nitrate plants</td>
<td>$3,000,000</td>
</tr>
<tr>
<td>Ten additional generating units and accessory equipment in hydro plant at Dam No. 2</td>
<td>$8,000,000</td>
</tr>
<tr>
<td>Increase in steam capacity, nitrate plant No. 2, steam station</td>
<td>$4,000,000</td>
</tr>
<tr>
<td>Construction of Dam No. 3 and connection to Dam No. 2</td>
<td>$32,000,000</td>
</tr>
<tr>
<td><strong>Total work at Muscle Shoals to comply with act</strong></td>
<td>$47,000,000</td>
</tr>
</tbody>
</table>

II

Par. 48. Items of up-river work for which no appropriations are made, which may be done by the Government, but if not done by the Government may be constructed by the corporation at the expense of the Government.

Preliminary estimate

[Page 15, House Document No. 463, Sixty-ninth Congress, first session]

<table>
<thead>
<tr>
<th>Location</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guntersville Dam</td>
<td>$15,000,000</td>
</tr>
<tr>
<td>Sherman</td>
<td>$6,000,000</td>
</tr>
<tr>
<td>Soddy</td>
<td>$13,000,000</td>
</tr>
<tr>
<td>White Creek</td>
<td>$13,000,000</td>
</tr>
<tr>
<td>Marble Bluff</td>
<td>$9,000,000</td>
</tr>
<tr>
<td>Coulter Shoals</td>
<td>$10,000,000</td>
</tr>
<tr>
<td>Kingston</td>
<td>$6,000,000</td>
</tr>
<tr>
<td>Melton Hill</td>
<td>$8,000,000</td>
</tr>
<tr>
<td>Clinton</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>Cove Creek</td>
<td>$20,000,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$102,000,000</strong></td>
</tr>
</tbody>
</table>

Par. 49. The above does not include preliminary estimates for the War Ridge and Cumberland Gap sites, not for sites on the Hiwassee or Pigeon Rivers, which on the basis of horsepower installation may

1 This may be $12,000,000 or more.
run to $66,000,000, making a total for up-river sites of $168,000,000, or—

<table>
<thead>
<tr>
<th>Work at Muscle Shoals</th>
<th>$47,000,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up-river work</td>
<td>168,000,000</td>
</tr>
</tbody>
</table>

Preliminary estimate of work which corporation may require, under terms of the act and which the Government is required to build or finance out of rentals—215,000,000

VI. CONDITIONS COVERING OTHER CONSTRUCTION FOR POWER PURPOSES AS STATED BY BIDDER

Par. 50. Section 54: “The corporation, if directed by the Secretary of War in writing, shall construct for the Government all storage dams and/or power plants or other works desired by the Government and designed for the regulation and augmentation of this project or its extensions, and not mentioned in this act, under the same terms and conditions as mentioned for other construction work.”

Par. 51. This section gives the Government the option of employing the corporation as agent for up-river construction at a fee of 6 per cent of the estimated cost.

VII. PAYMENTS TO UNITED STATES BY LESSEE

Par. 52. The corporation makes no payments to the Government during the lease period. All rentals are to be deposited in certain funds authorized by the act. The Government has no control over any of the funds. Rentals are to be computed on the basis of power generated by the hydro plant or plants sold by the corporation. Beginning with the calendar year following the placing of Dam No. 2 with eight generating units in commercial operation, rentals are to be credited at $22.29 per kilowatt-year of “primary” power generated and actually sold by the corporation until all the following items of uncompleted work are completed, viz:

(a) Changes, additions, and extensions to nitrate and other plants as recommended by the board of research.

(b) Addition of 10 generating units to Dam No. 2 hydro station.

(c) Construction of Dam No. 3 with its full power equipment and electric transmission tie line to Dam No. 2.

(d) Additions to the generating capacity of the steam-electric plant located at nitrate plant No. 2 to bring the total generating capacity up to at least 120,000 kilowatts.

Par. 53. And after these items are completed the rentals are to be credited at $25.50 per kilowatt-year for all “primary” power generated by hydro and actually sold by the corporation.

Par. 54. However, section 12: “If in any calendar year the receipts from the sale of power are not sufficient to pay the full gross rental due for that year and all other operating expenses, interest, and all general miscellaneous expenses allocated to the power division, and including the actual expenditures for maintenance and repairs, together with the amounts mentioned in section 64 hereof and the amounts to be set aside each year for the farmers’ board research and emergency funds and for the amortization of the debenture bonds, then for such calendar year the said rental shall be
reduced by the amount of the deficit, and the corporation shall not in subsequent years be required to make up such deficit."

PAR. 55. Primary power is defined (sec. 11) to be all and any power which could be generated for 8,000 hours per year from the actual river flow or by any storage reservoirs, together with such portion of added power generated by the hydroelectric plant which would be brought up to the standard of primary power by means of power generated by the steam plants of the leased property.

PAR. 56. A kilowatt-year is defined as 8,760 kilowatt-hours.

PAR. 57. It is to be noted that the method of computing rentals is unique.

PAR. 58. The usual method of buying and selling power on the horsepower-year or kilowatt-year basis is for the power producer to sell to the power consumer a certain number of horsepower or kilowatt capacity. The producer agrees to always have this power available, and the consumer pays at the stated rate whether he uses the power up to the limit purchased or not.

PAR. 59. The power producer knows that all consumers will not require the total power covered by their contracts at the same time, i.e., that there is a diversity factor for their maximum demands. He is, therefore, able to sell more power on the horsepower-year or kilowatt-year basis than the maximum capacity of his plant.

PAR. 60. Where a run-of-river plant, such as Dam No. 2, is backed up by a steam plant as a low-water reserve, the salable primary power is the low-water capacity of the water power plus the capacity of the steam plant, plus the amount the plant is oversold, due to the diversity factor of the load. Depending upon the diversity factor, the plant may be oversold from 10 to 20 per cent, or even more.

PAR. 61. Now, in the set-up under this bill, rentals due the Government are not computed on the basis of primary power (low-water capacity of hydropower plus steam capacity) available to the lessee and sold by him but on the basis of the number of kilowatt hours of power generated by the hydropower only and sold by the corporation. The Government receives no credit for steam power generated and sold, and the Government is penalized for all diversity in consumer's load, or, conversely, is credited, not with the amount of power sold by the lessee but with the actual number of kilowatt hours produced by the hydropower and sold by the corporation.

PAR. 62. The figures given in section 11, viz, $22.29 and $25.50 per kilowatt year (or $16.63 and $19.02 per horsepower year), are misleading, because all that the lessee is required to do is to credit the Government with a gross rental at the rate of 2.54 mills per kilowatt hour of primary power generated by the hydropower and sold by the corporation up to the time of the completion of the uncompleted work specified in the act, and thereafter for such power at the rate of 2.91 mills per kilowatt hour.

PAR. 63. The gross-rental credit, however, may be materially less than the product of the number of kilowatt hours of hydropower sold times the rate per kilowatt hour, for, section (12) : "If in any calendar year the receipts from the sale of power are not sufficient to pay the full gross rental due for that year and all other operating expenses, interest, and all general and miscellaneous expenses allocated to the power division, and including the actual expenditures for maintenance and repairs, together with the amounts mentioned
in section (64) hereof, and the amounts to be set aside each year for the farmers' board, research, the emergency fund, and for the amortization of debenture bonds, then for such calendar year the said rental shall be reduced by the amount of the deficit; and the corporation shall not in subsequent years be required to make up such deficit."

"PAR. 64. From the gross-rental credit for primary hydropower produced by the hydroplant and sold by the corporation the following deductions or payments are to be made:

"SEC. (59). Research fund.—The corporation shall deduct $300,000 annually from the rental, during the operation by the corporation under terms of the lease, for the purpose of a research fund "* * *.”

"SEC. (60). Emergency fund.—The corporation shall deduct annually the sum of $100,000 from the rental, during the operation by the corporation under terms of the lease and set aside for an emergency fund, to be used by the corporation for extraordinary repairs, renewals, or replacements of any part of the hydroelectric portion of the project, made necessary by some cause other than ordinary operation and customary depreciation, but directly incident to the operation of the hydroelectric portion of the project. Any such repairs or replacements which may be necessary prior to, or at any time in excess of the accumulated fund, and all restorations of any part or parts of the project necessary because of floods, fires, explosions, or other causes not directly incident to the operation of the hydroelectric portion of the project, shall be made by the corporation for the Government under the same terms and conditions as other construction work provided for in this act. "* * *.”

"SEC. (65). Renewal and replacement fund (power division).—The corporation shall deduct each year from the rental, commencing with the calendar year following the completion of all work referred to in section (54) herein, and during each calendar year thereafter until the termination of the lease, amounts as in this section specified, and set aside for a renewal and replacement fund to cover renewals and replacements of the hydroelectric and other electric generating, controlling, and transmission portions of the leased property incident to the operation thereof. The annual charge, to cover renewals and replacements, to be used for the purpose of setting up this fund, shall be not more than 3 per cent of the total cost, exclusive of navigation facilities, of Dam No. 2 with power house and all appurtenances, Dam No. 3 with power house and all appurtenances, and any and all other hydroelectric, controlling, and transmission installations now or later a part of the project, and the replacement value of the steam plant at nitrate plant No. 2, and the actual cost of other thermic plants now or later a part of the project. This is a composite rate made up of varying rates for the different portions of the project. "* * *.”

"SEC. (67). Retirement of debenture bonds (fertilizer division, power division).—The corporation shall deduct each year from the rental amounts sufficient to amortize in series, in 20 years the debenture bonds of the corporation (fertilizer debenture bonds, construction debenture bonds) issued for the purpose of acquiring funds for construction and operation in the fertilizer division, and ex-
tensions and construction in the power division, beginning with the fourth year of issuance of such debenture bonds (fourth year after issue).

"Sec. (75). The interest on the said fertilizer debenture bonds, mentioned in section (73) hereof, shall be a direct charge or expense in calculating the manufacturing cost of said fertilizers and/or fertilizer bases. The interest on the said construction debenture bonds, mentioned in section (73) hereof, shall be deducted from the rental of the entire project."

Par. 65. After the deductions from the rental listed in the preceding paragraph have been made the balance is to be deposited in a fertilizer fund:

"(61). Fertilizer fund.— * * * Therefore such rental in excess of amounts otherwise indicated or specified shall be used directly to increase the production facilities and/or cheapen the cost of fertilizers and/or fertilizer bases by the corporation depositing such net rentals each year as due in a separate fund designated as fertilizer fund, and whereas the corporation is relieved of all taxes on this project, it does agree that after 8 per cent has been earned on its investment, then, thereafter all excess profits shall be divided equally (50-50) between the fertilizer fund and the corporation."

Par. 66. Certain payments, as follows, are to be made from the fertilizer fund:

"Sec. (38). A farmers’ board to consist of not more than five members shall be appointed by the Secretary of Agriculture * * * compensation not to exceed $10,000 a year shall be paid to each member of the board at the direction of the Secretary of Agriculture, and such compensation shall be paid from the fertilizer fund.”

"Sec. (39). The said board shall hire a secretary * * * and the salary and expenses of said secretary shall be paid from the fertilizer fund, not to exceed the sum of $20,000 per annum. The expenses will include an office for said secretary at Muscle Shoals and the necessary clerical help.”

"Sec. (35). A board of research, to consist of five members appointed by the Secretary of Agriculture * * *. Each member of the said board, other than the representatives of the corporation, shall receive such compensation as shall be fixed by the Secretary of Agriculture, the same to be approved by the farmers board and paid out of the fertilizer fund.

Par. 67. After the payments listed in the preceding paragraph have been made out of the fertilizer fund the balance is to be used as follows:

"Sec. (62). Withdrawals from the fertilizer fund by the corporation will be made only as and when and for the purposes specified herein and by approval of the farmers’ board.

"Sec. (63). The farmers’ board may each year direct the corporation by resolution to withdraw and use all or any part of said fertilizer fund as a credit against the cost of fertilizers and/or fertilizer bases in such manner as it may decide, except as otherwise specified herein.

"Sec. (64). If at any time the farmers’ board determine that all or any part of the then balance in the fertilizer fund is not needed for assisting the production and marketing of the fertilizer
products on such basis as will encourage the purchase and use by the farmers, or that the interests of the Government will be better protected by such action, such board may instruct the corporation to set aside any part of the moneys in the said fertilizer fund in a construction fund for use in the establishment of other plants at other locations. The withdrawal from this construction fund shall be made only on approval of the farmers' board. * * *

Any balance remaining in any fund set up by the act at the termination of operations by the corporation is to be paid to the Government.

Par. 68. Since the corporation starts with nothing, the sale value of power that can be produced and sold from the power properties leased must be the basis of any sound analysis. The market for the sale of power by the corporation consists of the market already in existence and a prospective market.

(a) The two public utility power companies whose territory is contiguous to Muscle Shoals make up the existing market.

(b) The prospective market is power that the corporation can sell to itself and power that the corporation can sell to other industries which it may induce to locate at Muscle Shoals.

Par. 69. Due to information obtained by over a year's operation of the Wilson Dam plant on the interconnected power system the department can make a good estimate of the public utility demand for a number of years in the future and it is well established that all the primary power which can be developed at Muscle Shoals by water supplemented by a proper steam reserve can be absorbed within a reasonable time.

Par. 70. The prospective market is more difficult to estimate. The quantity of power which the corporation may sell to itself is indeterminate until the manufacturing processes are determined and recommended by the board of research. If that board should recommend the retention of the cyanamid process as economical, the corporation will use a large quantity of power in its fertilizer business. On the other hand, if the board of research recommends ultimately discarding the cyanamid process, the corporation will need a comparatively small amount of power for its fertilizer operations and will have more power available to sell to the public utility corporations, or to distribute and sell itself.

Par. 71. Section 61 provides that the annual net rental shall be used directly to cheapen the cost of fertilizer and/or fertilizer bases by the corporation depositing such net rentals each year as due in a separate fund designated as fertilizer fund. Withdrawals from the fertilizer fund are determined by the farmers' board.

Par. 72. Now, the gross rental (and therefore the net rental) is determined by the amount of power classified as primary generated annually by the hydro plant or plants and sold. The gross and net rentals are, therefore, not affected by the particular use made of power. There is this difference to the corporation, however: If the power is largely sold to public utilities and to other industrial consumers the difference between the amount received from sales and the amount credited to rental is an immediate cash profit to the corporation. If primary power is used in the cyanamid process to a large extent in the fertilizer business, or reserved for that purpose, the profit from sale of power to the fertilizer division will
accrue to the corporation only as the fertilizer is sold. The sale of fertilizer will probably depend upon the amount of rebate or subsidy from the fertilizer fund. Section 33 of the act provides that the corporation shall be paid as a bonus 50 per cent of any reduction in production cost of fertilizer in any calendar year.

Par. 73. Now, by increasing the capacity of the cyanamid plant 50 per cent, upon the completion of Dam No. 3, 75 per cent of the 40,000 tons of nitrogen could be produced on secondary power, for which no rentals are allowed the Government. This, of course, would release for sale to industry 50 per cent of the primary power reserved for fertilizer production. The secondary power would be charged into fertilizer and the primary power thus released could be sold to the power companies or to other industries. Such a change in operation could easily produce an additional net return to the corporation of $1,000,000 per annum. Also, the corporation could get, as a bonus under section 33, approximately $400,000.

Par. 74. The incentive is present in the act, therefore, for the corporation to use a minimum of primary power in the fertilizer business, and to go into the public utility power business on a large scale either directly or through the existing public utility power companies, as soon as it can do so.

Par. 75. On the other hand, the operation of the cyanamid plant at nitrate plant No. 2 will immediately absorb a large quantity of primary power which under the act will be charged into fertilizer at the same cost as that at which other primary power is sold. The operation of nitrate plant No. 2 will advance by several years the date at which otherwise all primary power could be sold and will give the corporation greater profits for the first 10 years or so of the lease period. A reasonable assumption, therefore, is that the corporation will operate nitrate plant No. 2 in the beginning and later, when it can sell the power to better advantage, will use in the fertilizer business other methods which require less power.

Par. 76. The amount of power which may be sold to new industry at Muscle Shoals is indeterminate.

Par. 77. We have seen that the act definitely requires of the Government at its expense the installation of 10 additional generating units at Dam No. 2, the addition of 60,000 kilowatt capacity to the steam plant at nitrate plant No. 2 and the construction of Dam No. 3. We have also seen that the act gives the corporation the right to request the construction of any up-river project and that, if the Government does not construct such project, the corporation may build it with borrowed money, charging all interest and amortization costs against rentals accruing under the lease. As the construction of up-river developments is optional with the corporation, it appears necessary to estimate return to the Government, first, without headwater storage, and, second, with headwater storage.

Par. 78. For the first estimate, estimate No. 1, the following assumptions therefore are made:

The corporation will sell as much power, not needed in its own operations, to the public utility power companies as is available and they can use.
First year, power sold only to public utilities, as nitrate plants are not ready to operate.
Second year, power sufficient for fixation of 10,000 tons nitrogen by cyanamid process used by corporation and power sold to public utilities.
Third year, power sufficient for fixation of 20,000 tons nitrogen by cyanamid process used by corporation and power sold to public utilities.
Fourth year, power sufficient for fixation of 30,000 tons nitrogen by cyanamid process used by corporation and power sold to public utilities.
Fifth year, power sufficient for fixation of 40,000 tons nitrogen by cyanamid process used by corporation and power sold to public utilities.

Par. 79. Thirty thousand kilowatts will be added to the steam plant capacity and ready to operate the fourth year, and 30,000 kilowatts more the fifth year. Five generating units will be added at Dam No. 2 and ready to operate the sixth year and five more the eighth year.

Par. 80. Dam No. 3 is in operation the eighth year.

Par. 81. Primary power can be sold for 4 mills per kilowatt hour and such secondary power as can be used by the power companies for steam replacement can be sold for 2 mills per kilowatt hour.

Par. 82. We have seen that there is no limit, other than that imposed by the topography and geology of the Tennessee Valley above Dam No. 1, to the number of up-stream storage and power developments which, under the act, the corporation may finance out of rentals and construct.

Par. 83. There is not sufficient information yet developed by the survey of the Tennessee River and tributaries to determine the effect at Dams Nos. 2 and 3 of all the storage possibilities. Preliminary studies of the effect at Dams Nos. 2 and 3 of the proposed Cove Creek Reservoir on the Clinch River have been made, and estimate No. 2 is prepared on the basis of that project being financed and built by the corporation as provided in the act and completed and in operation the tenth year. Other bases for the estimate are the same as for estimate No. 1.

Par. 84. This estimate is made for the purpose only of illustrating the effect on rental credits and on net profits accruing to the corporation from the sale of power, of a single up-river development constructed by the corporation and financed out of rentals as provided in the act. The estimate is not intended to indicate that the corporation is limited to the construction of this one storage project or that it can not build any number of others, financing them out of rentals, whenever it desires.

Par. 85. While certain funds set up by the act are considered as assets to the Government, in that at the end of the lease period the balances therein remaining are to become the property of the Government, there is no control of the depository in which same are placed.

"Sec. 68. Compound interest.—All funds which are set aside by the corporation may be deposited in any bank or banks, which, in the judgment of the corporation, considering safety and all other conditions, will permit of the accumulation at compound interest."
VIII. PROGRAM FOR THE FIXATION OF ATMOSPHERIC NITROGEN

Par. 86. Section 28: The corporation shall manufacture fertilizers and/or fertilizer bases as a separate department or division of the project, and shall make no profit and incur no loss in such fertilizer division.

Par. 87. The corporation assumes no responsibility for the processes to be employed but passes that function by the act to the board of research. Also it assumes no responsibility for methods and policies to be carried out as to marketing and distribution of fertilizer, this by the act being a function of the farmers’ board.

Par. 88. The extent of the production will depend upon the expenditures made by the Government (sec. 53) in refitting the nitrate plants and on the use of the fertilizer fund (net rentals) by the farmers’ board.

Par. 89. It is not apparent from the act that the corporation furnishes any money, technical skill, or experience in return for the large profits which it will make out of the sale of power, and which may be used to pay dividends on investments by the corporation in plants for the manufacture of by-products (sec. 13) or in “additional buildings, structures, or facilities and equipment at any location on the project and for any use” (sec. 20).

IX. PROVISIONS FOR NATIONAL DEFENSE

Par. 90. The act provides for taking over the leased property by the Government in time of war. It protects the corporation from all financial loss due to such war use of the property and guarantees to the corporation a fair return on its investment during the period so used.

Par. 91. It provides for the manufacture by the corporation of explosive bases, incident to the operation of the fertilizer division without profit or loss to the corporation.

X. PROVISIONS FOR EQUITABLE DISTRIBUTION OF POWER

Par. 92. Section 25 provides for the regulation of power rates by any State commission or other governmental body at the time having jurisdiction. For the purpose of determining rates, the corporation shall be considered as owner of the property.

Par. 93. Section 26 authorizes the corporation to construct transmission lines, substations, and other works with funds obtained from the sale of Government property approved by the board of industrial development, and with funds received from the sale of construction debenture bonds.

Par. 94. Section 27: “The corporation may enter into agreements with the owners of electric-generating stations and/or transmission lines, now or hereafter constructed, to bring about the exchange of power wherever the same can be advantageously done; may enter into contracts with persons, partnerships, corporations, municipalities, district and individual States of the United States of America for the joint construction and use of transmission lines, and may organize, join with or associate with, a superpower or other organi-
zation for the better distribution of electric energy through a combination of sources of supply or transmission systems or operating organizations, as and when such agreements or contracts, in the opinion of the board of directors of the corporation, can be advantageously made.”

Par. 95. The corporation is, therefore, authorized to do a general public utility power business.

XI. COMPARISON WITH OTHER PROPOSALS

Par. 96. Senate bill 4632, being the proposal of the Farmers Federated Fertilizer Corporation, is not, in my opinion, susceptible of direct comparison with the proposal of the Muscle Shoals Fertilizer Co. and the Muscle Shoals Power Distributing Co., nor with the proposal of the Air Nitrates Corporation. In each of those proposals the subsidy to the fertilizer business deemed necessary by the bidder and the profit the bidder expects to make out of the operation of the power properties have been deducted by him prior to submitting his proposal. The monetary return to the Government, over and above the subsidy to nitrogen production and the bidder’s profits, is, therefore, reasonably definite.

Par. 97. In the proposal of the Farmers Federated Fertilizer Corporation all of the property of the Government at Muscle Shoals is devoted entirely to subsidizing nitrogen production, financing new construction, and profit to the bidder. The Government recovers no money payments during the life of the lease. At its termination it receives any balances remaining in the several funds set up by the act.

Par. 98. Navigation is subordinated to the interests of the corporation by section (72):

“The Secretary of War shall have a representative located at Muscle Shoals continuously, with power to regulate navigation through the locks at Dams Nos. 2 and 3 within such hours and at such times as will materially conserve the water for use when it can be disposed of as power to the best advantage, or for accumulation above the dams.

Par. 99. The Government has no control over the funds set up by the act, or the depositories in which they shall be kept.

“(68). Compound interest.—All funds which are set aside by the corporation may be deposited in any bank or banks which, in the judgment of the corporation, considering safety and all other conditions, will permit of the accumulation at compound interest.”

M. C. Tyler,

Lieutenant Colonel, Corps of Engineers.
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<th>Additional expenditures by the United States</th>
<th>Gross rental credited</th>
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<td>Corporation's net profit from sale of power</td>
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1 Includes additional switching equipment and transformers.

Total additional expense required of the United States at Muscle Shoals, if research board retains cyanamid process, $47,000,000.
Estimate No. 2.—With headwater storage—Showing additional expenditures by the United States, net profits to the corporation from sale of power, and disposition of rentals under proposal of Farmers' Federated Fertilizer Corporation

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<th>Year</th>
<th>Charges, additions, and extensions to nitrate plants</th>
<th>Additional generating units Dam No. 2</th>
<th>Additions to steam plant nitrate plant No. 2</th>
<th>Construction of Dam No. 3</th>
<th>Receipts by corporate from sale of power</th>
<th>Operating expenses power plants</th>
<th>Corporation's net operating revenue</th>
<th>Gross rental credit due</th>
<th>Corporation's net profit from sale of power</th>
<th>Gross rental credited (secs. 11, 12)</th>
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<td>Amortization of construction debenture bonds (sec. 75)</td>
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<td>Total deductions (columns 12, 15, 14, 16, 17)</td>
<td>Salaries and office expenses (sec. 35, 38, 36)</td>
<td>Net fertilizer fund to be expended by farmers' board (columns 19, 20)</td>
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Total: 15,000,000 5,000,000 79,034,000 14,888,000 14,888,000

1 Includes additional switching equipment and transformers.

2 Estimated cost Cove Creek project, $20,000,000.