

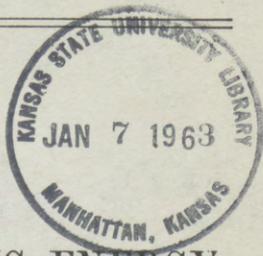
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PROPOSED ARRANGEMENTS FOR ELECTRIC
GENERATING FACILITIES AT HANFORD
NEW PRODUCTION REACTOR

GOVERNMENT
Storage



HEARING
BEFORE THE
JOINT COMMITTEE ON ATOMIC ENERGY
CONGRESS OF THE UNITED STATES
EIGHTY-SEVENTH CONGRESS
SECOND SESSION
ON THE
PROPOSED ARRANGEMENTS FOR ELECTRIC GENERATING
FACILITIES AT THE HANFORD NEW PRODUCTION
REACTOR

SEPTEMBER 27, 1962

Printed for the use of the Joint Committee on Atomic Energy

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ADDITIONAL MATERIAL SUPPLIED FOR THE RECORD

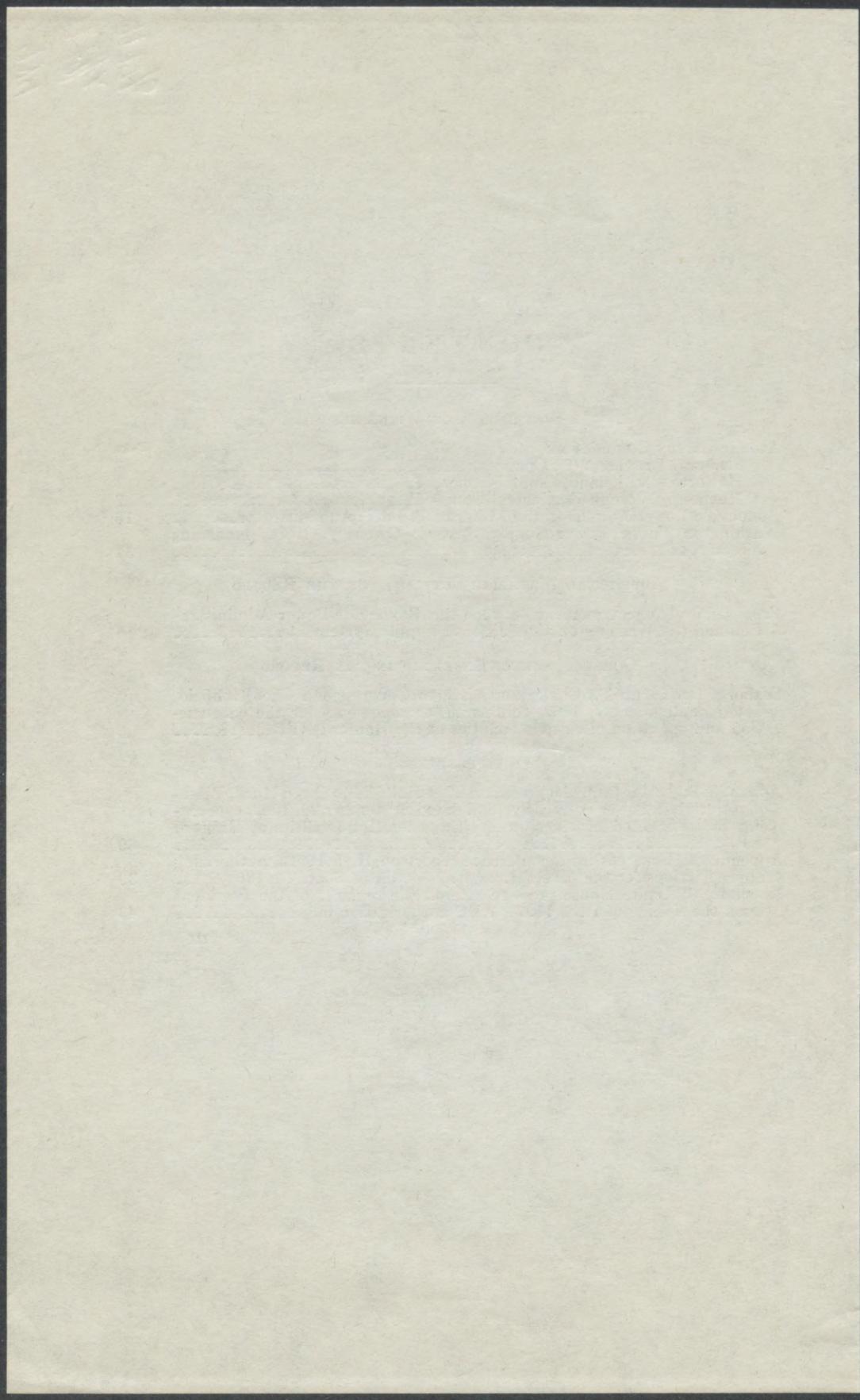
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PROPOSED ARRANGEMENTS FOR ELECTRIC GENERATING FACILITIES AT HANFORD NEW PRODUCTION REACTOR

THURSDAY, SEPTEMBER 27, 1962

CONGRESS OF THE UNITED STATES,
JOINT COMMITTEE ON ATOMIC ENERGY,
Washington, D.C.

The Joint Committee met at 2 p.m., pursuant to call, in room AE-1, the Capitol, Representative Chet Holifield (chairman of the Joint Committee) presiding.

Present: Representatives Holifield, Price, Morris, Hosmer, and Bates; and Senator Jackson.

Also present: David R. Toll, staff counsel; Edward J. Bauser, technical adviser; and Jack R. Newman, professional staff member.

Chairman HOLIFIELD. The committee will come to order.

The Joint Committee is holding a public hearing today to receive testimony concerning proposed arrangements for the construction and operation of electric generating facilities at the Hanford new production reactor.

On July 10 and 11, 1962, the committee held hearings¹ on this subject in connection with consideration of the AEC Authorization Act for fiscal year 1963, and received testimony from the Atomic Energy Commission, the Bonneville Power Administration, and the Washington Public Power Supply System.

The Congress, this month, passed the AEC authorization bill, including a section 112 authorizing these arrangements under certain statutory conditions. The bill was signed into law by the President on September 26 and is now Public Law 87-701.

Under the terms of the law, before the AEC may enter into these arrangements, it must make a series of determinations and submit those determinations, with supporting data and the basis for the arrangements, to the Joint Committee on Atomic Energy and a period of 45 days must then elapse, unless waived by majority concurrence of the committee.

The Atomic Energy Commission, this morning, submitted these documents to the Joint Committee and, without objection, they will be inserted in the record at this point.

¹ Hearings entitled "Utility Proposal for Powerplant Addition to Hanford New Production Reactor," July 10 and 11, 1962.

(The documents follow :)

U.S. ATOMIC ENERGY COMMISSION,
Washington, D.C., September 27, 1962.

HON. CHET HOLIFIELD,
Chairman, Joint Committee on Atomic Energy,
Congress of the United States.

DEAR MR. HOLIFIELD: I am submitting herewith: (a) The bases of the arrangements which the Atomic Energy Commission and the Bonneville Power Administration (BPA) respectively propose to consummate with the Washington Public Power Supply System (WPPSS) in connection with the construction and operation of electric generating and transmission facilities at the Hanford new production reactor (NPR); and (b) notification of Commission action on the determinations required by subsection 112(b) of the AEC fiscal year 1963 authorization act, with supporting data.

Attached are program justification data describing the proposed arrangements between AEC, BPA, and WPPSS. Phase I describes the proposed arrangements between AEC and WPPSS; phase II describes the proposed arrangements between BPA and WPPSS.

Section 112(b) of the AEC fiscal year 1963 authorization act provides that the Commission shall make three determinations before entering into any arrangement or sale of the type described in section 112(a). The Commission has made these determinations as follows:

(1) Usable byproduct energy will be produced incident to the production of special nuclear material in the reactor in accordance with the design of the reactor as originally authorized by Congress.

The design criteria of the new production reactor were prepared pursuant to the original authorization by the Congress, Public Law 85-590, for a convertible reactor, that is, one capable of being converted for the recovery of electric power. These design criteria specifically provided that the temperatures and pressures of the coolant in the NPR would be sufficiently high to permit the production of steam, in a secondary heat exchange system, suitable for use in turbine generators. The Commission's staff has continually reviewed the progress of the design and construction of the reactor to assure conformance with these design criteria. The Commission itself has held periodic reviews of the NPR and, as has been reported to the Joint Committee on a number of occasions, can assure that the reactor is being constructed in the manner contemplated by the Congress in the original authorization.

A number of independent evaluations have been made over the past several years of the feasibility of utilizing byproduct NPR energy for the recovery of electric power. In the course of these studies, design bases of turbine generators that could be installed to effect conversion were prepared by turbine manufacturers. These manufacturers have assured that the byproduct energy which would be produced by the NPR would be usable for the production of electric energy.

Accordingly, the Commission concludes that usable byproduct energy will be produced incident to the production of special nuclear material in the reactor.

Any special additions to the reactor which would be necessary to accommodate the addition of electric generating facilities would not be paid for by the Federal Government.

(2) The sale of byproduct energy could provide a substantial financial return to the U.S. Treasury for the benefit of the taxpayers.

The terms of the proposed contract between the Commission and WPPSS provide that during periods when the Commission is operating the reactor, the Commission will make available to WPPSS excess byproduct steam energy.

The Commission will be compensated in accordance with the following schedule of payments:

[In millions of dollars]

Year of dual-purpose operation	Annual payment	Cumulative payment	Year of dual-purpose operation	Annual payment	Cumulative payment
1	0.1	0.1	14	6.7	57.8
2	.1	.2	15	6.7	64.5
3	.2	.4	16	6.7	71.2
4	.2	.6	17	6.7	77.9
5	.6	1.2	18	6.7	84.6
6	.8	2.0	19	6.7	91.3
7	1.0	3.0	20	6.7	98.0
8	10.0	13.0	21	6.7	104.7
9	10.0	23.0	22	6.7	111.4
10	8.0	31.0	23	6.7	118.1
11	6.7	37.7	24	6.9	125.0
12	6.7	44.4	Each year after 24	5.0	
13	6.7	51.1			

By sale of such byproduct energy, the Federal Government will have an opportunity to receive a potentially substantial financial return for a byproduct which would otherwise be wasted. The taxpayers of the United States as a whole would be the ultimate beneficiaries of these payments.

(3) The national defense posture would be improved by the enhanced capability for resumption of special nuclear material production through non-Federal operation and maintenance of the reactor during periods when it is not being operated for special nuclear material production.

This determination is based on (a) the importance of plutonium as a national defense material, and (b) the virtual elimination of the considerable time that would be required to reactivate the reactor for plutonium production in the event that a period of suspension of such production were followed by a need for quick resumption of production for military purposes. Operation by WPPSS for power purposes would permit resumption of production operations in the reactor in a relatively short time, that is, in terms of days as contrasted with a period of perhaps 2 years that probably would be required to recruit and train a new operating staff and for testing, repairs, and reactivation of the facility from a cold standby condition. The proposed contract between the Commission and WPPSS provides that the Commission may recapture the reactor at any time it determines that special nuclear material production should be resumed.

Section 112(e) of the AEC fiscal year 1963 Authorization Act provides that before the Commission enters into any arrangements for the sale of byproduct energy from the NPR, the Commission must determine that the purchaser of such energy has offered 50-percent participation to private organizations on a non-discriminatory basis in the sale of electric energy generated herewith. The Commission has had preliminary discussions with WPPSS looking toward fulfillment of this statutory responsibility. The Commission will inform the Joint Committee when this determination has been made.

I will be pleased to provide supplementary information which the committee may wish on any aspect of the proposed arrangements discussed in this letter.

Sincerely yours,

GLENN T. SEABORG, *Chairman.*

APPENDIX A. PROGRAM JUSTIFICATION DATA—PHASE I

A. PARTIES

The Atomic Energy Commission and the Washington Public Power Supply System (WPPSS), Kennewick, Wash., a municipal corporation, joint operating agency, and publicly owned utility organized under the laws of the State of Washington, and composed of 16 public utility districts.

B. DESCRIPTION OF PROPOSED ARRANGEMENT

(1) *Objective.*—The objective of this proposed arrangement is to sell to WPPSS excess steam energy produced in the course of operating the NPR, for the production, in generating facilities constructed and operated by WPPSS, of large quantities of power, 800,000 kilowatts rated capacity. The Commission, through the sales of such excess steam energy, would recover appreciable sums of money, thus reducing the cost of plutonium to be produced in the NPR. Furthermore, programmatic objectives of the Commission would be accomplished through contribution to the Nations' nuclear power development program. The arrangements for distributing the power generated by WPPSS are outlined in phase II. During periods when the Commission is not operating the NPR for its own purposes, the NPR would be leased to WPPSS to permit its continued operation for steam production. Such a lease arrangement would assist in shortening the period required to resume production activities and lower standby costs should national defense interests require such resumption.

(2) *Location.*—Hanford, Wash.

C. GENERAL FEATURES OF PROPOSED ARRANGEMENT

(1) *Land lease.*—The Commission will make available approximately 13 acres of land on which WPPSS will construct necessary facilities to permit generation of power. Under the lease, WPPSS will be limited in its use of the land to the purposes set forth therein; namely, to construct and operate generating facilities. WPPSS will have rights of ingress and egress as well as certain easements for transmission lines and supporting structures. The Commission will have the right to terminate the lease with reasonable notice if the land is misused or disused, or if WPPSS becomes insolvent. If the lease is terminated prior to expiration, the Government may elect to acquire the facilities, in which case it will be required to assume the outstanding indebtedness of WPPSS under the bonds issued for this project. The Government will have an option to take title to the generating facilities, without cost, upon expiration of the lease. WPPSS will pay the Commission rent charges of \$1,000 for the first year and \$10 per year thereafter. The expiration date of the lease will be the same as that of the contract. (See (13) below.)

(2) *Construction of generating facilities.*—WPPSS will construct, at its expense, the necessary generating facilities.

(3) *Modifications in NPR.*—The Commission agrees to make certain modifications in the NPR which are requested by WPPSS and which are acceptable to the Commission, to be paid for by WPPSS, to improve the quality and dependability of the steam for the generation of electric power.

(4) *Delivery of steam energy.*—Upon completion of the generating facilities and during periods when the Commission is operating the NPR, the Commission will, consistent with the safe, efficient, and effective operation of the NPR, make available to WPPSS all steam energy in excess of the needs of the Commission produced incident to the operation of the NPR.

(5) *Commission review of designs, plans, and specifications relating to generating plant.*—The Commission will have the right to review all designs, plans, and specifications relating to construction and modifications of the generating facilities and approve any features which the Commission determines could affect the safe and effective operation of the NPR or of other plants and facilities of the Commission.

(6) *Commission inspection rights.*—The Commission will have the right to inspect at all reasonable times the construction of the generating facilities and the operation of those facilities, during both the dual-purpose and power-only phases, to assure that the safety, efficiency, and effectiveness of the NPR and other Commission facilities is not impaired. The Commission will have comparable inspection rights concerning the NPR during the power-only phase. In addition, the Commission, as a consequence of inspection, during both the dual-

purpose and power-only periods, may require WPPSS to undertake certain programs in order to assure the safety, efficiency, and effectiveness of the NPR and other Commission plants and facilities.

(7) *Commission direction of operations during emergencies.*—During any period in which the Commission determines that an emergency exists relating to the safety and effectiveness of the NPR, the Commission may direct all actions and operations involving the generating facilities, and involving the NPR during periods when it is leased to WPPSS, until the emergency is terminated.

(8) *Transition to power-only operation.*—At times when the Commission gives notice to WPPSS that dual-purpose operation is to be suspended, WPPSS will take necessary steps to satisfy any licensing requirements which may be a condition precedent to its operation of the NPR and will undertake any necessary modifications in the generating facilities necessary to accommodate power-only operation. The Commission at the same time agrees to undertake necessary modifications of the NPR which are acceptable to the Commission, to be paid for by WPPSS. The Commission will then tender to WPPSS the NPR under a lease agreement described in paragraph (9) below.

(9) *NPR lease.*—Under the terms of the lease, WPPSS will be required to use the NPR solely for the production of steam energy to operate the generating facilities. WPPSS will comply with the provisions of the basic contract pertaining to use, maintenance, and operation of the NPR. The Commission will have the right to terminate the lease if the NPR is not used in the manner provided for in the lease and in the basic contract. WPPSS will pay the Commission rent charges of \$1,000 for the first year and \$10 per year thereafter. The expiration date of the lease will be the same as that of the contract. (See (13) below.)

(10) *Recapture of NPR by Commission.*—The Commission will have the right, at all times when the WPPSS isoperating the NPR, to recapture the NPR for production or other purposes.

(11) *Compensation to Commission for costs of activities undertaken by Commission.*—The Commission will be compensated in advance for all costs associated with modifications of the NPR and construction and operation of the generating facilities in connection with this arrangement which the Commission would not have had if it had not entered into the arrangement. At no time will the Commission be required to expend its own funds. Those costs which result from activities which the Commission agrees to undertake shall be paid for from funds advanced to the Commission by WPPSS.

(12) *Charges for steam energy.*—WPPSS will pay to the Commission fixed charges for steam during all periods of dual-purpose operation. Fixed payments will be made irrespective of the quantity or quality of steam energy delivered or available, in accordance with the following schedule :

Years of dual-purpose operation	Millions of dollars		Years of dual-purpose operation	Millions of dollars	
	Annual payment	Cumulative payment		Annual payment	Cumulative payment
1.....	0.1	0.1	14.....	6.7	57.8
2.....	.1	.2	15.....	6.7	64.5
3.....	.2	.4	16.....	6.7	71.2
4.....	.2	.6	17.....	6.7	77.9
5.....	.6	1.2	18.....	6.7	84.6
6.....	.8	2.0	19.....	6.7	91.3
7.....	1.0	3.0	20.....	6.7	98.0
8.....	10.0	13.0	21.....	6.7	104.7
9.....	10.0	23.0	22.....	6.7	111.4
10.....	8.0	31.0	23.....	6.7	118.1
11.....	6.7	37.7	24.....	6.9	125.0
12.....	6.7	44.4	Each year after 24.....	5.0	-----
13.....	6.7	51.1			

(13) *Term and termination.*—The duration of the contract shall be from its execution until the revenue bonds issued by WPPSS have been paid or retired and shall continue thereafter so long as WPPSS continues to own and operate the generating facilities. The contract may be terminated by the Commission in the event the land lease or the NPR lease is terminated by the Commission.

(14) *Miscellaneous provisions.*—Certain additional miscellaneous provisions are also contained, such as the Commission's agreement to—

(a) Make available without charge previously prepared studies, designs, plans, etc., which are necessary for the design, construction, and operation of the generating facilities.

(b) Provide certain supplies and services to the extent that the Commission determines that they are available, at the expense of WPPSS.

(c) Conduct certain technical studies concerning the relationship of the NPR to the generating facilities and vice versa, at the expense of WPPSS.

(d) To the extent and under the same terms and conditions that the Commission would provide comparable materials and services to other licensees, make available special nuclear material for fuel and perform fuel-cycle services for power-only operation.

(e) The contract has other provisions relating to Government property, patents, security, availability of information and reports, and various standard clauses required in all contracts to which an agency of the United States is a party.

APPENDIX B. PROGRAM JUSTIFICATION DATA—PHASE II

A. NAMES OF CONTRACTORS

Trilateral contracts among the Bonneville Power Administration (BPA), the Washington Public Power Supply System (WPPSS), and individual participants (public utility districts in the State of Washington and other publicly, cooperatively, or privately owned organizations or industrial firms in Bonneville marketing area).

B. DESCRIPTION OF PROPOSED ARRANGEMENT

1. *Objective.*—The objective of this proposed arrangement is to make it feasible for WPPSS to purchase and pay for the byproduct NPR steam. The arrangement would also assist BPA to firm up and thereby make salable large quantities of surplus peaking capacity and secondary electric energy, which otherwise would be wasted, to meet a need for additional firm power to supply publicly and privately owned public utilities, cooperatives, and industries in the Pacific Northwest. The mutual exchange of power would also result in more economical operation of the Columbia River power system.

C. GENERAL FEATURES OF PROPOSED ARRANGEMENT

1. *Financing construction and operation of the works, plants, and facilities for generation and transmission of power and energy from the project.*—The supply system will issue revenue bonds pursuant to the bond resolution of the supply system to obtain the funds to build the project. It will sell the output of the plant, delivered at Vantage, Wash., to the participating organizations, which may include publicly and privately owned organizations and industries, all of which are initially or will become customers of Bonneville Power Administration. Each participant will purchase a fractional share of the Hanford output for which it will agree to pay the same fractional share of the total annual costs of the project, including bond amortization.

2. *Term.*—Commencing at 12 p.m. on the date of execution and ending when the revenue bonds are paid, continuing thereafter until notice of termination is given by the Administrator.

There is an additional termination provision for the period prior to the commencement of commercial operation of the project if, during such period, the AEC discontinues construction of NPR, or the continuation of the agreement becomes economically unjustified. In the event of such termination, the Government will reimburse the supply system for costs incurred up to the date of termination. (These provisions principally relate to the contingency of an international agreement affecting the project.)

3. *Construction of the project.*—The supply system will construct the project and the transmission facilities required to connect into the Bonneville system at Vantage, Wash.

4. *Exchange of energy and payment of project annual costs.*—The participating organizations, as a group, will jointly deliver into the BPA system at Vantage their respective shares of the output of the NPR generation. In exchange, Bonneville will make energy and capacity available to each participating organi-

zation at its load centers, and to each industry at its delivery point, all of which must be on the existing transmission system of BPA, under the terms of its power sales contract with BPA. The amount of power which BPA will make available to such organizations will be an amount equal in value, under the current BPA rate, to the organizations' share of the annual costs of the Hanford project.

If privately owned organizations, as participants, become parties to exchange contracts, BPA's obligation to make deliveries of power to them under the contracts in the event of a regional power shortage would be the same as its obligation to make deliveries of power to public agencies.

After the end of each contract year the actual costs will be determined and an appropriate adjustment in energy will be made under the remaining months of the current contract year, if such actual costs differ from the estimated costs.

5. *Scheduling arrangements.*—The operation of the project will be scheduled by the Government dispatcher.

6. *Operation and maintenance of the project.*—The supply system will operate and maintain the project. Planned outages will take place, if possible, when the Government's commitments are least affected.

7. *Ownership of facilities and option to acquire.*—Ownership of the project during the term of agreement will be in the supply system. The Government may acquire the project (1) prior to the time when all bonds and other obligations have been paid by assuming the outstanding balance of such obligations or (2) upon the termination of the agreement. In either event, prior congressional authorization would be required. If the Government acquires the project under (1), it will continue to make available to each participant until the date upon which all revenue bonds of the supply system would have been due and payable without accelerated retirement, the same amount of exchange electrical energy as it would have made available had the Government not acquired the facilities. The participant would make to the Government the same payment as it would have made to the supply system if the Government had not acquired the facilities.

8. *The supply system-AEC agreement.*—The supply system and the AEC will have entered into an agreement for construction and operation of the project. The AEC agreement, to which the supply system obligates itself, will be attached to the agreement.

9. *Accounts.*—The supply system will keep accurate records and accounts for the project which will be annually audited by a firm of certified public accountants. A copy of this audit will be furnished the BPA.

10. *Other provisions.*—The contract has other provisions relating to insurance, maintenance of reserve funds, waivers of default, notices, assignment, arbitration, rates, and various standard clauses required in all contracts to which an agency of the United States is a party.

Chairman HOLFELD. It is the purpose of these hearings to review these documents with responsible officials of the AEC and the Bonneville Power Administration. Witnesses from WPPSS have also been invited to be present and to comment if they so desire.

Our first witness this afternoon is Chairman Seaborg of the AEC. Please proceed.

STATEMENTS OF DR. GLENN T. SEABORG, CHAIRMAN; DR. LELAND HAWORTH, COMMISSIONER; AND JOSEPH F. HENNESSEY, GENERAL COUNSEL, ATOMIC ENERGY COMMISSION

Dr. SEABORG. Mr. Chairman, the Commission and its staff are pleased to appear before you this afternoon in this connection. As you indicated, the Commission transmitted to the chairman of this committee, in a letter dated September 27, 1962, the bases for the arrangements which the Atomic Energy Commission and the Boneville Power Administration respectively proposed to consummate with the WPPSS in connection with the construction of the generating and transmitting facilities at the Hanford NPR. Section 112 of AEC fiscal 1963

Authorization Act² requires that the Commission make certain determinations before entering into any arrangements for the sale of by-product steam energy from the new production reactor.

In view of the desirability of moving forward promptly with the proposed arrangements among the interested parties, the Commission has proceeded to complete a review of the bases for the determination to be made pursuant to section 112(b) and has formally made these determinations. These determinations, then, were made formally this morning at a Commission meeting with Commissioners Haworth, Palfrey, and myself present, and all three were in agreement in this action.

In addition, while still in Vienna, I discussed these determinations with Commissioners Wilson and Ramey, who are also agreed, so I can report to you that the Commissioners have unanimously agreed in these determinations. I don't have prepared testimony, but since all of the matters of interest, or the salient matters of interest, are brought out in my letter to the chairman, of September 27, I thought perhaps a suitable way of proceeding would be for me to read into the record that letter.

Chairman HOLIFIELD. You may proceed.

Dr. SEABORG (reading):

"DEAR MR. HOLIFIELD. I am submitting herewith: (a) The bases of the arrangements which the Atomic Energy Commission and the Bonneville Power Administration (BPA) respectively propose to consummate with the Washington Public Power Supply System (WPPSS) in connection with the construction and operation of electric generating and transmission facilities at the Hanford new production reactor (NPR); and (b) notification of Commission action on the determinations required by subsection 112(b) of the AEC fiscal year 1963 authorization act, with supporting data.

"Attached are program justification data describing the proposed arrangements between AEC, BPA, and WPPSS. Phase I describes the proposed arrangements between AEC and WPPSS; phase II describes the proposed arrangements between BPA and WPPSS.

"Section 112(b) of the AEC fiscal year 1963 authorization act provides that the Commission shall make three determinations before entering into any arrangement or sale of the type described in section 112(a). The Commission has made these determinations as follows:

"(1) Usable byproduct energy will be produced incident to the production of special nuclear material in the reactor in accordance with the design of the reactor as originally authorized by Congress.

"The design criteria of the new production reactor were prepared pursuant to the original authorization by the Congress, Public Law 85-590, for a convertible reactor; that is, one capable of being converted for the recovery of electric power. These design criteria specifically provided that the temperatures and pressures of the coolant in the NPR would be sufficiently high to permit the production of steam, in a secondary heat exchange system, suitable for use in turbine generators. The Commission's staff has continually reviewed the progress of the design and construction of the reactor to assure conformance with these design criteria. The Commission itself has held periodic reviews of the NPR and, as has been reported to the Joint Committee on a number of occasions, can assure that the reactor

² See app. 2, p. 39.

is being constructed in the manner contemplated by the Congress in the original authorization.

"A number of independent evaluations have been made over the past several years of the feasibility of utilizing byproduct NPR energy for the recovery of electric power. In the course of these studies, design bases of turbine generators that could be installed to effect conversion were prepared by turbine manufacturers. These manufacturers have assured that the byproduct energy which would be produced by the NPR would be usable for the production of electric energy.

"Accordingly, the Commission concludes that usable byproduct energy will be produced incident to the production of special nuclear material in the reactor.

"Any special additions to the reactor which would be necessary to accommodate the addition of electric generating facilities would not be paid for by the Federal Government.

"(2) The sale of byproduct energy could provide a substantial financial return to the U.S. Treasury for the benefit of the taxpayers.

"The terms of the proposed contract between the Commission and WPPSS provide that during periods when the Commission is operating the reactor, the Commission will make available to WPPSS excess byproduct steam energy. The Commission will be compensated in accordance with the following schedule of payments":

[Millions of dollars]

Year of dual-purpose operation	Annual payment	Cumulative payment	Year of dual-purpose operation	Annual payment	Cumulative payment
1.....	0.1	0.1	14.....	6.7	57.8
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4.....	.2	.6	17.....	6.7	77.9
5.....	.6	1.2	18.....	6.7	84.6
6.....	.8	2.0	19.....	6.7	91.3
7.....	1.0	3.0	20.....	6.7	98.0
8.....	10.0	13.0	21.....	6.7	104.7
9.....	10.0	23.0	22.....	6.7	111.4
10.....	8.0	31.0	23.....	6.7	118.1
11.....	6.7	37.7	24.....	6.9	125.0
12.....	6.7	44.4	Each year after 24....	5.0	-----
13.....	6.7	51.1			

"By sale of such byproduct energy, the Federal Government will have an opportunity to receive a potentially substantial financial return for a byproduct which would otherwise be wasted. The taxpayers of the United States, as a whole, would be the ultimate beneficiaries of these payments.

"(3) The national defense posture would be improved by the enhanced capability for resumption of special nuclear material production through non-Federal operation and maintenance of the reactor during periods when it is not being operated for special nuclear material production.

"This determination is based on: (a) The importance of plutonium as a national defense material, and (b) the virtual elimination of the considerable time that would be required to reactivate the reactor for plutonium production in the event that a period of suspension of such production were followed by a need for quick resumption of production for military purposes. Operation by WPPSS for power purposes would permit resumption of production operations in the reac-

tor in a relatively short time, that is, in terms of days as contrasted with a period of perhaps 2 years that probably would be required to recruit and train a new operating staff and for testing, repairs, and reactivation of the facility from a cold standby condition. The proposed contract between the Commission and WPPSS provides that the Commission may recapture the reactor at any time it determines that special nuclear material production should be resumed.

"Section 112(e) of the AEC fiscal year 1963 authorization act provides that before the Commission enters into any arrangements for the sale of byproduct energy from the NPR, the Commission must determine that the purchaser of such energy offered 50-percent participation to private organizations on a nondiscriminatory basis in the sale of electric energy generated herewith. The Commission has had preliminary discussions with WPPSS looking toward fulfillment of this statutory responsibility. The Commission will inform the Joint Committee when this determination has been made.

"I will be pleased to provide supplementary information which the committee may wish on any aspect of the proposed arrangements discussed in this letter."³

That is the end of the letter.

Chairman HOLIFIELD. Thank you, Dr. Seaborg, for that statement. As I understand it, it is the unanimous consensus of the five Commissioners that this represents their views.

Dr. SEABORG. That is right.

Chairman HOLIFIELD. I have a few questions here that are pertinent to some of the points that have been raised, and I would like to ask those for the record at this time, and then we will open up the general questioning period.

Has your proposed contract with the Washington Public Power Supply System been modified in any important respect since it was submitted to the Joint Committee in July?

Dr. SEABORG. I would say not in any important respect. It was modified in one respect that could perhaps be considered important. I would like to have Mr. Hennessey respond to that.

Mr. HENNESSEY. There has been only one change in the contract from the draft that was submitted to the committee in the hearings on July 10 and 11 of this year. A question was raised by the committee staff with respect to article 12(c) of the proposed contract.

This article stated that to the extent that AEC was required to expend any funds in carrying out the commitments it was making under the contract, that the supply system would advance to the AEC the moneys that were required. In this article there was the phrase, "except as otherwise provided in this contract."

Actually there were no contrary provisions in the contract draft and that phrase had been left in inadvertently from the previous draft.

On July 13 we wrote a letter⁴ to the committee stating that phrase was being eliminated, and it is eliminated now from the present proposed contract.

Chairman HOLIFIELD. So the effect of the change was to clarify the language and to remove some extraneous language to clarify the fact that moneys expended for modifications would be furnished in ad-

³ The complete letter including enclosures is printed on p. 2.

⁴ Printed on p. 139 of hearings entitled "Utility Proposal for Powerplant Addition to Hanford New Production Reactor," July 10 and 11, 1962.

vance of the expenditure rather than on a reimbursable basis after expenditure by the AEC?

Mr. HENNESSEY. That is correct.

Chairman HOLIFIELD. Will the payments for the steam be made to the Atomic Energy Commission or the U.S. Treasury?

Dr. SEABORG. According to the proposed agreement, they would be made to the Atomic Energy Commission.

Chairman HOLIFIELD. Would they be available, then, for general purposes of the AEC or would they be turned into the Treasury along with other payments?

Dr. SEABORG. I don't know that I can commit any future membership of the Atomic Energy Commission to a course of action here, but it would be our plan that we would turn it in to the Treasury. That is the present plan of the present Commission.

Chairman HOLIFIELD. It would be entered as miscellaneous receipts and would not be expended without authorization of Congress between the time of receipt and the time of accounting to the Treasury for regular miscellaneous receipts?

Dr. SEABORG. That would be the plan of this Commission, yes.

Representative HOSMER. Mr. Chairman, I think that the counsel ought to comment on that. As I understand it, the law requires that these revenues be received as miscellaneous receipts and requires that they be forwarded on to the Treasury and that there is not any authority for the Commission to make any expenditure of them.

Mr. HENNESSEY. The law requires that there be a finding that there could be a substantial financial return to the Treasury.

Representative HOSMER. Yes, but if it goes into the AEC pocket somewhere and doesn't go into the Treasury, you can't make such a finding. It depends upon the arbitrary decision of the Commissioners. It is very loose. What does the law require you to do with miscellaneous receipts?

Mr. HENNESSEY. Under our authority, Mr. Hosmer, we can use, in supplementing our appropriation, any revenues we receive, except those under the Community Act. So that the effect of our using revenues is to diminish the amount of funds that we would receive through our appropriation from the Treasury.

Representative HOSMER. These are not in addition to the funds that are authorized?

Mr. HENNESSEY. No, sir. Our appropriation is on a net basis.

Representative HOSMER. On a bookkeeping transaction they are credited against you so you take less out of the Treasury?

Mr. HENNESSEY. That is correct.

Representative HOSMER. So, in effect, the miscellaneous receipts do accrue to the benefit of the Treasury?

Mr. HENNESSEY. Certainly there is a return to the Treasury in the diminution of the amount of funds the AEC would call on the Treasury to meet our needs.

Representative BATES. Would you ask for specific authorization to expend those funds?

Mr. HENNESSEY. In requesting an appropriation, we deduct from the amount of our requirements our estimated revenues for the annual period.

Representative BATES. Then you originally would ask for less money?

Mr. HENNESSEY. We ask for less money, yes, sir.

Representative BATES. Are you limited in any way in which you can spend that money?

Mr. HENNESSEY. Only for the purposes for which the appropriation is made.

Representative BATES. No, I am talking about the miscellaneous receipts which you spend for your own purposes. Do you have any limitation as to how that should be spent?

Mr. HENNESSEY. No, sir. It is just added to our lump-sum appropriation and is available for all the programs for which the appropriation is made.

Representative BATES. But no appropriation is made for that specific amount? This is separate and distinct from the money you request of the Congress and of the Bureau of the Budget, is that right?

Mr. HENNESSEY. Our request to the Congress does show an estimated amount of revenues that we would receive during the year and used for the purposes of our programs. Dr. Haworth would like to respond.

Dr. HAWORTH. I think we say it this way. We have a budget that adds up to X dollars and we have some receipts of Y dollars, and the appropriation is X minus Y. It is detailed how it is spent, where this particular check goes.

Representative PRICE. You have to report what you receive from this particular project?

Dr. HAWORTH. Yes, but it is not in a lump sum. It is applied against an approved budget.

Senator JACKSON. What you are saying is that the language in the appropriation bill makes no distinction between the dollars appropriated and the receipts received as to how you can use the funds?

Dr. HAWORTH. That is right.

Senator JACKSON. There is no discrimination?

Dr. HAWORTH. But how the funds are used is spelled out.

Senator JACKSON. That is right. They are all commingled. The fact that you get receipts does not give you discretion to use the money for purposes other than that defined by the appropriation bill.

Dr. SEABORG. Yes.

Representative HOSMER. You are under the rather unique provision of a continuing authorization for operating funds. That is why this particular matter is handled in the way it is.

Mr. HENNESSEY. That is correct.

Dr. HAWORTH. We cannot answer forever how this particular money will go because that law might change.

Chairman HOLIFIELD. We understand. Our questions pertain to the existing law and your existing duties and responsibilities. Will the AEC save any money as a result of having the reactor operated and maintained by WPPSS during periods when it is not being operated for plutonium production, and if so, what is the estimate of saving?

Dr. SEABORG. Yes. It will save of the order of \$1½ to \$2 million—the costs that would be required to put the reactor in standby condition. And of the order of \$300,000 a year—the cost that would be required to maintain it in standby condition.

Chairman HOLIFIELD. Custodial costs.

Dr. SEABORG. Yes, sir.

Chairman HOLIFIELD. Section 112(c) requires that all expenses of modification of the reactor made at the request of a non-Federal entity be borne by such non-Federal entity or agency. How will AEC assure that this requirement is met under the proposed arrangements with WPPSS?

Dr. SEABORG. Which section?

Chairman HOLIFIELD. 112(c).⁵

Dr. SEABORG. That is part of the proposed contract. That is taken care of by the provisions in the proposed contract between the AEC and WPPSS.

Chairman HOLIFIELD. The specific question is: How will you assure that this requirement is met? And your answer is that it will be met by contractual arrangements based on the statute?

Dr. SEABORG. That is right. By contractual arrangements between the AEC and the WPPSS.

Chairman HOLIFIELD. Is there any possibility that the Commission will lose money under these arrangements?

Dr. SEABORG. We don't see any possibility where the Commission could lose money under these arrangements, no, sir.

Chairman HOLIFIELD. Can you tell us today when you anticipate signing the necessary contracts for these arrangements?

Dr. SEABORG. The contracts are drawn up in near final form. However, we have another determination to make and that is under 112(e) before we can sign the contract. That is the determination that 50 percent of the electrical power should be offered to private utilities and private industrial organizations, capable of using this much power. The Commission is charged under the statute to make this determination to make sure this has been done, so that we will have to do that before the final contract is signed.

Chairman HOLIFIELD. Then the answer would be, when proof as to this offer is given to you by the WPPSS?

Dr. SEABORG. By the Supply System, yes.

Chairman HOLIFIELD. That they have made a bona fide offer of 50 percent to private organizations and to public organizations as required under this particular part of the statute. When they have given you the proof they have done that, then you will be in a position to make that determination?

Dr. SEABORG. Yes.

Chairman HOLIFIELD. And then you will be in a position to sign contracts or soon thereafter?

Dr. SEABORG. Soon thereafter. I believe that is the main determination that would have to be made. And the 45-day waiting period would have to be complied with.

Chairman HOLIFIELD. Is there a possibility that a contract, if it is necessary for other purposes to expedite the consummation of this project, could be signed with a contingency clause taking care of that?

Dr. SEABORG. Taking care of?

Chairman HOLIFIELD. Taking care of that final determination?

Dr. SEABORG. The 112(e)?⁵

Chairman HOLIFIELD. Yes.

Dr. SEABORG. I don't know whether that could be done. I doubt it.

⁵ Printed on p. 40.

Mr. HENNESSEY. I don't believe we could enter into any contract, Mr. Holifield, prior to the making of this determination.

Senator JACKSON. The statute makes it a condition precedent?

Dr. SEABORG. Yes, sir.

Mr. HENNESSEY. Yes, sir.

Representative HOSMER. The acceptance of the offers, if they are concluded, by the private companies, would not have to be in before you made the determination the offers had been made?

Mr. HENNESSEY. They would not have to be, no. If the offer had been made and the Commission had made this determination, I think at that time we could proceed to sign this contract.

Chairman HOLIFIELD. After the modifications of the reactor made at the request of WPPSS are completed, will the reactor be better or worse for plutonium production purposes? We are talking now after the sixth loop has been added, will the reactor be more efficient in the production of plutonium either in quantity or quality?

Dr. SEABORG. I think the addition of the sixth loop and the other modifications being considered won't have any great effect, but such effect as they will have will be in the direction of making the reactor a little better for the production of plutonium because it will be possible to run it at somewhat higher on-stream efficiencies.

Chairman HOLIFIELD. Do you believe that a necessity exists for waiving any part of the 45-day period under section 112(g) of the law?

Dr. SEABORG. No, I don't think so. I don't see any need for it.

Chairman HOLIFIELD. That is the general opinion of the Commission, is it, Dr. Haworth and Dr. Palfrey?

Dr. SEABORG. That is the general opinion of the Commission.

Chairman HOLIFIELD. How do you propose to carry out your statutory responsibility for making the determinations required by section 112(e) of the law with respect to the nondiscriminatory offer?

Dr. SEABORG. Members of the Commission staff have had preliminary discussions with the WPPSS and the BPA concerning the content of the proposed offer. No firm text has been developed yet. But this is in process. The Commission believes that any bona fide offer of private participation in the project must be directed to private utilities as well as to industrial organizations capable of accepting wholesale quantities of electric power in the quantities contemplated here.

The offer should be directed at least to the utilities in the area served by the Bonneville Power System and to industries interested in purchasing wholesale quantities of power in that area. We will review the offer prior to its issue, of course, and make the required determination prior to the signing of the contract with the WPPSS.

Chairman HOLIFIELD. Are there any questions?

Senator JACKSON. I have no questions, Mr. Chairman.

Chairman HOLIFIELD. Are there any questions, Mr. Price?

Representative PRICE. No, Mr. Chairman.

Chairman HOLIFIELD. Mr. Hosmer?

Representative HOSMER. This seems a little hasty, this appearance before the Joint Committee one day after the law has been signed. Is there any particular reason for that?

Dr. SEABORG. Other than to get on with the project and without undue loss of time.

Chairman HOLIFIELD. The Chairman will take the responsibility for this in view of the early termination of Congress—

Senator JACKSON. Did you say "early"?

Chairman HOLIFIELD. We hope.

The chairman requested that when the bill was passed in the Senate, the Commission immediately put their staff to work on this matter so that they could, in the event the President signed the bill, be ready to make a presentation to us here today so that our staff could study the presentation before the "early" termination of Congress next week, I hope.

Representative BATES. Or thereafter.

Chairman HOLIFIELD. Or thereafter.

Representative HOSMER. You speak in your testimony of finding "usable byproduct energy" does that mean in the quantities contemplated by the requirements of the contract, namely, enough to generate 800,000 kilowatts of electricity?

Dr. SEABORG. I believe that is the estimated level of electrical power production. But I don't believe that is a contract requirement.

Representative HOSMER. You could produce a little steam for, say, papermaking. That is not what you have in mind when you are determining that usable byproduct energy would be produced in relation to this clause?

Dr. SEABORG. It has to be usable for the production of electrical energy.

Representative HOSMER. Yes. I am trying to find out if the Commission feels that it is usable for the production of electrical energy in the quantities that have been discussed in these contracts?

Dr. SEABORG. Yes, that is our feeling.

Representative HOSMER. That is what I wanted to nail down. In respect to the finding regarding national defense, you fully concur in that finding?

Dr. SEABORG. Yes, sir.

Representative HOSMER. As I understand it, Dr. Seaborg, you had something to do with the original production of this element, did you not?

Dr. SEABORG. Yes, sir.

Representative HOSMER. Therefore, I suppose that you would qualify as an expert on it in relation to defense?

Dr. SEABORG. I doubt that.

Representative HOSMER. We are certainly not taking your opinion as a layman, are we?

Dr. SEABORG. Such competence as I have in that area is probably not very much related to your original observation with respect to my earlier participation with the element.

Representative MORRIS. Would the gentleman yield?

Representative HOSMER. Yes.

Representative MORRIS. I am sure Dr. Seaborg is being modest today.

Representative HOSMER. I think he is, too. What I wanted to establish on the record, Dr. Seaborg, was that not only were you the discoverer of this element but also deeply involved as a leader in its production from the beginning. You are by reason thereof familiar with the national defense posture in relation to this reactor equipment

and as a consequence qualified to express a valid opinion that there is a relationship between the arrangements and the national defense.

Dr. SEABORG. Yes. Perhaps I was being facetious. I would say such qualifications as I have, however, probably accrued mainly during the last 20 months or so.

Representative HOSMER. Thank you.

Chairman HOLIFIELD. Mr. MORRIS.

Representative MORRIS. Mr. Chairman, I might comment that Dr. Seaborg by his very nature is a modest man, which might be in contrast with some of the other people in this room, particularly during this period of the year.

Chairman HOLIFIELD. Mr. Bates?

If there are no further questions from the staff, thank you, gentlemen, for your appearance here and for your expeditious handling of the public business.

We will ask as our next witness to come before us Mr. Charles F. Luce, Administrator of the Bonneville Power Administration.

STATEMENT OF CHARLES F. LUCE, ADMINISTRATOR, BONNEVILLE POWER ADMINISTRATION

Mr. LUCE. Thank you, Mr. Chairman.

Mr. Chairman and members of the committee, pursuant to Public Law 87-701, the Joint Committee on Atomic Energy has requested that I outline the basis for the arrangements contemplated by section 112 insofar as they involve the Bonneville Power Administration.

In my testimony before the committee on July 11, I discussed the basis for such arrangements in considerable detail. My statement today will therefore be brief.

The Washington Public Power Supply System will finance, construct, and operate a powerplant at Hanford. It will also construct transmission facilities from the plant to Vantage, Wash., and interconnect at that point with the transmission grid of the Bonneville Power Administration.

The supply system will offer all the power from the Hanford generating plant for sale to public and private utilities systems and to large industries, delivery to be at Vantage, Wash. In accordance with the direction of Congress, the supply system intends to offer 50 percent of the output of the plant to public agencies and other preference customers and 50 percent to private utilities and industries.

Each purchaser of a fractional share of Hanford power, whether a publicly or privately owned utility, or an industry, will contract to pay to the supply system that same fraction of the annual costs of Hanford generating plant. For example, if the purchaser bought one-tenth of the output of the plant, it would agree to pay one-tenth of the annual costs of the plant. Such costs will include interest, amortization of the bonds, payment to the Atomic Energy Commission for steam, and operation and maintenance of the generating and transmission facilities.

The shares of all purchasers combined will equal the entire output of the Hanford generating plant. If, for some reason, a purchaser defaults, a contingency we think unlikely, the other purchasers will assume the obligations of the defaulting purchaser.

Each purchaser of a fractional share of Hanford power will, in turn, contract to exchange its share with the Bonneville Power Administration for power from the U.S. Columbia River power system. Power from Hanford will thus be combined with federally generated power in the Pacific Northwest. This combination will enable Bonneville to make use of peaking capacity and secondary energy from the Federal system which is not presently being used.

Under the exchange agreements, Bonneville will take delivery of all the Hanford power at Vantage, Wash. This delivery point, I might say, is about 30 or 40 miles away from the plant itself and on the Columbia River. In turn, Bonneville will deliver power to each party to an exchange agreement at designated load centers on the present Bonneville system in accordance with our customer service policy. The amount of power Bonneville will deliver in exchange to each such party will be an amount that, at its average system load factor, it could have purchased from Bonneville at established Bonneville rates for the sum that it pays the supply system.

If costs of the Hanford power are higher than currently estimated, or if the output of the plant is less than expected, there would be an adverse effect on anticipated Bonneville revenues. If the costs are less than estimated, or the production of the plant larger than expected, then Bonneville revenues could be larger. In case the costs were higher than estimated, Bonneville would have to deliver more power to the other parties in exchange for Hanford power than was anticipated. This would leave a smaller amount of power for Bonneville to sell, thereby reducing its revenues. I have previously discussed with this committee the accounting mechanics of the situation. (See Hearing of Joint Committee on Atomic Energy, July 11, 1962, pp. 59-60.)

Should Bonneville's anticipated net revenue be reduced as a result of this exchange arrangement, such loss will be borne by all BPA customers through an increase in rates that otherwise would not be necessary. In order to meet payout requirements, additional revenues would be required from the smaller amount of power available for sale. Under this condition, neither the Federal Government nor the taxpayers as a whole can lose as a result of the Hanford exchange arrangements. Customers of the Bonneville Power Administration bear the risk; they also share the benefits since we believe that the cost of Hanford power will be lower than the cost of alternative power resources needed to meet the growing powerloads of the Pacific Northwest.

Pursuant to the intent of Congress, contracts for the exchange of Hanford power between BPA and private utilities and industries will be offered without regard to any preferences or withdrawal for publicly owned utilities or cooperatives. If Congress, at some indefinite time in the future, should authorize and appropriate funds for the Government to purchase the powerplant at Hanford, then, in accordance with the intent of Congress, Bonneville will guarantee, without regard to Federal preference or withdrawal laws or policies to continue to deliver to each party to the exchange contract the amount of power it would have been entitled to receive had the Government not acquired such facilities; or, in other words, had they continued to be owned by the Washington Public Power Supply System.

Similarly, if a malfunction of the Hanford plant or any other circumstances should ever result in a regional power shortage, Bonneville's obligation under the exchange agreements with nonpreference customers would be unaffected by Federal preference laws and policies.

Arrangements which I have outlined above for the sale of power by the supply system to public and private utilities and industries, and of their exchange of this power with BPA, will be in tripartite agreements among the supply system, each utility or industry, and BPA.

I would like to submit to this committee the latest draft of this agreement.

(The document referred to follows:)

[Contract No. 14-03, 9-22-62—Draft No. 10]

EXCHANGE AGREEMENT EXECUTED BY THE UNITED STATES OF AMERICA, DEPARTMENT OF THE INTERIOR, ACTING BY AND THROUGH THE BONNEVILLE POWER ADMINISTRATOR AND WASHINGTON PUBLIC POWER SUPPLY SYSTEM AND

(New Production Reactor)

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 21. Arbitration.
- Exhibit A (Table of Participants).
 Exhibit B (Bond Resolution).
 Exhibit C (Commission—Supply System Agreement).

This Exchange Agreement, executed _____, 1962, by the United States of America (hereinafter called "the Government"), Department of the Interior, acting by and through the Bonneville Power Administrator (hereinafter called "the Administrator"), and Washington Public Power Supply System (hereinafter called "Supply System"), a municipal corporation and joint operating agency organized under the laws of the State of Washington, and _____ (hereinafter called the "Participant"), a _____

WITNESSETH:

Whereas the Government, pursuant to its comprehensive plan for improving and developing the Columbia River and its tributaries as a waterway or waterways for the use or benefit of interstate and foreign commerce, for the improvement and utilization of waterpower development and for other beneficial public uses has constructed, maintains, and operates the Columbia River power system, which consists of major storage reservoirs, hydroelectric power projects, and the basic system of transmission line which interconnect the federal and non-federal projects in the Pacific Northwest; and

Whereas the Secretary of the Interior is authorized, under the Bonneville Project Act, approved August 20, 1937; the Reclamation Project Act of August 4, 1939; and the Flood Control Act of December 22, 1944, and other enactments of Congress to transmit and dispose of the electric power and energy generated at the projects of the Columbia River power system in such manner as to foster the policies set out therein by Congress; and

Whereas the Administrator is authorized by Order No. 2563, dated May 2, 1950, and Order No. 2860, dated January 19, 1962, of the Secretary of the Interior, to dispose of electric energy generated at the various federal hydroelectric projects in the Pacific Northwest; and

Whereas the Supply System is organized under the laws of the State of Washington (Rev. Code of Washington, Ch. 43.52, cum. supp.) and is authorized by law to construct, acquire, and operate works, plants, and facilities for the generation and/or transmission of electric power and energy and to enter into contracts with the Administrator and other electric utility systems and industries for the disposition and distribution of electric energy produced thereby; and

Whereas the Participant, and each of the Participants (hereinafter defined) is authorized to purchase power and energy from the Supply System and is authorized to exchange such power and energy so purchased for power and energy from the Administrator; and

Whereas the Participant and the Board of Directors of the Supply System have found that the execution of this agreement is necessary and advisable in order to provide for the actual and prospective power needs of each Participant in the use of the Project (hereinafter defined) for the purposes specified herein, and that performance of this agreement will result in substantial economies to the Participant throughout the term hereof; and

Whereas the Supply System has executed a contract with the Atomic Energy Commission (hereinafter called "the Commission") with respect to the construction and operation by the Supply System of the electric power generating project to be operated in connection with the new production reactor at Hanford, Washington; and

Whereas the Administrator is authorized to enter into contracts for the mutual exchange of unused excess power upon suitable exchange terms for the purpose of economical operation of, or providing emergency or breakdown relief for, the Columbia River power system, and the Administrator has determined that (1) the integration of the output of electric power generated at the Project with the hydroelectric power of the Columbia River power systems as provided in this agreement will enable the Administrator to firm up and thereby make available large quantities of electric energy for the term of this agreement (which electric energy otherwise would be wasted) to meet an urgent need for such additional firm power arising before the Project can be completed, to supply the actual and prospective needs of publicly and privately owned public utilities, cooperatives, and industries in the Pacific Northwest; (2) the Administrator, by entering into this agreement, will be enabled to increase substantially the net revenues to be received throughout the period of this agreement in the marketing of power from the Columbia River power system; and (3) the mutual exchange of power as provided herein will result in a more economical operation of the Columbia River power system; and

Whereas it is the intent of this agreement that the Participant, and all of the other Participants, shall purchase from the Supply System the Project Output (hereinafter defined) and pay to the Supply System for said Project Output in the aggregate an amount equal to the Project Annual Cost (hereinafter defined), and to exchange such Project Output with the Administrator for firm energy, as provided for herein:

Now, therefore, in consideration of the premises and the mutual covenants and agreements herein contained, the parties hereto agree as follows:

1. *Definitions and Explanations of Terms.* As used herein:

(a) "Project" means the works, plants, and facilities for the generation and transmission of power and energy acquired by purchase, lease, or otherwise, or constructed by the Supply System in connection with the operation of the electric power generating plant to be operated in conjunction with the new production reactor of the Commission at Hanford, all as more particularly described in the Bond Resolution.

(b) "Bond Resolution" means collectively the resolution or resolutions adopted by the board of directors of the Supply System authorizing the issuance and sale of revenue bonds to provide funds to pay the cost of construction and for other purposes in connection with the Project. A copy thereof is attached to this agreement as Exhibit B and hereby made a part thereof.

(c) "Revenue Bonds" means the bonds issued by the Supply System in connection with the Project, all as authorized by the Bond Resolution.

(d) "Project Output" means the amount of electric power and energy produced by the Project during the term of this agreement, including periods when the Project may be inoperable in whole or in part.

(e) "Project Annual Costs" means all costs incurred or paid by the Supply System during each Contract Year associated with the construction, ownership, operation, and maintenance of the Project, including all payments and deposits of whatever nature provided for in the Bond Resolution.

(f) "Contract Year" means the twelve-month period commencing at 12:00 p.m. on June 30 of each year in the term hereof, except that the first Contract Year shall begin at 12:00 p.m. on the date of execution and end at 12:00 p.m. on the following June 30.

(g) "Participants" means the public and private organizations whose names are listed in Exhibit A, attached to this agreement.

(h) "Power Sales Contract" means the existing contract and any amendments thereto, and any supplemental, renewal, or additional contracts entered into between the Participant and the Administrator for the purchase by Participant of electric energy from the Administrator.

(i) "Aggregate Billing" means an amount computed monthly by applying the firm power rate schedule specified in the Power Sales Contract or, if the Participant does not have a Power Sales Contract, the firm power rate schedule which is applicable to other customers of the Government who are of the same class, to the total peak and energy load of the Participant at all points of delivery or systems designated in Exhibit A attached hereto, as if such total load were supplied by the Government.

(j) "Capacity" means thirty-minute integrated demands, or hourly scheduled amounts, whichever is applicable, as provided in the Power Sales Contract.

(k) "Commencement of Commercial Operation" means the date when the first unit of the Project has been certified ready for normal continuous operation by the construction engineer designated as provided in the Bond Resolution.

2. *Term of Agreement.* This agreement shall be effective commencing at 12:00 p.m. on the date of execution. Subject to the other provisions contained herein, it shall terminate no earlier than the date that the obligations evidenced by the Revenue Bonds are paid or provision is made for the payment or retirement thereof in accordance with the Bond Resolution. It shall continue in effect thereafter until the Administrator gives the Supply System and all of the Participants written notice of his intent to terminate at least six (6) months prior to a stated termination date, whereupon this agreement shall terminate automatically on said date; *provided, however,* that the Administrator at any time may terminate this agreement upon reasonable notice in writing to the Supply System if the Supply System should amend, modify, or otherwise change the Bond Resolution without first obtaining the written approval of the Administrator. Any amendment to or modification of the Bond Resolution by the Supply System shall, upon approval by the Administrator, be made a part of Exhibit B attached hereto.

The Administrator may also terminate this agreement on the date specified in a written notice given to the Supply System and all of the Participants at any time prior to the commencement of commercial operation of the Project if, during such period (1) the construction of the new production reactor by the Commission should be discontinued, or (2) there should occur such events that, in the judgment of the Administrator, the continuation of this agreement could no longer be economically justified. If the agreement is terminated because of the occurrence of either of the immediately preceding events, the Government shall concurrently reimburse the Supply System for all obligations, costs, and expenses paid or incurred by it in connection with the Project up to the date of such termination, including payment of principal of, and interest on, the Revenue Bonds, and the redemption premium, if any, required to pay and redeem such Revenue Bonds; *Provided, however,* That any moneys available to the Supply System in funds or accounts provided for in the Bond Resolution for such purpose shall be applied against such obligations, costs, and expenses in reduction of the amounts payable by the Government hereunder. Upon such reimbursement the Supply System shall convey to the Government the assets of the Project existing or committed up to such date.

3. *Financing of the Project.* The Supply System shall proceed to issue and sell the Revenue Bonds pursuant to the Bond Resolution as soon as reasonably practicable. If the bid or bids tendered for such Revenue Bonds do not provide for a rate of interest which is acceptable to the Administrator, he may give written notice of termination of this agreement within twenty-four (24) hours after receipt of such bids by the Supply System, such termination to become effective immediately upon delivery. In such event, all costs and expenses incurred or obligated by the Supply System as of the date of termination shall be borne solely by the Supply System and/or the Participants.

4. *Construction of the Project.* (a) The Supply System shall construct the Project, including the switchyard and transmission facilities which are required to deliver the electric power generated at said Project to the Government's

system at the 230 kv. bus in the Government's Vantage substation. All contracts for the construction of the Project shall be let in compliance with the laws of the State of Washington governing the letting of such contracts. The Supply System shall take all reasonable steps to assure that all contracts relating to such construction shall be performed in accordance with their terms. The first generating unit of the Project shall be ready for commercial operation by October 1, 1965, and the second by December 1, 1965, unless delayed by causes which are beyond the control of the Supply System and not due to its fault or negligence.

(b) All designs, plans, specifications, contracts, arrangements, and interim financing relating to the construction of the Project shall be prepared in cooperation with, and subject to the approval of, the Administrator. The Supply System shall furnish to the Administrator with reasonable promptness copies of each and all certificates delivered to it by any engineer or architect in connection with such construction and shall make available for examination by the Administrator, or any representative authorized by him, all papers, records and accounts relating to such construction, at any reasonable time. The Administrator may arrange that an authorized person or persons inspect the construction at such times as he may designate. The Administrator shall notify the Supply System in writing with reasonable promptness as to any matter arising in the course of such construction which he deems to be inconsistent with this agreement, and shall afford the Supply System reasonable opportunity to take corrective measures promptly; *provided, however*, that failure to give such written notice shall not relieve the parties of their obligations under this agreement.

5. *Exchange of Energy and Payment of Project Annual Costs.* (a) From and after the Commencement of Commercial Operation, the Supply System shall sell ----- percent (---%) of the Project Output to the Participant, and the Participant shall purchase such percentage of said Project Output. The Supply System and the Administrator warrant and represent that they have entered into Exchange Agreements substantially similar to this Exchange Agreement for the purchase and sale of all of the Project Output to the Participants, each Participant to receive the respective proportion of the Project Output as set forth in Exhibit A attached hereto and hereby made a part of this agreement. The Participant hereby directs the Supply System as its agent to make available its proportionate share of such Project Output to the Government at the 230 kv. bus in the Government's Vantage substation, in the manner provided in section 6 hereof, and thereafter Participant's proportionate share of such Project Output shall be under the complete control of the Government.

The amount of Project Output the Participant is obligated to purchase and pay for pursuant to this subsection (a), and the amount which the Administrator is obligated to make available to the Participant, shall be automatically increased pro rata with that of the other Participants in the event and to the extent any Participant is unable, or fails or refuses for any reason to perform its obligations under its Exchange Agreement with the Supply System and the Administrator. In the event the Participant or any of the other Participants shall fail or refuse to pay any amounts due to the Supply System hereunder, the fact that the Participants have assumed the obligation to make such payments shall not relieve the defaulting Participant of its liability for such payments under its Exchange Agreement, and the Supply System and the Participants assuming such obligation, either individually or as a member of a group, shall have a right of recovery from the Participant in default for such amount as the Supply System or the Participants sustain as a loss or damage by reason of such default, and may commence such suit, action or proceedings at law or in equity as may be necessary or appropriate to recover the amount of such loss or damage.

(b) At least sixty (60) days prior to the estimated date of the Commencement of Commercial Operation or July 1, 1966, whichever is earlier, and at least sixty (60) days prior to the termination of each Contract Year thereafter, the Supply System shall adopt a budget of estimated Project Annual Costs for the ensuing Contract Year, in cooperation with, and subject to the written approval of, the Administrator. In the event that the Supply System in any Contract Year finds it necessary to incur any substantial costs not provided for adequately in the budget adopted for that year, the Supply System shall amend the budget to cover such costs, subject to the written approval of the Administrator. Such budget shall include all amounts as required in the Bond Reso-

lution, including all expenses for operation and maintenance. Concurrently with the preparation of each budget, the Supply System shall deliver to the Administrator and to each of the Participants a statement showing the amount of the Project Annual Costs to be paid by each of the Participants, and the estimated amounts which they are each obligated to pay each month during the Contract Year to the Supply System. The total amount paid by the Participants each year to the Supply System shall equal one hundred percent (100%) of the Project Annual Costs. The Participant covenants and agrees that it will in each Contract Year pay in monthly installments to the Supply System the amount shown on said statement as the cost to the Participant of its share of the Project Output purchased hereunder.

(c) On or before the first day of each calendar month of each Contract Year during the term of this agreement, commencing on July 1, 1966, or on the first day of the month following the Commencement of Commercial Operation, whichever is earlier, the Participant shall pay the monthly installment of the Project Annual Cost as shown on the statement delivered pursuant to subsection (b) hereof without further billing. If payment of any amount due hereunder from the Participant to the Supply System is unpaid upon the tenth day of the month, a delayed payment charge of two per centum of the unpaid amount of the bill shall be made, except that in the case of a bona fide dispute as to the amount due, the delayed payment charge shall be applicable only to the portion thereof admittedly due and not paid. If the first or the tenth of the month shall fall upon a Sunday or a holiday, the following business day shall be the last day in which payment can be made without the addition of the delayed payment charge.

(d) Subject to the other provisions contained herein, the Administrator, in exchange for the Project Output, shall make available to the Participant electric energy and the capacity associated therewith, which shall be used solely in its own distribution system or plants. During each month of the term of this agreement commencing with the calendar month following the month in which the Commencement of Commercial Operation occurs, or July 1966, whichever is earlier, the Administrator will make available to the Participant an amount of exchange energy and capacity equivalent in value to the amount paid by the Participant during such month pursuant to statements rendered by the Supply System to the Participant as provided in this agreement.

(e) During such time as the Participant is purchasing firm power under a Power Sales Contract, the total amount of exchange electric energy and capacity specified in subsection (d) of this section, which shall be made available only at the points of delivery or systems specified in the Power Sales Contract which are designated for the Participant in Exhibit A attached hereto, shall be equal to the product obtained by multiplying the total energy load for all such points of delivery or systems by the ratio which the Participant's monthly share of the Project Annual Costs bears to the Aggregate Billing. Such exchange energy shall be made available at a maximum rate of delivery determined by multiplying the sum of the maximum demands for all such points of delivery or systems for the month by the ratio mentioned above. The percentage of the total amount of exchange energy and capacity to be made available hereunder by the Administrator at each point of delivery or system of the Participant is designated in said Exhibit A.

(f) During such time as the Participant does not have a Power Sales Contract, or is not purchasing firm power under a Power Sales Contract, the Government shall make available each month to the Participant, at the points of delivery or systems designated for the Participant in said Exhibit A, an amount of exchange electric energy and capacity determined in the same manner as provided in subsection (e) of this section. The percentage of the total amount of exchange energy and capacity to be made available hereunder by the Administrator at each point of delivery or system of the Participant is designated in said Exhibit A.

(g) The Supply System, within ninety (90) days after the end of each Contract Year, commencing at the time specified in subsection (c) of this section, shall submit to the Participant and the Administrator a statement, prepared by a certified public accountant, setting forth the itemized actual Project Annual Costs for the preceding Contract Year and the amount thereof allocated to each Participant. To the extent that such actual Project Annual Costs differ from the estimated Project Annual Costs determined as provided in subsection (b) of this section, appropriate adjustment will be made, during the remaining

months of the Contract Year in which such itemized statement has been received by the Participant and the Administrator, in the monthly payments to be made by the Participant to the Supply System and in the amount of exchange electric energy and capacity to be made available by the Administrator to the Participant.

6. *Scheduling Arrangements.* The Supply System's dispatchers shall schedule the amounts of electric energy to be generated at the Project during each hour in each day in the term hereof, commencing at the time specified in section 5(a), in accordance with schedules prepared by the Government's dispatchers and submitted to the Supply System at least twelve (12) hours prior to each day. If conditions change substantially from those used in preparing such schedule, and a revision in such schedule of the planned operation of the Project becomes necessary, the Government's dispatcher will immediately notify the Supply System of such revision in schedule.

7. *Operation and Maintenance of the Project.* (a) The Supply System shall economically and efficiently operate and maintain the Project at reasonable cost and in a manner satisfactory to, and in accordance with operating guides furnished by, the Administrator. The Supply System shall operate and maintain the new production reactor at any time during the term of this agreement when said reactor is not being operated or maintained by the Commission for production or other Commission purposes.

Once each year representatives of the Supply System, in consultation with representatives of the Administrator and the Commission, will prepare a maintenance program showing the approximate duration and date of interruption of a Project generator, transformer bank, and other apparatus and equipment, including any other work which can reasonably be expected to affect the Project Output. Such work shall be performed, to the extent practicable, when the Government's system load commitments and operating conditions are least affected. Minor maintenance work will be arranged between the Government's operations section and the representative of the Supply System operating the Project.

(b) As soon as reasonably practicable, the Project representatives shall notify the Government's dispatchers of any emergency outage of facilities affecting delivery of power from the Project and the probable duration of such outages.

8. *Permits.* (a) If any equipment or facilities of the Supply System or the Government is, or is to be by the term of this agreement, located on the property of the other, a permit to install, test, maintain, inspect, replace, and repair during the term of this agreement, and to remove at the expiration of said term, such equipment and facilities, together with the right of ingress to and egress from the location thereof at all reasonable times in such term, is hereby granted by the other party.

(b) The Administrator shall have the right to read, at all reasonable times, any and all meters which are installed on the property of the Supply System.

9. *Ownership of Facilities and Option to Acquire.* (a) Ownership of the Project shall be and remain in the Supply System at all times during the term of this agreement; *provided, however,* that the Government may, at its option:

(1) acquire such Project, other assets and liabilities associated therewith prior to the time when all Revenue Bonds or other obligations sold or incurred by the Supply System to finance the Project have matured and been completely paid, upon payment of all obligations of the Supply System incurred in connection with the Project including all outstanding Revenue Bonds, plus accrued interest and the premium, if any, on redemption thereof, and other current obligations properly paid or incurred by the Supply System for such purpose; or

(2) acquire the ownership of such Project and all assets associated therewith at no cost to the Government, at the time of termination of this agreement, provided that all liabilities and obligations of the Supply System connected with the Project have been satisfactorily discharged or assumed in writing by the Government.

(b) In the event the Government shall exercise its option to acquire the ownership of the Project pursuant to subsection (a)(1) of this section, this agreement shall terminate, but the Government shall continue to make available to the Participant an amount of electric energy and capacity equal to the exchange electric energy and capacity to which the Participant would have been entitled if the Government had not exercised such option, and the Participant shall pay monthly to the Government an amount of money equal to the Participant's monthly share of the Project Annual Cost which would have been paid by the Participant to the Supply System if the Government had not exer-

cised such option. The obligations and rights of the Government and the Participant provided in this subsection shall continue until -----, 19----, the date upon which all Revenue Bonds would have been due and payable, without accelerated retirement, as specified in the Bond Resolution.

10. *Agreement between the Supply System and the Commission.* The Supply System has entered into an agreement with the Commission (hereinafter referred to as the Commission-Supply System Agreement) relating to the construction and operation of the Project by the Supply System. A copy of the Commission-Supply System Agreement, as approved by the Administrator, is hereby attached to this agreement as Exhibit C, and the Supply System hereby agrees to carry out the terms thereof. Any amendments thereto or renewals thereof shall be subject to the review and prior approval of the Administrator and, upon such approval, shall be made a part of said Exhibit C.

11. *Accounts.* The Supply System agrees to keep accurate records and accounts for the Project as required by appropriate public authority and to carry out the terms of this agreement. Said accounts shall be the subject of an annual audit by a firm of certified public accountants experienced in electric utility accounting. A copy of each such certified annual report shall be furnished by the Supply System to the Participants and the Administrator.

12. *Project Revenues—Special Funds.* The Supply System agrees that it will establish and maintain each of the special funds and accounts created by the Bond Resolution in the manner therein provided, and the parties hereto hereby agree that the Supply System is required to comply with all of the provisions and requirements of the Bond Resolution.

13. *Insurance.* The Supply System agrees that, in cooperation with the Administrator, it will obtain and maintain in full force and effect during the term hereof, to the extent available at reasonable cost, adequate insurance by responsible insurers, with policies payable to the Supply System for the benefit of the Supply System, the Government and the Participants as their respective interests may appear, against claims and loss or damages which may result from any of the following events:

1. Claims against the Supply System under the Workmen's Compensation Law of the State of Washington and Employers' Liability;
2. Public liability for bodily injury and property damage;
3. Physical loss or damage to the Project on a replacement cost basis;
4. Business interruption loss to the Supply System or to the Participants, or to all or any of them, resulting from a delay in completion of the Project, or by interruption or reduction of generation or transmission of power and energy from the System caused by physical loss, damage or destruction; and
5. Such other risks as may be agreed upon by the Supply System and the Administrator.

14. *Eight-Hour Law and Overtime Compensation.* No laborer or mechanic doing any part of the work contemplated by this agreement in the employ of the Supply System and/or the Participant, or any subcontractor contracting for any part of said work contemplated, shall be required or permitted to work more than eight hours in any one calendar day upon such work except upon the condition that compensation is paid to such laborer or mechanic in accordance with the provisions of this section. The wages of every laborer and mechanic employed by the Supply System and the Participant, or any subcontractor engaged in the performance of this agreement, shall be computed on a basic day rate of eight (8) hours per day and work in excess of eight (8) hours per day is permitted only upon the condition that every such laborer and mechanic shall be compensated for all hours in excess of eight (8) hours per day at not less than one and one-half times the basic rate of pay. For each violation of the requirement of this section a penalty of five dollars (\$5) shall be imposed upon the Supply System and/or the Participants for each laborer or mechanic for every calendar day in which such employee is required or permitted to labor more than eight (8) hours upon said work without receiving compensation computed in accordance with this section, and all penalties thus imposed shall be paid upon demand to the Government for its use and benefit; *provided, however*, that this stipulation shall be subject in all respects to the exceptions and provisions of U.S. Code, title 40, sections 321, 324, 325, 325a, and 326, relating to hours of labor and compensation for overtime.

15. *Convict Labor.* The Supply System and the Participant shall not employ any person undergoing sentence of imprisonment at hard labor for the performance of any of their obligations hereunder.

16. *Nondiscrimination.* In connection with the performance of work under this contract, the Supply System agrees as follows:

(1) The Supply System will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Supply System agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Administrator setting forth the provisions of this nondiscrimination clause.

(2) The Supply System will, in all solicitations or advertisements for employees placed by or on behalf of the Supply System, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.

(3) The Supply System will send to each labor union or representative of works with which it has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the Administrator, advising said labor union or workers' representatives of its commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The Supply System will comply with all provisions of Executive Order No. 10925 of March 6, 1961, and of the rules, regulations, and relevant orders of the President's Committee on Equal Employment Opportunity created thereby.

(5) The Supply System will furnish all information and reports required by Executive Order No. 10925 of March 6, 1961, and by the rules, regulations, and orders of the said Committee, or pursuant thereto, and will permit access to its books, records, and accounts by the Administrator and the Committee for purposes of investigation to ascertain compliance with such rules, regulations and orders.

(6) In the event of the Supply System's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be cancelled in whole or in part and the Supply System may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 10925 of March 6, 1961, and such other sanctions may be imposed and remedies involved as provided in the said Executive Order or by rule, regulation, or order of the President's Committee on Equal Employment Opportunity, or as otherwise provided by law.

(7) The Supply System will include the provisions of the foregoing paragraphs (1) through (6) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the President's Committee on Equal Employment Opportunity issued pursuant to section 303 of Executive Order No. 10925 of March 6, 1961, so that such provisions will be binding upon each subcontractor or vendor. The Supply System will take such action with respect to any subcontract or purchase order as the Administrator may direct as a means of enforcing such provisions, including sanctions for noncompliance; *provided, however*, that in the event the Supply System becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Administrator, it may request the United States to enter into such litigation to protect the interests of the United States.

17. *Waiver of Default.* Any waiver at any time by any party to this agreement of its rights with respect to any default of any other party thereto, or with respect to any other matter arising in connection with such agreement,

20. *Assignment of Agreement.* This agreement shall inure to the benefit of, matter.

18. *Notices and Computation of Time.* Any notice required by this agreement to be given to any party shall be effective when it is received by such party, and in computing any period of time from such notice, such period shall commence at 12:00 p.m. on the date of receipt of such notice.

19. *Interest of Member of Congress.* No Member of, or Delegate to Congress, or Resident Commissioner shall be admitted to any share or part of this agreement or to any benefit that may arise therefrom. Nothing, however, herein contained shall be construed to extend to such agreement if made with a corporation for its general benefit.

20. *Assignment of Agreement.* This agreement shall inure to the benefit of, and shall be binding upon the respective successors and assigns of the parties to this agreement; *provided, however*, that neither this agreement nor any

interest therein shall be transferred or assigned by either party to any party other than to the State of Washington, the United States, or an agency of either thereof, without the written consent of the other. The Participant agrees that Exhibit A shall be modified to reflect the assignment of any Exchange Agreement by a Participant. No assignment or transfer of this agreement shall relieve the parties of any obligation incurred hereunder.

21. *Arbitration.* If the parties hereto do not agree regarding any question of fact arising under the provisions of this agreement a determination shall be made by a committee composed of a member appointed by the Administrator and a member appointed by the Supply System. If such members are unable to reach an agreement, on the item of controversy, they shall appoint a third member who shall have no direct interest therein. The determination made by the committee, or a majority of its members, shall be binding on the parties hereto.

IN WITNESS WHEREOF, the parties hereto have executed this agreement in several counterparts.

[SEAL] UNITED STATES OF AMERICA,
DEPARTMENT OF THE INTERIOR,
By _____
Bonneville Power Administrator.

[SEAL] WASHINGTON PUBLIC POWER SUPPLY SYSTEM,
Attest: By _____

[SEAL] _____
Attest: By _____

EXHIBIT A

Participants by Classes	Percentage of Project Output and Project Annual Costs	Estimated Monthly Amount of Project Annual Cost
I. Publicly Owned Utilities Without Generating Facilities.....	-----	-----
II. Publicly Owned Utilities With Generating Facilities.....	-----	-----
III. Privately Owned Public Utilities Without Generating Facilities.....	-----	-----
IV. Privately Owned Public Utilities With Generating Facilities.....	-----	-----
V. Industrial Organizations.....	-----	-----
VI. Other.....	-----	-----

Mr. LUCE. Such agreement, of course, will be reviewed with interested utilities and industries and some modifications may be made. We regard the terms of this draft as negotiable with the prospective parties. The current draft, which I am presenting to the committee, differs principally from draft No. 8 that we presented to this committee during the hearings on July 10 and 11 of this year, as follows:

(1) This draft has been modified throughout so that private utilities and industries can be specifically included.

(2) Should the Government exercise its option to acquire the project by paying off the obligations of the Supply System, it is now specifically provided that the Government will continue to make available to the other parties electric energy and capacity equal to that to which they would have received had the Government not exercised such option.

(3) Section 5 of this agreement which includes the provision to determine the amount of exchange electric energy and capacity which the Government will make available in return for the project output has been considerably revised. The language of this section now makes it possible that all parties, whether public or private utilities

or industries, receive an equitable amount of exchange energy and capacity from the Government on a nondiscriminatory basis. This is accomplished by making the energy and capability available to each utility or industry on the basis of its average system load factor. I might say that in the current draft of contract we removed the requirement that Burns & Roe be the consulting engineers. At the time of the hearings, Senator Hickenlooper objected to naming any specific engineers, though no question of competency was raised. We have, therefore, eliminated the requirement that any particular firm of consulting engineers be retained by the Supply System.

Within the framework of Public Law 87-701, the Bonneville Power Administration will cooperate with the non-Federal utilities of the Pacific Northwest to the fullest extent to assure that generating facilities are constructed at the Hanford NPR. The Hanford project, we believe, offers all public agencies and private utilities in the Pacific Northwest a large block of power at costs to them and their customers cheaper than any alternative power project they could select.

Particularly, it offers the private utilities something they have sought ever since the creation of the Bonneville Power Administration: a long-term, firm contract for power at Bonneville standard rates, without any withdrawal or termination clause in favor of public agencies or other preference customers.

Congress by enacting Public Law 87-701 has given the Pacific Northwest a great opportunity. The ultimate success of the plans for non-Federal construction of Hanford generation now rests squarely with the utility industry of our region.

Chairman HOLIFIELD. Mr. Luce, I want to compliment you on the clarity of your statement and also on your evident attempt to comply with the intent of Congress and the statutes that were passed.

Do you believe that a necessity exists for waiving the 45-day waiting period under section 112(g) of the law?

Mr. LUCE. No. I do not believe that such a necessity exists.

Chairman HOLIFIELD. In other words, the time that is going to be involved in doing the preliminary work will make unnecessary any further congressional action?

Mr. LUCE. That is my opinion.

Chairman HOLIFIELD. When do you expect to sign your contract with WPPSS?

Mr. LUCE. The contracts which we sign, Mr. Chairman, will be, as I mentioned, tripartite contracts; WPPSS will be a party, we will be a party, and the other party will be a so-called participating utility. I would anticipate that we would not actually sign those contracts until the supply system has secured enough participating utilities to have purchased the entire output of the plant. As to when that would be, exactly, I don't know. I would guess, for the committee, that it would be something between 60 and 90 days. It might be a little shorter or a little longer than that.

Chairman HOLIFIELD. Is it your anticipation that there will be complete participation for the full block of power?

Mr. LUCE. Let me say that the offer that is going to be made to the public agencies and to the private utilities is such an attractive offer that I feel that they should accept it, and I think that they will accept it.

Chairman HOLIFIELD. I notice that you have said in your statement that you are going to offer this power on the basis of the average load factor of the using facility at this time; that is, the participating facility. In the event that either class of customers fails to take up its full 50 percent part of the power, would it be your intention to allow the other customers to pick that up?

Mr. LUCE. Yes. The statute requires that we make an offer of 50 percent to customers with preference under Federal power marketing laws and 50 percent to customers without such a preference. The law requires that we just make an offer, and if for some reason either class of offerees does not accept, then we would feel we were free, in fact obligated, to make a general offering to both classes of whatever power had not been taken up with the initial offerings.

Chairman HOLIFIELD. How will you assure that any losses to the BPA under these arrangements will be passed on to the Bonneville system customers?

Mr. LUCE. In my statement I described the mechanics by which this would happen. We are required under the Bonneville Act, and under other Federal power marketing acts that apply to projects from which we sell power, to charge rates that are sufficient to pay the operating expenses of the transmission system and the operating expenses of the dams, and, in addition, to amortize the principal invested in power facilities at these dams, the power portions of the dams, over a reasonable period of years.

That period has been, and still is, 50 years. If our revenues, because of this arrangement, should be less than we anticipate, for example, if the plant would only produce half the amount of electricity that the engineering experts have advised me it will produce, then we would be taking only half the amount of power into our system that we expect. This means that we have only half as much power to sell. As we had anticipated, that is. So we, naturally, would have to raise our rates to make up for the deficiency.

Chairman HOLIFIELD. It is my understanding that under section 112(e) of the law a nondiscriminatory offer of this energy will have to be made to private and public organizations in the Bonneville marketing area. I believe you have commented on this sufficiently, but let me give you the direct question. Is this your understanding, Mr. Luce?

Mr. LUCE. Yes, sir.

Chairman HOLIFIELD. Is it your understanding, Dr. Seaborg?

Dr. SEABORG. Yes, sir.

Chairman HOLIFIELD. In your experience with negotiating power contracts, what is normally regarded as a reasonable offering period?

Mr. LUCE. Mr. Chairman, power contracts can be negotiated very quickly or they can drag on in negotiations for months or even years. I would think that in the instance of this type of contract a minimum period of holding the offer open 30 days would be reasonable. Of course, if the offeree is sincerely interested, and if there are some problems of working out particular language of the contract, the negotiations would extend a bit beyond 30 days. But I would think that would be a minimum.

Chairman HOLIFIELD. In any event, it would be your intention to proceed in making a bona fide offer in good faith within a reasonable period of time for acceptance or rejection?

Mr. LUCE. It would be. On the other hand, of course, if we ever become convinced that a particular prospect to whom we offered power was not serious about purchasing but was merely prolonging negotiations for other reasons, we would have to terminate negotiations.

Chairman HOLIFIELD. Are there any other questions?

Mr. Hosmer?

Representative HOSMER. The Bonneville Act requires you to review your rates at what frequency?

Mr. LUCE. At least every 5 years.

Representative HOSMER. That is an outside limitation. You could review them in earlier periods or lesser periods of time?

Mr. LUCE. As a practical matter we could not, Mr. Hosmer, for this reason: That over the 25 years that Bonneville has been in existence and through both Democratic and Republican administrations, it has been Bonneville policy to write into each of its power sales contracts a 5-year rate review period. The same period is written into each contract. Consequently, even though we could review our rates more frequently than every 5 years, if we were starting this de novo, at this time in the history of Bonneville such rate increases would not become effective under the contracts until the particular 5-year period that has been followed over these many years has expired. The current 5-year period expires December 1964, which is not so very far off.

Representative HOSMER. You will make a review at that time?

Mr. LUCE. Prior to that time, we will, yes.

Representative HOSMER. When does this power from Hanford come on the line, to the best of your estimate?

Mr. LUCE. It comes on the line, according to our most hopeful estimates, in October, I believe it is, 1965, as to the first unit, and in December 1965, or January 1966, as to the second.

Representative HOSMER. Therefore, it comes on approximately 1 to 2 years after the effective date of your rate review?

Mr. LUCE. Of our next rate review, yes, sir.

Representative HOSMER. Would it be possible that at the time of your next review and the contracts that you sign based upon it, to eliminate that 5-year provision and provide that, should you want to review the rates somewhere within that period, it could be done?

Mr. LUCE. I don't think that would be possible because the contracts themselves run for longer than 5 years. Hence, our contracts with the private utilities and industries and public agencies, I guess all of our contracts, are 20-year contracts. This 5-year rate review is in these 20-year contracts.

I don't mean to leave the impression that all of our contracts have 20 years to run. They have different expiration dates. I can't think of any important ones that have only 5 years to run.

Representative HOSMER. It seems to me that you, as the Administrator of Bonneville, ought to have in mind, notwithstanding the confidence that you have expressed in the Hanford plant, the remote possibility that it might turn out to be a dog. In any event, we would hate to see you resting for a period of 4 years and 11 months on an obsolete rate structure in relation thereto. Is there any way you can work that around at all in future contracts?

Mr. LUCE. I suppose that we could as to the writing of new contracts as the old ones expire, by providing a different rate review period than Bonneville has had in the past. I don't think we could

do that soon enough to cover the period that you are concerned about, Mr. Hosmer. I just don't think enough of these contracts will be expiring prior to the rate review period 1964-69 to allow this to be of much use.

Representative HOSMER. It seems to me that not only the initial prospects of this plant, but the uncertainties relative to the length of time there will be a dual purpose operation, and so forth, would make it a matter of proper business wisdom and administration on your part to anticipate a possible serious fluctuation and provide for it in your new contracts and provide for it in such a manner that you would not be hung up for 4 years and 11 months.

Mr. LUCE. It is possible that we could do it in the form of the new rate filing. I am just talking now here without having discussed this with our legal experts and economists. But it seems to me that it might be possible in a rate filing in 1964 to file a rate that was contingent upon certain production results from the Hanford project. We will certainly look into that.

Representative HOSMER. I would say you certainly should. You have been, in many statements to the committee and elsewhere, expressing the desire and the intent that the taxpayers of the United States should not suffer if there happens to turn out to be a loss on this operation. This is one of the ways that it might be possible for the taxpayers of the United States to suffer, namely, a delay in the adjustment of the rates. Suffer with respect to either the increased demand on the operating budget of BPA or a delay in the payback schedule which would, in turn, reflect itself in the substantial amount of interest on the money that the Government has borrowed to build those installations out there.

Mr. LUCE. If we ran into losses in the 5-year period 1964-69 that put us in a total loss position, we would have to pick that up in the following 5-year period. I understand the thrust of your question is to try to avoid having to postpone picking up this loss.

Representative HOSMER. That is right. I don't want the U.S. Treasury to be lending you the amount of the loss until such time as you can pick it up. One other question I have.

Chairman HOLIFIELD. Before you do that—

Senator JACKSON. Go ahead and finish.

Chairman HOLIFIELD. Could I ask you to yield at that point? For the record, what is the installed kilowatt capacity of the Bonneville system now?

Mr. LUCE. It is in the neighborhood of 6½ million kilowatts. I can give you a precise figure here in just a moment. As of January 1961, it was 6,727,000 kilowatts.

Chairman HOLIFIELD. What will it be by the time this comes on the line?

Senator JACKSON. Approximately?

Chairman HOLIFIELD. Approximately.

Mr. LUCE. It would be, I would say, approximately 7,200,000. We will have Ice Harbor added to this, and one or two smaller projects in the Willamette Valley.

Chairman HOLIFIELD. So if the 800,000 general estimate is received, it would be in the neighborhood of about one-ninth of the present capacity?

Mr. LUCE. Yes, sir. If we take into account—

Chairman HOLIFIELD. I mean of the 7,200,000. Eight goes into that nine times.

Mr. LUCE. If we take into account projects that are under construction which won't be quite finished by 1965, particularly the big John Day Dam, it would be about one-tenth.

Chairman HOLIFIELD. In the event that the worst could happen, your shortage here would be in the nature of one-tenth?

Mr. LUCE. Yes, sir.

Chairman HOLIFIELD. Of your needs?

Mr. LUCE. If we had a total failure, which we don't anticipate.

Senator JACKSON. Would you mind yielding to me?

Chairman HOLIFIELD. Yes, sir.

Senator JACKSON. Mr. Luce, I think it is correct to say that the intent of this committee and the Congress was to assure that if privately owned utilities or other nonpreference customers purchased up to 50 percent of Hanford power, and exchanged it for Bonneville grid power, their contracts for Bonneville power would be firm and not subject to the Federal laws granting preferences in the marketing of Columbia River power even in the event a regional power shortage should develop. Does your proposed draft of exchange contracts submitted to this committee so provide? ⁶

Mr. LUCE. In our legal opinion it does so provide. However, if our prospective purchasers feel that the language needs strengthening, we would be glad to discuss such strengthening with them.

Senator JACKSON. I am glad to have your reply, because there have been a number of letters that contain interrogatories raising questions that would appear to place a cloud on this contention. I happened to have sponsored this 50-50 provision. I think the legislative history, questions and answers in the committee, the responses on the floor of the House and Senate, corroborate your reply completely, and I think, Mr. Chairman, that this will help to make that doubly clear. If someone else in the area that is involved, that is, private industry or private utilities, have a better form of a draft for this, I think they ought to come forward with it rather than merely raise questions or doubts in this regard.

The other question, Mr. Chairman, I wanted to ask is this: I think it is also fair to say the Congress intended to obligate the Federal Government to continued deliveries of power to all participants, public and private, in the Hanford project if Congress should ever decide that the Government acquire the Hanford generating facilities, and that such deliveries be in the same amount, on the same terms and for the same length of time as if the WPPSS still owned the generating facilities.

Does the current draft of contracts so provide?

Mr. LUCE. Yes, Senator Jackson. In section 9(b) we have so provided. Once again, if the various participants who are going to be offered these contracts feel that the language needs strengthening, we are willing to discuss such strengthening with them.

Senator JACKSON. Mr. Chairman, I think the replies to the two questions I have put to Mr. Luce should help to remove any doubt that has been raised by various individuals with reference to the proposed contract. I don't know of anything that could make it clearer than the questions and the responses to the questions.

⁶ Printed on p. 18.

Chairman HOLIFIELD. The chairman would like to concur with the understanding of the junior Senator from Washington, and it is also the Chair's understanding that the intent of Congress is outlined by the questions and answers that have been evolved and by the statutes and the history on the floor, in which we have tried to make this as fair and as clear as possible.

Mr. Hosmer, do you have additional questions?

Representative HOSMER. This variation of 10 percent that we have mentioned approximately in the amount of firm power, should the Hanford project not produce as it should, does this necessarily bear a linear relationship to Bonneville receipts, expenditures, and balances?

Mr. LUCE. It would bear an approximate but not a precise or rigid relationship.

Representative HOSMER. You would be under contract to supply power which you didn't have, assuming that your system was short 10 percent, and your obligations in that respect for damages might be considerable, would they not?

Mr. LUCE. Yes. If we were unable to negotiate our way out of the contracts or to purchase an alternative source of supply. If we had to purchase an alternative source of supply, we would have to pay for it, and we would be out to that extent.

Representative HOSMER. I think that affirms the necessity of thinking ahead on this matter. I personally don't think the contingency is very large that Hanford will not produce the power, but the contingency has been raised, and it should be anticipated in your contracts.

One other question. Do you regard this arrangement between BPA and WPPSS as a precedent for Bonneville engaging in similar arrangements with any other power generating plant facility, corporation, public or private?

Mr. LUCE. No, Mr. Hosmer. This is a unique project, and we would not regard it as a precedent. If we were called upon at some future time to engage in similar type arrangements, as your question indicates with regard to another project, I don't think this so-called precedent would affect the situation one way or another. Our authority to enter into it would have to be measured by the laws, statutes and so forth that are in existence and entirely independent of Public Law 87-701.

Representative HOSMER. I think you testified before that you felt that under present law you did have the power to enter into such arrangements, is that right?

Mr. LUCE. Yes, sir.

Representative HOSMER. You further testified that, notwithstanding the power, that you would not enter into such an arrangement without some reference to an appropriate committee of the Congress.

Mr. LUCE. Yes, I think I mentioned the Appropriations Committees. Those are the ones that we normally would take this type of an arrangement to if we were to bring it up with respect to some other project.

Representative HOSMER. Do you feel that this arrangement before the committee today, with Bonneville, amounts to any precedent with respect to any action by any other Government power agency?

Mr. LUCE. No, I do not.

Representative HOSMER. Again your answer is that this is a unique circumstance, one-of-a-kind situation, is that right?

Mr. LUCE. That is right.

Representative HOSMER. Thank you.

Chairman HOLIFIELD. Mr. Bates?

Representative BATES. Mr. Chairman, I would like to clarify one question Senator Jackson asked. In reference to the statement on page 3, if Congress at some indefinite time in the future should authorize and appropriate funds for the Government to purchase the powerplant, then, in accordance with the intent of Congress, Bonneville will guarantee to each party in the exchange contract the amount of power it would have been entitled to receive had the Government not acquired such facilities—I think that was the import of his question, wasn't it?

Mr. LUCE. Yes, it was.

Representative BATES. How does it differ from the bottom of page 4 where it says,

Should the Government exercise its option to acquire the project by paying off the obligations of the power system as now specifically provided, the Government will continue to make available to the other parties.

That is the Government, then. What is the difference in those two statements?

Mr. LUCE. There was no difference intended, Mr. Bates.

Representative BATES. In one you say the Government, and in the other you say Bonneville. Which is it?

Mr. LUCE. I think the more accurate term in each instance would be the Government because Bonneville Power Administration contracts are made in the name of the U.S. Government. Bonneville as an agency of the Government might or might not be in existence at some future time.

Representative BATES. In one case you use Bonneville and then you say if the Government buys, then the Government will provide it. When you use Government in the second sense, you mean Bonneville as it is constituted now?

Mr. LUCE. If the power marketing agencies were the same at the time that the problem arose, Government would mean Bonneville Power Administration.

Mr. TOLL. Mr. Luce, a few minutes ago, in response to a question from Chairman Holifield, you stated that a nondiscriminatory offer of 50 percent of the energy would be made to private and to public organizations in the Bonneville marketing area. I wonder if you could describe for the committee with more particularity what is the Bonneville marketing area at the present time?

Mr. LUCE. The Bonneville marketing area at the present time is defined by orders of the Secretary of the Interior and not defined by the laws of Congress. The Secretary of the Interior has defined our marketing area approximately as follows: It includes all of the State of Oregon, all of the State of Washington, all of the State of Montana west of the Continental Divide, and the northern portion of the State of Idaho roughly from the Salmon River north.

Mr. TOLL. Is it your understanding that customers in this area would be those to whom the offer would be made?

Mr. LUCE. Yes.

Chairman HOLIFIELD. That would be in the event that the marketing area stayed the same under rules and regulations?

Mr. LUCE. Yes.

Chairman HOLIFIELD. If the marketing area was changed, then it would apply to the new boundaries of the marketing area?

Mr. LUCE. The only change of our marketing area that is under serious consideration—

Chairman HOLIFIELD. I have no change in mind. I am looking into the cloudy crystal ball of the future.

Mr. LUCE. I think the committee should know that there is a specific change under consideration. The congressional delegation from Idaho, or at least the Democratic portion thereof, which is three-fourths of it, have requested that we study the possibility of including all of Idaho and not merely northern Idaho in the marketing area. These studies are underway. The final determination, under present law, would be made by the Secretary of Interior. Other than that, we have no studies or proposals to extend the law.

Representative HOSMER. What about Utah?

Mr. LUCE. There is a little corner of Utah that is in the Columbia River drainage, but there is no proposal to extend the marketing area to that little corner of Utah.

Representative BATES. Nothing in California?

Mr. LUCE. No. That is quite a large subject you just opened up.

Representative HOSMER. You don't want to discuss the problem of high-voltage interties and the effect on marketing area boundaries at this time, I presume.

Mr. LUCE. In view of the shortness of time and unless Congress wishes to stay in session, I think we better not.

Chairman HOLIFIELD. Are there any further questions? If not, thank you very much, Mr. Luce, for your cooperation and the clarity of your answers on these problems.

Mr. Hurd, of the WPPSS.

Mr. Hurd, do you have a statement to make?

STATEMENT OF OWEN W. HURD, MANAGING DIRECTOR, WASHINGTON PUBLIC POWER SUPPLY SYSTEM

Mr. HURD. No, I have no prepared statement. I would be glad to answer any questions that members of the committee may have.

Chairman HOLIFIELD. When do you expect to invite bids for the construction of the generating facilities?

Mr. HURD. The ability to meet the desired date of October 1965 for power on the line requires that we go to bid as early as possible on the long delivery items, which are the turbine generators. We have already taken steps to prepare the specifications so that we now expect to go to bids for the turbine generators by November 1 of this year.

Chairman HOLIFIELD. You have spent a great deal of time on this already. This has been under consideration for months, I understand.

Mr. HURD. That is correct. Ever since we made our proposal on November 18 last year, we have had to go into the matter of the estimated cost of the turbine generators, and we have carried on discussions and correspondence and other things related to the preparation of the specifications calling for bids.

So within a relatively short time for items of this size, we are able to call for bids by November 1.

Chairman HOLIFIELD. As a matter of general interest, to the Chair at least, how many generators do you propose to build to absorb this steam? What size generators, and how many?

Mr. HURD. Burns & Roe, as you know, have been the architect-engineer for the reactor, and they prepared the studies, numerous studies, with regard to the size and number of units. Our people have generally accepted their conclusion that the two units of 400,000 kilowatts each was the optimum size units for this installation.

Chairman HOLIFIELD. How does this compare with any generators that are in existence now? Is this larger or about the same size or smaller than some?

Mr. HURD. I am not an authority on that. I know that the TVA have generators of half a million in kilowatts in size. So, from that standpoint, they are not the largest in the world or in this country. But at this steam pressure and temperatures, I think they will be physically larger than any generators now in existence in this country.

Chairman HOLIFIELD. When do you expect to issue the bonds?

Mr. HURD. A number of steps will have to be taken before we can call for bids on bonds. The first is to firm up the construction cost as much as we can. One of the important phases is the cost of the turbine generators, on which, as I say, we would call for bids on November 1. We would permit 60 days for the preparation of bids which the manufacturers have indicated is sufficient time. We would require 1 month for the evaluation of them. We would expect to be able to prepare our feasibility reports, prospectuses, to call for the bids for bonds by April 1, 1963.

Of course, if there is any delay in any phase preceding the call for bids, it would postpone that date.

Chairman HOLIFIELD. So we are talking about 90 days in the first instance, running up to the end of January, and then 60 days for your evaluation, which would be a total of 5 months from November 1. Approximately 5 months before you would be ready to issue the bonds.

Mr. HURD. Four months.

Chairman HOLIFIELD. Four months?

Mr. HURD. Four months. If we receive the bids on January 1, a month for evaluation, and for preparation of the bond issue itself. That would be the earliest that we now see it that it could happen.

Chairman HOLIFIELD. In line with your responses to those questions, do you believe that there is any necessity for the committee to exercise its statutory privilege under the law and waive any or all of the 45-day period?

Mr. HURD. No, I do not, Mr. Holifield.

Chairman HOLIFIELD. A decision not to waive would not in anyway interfere with the program?

Mr. HURD. No, at this time I cannot foresee any reason why we would request such a waiver or be interested in such a waiver.

Chairman HOLIFIELD. Mr. Hosmer?

Representative HOSMER. Mr. Hurd, in negotiating with bond counsel, is there anything else you need from this committee that you haven't got thus far besides the expiration of the 45 days?

Mr. HURD. No, I am not aware of any matter that needs clarification with regard to any matter pertaining to the offering or the arrangements we have discussed.

Representative HOSMER. Are you satisfied, Mr. Hurd, in your capacity with WPPSS, that the specifications with respect to the steam temperatures and pressures at which the turbines are to operate are feasible and will, in fact, turn the generators at the speed and with the energy required?

Mr. HURD. Yes, sir. We are satisfied. At this point, there is no reason to question the plans for units of this size.

Representative HOSMER. Is that the opinion of Burns & Roe, your architect-engineers?

Mr. HURD. Yes, sir. As well as other engineers which have reviewed their reports. It is my understanding that BPA has also had an independent appraisal of the feasibility of it.

Representative HOSMER. Mr. Hurd, in the event that the private power companies do not exercise their privilege of taking up the one-half, in fact, would not exercise any privilege whatsoever to take power from the Hanford plant, would there, nevertheless, be sufficient takers to guarantee the financial operation and feasibility of Hanford?

Mr. HURD. Yes, based upon the consideration that we have given it, and the assumptions we have made, we feel that there is an adequate need for power on the part of public agencies and they have the ability to take and use without increasing the power cost, this amount of power.

Representative HOSMER. Whoever takes that power will take it for a period of 25 years?

Mr. HURD. We would expect it to be run concurrently with the length of the bond issue and that is presently 30 years.

Representative HOSMER. With respect to the use of the power in the early years of the contract, is that going to cause some of the users to shutdown plants that they have in operation at the present time in order to absorb or not have more electricity than they need to supply their customers?

Mr. HURD. No, sir. I would not expect any participant to make idle any of the capacity that it is now using.

Representative HOSMER. If there is a block of power amounting to 800,000 kilowatts that is supposed to come on the line in a period of about 4 months. That is quite a large block to be absorbed without some disruption of the generating facilities that exist.

Mr. HURD. That is always the case. You cannot precisely schedule your power on the line to meet your precise load requirements. There will result in some temporary surplus. But as I say, it would not result in shutting down any of the participants' plants.

Representative HOSMER. Then at least it would involve the non-operation during certain periods of time of higher cost producing facilities that now exist and are now being operated for certain periods of time during the day.

Mr. HURD. That is correct. There will be times that there will be a temporary surplus of firm power and secondary power, as there has been and is at the present time.

Representative HOSMER. The Bonneville Power System apparently think they are going to pick up to 100,000 kilowatts of additional firm power by switching back and forth of Hanford power and their hydro-power. In marketing that power, they have to offer it to the same people who are taking this Hanford power, do they not?

Mr. HURD. Yes. The public agencies, particularly, and to some extent the private utilities, would be the same users.

Representative HOSMER. In other words, in marketing that 100,000-kilowatt block, they are in a second competitive place to the 800,000 originally, if you want to think of it that way?

Mr. HURD. I think that is correct. Of course, we anticipate the load growth and the continued expanding needs of the public agencies as well as the expansion of industries.

Representative HOSMER. I realize that. I am talking about that period of possibly 2 years, assuming that the Pacific Northwest increases its requirements, at 400,000 kilowatts a year, that Bonneville will be the ultimate one that absorbs that nonability to use this power.

Mr. HURD. Yes. Bonneville will be supplying power obtained through the Hanford exchange arrangements to the same customers. It would be more a matter of an identification of their power obtained from Bonneville—that portion which is the result of the exchange arrangements and that which is the result of their existing contracts with Bonneville.

Representative HOSMER. Thank you, Mr. Hurd.

Chairman HOLIFIELD. Thank you, Mr. Hurd, for your appearance here today and your answers to the questions.

Mr. HURD. I would just like to say this, Mr. Holifield, on behalf of the 16 districts and the whole Northwest. We greatly appreciate the opportunity that has been given to us to go ahead with this proposal on a non-Federal basis.

Chairman HOLIFIELD. Thank you.

The meeting will adjourn, and the committee will go into executive session. I will ask the staff to remain.

(Whereupon, at 3:25 p.m., Thursday, September 27, 1962, the meeting was adjourned, and the committee proceeded into executive session.)

The first part of the book is devoted to a general introduction to the subject of the history of the United States. The author discusses the various factors that have influenced the development of the country, including geography, climate, and the influence of European immigrants. He also touches upon the role of the federal government and the states in the early years of the nation.

The second part of the book is a detailed account of the American Revolution. The author describes the events leading up to the war, the military campaigns, and the final victory at Yorktown. He also discusses the impact of the Revolution on the young nation and the formation of the Constitution.

The third part of the book covers the period from the end of the Revolution to the Civil War. The author discusses the westward expansion of the United States, the growth of industry, and the increasing tensions between the North and the South. He also touches upon the role of the federal government in the development of the country.

The fourth part of the book is a detailed account of the Civil War. The author describes the events leading up to the war, the military campaigns, and the final victory of the Union. He also discusses the impact of the Civil War on the United States and the role of the federal government in the reconstruction of the South.

The fifth part of the book covers the period from the end of the Civil War to the present. The author discusses the growth of the United States, the rise of the industrial revolution, and the increasing influence of the federal government. He also touches upon the role of the states in the development of the country.

APPENDIXES

APPENDIX 1

CONGRESS OF THE UNITED STATES,
JOINT COMMITTEE ON ATOMIC ENERGY,
Washington, D.C., September 29, 1962.

Mr. OWEN HURD,
Washington Public Power Supply System,
Kennewick, Wash.

DEAR MR. HURD: This is to inform you that the Joint Committee on Atomic Energy has completed its hearings and review of the basis of proposed arrangements for the construction and operation of electric generating and transmission facilities at the Hanford New Production Reactor submitted pursuant to section 112 of Public Law 87-701. The committee has also carefully reviewed determinations submitted by the Atomic Energy Commission pursuant to this law.

Under section 112 of Public Law 87-701, a period of 45 days must elapse following the submission of the foregoing documents to the Joint Committee before the Atomic Energy Commission may enter into any arrangements, unless the committee waives all or any portion of this period. On the basis of your testimony, as well as the testimony of the Atomic Energy Commission and the Bonneville Power Administration at our hearing on September 27, 1962, it is the view of the committee that no necessity exists for waiver of the 45-day period.

Having received and reviewed the basis for arrangements pursuant to section 112 of Public Law 87-701 and the determinations required by subsection (b) thereof, it is the view of the committee that the arrangements contemplated by the contracting parties as reflected in these documents are in compliance with the terms and conditions of the law.

Sincerely yours,

CHET HOLIFIELD, *Chairman.*

APPENDIX 2

EXCERPTS FROM CONFERENCE REPORT ON H.R. 11974 (AUTHORIZING APPROPRIATIONS FOR THE ATOMIC ENERGY COMMISSION) (H. REPT. NO. 2342, DATED SEPTEMBER 11, 1962)

Sec. 112. (a) *The Commission is not authorized—*

(1) *to enter into any arrangements for the construction or operation of electric generating and transmission facilities at the Hanford New Production Reactor, or*

(2) *to sell any byproduct energy produced incident to the operation of the reactor and is directed to withhold from beneficial use and dissipate such byproduct energy, or*

(3) *to enter into agreements, as part of such arrangements, to lease or contract for the operation of the reactor during periods when the reactor is not being operated or maintained for production or other Commission purposes,*

unless and until the Commission shall make the determinations required by subsection (b).

(b) *Before entering into any arrangement or sale of the type described in subsection (a), the Commission shall make the following determinations:*

(1) *Usable byproduct energy will be produced incident to the production of special nuclear material in the reactor in accordance with the design of the reactor as originally authorized by Congress;*

(2) *The sale of byproduct energy could provide a substantial financial return to the United States Treasury for the benefit of the taxpayers;*

(3) *The national defense posture would be improved by the enhanced capability for resumption of special nuclear material production through non-Federal operation and maintenance of the reactor during periods when it is not being operated for special nuclear material production.*

(c) *All expenses of modifications of the Hanford New Production Reactor made at the request of a non-Federal entity, and all expenses of constructing and operating the electric energy generating and transmission facilities at the New Production Reactor, shall be borne by such non-Federal entity.*

(d) *Any losses to the Bonneville Power Administration, in connection with the arrangements or sales authorized herein, shall be borne by its system customers through rate adjustments.*

(e) *The Commission shall not enter into any arrangements for the sale of byproduct energy from the Hanford New Production Reactor unless it determines that the purchaser has offered 50 per centum participation to private organizations and 50 per centum participation to public organizations on a non-discriminatory basis in the sale of electric energy generated therewith.*

(f) *No Federal agency may acquire the generating facilities without prior congressional authorization and in the event of such authorization the generating facilities shall be acquired subject to contracts then in existence for disposition of the electric energy produced by the facilities.*

(g) *Before the Commission enters into any arrangements pursuant to this section, the basis for such arrangements and the determinations required by subsection (b), with supporting data, shall be submitted to the Joint Committee on Atomic Energy and a period of forty-five days shall elapse: Provided, however, That the Joint Committee, after having received such documents, may, by majority concurrence in writing, waive the conditions of or all or any portion of such forty-five day period.*

* * * * *

STATEMENT OF THE MANAGERS ON THE PART OF THE HOUSE

The managers on the part of the House at the conference on the disagreeing votes of the two Houses on the amendment of the Senate to the bill (H.R. 11974) to authorize appropriations for the Atomic Energy Commission in accordance with section 261 of the Atomic Energy Act of 1954, and for other purposes, submit the following statement in explanation of the effect of the action agreed upon by the conferees and recommended in the accompanying conference report.

The Senate struck out all of the House bill after the enacting clause and inserted a substitute amendment. The committee of conference has agreed to a substitute for both the House bill and the Senate amendment. The following statement explains the differences between the House bill and the substitute agreed to in conference.

Section 112

The House, in considering H.R. 11974, added a new section 112 as follows:

SEC. 112. The Commission is not authorized to enter into any arrangements for the construction or operation of electric generating and transmission facilities at the Hanford New Production Reactor.

The effect of the amendment was to prohibit generally any arrangements for the construction of electric generating and transmission facilities at the Hanford new production reactor and to prohibit specifically contemplated arrangements between the Atomic Energy Commission and the Washington Public Power Supply System (WPPSS), a group of 16 utility districts, which had proposed to build and operate the electric generating facilities at their own expense. WPPSS further proposed to purchase byproduct steam from the AEC. As part of these arrangements, the electric energy produced would have

been delivered by each participant to the Bonneville Power Administration under power exchange agreements.

Specific congressional approval for these arrangements was required according to an opinion rendered on July 6, 1962, by the Comptroller General. The action of the conferees should not be interpreted as either an acceptance or rejection of this opinion.

The Senate, in acting upon the bill passed by the House, struck all after the enacting clause and inserted a substitute amendment which included a new section 112 specifically authorizing the aforementioned contractual arrangements for the construction and operation of electric generating facilities by the Washington Public Power Supply System.

The committee of conference agreed to a different version of section 112 which reads as follows:

Sec. 112. (a) The Commission is not authorized—

(1) to enter into any arrangements for the construction or operation of electric generating and transmission facilities at the Hanford New Production Reactor, or

(2) to sell any byproduct energy produced incident to the operation of the reactor and is directed to withhold from beneficial use and dissipate such byproduct energy, or

(3) to enter into agreements, as part of such arrangements, to lease or contract for the operation of the reactor during periods when the reactor is not being operated or maintained for production or other Commission purposes,

unless and until the Commission shall make the determination required by subsection (b).

(b) Before entering into any arrangement or sale of the type described in subsection (a), the Commission shall make the following determinations:

(1) Usable byproduct energy will be produced incident to the production of special nuclear material in the reactor in accordance with the design of the reactor as originally authorized by Congress;

(2) The sale of byproduct energy could provide a substantial financial return to the United States Treasury for the benefit of the taxpayers;

(3) The national defense posture would be improved by the enhanced capability for resumption of special nuclear material production through non-Federal operation and maintenance of the reactor during periods when it is not being operated for special nuclear material production.

(c) All expense of modifications of the Hanford New Production Reactor made at the request of a non-Federal entity, and all expenses of constructing and operating the electric energy generating and transmission facilities at the New Production Reactor shall be borne by such non-Federal entity.

(d) Any losses to the Bonneville Power Administration, in connection with the arrangements or sales authorized herein, shall be borne by its system customers through rate adjustments.

(e) The Commission shall not enter into any arrangements for the sale of byproduct energy from the Hanford New Production Reactor unless it determines that the purchaser has offered 50 per centum participation to private organizations and 50 per centum participation to public organizations on a nondiscriminatory basis in the sale of energy generated therewith.

(f) No Federal agency may acquire the generating facilities without prior congressional authorization and in the event of such authorization the generating facilities shall be acquired subject to contracts then in existence for disposition of the electric energy produced by the facilities.

(g) Before the Commission enters into any arrangements pursuant to this section, the basis for such arrangements and the determinations required by subsection (b), with supporting data, shall be submitted to the Joint Committee on Atomic Energy and a period of forty-five days shall elapse:

Provided, however, That the Joint Committee, after having received such documents, may, by majority concurrence in writing, waive the conditions of or all or any portion of such forty-five period.

This compromise amendment differs in several important respects from both the Senate and House amendments.

1. Elements of House amendment retained

Section 112(a) (1) of the conference amendment retains the precise language of the House amendment, prohibiting any arrangements for the construction or operation of electric generating and transmission facilities at the Hanford new production reactor (NPR). Indeed, it goes further in section 112(a) (2) by prohibiting any sale of byproduct energy and directing that excess energy be withheld from use and wasted, and in section 112(a) (3) by prohibiting the AEC from entering into any arrangement involving the lease of the reactor during periods when it is not being operated for the production of plutonium or other Commission purposes.

However, the conferees, charged with the duty of composing the positions of the two bodies, arrived at language which, in their view, fairly represents a middle ground between the House and Senate versions and which meets the objections of those who have opposed prior legislative approaches to this problem. At the same time, the language agreed upon permits the reasonable use of a national resource under rigidly defined statutory conditions, while providing complete protection for the Federal Treasury.

2. Necessary determinations

Before the Atomic Energy Commission may enter into any arrangements, otherwise prohibited by section 112(a), the Commission must determine that—

(1) *Usable byproduct energy will be produced incident to NPR's primary operation for the production of plutonium for weapons purposes, in accordance with the design of the reactor as originally authorized by Congress.* Such a determination, if made by the Commission, should resolve any remaining questions concerning operation of the reactor or the usefulness of the byproduct energy. It would moreover assure that the reactor constructed by the Commission will comply with the terms of the authorization by the Congress in 1958 for the construction of a convertible reactor. It would further assure that no special additions to the reactor, paid for by the Government, are necessary to accommodate the addition of electric generating facilities.

(2) *The sale of byproduct energy could provide a substantial financial return to the U.S. Treasury for the benefit of the taxpayers.* Such a determination, if made by the Commission, would make it clear that the taxpayers of the United States as a whole would be the ultimate beneficiaries of any arrangements entered into by the AEC under which the Commission would receive payments for otherwise wasted byproduct energy.

(3) *The national defense posture would be improved by the enhanced capability for the resumption of plutonium production through non-Federal maintenance and operation of the reactor during periods when it is not being operated for plutonium production.* Such a determination, if made by the Commission, would provide assurances that the common defense and security of the United States would be improved by operation of the reactor for power purposes during periods when plutonium production might be suspended due to an international arms control agreement or the accumulation of an adequate stockpile of plutonium. Such operation would be by a non-Federal entity, thereby saving the taxpayers several million dollars in standby costs and permitting a more rapid startup of the reactor for plutonium production in the event of a sudden change in international conditions or military requirements.

In summary, these determinations, if made by the Commission, will provide strong assurances as to the technical and economic desirability of the project; its national defense advantages; and its benefits to the citizen-taxpayers of the United States. Moreover, as discussed below, each determination, with supporting data, will have to be submitted to the Joint Committee on Atomic Energy for further congressional scrutiny.

3. Expenses to be borne by non-Federal entity

Some Members of the House, during prior consideration of this matter, raised questions as to whether the Federal Government would bear the cost of any expenses associated with the project.

Section 112(c) eliminates any doubt on this point by requiring that the Federal Government will not bear the cost of any electric generating or transmission facilities at the Hanford reactor or any cost of any reactor modification made at the request of the non-Federal entity to accommodate the generation of electricity.

4. *Conditions of participation by Bonneville Power Administration*

Some Members of the House, during prior consideration of this matter, raised questions as to the conditions of participation by the Bonneville Power Administration. In order to further remove any doubt on this point, the conferees added the binding language of section 112(d).

Under this section, any losses to BPA including operating losses and also any financial detriment suffered in the event of termination of the contract prior to commencement of commercial operations, would be borne by the customers of the Bonneville system, through rate adjustments.

This section provides an ironclad guarantee that neither the Federal Government nor the taxpayers as a whole will suffer any financial loss as a result of these arrangements. The risk will be borne by those who are the primary beneficiaries of the arrangements—the customers of the Bonneville system. The conference committee added this provision to eliminate any doubt as to where the financial impact of Bonneville's participation would fall.

5. *Guarantees to private organizations*

The compromise amendment retains the important feature of the Senate amendment, guaranteeing that 50 percent of the electricity generated with Hanford byproduct energy would have to be offered to private organizations (including private utilities and large-scale industrial users), and 50 percent to public organizations. This offer, under the terms of section 112(e) of the conference amendment, would have to be on a "nondiscriminatory basis," thus guaranteeing that contracts with private organizations will not be subject to any preference or pullback provisions in any law.

Under section 112(f), the long-term contracts between the purchaser and private organizations will be guaranteed as inviolate, even in the unlikely event that the generating facilities are acquired by the Federal Government. In no event, however, could the generating facilities be acquired by the Government without prior and specific congressional authorization.

6. *Joint committee review*

The conferees added section 112(g) to assure that the basis for any arrangements under this section and all findings required by section 112(a) with supporting data would be subject to further congressional scrutiny. Before any arrangements could be entered into, all of the foregoing documents will have to be presented to the Joint Committee on Atomic Energy to assure complete compliance with all of the terms, conditions, and limitations imposed by section 112. These documents must lay before the committee for a period of 45 days unless the committee, by majority concurrence in writing, waives any condition or all or any part of the period.

7. *Conclusion*

The managers on the part of the House conclude that section 112 of the conference report represents a fair compromise and meets many objections raised when the matter was previously considered by the House. The amendment, if approved, will permit the use of a valuable national resource, under completely safeguarded conditions which will prove beneficial to the private and public utilities of the Pacific Northwest and their consumers as well as the taxpayers of the United States.

APPENDIX 3

[Office of the White House Press Secretary for immediate release, Sept. 26, 1962]

REMARKS OF THE PRESIDENT UPON THE SIGNING OF H.R. 11974 ATOMIC ENERGY COMMISSION 1963 AUTHORIZATION BILL (HANFORD REACTOR)

I am pleased to sign H.R. 11974, the Atomic Energy Commission 1963 authorization bill.

One portion of this legislation—for which we have waited for quite some time—will make it possible for the steam produced by the Hanford New Pro-

duction Reactor to be transformed into electricity and distributed to the homes and factories of the Pacific Northwest.

It is a source of great satisfaction to me that a way has now been opened for the efficient utilization of this energy resource for the benefit of this growing region. To have permitted this resource to be wasted would have been in conflict with all principles of resource conservation and utilization to which we are committed.

This project is for peacetime application and atomic heat for electricity which will produce a million kilowatts, approximately. It will be four times larger than any other project in the world. It will give the United States a freer margin for superiority in the peacetime use of atomic energy. I think that it will benefit, in that way, the entire country, North and South and West, so I want to compliment those Members of Congress and the Joint Committee and the Interior Committee and others who have played an important role in the great passing of this legislation. I particularly congratulate Chet Holifield and Senator Jackson for their part in this effort.

As I stated in my letter of July 13, 1962, to Chairman Holifield, of the Joint Committee on Atomic Energy, the proposal of the Washington Public Power Supply System to utilize the Hanford steam for the production of power presents an opportunity, clearly in the public interest, to obtain the maximum benefits from the public investment already committed for this facility and to demonstrate national leadership in resources development while furthering national defense objectives.

The arrangements contemplated by this legislation will provide assurance that the interests of taxpayers, consumers, and other producers of electric power will be adequately protected.

Enactment of this legislation is a highly significant achievement, and the Members of both Houses of Congress—in particular the members of the Joint Committee on Atomic Energy—are to be congratulated on the success of their unremitting efforts to bring about the utilization of the major national resource represented by the byproduct energy of the Hanford reactor.

Congratulations to all those involved.

