

*W. DeLoach*

MODIFICATION NO. 7  
SUPPLEMENTAL AGREEMENT TO  
CONTRACT NO. AT(45-1)-1781

CONFORMED COPY

TITLE: EFFECT OF IRRADIATION ON HUMAN TESTIS: CHANGES IN SPERMATOGENESIS, CHROMOSOMAL MORPHOLOGY, LEYDIG CELL FUNCTION AND PITUITARY-GONADAL INTERRELATIONSHIPS AS A FUNCTION OF RADIATION DOSE **703752**

THIS MODIFICATION, entered into the 22nd day of August, 1969, effective as of the First day of August, 1969, by and between the UNITED STATES OF AMERICA (hereinafter referred to as the "Government"), as represented by THE UNITED STATES ATOMIC ENERGY COMMISSION (hereinafter referred to as the "Commission"), and THE BOARD OF REGENTS OF THE UNIVERSITY OF WASHINGTON (hereinafter referred to as the "Contractor"),

WITNESSETH THAT:

WHEREAS, the Contractor is engaged in research under agreement with the Commission No. AT(45-1)-1781; and

WHEREAS, the Commission and the Contractor desire to extend the period of such research activities and to revise the Special Research Support Agreement to provide that AEC support and the Contractor's charges to the AEC will be accumulated over the total life of the contract with a financial adjustment made at the termination or expiration of the contract; and

WHEREAS, this agreement is authorized by the Atomic Energy Act of 1954, as amended, and Section 302(c)(15) of the Federal Property and Administrative Services Act of 1949, as amended;

NOW, THEREFORE, the parties agree to modify said contract in the following respects only:

1. The period of performance under this contract is extended for an additional period commencing August 1, 1969 and expiring October 31, 1969.
2. Article III is hereby deleted and the following substituted therefor:

"ARTICLE III - CONSIDERATION

"a. In full consideration of the Contractor's performance hereunder, the Commission shall furnish the equipment, supplies, materials, and services, if any, listed in Article A-II(b)(2) and pay the Contractor the sum of \$20,320.00, hereinafter called the 'Support Ceiling' which sum shall be subject to adjustment as hereinafter provided.

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 FOLDER (45-1) Alvin C. Paulsen

"b. Payments to the Contractor shall equal the 'Cumulative Support Cost' of performance of this contract, as the term 'Cumulative Support Cost' is defined in Article B-XXVII 1/; Provided, however, and notwithstanding any other provision of this contract, that the Government's monetary liability under this contract shall not exceed the Support Ceiling specified in a. above. The Commission shall not pay more than the Support Ceiling or an amount equal to the Cumulative Support Cost, whichever is less. The Contractor shall be obligated to perform under this contract throughout the agreed-upon period of performance, and to bear all costs which the Commission has not agreed to pay, Provided, however, that the Contractor shall have the right to cease to perform the research provided for in this contract, upon written notice to the Commission to that effect, at any time when or after the Cumulative Support Cost equals or exceeds the Support Ceiling.

"c. The Support Ceiling specified in a. above may be revised as the parties may mutually agree in writing. In the event the stated period of contract performance is extended, the Support Ceiling will be revised to reflect any increased Commission support for the extended period or periods.

"d. Upon termination, or expiration of the total period of performance, the Contractor shall promptly refund to the Commission (or make such disposition as the Commission may in writing direct) any sums paid by the Commission to the Contractor under this contract, through direct payment or under letter of credit, in excess of the Cumulative Support Cost incurred in performance under the contract."

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1/ The term Cumulative Support Cost refers to the cost of items under A-II(a) of Appendix A, for the initial contract period\* plus any extension periods, that may be properly chargeable to the AEC. If proportionate cost-sharing is involved, the Support Cost is the AEC's share of such costs, and it does not include the cost of items excluded from Article A-II(a), such as items to be contributed solely by the Contractor or property to be furnished by the Government. Charges to the AEC will be reported after the conclusion of each contract period set forth in Appendix A (generally an annual period); in addition to the limitations on charges to the AEC provided for by this Article III, charges to the AEC for a specified contract period may not exceed 110 percent of the estimated Support Cost for that contract period except as approved by the AEC (see Article B-XXVIII). The estimated Support Cost for each pertinent period of contract performance will be set forth in Article A-III. If Article A-III of Appendix A provides that the cost of the items listed under Article A-II(a) is to be proportionately shared by the parties, the charges to the AEC shall be determined by applying the AEC's sharing percentage set forth in Article A-III to the cost for items under Article A-II(a) incurred during the specified contract period; such charges to the AEC shall also be subject to the 110 percent limitation mentioned above as well as to the provisions of this Article III.

"\*For the purpose of determining Cumulative Support Cost of performance of this contract, the period covered by this modification shall be construed to be the initial contract period."

3. Appendix A is deleted and the attached Appendix A is substituted therefor and made a part hereof.

4. Article B-XI of Appendix B is deleted and the following substituted therefor:

"ARTICLE B-XI - PAYMENTS

"a. The Commission shall make payments to the Contractor with respect to the amount of consideration prescribed in Article III of this contract as follows:

"(1) A maximum of forty-five percent of the estimated AEC Support Cost as set forth in Article A-III of this contract following execution of this contract (and following the effectuation of each extended period).

"(2) A maximum of an additional forty-five percent of the estimated AEC Support Cost as set forth in Article A-III of this contract upon receipt of a request or requests from the Contractor evidencing that the amount requested is then required in connection with the work under the contract.

"(3) If, following submission of an annual progress report, the contract is to be extended for an additional period of performance, an additional payment may be made at the time of execution of the extension which, when added to the payments already made under (1) and (2) above for the expiring period, will not exceed the currently estimated AEC Support Cost for the expiring period; a concluding payment for the pertinent period, if appropriate, may be made following submission of a certified statement showing the AEC Support Cost and evidencing the Contractor's performance under the contract.

"(4) If the contract is not to be extended, the final payment of the consideration provided for in Article III of this contract shall be made following submission by the Contractor of a final report required by Article B-XXI, in form and content satisfactory to the Commission, and submission of a certified statement showing the AEC Support Cost and evidencing the Contractor's performance under the contract.

"b. The payments made pursuant to Paragraph a. above shall not prejudice or otherwise affect adversely any of the Government's rights under the contract. For purposes of settlement in the event of termination pursuant to Article B-X hereof, these payments shall not be construed as evidentiary, and any excess payment in the light of Article B-X shall be promptly returned to the Commission.

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"c. The Commission, at its option, may invoke the following with respect to any amount of the contract consideration remaining to be paid at any given time:

"(1) The Commission shall issue a letter of credit as provided for by Treasury Department Circular No. 1075, Revised, of February 13, 1967, under which payments to the Contractor with respect to the amount of consideration provided for in Article III of this contract will be made. The Contractor agrees that the first ninety (90) percent of the estimated AEC Support Cost as set forth in Article A-III of the contract will be under the letter of credit and will be subject to the submission by the Contractor of a Payment Voucher on Letter of Credit (TUS 5401), in accordance with procedures based upon Treasury Department Circular No. 1075, Revised, of February 13, 1967, which are agreed to by the parties. Following submission by the Contractor of a final report provided for in Article B-XXI, in form and content satisfactory to the Commission, and submission of a certified statement showing the total expenditures and evidencing the Contractor's performance under the contract, and upon submission by the Contractor to the Commission of such invoices or vouchers as are satisfactory to the Commission, the Commission shall pay the Contractor the concluding payment of the consideration provided for in Article III of this contract, or said concluding payment will be included under the letter of credit and will be subject to submission by the Contractor of a Payment Voucher on Letter of Credit, in accordance with the procedure described above. If, following submission of an annual report, the contract is extended for an additional period of performance, an additional payment may similarly be made at the time of execution of the extension which, when added to the payments already made for the expiring period, will not exceed the currently estimated AEC Support Cost for the expiring period; a concluding payment for the pertinent period, if appropriate, may be made following submission of a certified statement showing the AEC Support Cost for the pertinent period and evidencing the Contractor's performance under the contract.

"(2) The Commission reserves the right to increase, decrease, or cancel the amount covered by the letter of credit, provided that such action is required because of a change in the amount of consideration provided for in Article III or is taken pursuant to subparagraph c. (1) of this article. The issuance and use of a letter of credit and receipt of funds pursuant thereto shall not prejudice or otherwise adversely affect any of the Government's rights under the contract."

5. Article B-XXVII of Appendix B is deleted and the following is substituted therefor:

"ARTICLE B-XXVII - DETERMINATION OF SUPPORT COSTS

"a. The term 'Support Cost' as used in this contract means the Commission's share  $\frac{1}{1}$  of the sum of costs incurred by the Contractor for items included under Article A-II(a) of Appendix A which are in furtherance of the work hereunder, which are incurred in accordance with the provisions of this contract, and which are reported to the AEC in accordance with b. below. The term 'Cumulative Support Cost' as used in this contract means the total of the Support Cost incurred during the initial contract period plus any extension periods of the contract.

"b. Within three months after the end of each contract period set forth in Appendix A, and within three months after the termination or expiration of the total period of performance, the Contractor shall furnish a certified statement, executed by an official of the Contractor and also signed by the principal investigator, showing the Contractor's cost, and evidencing its performance under the contract, during the contract term just completed. The statement shall show all costs incurred during the pertinent contract term set forth in Appendix A for items under Article A-II(a) of Appendix A, including the Contractor's share, if any, of such costs, and show the extent of the Contractor's contribution of items listed under Article A-II(b)(1) of Appendix A. Costs included in the certified statement may include the following: Expenditures of cash; the cost of material and supplies transferred from stores inventory; and the amount due the Contractor for indirect costs in accordance with the rate and factor or factors shown in Appendix A of the contract for the pertinent contract period. The costs for the pertinent contract period shall be consistent with the principles of the Bureau of the Budget Circular A-21, as constituted on the effective commencement date of said period. The certified statement shall be in the form set forth in Appendix C.

"c. The Contractor understands that the Commission expects to rely on this certified statement for determining the Support Cost for the pertinent contract period. With respect to any period in which proportionate cost-sharing is applicable, the Support Cost for pertinent period will be determined by applying the percentage figure included in

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"1/ In those cases in which there is no proportionate sharing of costs, the Commission's 'share' will be 100 percent. With respect to any period in which proportionate cost-sharing is applicable pursuant to Article A-III, it is understood that the Support Cost for that specified period will equal the stipulated percent of the sum of costs incurred by the Contractor during the stated period for items under A-II(a) of Appendix A, not to exceed 110 percent of the estimated Support Cost set forth in Article A-III for that contract period except as otherwise approved by the AEC.

Article A-III for the pertinent period, to the certified cost of items included under Article A-II(a) incurred during the pertinent contract period. All charges to the AEC shall be subject to the approval requirements of this contract. The Contractor is expected to maintain auditable records as contemplated by Article B-II(c) to substantiate the costs incurred for items under Article A-II(a) and to show the extent of the Contractor's contribution of items listed under Article A-II(b)(1)."

6. Article B-XXVIII of Appendix B is deleted and the following is substituted therefor:

"ARTICLE B-XXVIII - ADDITIONAL APPROVALS

"a. In addition to such approvals as are specifically required by other provisions of this contract, the Contractor shall obtain the Commission's approval for:

"(1) Acquisition of:

"(i) An item of equipment, not itemized in Appendix A, involving an acquisition cost in excess of \$1,000 or two percent of the total estimated cost specified in A-III of Appendix A, whichever is greater, unless such equipment is merely a different model of an item listed in Appendix A.

"(ii) Any equipment not itemized in Appendix A, the acquisition cost of which will cause the equipment dollar level shown in Article A-II(a) of Appendix A to be increased by \$500 or more.

"(2) Purchase of any general-purpose equipment, such as office furniture or air conditioning, not specifically provided for in Appendix A, except that purchased without cost to the Commission.

"(3) Incurring costs during the pertinent contract period set forth in Appendix A, for items set forth in Article A-II(a), in excess of 110 percent of the estimated cost specified in Article A-III for the pertinent contract period; charges to the Commission for any such costs incurred with the approval of the Commission shall also be subject to the limitations of Article III.

"(4) A change of the principal investigator, or continuation of the research work without direction by an approved principal investigator. The principal investigator may increase or decrease the amount of effort which he devotes to the project without obtaining Commission approval; however, the principal investigator shall consult with the appropriate AEC Headquarters program representative if he plans to, or becomes aware that he will, devote substantially less effort to the work than anticipated in Article A-I. The purpose of such consultation will be to determine what effect, if any, the anticipated change will have on the research work.

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"b. No change in the phenomenon or phenomena under study, i.e., broad category of the research under this contract, shall be made without the specific written approval of the Commission; ordinarily, such changes, if approved by the Commission, will be accomplished through a new contract or a mutually agreed-to modification. The Contractor may change the specific objectives in the research work described in this contract, provided it gives the Commission prompt notification of such changes; and the Contractor may continue to follow the new objectives while the Commission determines whether it wishes to continue the program under the changed approach."

7. All other terms and conditions of said contract remain the same.

IN WITNESS WHEREOF, the parties have executed this contract.

UNITED STATES OF AMERICA  
UNITED STATES ATOMIC ENERGY COMMISSION

By: /s/ S. H. Tumlinson  
Director  
Title: Contracts and Supply Division

THE BOARD OF REGENTS OF  
THE UNIVERSITY OF WASHINGTON

By: /s/ William C. Erskine  
Title: Comptroller

APPENDIX A

For the contract period August 1, 1969 through October 31, 1969.

A-I. RESEARCH TO BE PERFORMED BY CONTRACTOR

Determination of irradiation effects on the function of the human testes, Principal Investigator, Dr. C. A. Paulsen, will devote 25% time for three months.

A-II. WAYS AND MEANS OF PERFORMANCE

(a) Items for which support will be provided, as indicated in A-III below:

	<u>Amount</u>
(1) Salaries and Wages	\$11,339
Biostatistician	
4 Research Technologists	
Laboratory Technician	
Laboratory Helper	
Secretary	
Statistical Assistant	
(2) Supplies, Materials and Services	2,063
(3) Equipment to be purchased or fabricated by the Contractor	0
(4) Travel	1,300
(5) Other - volunteer stipend	2,880
(6) Indirect costs based upon predetermined rate of 27% of direct salaries and wages	2,738

(b) Items, if any, significant to the performance of this contract, but excluded from computation of Support Cost and from consideration in proportioning cost:

(1) Items to be contributed by the Contractor. In accordance with Article B-II(c), if a proposed Contractor contribution is included in this paragraph (b)(1), the Contractor shall maintain records adequate to permit the Commission to determine the extent of the contribution.

None under this paragraph.

(2) Items to be contributed by the Government.

None

(c) Time or effort of Principal Investigator(s) contributed by Contractor but excluded from computation of Support Cost and from consideration in proportioning costs:

25% time for three months

A-III. The total estimated cost of items under A-II(a) above for the contract period stated in this Appendix A is \$20,320; the Commission will pay 100% of the actual costs of these items incurred during the contract period stated in this Appendix A, subject to the provisions of Article III and Article B-XXVII. The estimated AEC Support Cost for the contract period stated in this Appendix A is \$20,320.

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