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United States
ATOMIC ENERGY COMMISSION
Washington

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MEMORANDUM TO: THOSE LISTED BELOW

FROM : T. H. JOHNSON, DIRECTOR, DIVISION OF RESEARCH T H Johnson

SUBJECT : DRAFT STAFF PAPER ON "CONTRACT POLICY FOR OFFSITE RESEARCH"

The attached draft of a staff paper is forwarded to you for comments. It is preliminary and represents my personal conclusions arrived at after two or three months of study and nine months of experience in the Division of Research. My studies have included talks with Dean C. Pegram of Columbia University, Provost J. Stratton of the Massachusetts Institute of Technology, President F. Hovde of Purdue University, Dean K. S. Pitzer of the University of California, Dr. P. E. Klopsteg of the National Science Foundation, experienced members of the Chicago Operations Office, and various members of the Washington staff.

It is my hope that this draft can form the basis of a quite thorough discussion of the issues involved so that after a few weeks we will be in a position to formulate a mutually acceptable policy. It will be noted that the present draft has been devoted exclusively to the program of the Division of Research. It is highly desirable from the point of view of administration in the Field Offices that the policy paper be broadened to include the offsite research program of the Divisions of Biology and Medicine and of Reactor Development.

SUMMARY SEP 19 1952

Addressees:

Commissioners
Division of Research Staff
Division of Reactor Development Staff
John Wilson, Office of General Counsel
Morris Salisbury, Information
... Tamaro, OCC
W. E. Kelley, NIDO
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H. W. Boyer, General Manager
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ORGANIZATION & MANAGEMENT

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ATOMIC ENERGY COMMISSION

CONTRACT POLICY FOR OFFSITE RESEARCH

Report by the Director of Research

THE PROBLEM

1. To re-examine and restate the policy followed by the Commission in contracting for basic research in universities and non-profit research institutions.

BACKGROUND

2. Administrative policy used in contracting for basic physical research in the universities was excellently treated in staff paper AEC 102/3, dated March 1949; most of the background and much of the discussion in that paper is as pertinent now as it was then. It presented the legal basis for the Commission's offsite research program; it considered reports of the General Advisory Committee which emphasized the country's need for a vigorous effort in basic science to bolster its immediate and future ability to lead in the field of atomic energy, and it pointed out that there are large unclassified fields for contributory investigations which can be appropriately delegated to the university laboratories.

3. At the time AEC 102/3 was written the Division had 27 contracts in force in 17 university laboratories and two industrial laboratories at a total annual rate of $1,187,900. In addition the Commission was contributing about $4,000,000 per annum to the Joint ONR-AEC Program in nuclear physics while the Navy was contributing $2,600,000. The fiscal history of the offsite program given in Table I, indicates a considerable growth since 1949 and suggests that policies promulgated then may need revision to better adapt them to present conditions.

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TABLE I

	1948	1949	1950	1951	1952(est)	1953(est)
OFFSITE PHYSICAL RESEARCH						
Number of contracts	15	56	130	223	268	240
Annual costs	$ 815,870	$ 1,540,502	$ 2,099,173	$ 4,755,784	$ 8,612,150	$ 9,100,000
JOINT ONR-AEC NUCLEAR PHYSICS PROGRAM						
Number of contracts	38	55	53	57	40	40
Contributed by AEC obligation	3,932,000	5,120,500	1,655,000	2,552,000	2,653,000	2,600,000
Contributed by ONR obligation	2,995,035	2,414,117	3,475,966	6,440,345	2,688,900	2,600,000
ONSITE PHYSICAL RESEARCH						
Total Costs	$18,273,431	$20,592,037	$21,832,498	$21,619,948	$23,694,058	$24,655,000
Physics	12,325,394	10,988,273	11,492,179	11,243,117	11,473,102	11,150,000
Chemistry	5,373,143	8,191,707	8,221,807	8,798,083	10,013,649	11,115,000
Metallurgy	471,805	1,232,898	2,118,512	1,578,748	2,207,307	2,390,000
Mathematics	103,089	259,159	-	-	-	-
FELLOWSHIPS	51,000	470,289	619,039	562,341	751,045	795,000

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4. The program of the Division of Research comprises (a) basic research in physics, chemistry, and metallurgy divided between the National Laboratories and the independent laboratories and (b) applied research carried on largely in the National Laboratories but to some extent in independent laboratories. The distribution for the current years between dollars spent or budgeted for basic research at the various National Laboratories and offsite is shown in Table II, which also contains the amounts for applied research without designating where it is done. Although the offsite expenditures are only 38% of the total for basic research one can easily become convinced that this part of the program is the more productive with regard to both the findings of basic research and the new scientist who becomes trained in the program. The distinction between applied and basic research is somewhat arbitrary, and is interpreted differently in different laboratories, but in general research has been called "basic" if it is carried on to gain a better understanding of the physical world or to increase our store of essential knowledge. It is called "applied" if it is undertaken to advance some specific development. Basic research is a continuing program occupying our best scientists at a stable but slowly rising level of employment, whereas the level of applied research rises and falls with the demands of the program.

TABLE II

The Distribution of Basic Research Costs and Budget Estimates Between Offsite and Onsite Laboratories for the Current Years in Thousands of Dollars:

	1952	1953	1954
Offsite basic	38,185	39,349	$10,760
Onsite basic	14,650	15,343	18,708
Total applied	11,081	13,551	18,146
TOTAL	$34,116	$36,243	$47,614

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5. The Offsite research program is carried on under various contract arrangements, depending upon the character of the work, the Commission's interest in it, and the ability or interest of the offsite institution to contribute to the costs. Under the principle that the institution should participate in the cost of research in which it has a major interest many of these contracts involve only a partial payment of costs, including not more than 8% of the total cost attributable to overhead. No figures have been compiled on the amount of demonstrated cost participation by the institutions but the distribution of numbers of contracts and contract obligations according to the basis for overhead payments is shown in Table III, which includes all the offsite projects for both basic and applied research in F. Y. 1952. It is evident from the table that departures from the 8% overhead rule have been numerous.

TABLE III

	NUMBER			
	actual	percent of total	actual	percent of total
No overhead allowance	36	14.6	1,116,607	7.6
Overhead at 8% of the AEC Contribution	148	60.2	2,798,374	19.4
Overhead based on salaries (See Table III-A)	43	17.4	8,106,557	54
Overhead based on gross contract amount (See Table III-B)	19	7.7	2,794,181	18.6

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TABLE III-A

Distribution by number and dollar value of 1952 contracts with Overhead Based on a Percentage of Salaries:

No. of Contracts	Overhead Rate	Contract $ Value
1	5	$ 3,500
1	20	15,865
4	25	157,752
1	32.5	1,417,765
6	35	1,951,087
1	36	182,610
2	40	47,700
10	42	442,490
1	46	60,000
1	47	10,546
3	50	272,290
1	53	540,000
1	65	6,000
1	74	24,000
1	90	50,000
1	100	30,000
1	123	22,500
1	135	52,267
1	140	44,680
1	150	15,485
2	191	150,000
1	OTR-ARC No. Prop. Mills Formula	2,600,000
43		$8,106,557

TABLE III-B

Distribution by Number and Dollar Value of contracts with Overhead based on percentage of gross value:

No of contracts	Overhead Rate	Total Dollar Value
1	15	$ 431,000
1	21	45,000
1	27.10	90,000
1	30.7	266,300
1	37	17,714
7	40	1,738,130
1	42	31,600
1	44	52,506
1	46	34,000
1	48.5	15,571
3	50	62,360
19		$3,794,181

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All of the offsite contracts [illegible] classified and published by the Office of Naval Research under the title "The Year, and listed by field, institution, and senior investigator in the Twelfth Semi-Annual Report to Congress.

6. As the Commission's program of Physical Research in the universities and other offsite laboratories is presently constituted one may with some arbitrariness distinguish four classes of projects, each involving a different combination of considerations affecting the type of contract, the level of funding, and the delegation of management responsibility:

I. Small basic research contracts. These are usually suggested by the university staff, and are accepted for contract if they give promise of making contributions to essential knowledge in a field of interest to the Commission and of training essential manpower. These projects are usually carried out as a counterpart of the university's primary teaching and research function, but at a higher level of activity than could have been supported by the university from its own funds. Because of common interests and a joint participation in costs, the management of these contracts is delegated to the university administration and to the senior investigator. The Government's contribution is made through a Cost Sum Fixed Fee Contract providing for part of the costs including 6% of its share attributable to overhead. The Government's share in these contracts usually does not exceed 75,000.

II. Larger basic research projects, to develop essential knowledge in a field relevant to the Commission's interests, and like Class I, of the type which the university staff would wish to undertake if it had the money but requiring the operation of a large facility at a cost in excess of the university's financial capability. In the Commission did

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not pay a large share of the costs of this work it could not be done at all. It is advantageous to have this type of work done in a university laboratory since usually the university already has the facility and the cost of doing the work in the university is substantially lower than in a National Laboratory (because of lower overhead, lower salaries, and student assistance). The Commission's staff assumes responsibility for defining the scope and for managing these contracts, except where specific responsibilities are delegated to the university administration. The Commission pays an agreed share (usually large) of the cost-within-a-fixed-ceiling including a large share of the actual overhead, but there is often substantial participation in the costs by the university.

III. Large projects for research needed by the Commission to acquire knowledge in an essential but neglected field. For one reason or another it is more effective to establish a large project in one laboratory than to engage several universities, each on a small scale. The level of operation therefore exceeds the capability of the university to participate on equal terms and it is necessary for the Commission to pay a large fraction of the cost. Again it is advantageous to contract with a university because the cost is considerably below that of doing equivalent work in a National Laboratory and, as a result of the project, the university makes an important contribution to the supply of trained manpower. Projects in this category are initiated at the request of the Commission to fill a basic need. Projects in this class are performed under a cost-within-a-fixed-ceiling contract under which the Commission pays most of the costs including a large share of the actual overhead. However, the university may also participate in the costs to the extent of its ability.

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IV. Projects to supply a specific service or for applied research to acquire specific data, or to develop a needed process or device. The contractor is presumed to have little or no self-interest in the work and he is unwilling to pay part of the costs. The scope and objectives are dictated by the Commission which exercises full management responsibility except as it is specifically delegated to the contractor. The contractor is reimbursed by the Government for full costs-with-a-fixed-ceiling including actual overhead, and, in principle, contracts of this type might involve a fee.

The distribution of the university contracts between these four categories is shown in Table IV.

TABLE IV

DISTRIBUTION OF CONTRACTS BETWEEN VARIOUS TYPES OF PROJECT
(Joint ONR-AEC Program not included)

PROJECT TYPE	I	II	III	IV
Number of Projects	165	12	12	39
Dollar Value (per annum (1952))	$2,481	$2,237	$1,313	$1,715

7. The program discussed in AEC 102/6 comprises the small basic research projects of Class I. These projects, usually proposed by the scientists themselves, are submitted through the university administration with a request for funds to the Division of Research.

8. The points for consideration, outlined in AEC 102/6 as a basis for approval or rejection of a Class I proposal, are essentially those now used in the administration of the current program. With the minor modifications which have evolved in the interim, they are the following:

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a). The scope and probable contribution of the proposed work to essential knowledge in a field of interest to the Commission.

b). Facilities on hand and applicable.

c). Additional facility requirements

d). Quality and number of scientific and student staff available.

e). Additional personnel requirements.

f). Proposed present and future budgets.

g). University's contributions in facilities, management, staff, and services.

h). Other financial resources available to the university and to the department concerned for work of this character.

9. From consideration of the above points, the Division of Research, with advice from scientific consultants, (usually three or more experts in the field, selected ad hoc) now, as then, seeks to satisfy itself on the following questions.

a). Does the work fall within the scope of the Commission's directive (Section 3(a) of the Act)? This directive is very broad and the Division of Research has tended under pressure of program growth and restricting levels of appropriations to limit the program to projects with the most clearly foreseeable bearing on the immediate and long range objectives of the Commission.

b). Is the project well-considered? Has sound scientific judgment been exercised in the selection of the problem for investigation and has proper consideration been given to:

1). The relations of the project to the present state of knowledge,

2). the technical feasibility of its solution by the method proposed, and

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b. the expected contributions to knowledge relevant to Commission's interests and responsibilities.

c). Is the project be carried through on an unclassified basis or under the security arrangements proposed to be established?

d). Is the available scientific staff competent to carry out the project?

e). What contribution to the supply of scientific manpower will result from the contract?

f). Are substantial items of new capital equipment needed for the success of the project, and would the cost of that equipment be justified by its intended use?

g). Is the university sufficiently interested and able to bear a reasonable share of the expenses?

h). Is the proposed budget reasonable?

i). Is the project likely to be continuing and will its initiation commit the Commission to continuing expenditures?

j). Are funds available?

10. Since the expert consultants referred to in the preceding paragraph have considerable influence, although no authority, on the selection of proposals it is appropriate to include here a brief statement on the method by which these consultants are chosen and the terms of reference underlying their function.

11. The proposal is given a preliminary review by the Branch and determination is made of general appropriateness for support.

From one to three consultant reviewers are selected on the basis of our opinion of their capabilities in the general field of research involved in the proposal. Our selection is usually made

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from amongst the following groups of people:

a). Senior Investigators of other existing contracts who have demonstrated a high degree of competence in the field.

b). Individuals who have consulting contracts with this or other Divisions of the Commission.

c). Occasional individuals with no specific Commission connection but who have given written or oral indication that they would be willing to help us in a review capacity.

d). Members of the staff of the national laboratories or major contractors who have established wide reputations in the field involved.

The number of reviews chosen varies, depending on the feeling of the Branch towards a given proposal. If we are completely convinced of the soundness of the proposal and the qualifications of the Senior Investigator, we may only use one reviewer as a check on our own opinion. If we are in doubt concerning the merits of the proposal, a larger number of reviewers is generally chosen. In a very few cases where a proposal is obviously not pertinent to our concerns or is evidently too naive for consideration, rejection is made without review. Also, on rare occasions, where the work is of obvious outstanding significance or is undertaken through specific request, no additional review beyond the Washington staff is made.

12. After a proposal is accepted for contract by the Division of Research the Director issues a Procurement Directive to the appropriate Operations Office and it negotiates, executes and administers the contract. These contracts usually take the form of Lump-sum Participation contracts and they provide for payment by the Atomic Energy Commission of a fixed amount for the conduct of research for a stated period of time, usually one year. The agreement usually refers to the contractor's proposal which lists specific items such as salaries, equipment, supplies, et

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cetera, to be covered by the contract, and it may also list an amount, customarily not exceeding 8% of the total, attributable to indirect costs or overhead. The proposed budget also lists contributions to the project with their dollar value to be made by the institution.

13. Originally most universities considered it appropriate to include the salary of the Senior Investigator as part of their contribution, especially if he had university tenure, but recently there has been a tendency to include in the AEC's part of the budget half of the portion of his salary attributed to work on the project. It has always been customary to charge the AEC with the summer salary of the senior investigator. Stipends paid to graduate students employed on the contract have been kept in line with university policy and are usually less than those accruing from competitive fellowships if similar freedoms are granted. Student employees are usually able to use work done under the contract as a basis for their doctoral dissertation and they are able to complete the requirements for their degrees in the same time that they would have needed on a fellowship. Preference has been expressed by some investigators for the assignment of contract employees to their projects rather than of holders of fellowships, since the latter are inclined to an independent attitude and are less easily integrated into the coordinated research program.

14. Unclassified results accomplished under the contract are reported through the open literature and through oral presentation at scientific meetings. There are also frequent topical conferences, not restricted to contractors, on subjects of special interest where experts in the field compare their latest findings. Monthly progress reports are sent to the Commission from projects of type II and type IV, and all

projects report to the Commission annually when terminating or renewing the Contract. The annual reports include a brief summary of the results achieved, a bibliography of publications, and, in the case of renewals, a statement of plans for the renewal period, and an estimate of the costs to be covered by the contract. Under the latest Appropriation Bill their accounts are subject to government audit and it seems reasonable to ask that the annual report also include a financial statement of estimated costs incurred during the current contract period.

15. In principle contract renewals are executed exactly like contract initiations. However, the value and quality of the proposed work can be more objectively appraised on the basis of results already accomplished. It is therefore considered unnecessary, in considering most renewals, to refer the proposal to consultants, although this is frequently done where the value of the work is in question.

16. AEC 102/6 contains no discussion of the level of payment of indirect costs nor of such other terms of the contract as those bearing on joint participation or the disposition of government property acquired under the contract.

17. The philosophy underlying the presently established practice of Joint Participation was stated in the General Manager's memorandum of December 6, 1949, attached as Appendix "A," wherein is written:

> "The AEC is now supporting and will continue to support a large number of fundamental research projects which are of interest to the research institute as well as to the AEC, and which are a normal part of the institution's own research program. It appears appropriate in the case of such projects that the research institution make a contribution to the cost of the project which is commensurate with its interest in the work and with the institution's resources normally applied to such research activities. It is equally appropriate for the AEC to supplement the institution's funds in order to expand or accelerate research projects of interest to the AEC. Accordingly it

is the policy of the AEC to enter into contracts with the institutions for fundamental research projects on the basis of joint financial participation. The policy of joint participation would not normally be applicable in the case of applied or programmatic research, where the AEC's interest clearly outweighs the interest of the research institution, and accordingly the AEC would normally bear the full cost of contracts for programmatic research projects."

18. The present practice on overhead allowances also stems from the same memorandum of the General Manager which stipulates that not more than 8% of the AEC's contribution on lumpsum contracts should be identified with overhead. This percentage was being paid by the Public Health Service on research contracts at that time.

19. Following the issuance of the General Manager's memorandum of December 6, 1949, the New York Operations Office issued a statement of ground rules, attached as Appendix "B," for the negotiation of basic research contracts based upon recommendations of a conference attended by representatives of the Divisions of Biology and Medicine, Research, the General Counsel, the New York Operations Office, and the Chicago Operations Office.

20. Since equipment purchased under a contract may be of continuing value to the institution these items have been preferentially identified with the institution's contribution, while salaries (except that of the senior investigator for the academic year) and other costs have been identified with the AEC's contribution. In cases where government funds have been used to purchase capital items the title to such property has often been transferred to the institution upon termination of the contract if its participation in cost payments has been commensurate with the depreciated value of the equipment and if for other reasons it is impracticable for the AEC to take custody of the equipment. Transfer to the institution of title to property purchased

under the contract was recommended by C. F. Trowbridge in a memorandum to the files dated February 16, 1950 and in a draft memorandum to the Managers of Operations, dated April 17, 1950. This draft was objected to by the Chicago Operations Office on the grounds that the disposition of equipment is a subject for negotiation between the Office of Operations and the contractor, and the determination of the terms should fall within the responsibilities of the Manager of Operations. The Chicago Office recommended that the "policy of requiring the contractor to make a contribution sufficient to cover overhead (less 8%) and capital equipment be emphasized more strongly." (TWX May 23, 1950). The policy was finally formalized in a memorandum, Appendix "C," from the General Manager to the Managers of Operations which made the Manager of Operations responsible for determining whether it is in the best interests of the Government to allow the contractor to take title to the equipment. This memorandum emphasizes the importance of the residual value of the equipment as a factor to be considered in the determination of the level of the AEC's contribution to the project. There is, however, a widespread feeling within the Commission that the best interests of the Government and of the university will be served when the equipment is left with the university to foster its future independent research efforts in fields related to atomic energy.

21. In the report of its fourth meeting (June 1, 1947) the General Advisory Committee recommended that "Projects should be given especially favorable consideration in which there is some local or non-governmental support, in which there is a past record of achievement, and in which the Commission is not asked to initiate wholly new enterprises." Four years later in the report of its twenty-sixth meeting (May 11, 1951) the General Advisory Committee added the following suggestion: "In the field of basic research the Committee noted that relations with

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universities on fundamental research contracts have had an element of discontent in striking contrast to the prevailing relations with the Office of Naval Research. The Committee suggests that more generous contracts including full reimbursement of costs, be established as norms."

22. In a memorandum to the General Manager, dated June 18, 1951, which is reproduced as Appendix "D," Dr. K. S. Pitzer strongly protested the recommendation of the General Advisory Committee and called attention to the responsibilities of management that would fall upon the staff of the Commission if it were to bear the full costs of university research. He also deplored the effect that a policy of full reimbursement of costs would have on other sources of university support and he recommended adherence to the principle of joint participation.

23. Many other government agencies have legislative authority to support basic research in universities and other institutions under various kinds of agreements. These were summarized as of December, 1950 in a report to the President by the Interdepartmental Committee on Scientific Research and Development. To the extent allowed under the language of its appropriations bills, the Commission's practices are not at variance with the very general recommendations of this report. In view of pressures from the universities the Interdepartmental Committee is now organizing a subcommittee to consider the proper level for payment of overhead on contracts for basic research.

24. A Committee of the American Society of Engineering Education has been considering government-sponsored research from the point of view of university management. Their report, Appendix "E," advocates recognition of full costs including overhead for both basic and programmatic research, but allows that optional joint participation may be

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mutually desirable to both the institution and the Commission.

25. On May 20, 1952, T. W. Lillie represented the Division of Research at an informal meeting at the Office of Ordnance Research, attended by A. Guy, Office of Ordnance Research; C. T. Marake and Julius Harwood, Office of Naval Research; and J. B. Johnson, Office of Air Research. In comparing the practices of the various agencies concerning such questions as the basis for payment of overhead, payment of senior investigators' salaries, and joint participation in costs, it was apparent that the AEC was the only one of the agencies represented which did not pay full overhead on all contracts. On the other hand, AEC was the only agency which customarily grants the universities title to equipment.* In regard to payment of senior investigators' salaries, the other agencies had established no firm policy, although it appeared that ONR usually paid academic year salaries to senior investigators on only applied projects, whereas OOR and OAR paid senior investigator salaries as requested by the universities.

26. At a conference at the National Science Foundation on August 6, 1952, E. M. Allen of the National Institute of Health (Chief of the Division of Research Grants) reported that NIH is raising the allowance on its contracts to 15% as a result of a study including examination of accounts of about forty of its contractors. The NIH has 1900 contracts which will be affected by this change in policy.

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*The Military Departments are specifically authorized under H.R. 1180 of the 82nd Congress to make research contracts for research and development which provide for "the acquisition or construction by, or furnishing to, the contractor of such research, developmental, or test facilities and equipment as may be determined by the Secretary concerned to be necessary for the performance thereof. Such research, developmental, or test facilities and equipment, including specialized housing therefor, may be acquired or constructed at Government expense, and may be furnished to the contractor by lease, loan, or sale at fair value, and with or without reimbursement to the Government for the use thereof."

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27. The situation in Great Britain with respect to Government assistance to universities for research and educational activities has been described by H. W. Dodds, L. M. Hacker and Lindsay Rogers in a recent book published by the Columbia University Press. Although the situation in England is unique many of the problems are common with those faced in the United States.

DISCUSSION

28. General Objectives. The policy underlying the definition of scope of the offsite basic research program and the terms of the contracts with universities and research institutions engaging in that type of research should be based upon recognition of the Commission's need for the findings of basic research and for trained scientific manpower, both of which are products of the university scientist working in his own laboratory. The purposes of the policy should be to encourage interest on the part of the university's staff and students in fields of science relevant to the Commission's objectives, and to expand the present level of, and the future capabilities for, research in the universities in these fields. To these ends the policy should recommend contract terms and levels of payment which will promote the continued willingness of the university to accept AEC contracts and at the same time will encourage the university to continue its own program of independently motivated research under hopefully increasing levels of private support. Ideally the policy should be simple in statement and amenable to uniform interpretation in the field offices. It should seek to avoid concepts which are indefinite, unrealistic, and subject to widely different interpretations. Among the indefinable concepts which have introduced confusion into the present practice are: 1) the relative interest of the Commission and the institution in the work (whether it

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is programmatic or non-programmatic), the dollar value of the various ways in which the institution contributes to the project under the principle of joint participation, and the residual value of specialized research equipment used on the project at the time of termination. The policy should not involve the use of any of these concepts.

29. The policy should also seek, as far as possible, to avoid controls of the academic policies of the university and it should not lead to infringements upon the universities' traditions of self-determination and academic freedom. Thus, the policy should not concern itself with objectives, however desirable, such as that of forcing the university to reorganize its program to include more research or that of inducing it to press harder to find private sources of support. It is too much to expect that there will be no impact on the balance of activities in the university as a result of the Commission's contracts, but most of the internal problems associated therewith can be better dealt with by the university administration than by the Government contract negotiator. However, in ignoring the university's internal problems the Commission must also resolve not to be concerned if, under the terms of its contracts, an unscrupulous university succeeds in adopting practices which, though legal in the business world, are regarded as disreputable in academic circles. It seems inappropriate for the Commission to attempt to regulate such behavior, but if it wished to do so, it would be better to act through failing to renew the contract rather than to seek to establish policies designed to prevent disreputable academic practices through conditions imposed in its contracts.

THE ROLE OF BASIC RESEARCH IN THE ATOMIC ENERGY PROGRAM

30. The authority of the Commission to pay for basic research through contracts with offsite non-profit institutions derives from either of two provisions of the Atomic Energy Act. The provision for

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"a program (related to atomic energy) of assisting and fostering private research and development to encourage maximum scientific progress" authorizes the Commission to assist an institution in conducting a project of interest to itself; while the provision for "a program of federally-conducted research and development to assure the Government of adequate scientific and technical accomplishment" allows the Commission to arrange for the conduct of research which it feels is needed in the accomplishment of its mission. In actuality most of the basic research that is now contracted to the universities or that is likely to be undertaken by them under the program can be justified with nearly equal validity under either provision. These contracts provide broader opportunities for the kind of research the universities like to have in their program and at the same time they bring needed knowledge and fresh manpower into the atomic energy program. Under either provision of the Act the off-site program would be the same but the language used to justify it would be slightly different, and its essentiality might be differently appraised in the various echelons of management and finance in the Government. Moreover, it is necessary to consider what deep-rooted effect the statement of purpose might have on the future character of the program and the policies and practices used in its administration.

31. If on the one hand the Commission were to emphasize "assistance to independent research" it would assure itself of a broadly conceived program, but the program might be criticized by management and by Congress, and reduced to crippling levels of support, on the grounds that it may be unessential, or that it lacks purpose and planning. On the other hand it should evaluate the danger that a program described as "federally-conducted research" might be too narrowly conceived and reduced to specific projects too carefully planned and too closely

shaped to the Commission's immediate purposes.

32. In weighing the pros and cons of this fundamental issue the Atomic Energy Act and the structure of the Commission seem to provide adequate safeguards for a broadly conceived and forward-looking program under either interpretation of its authorization. One may indeed have confidence that the program directors will be selected because of their vision and ability to foresee possible future requirements beyond the immediately pressing needs. Therefore, there is little risk in establishing a policy underlying the offsite basic research program based upon the assertion that these contracts are for work needed by the Commission to attain the goals set forth by the basic legislation at a rate consistent with the level of current appropriations. Under a policy founded upon this statement of purpose the Commission will find advantages in being able to state that its funds are being used only for projects relevant to its mission and that the research it is conducting is essential to the accomplishment of its mission. Moreover, the scientists in the universities will feel more secure in the continuing support of their work if it is made clear that the Commission needs it. It also seems desirable to establish a pattern of thought in the Government that the Commission is not usurping or overlapping the authority of the National Science Foundation, or is in any sense fulfilling the important function of financing freely motivated research in the universities which the National Science Foundation was set up to perform.

33. Neither need the Commission change its method of initiating projects on the recommendation of the university scientists if this interpretation of purpose is followed. These scientists are often the foremost authorities in their fields so that it is

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appropriate that their recommendations should be sought. Furthermore, their proposals are always referred to other experts for evaluation of their relevance and merit before being accepted for contract, and after acceptance it can always be affirmed that the work will be done efficiently and on terms most favorable to the Government.

34. In taking the position that it contracts only for needed research the Commission should interpret its needs broadly and imaginatively; and reliance should be placed on the vision and insight of the working scientists in both the onsite and offsite laboratories. For example, work will be required to strengthen the foundations of nuclear science and technology, the store of basic information relevant to atomic energy will have to be increased, possible new approaches to the release or utilization of atomic energy must be investigated, materials of possible usefulness must be developed and their properties investigated. The Commission might even find that it needs to have certain scientists, or scientists with certain abilities or interests, thinking and experimenting freely in certain fields. In the field of high energy the requirements will be based on the realization that in every branch of science progress has depended on getting to the root of the matter. Just as progress in medicine was made through the study of bacteria and viruses, and in chemistry, through the detailed investigation of molecular structure and the properties of the electron, so in nuclear science we must expect to have to understand mesons and the forces which act between nuclear particles. In all things an understanding is required as a basis for developing the applications. Hence when we say we need basic research it is not a travesty on the meaning of words. Moreover, in defending the program it will not be difficult to show why each project is needed.

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THE ROLE OF THE AEC CONTRACT IN THE UNIVERSITY PROGRAM

35. A contract not only satisfies a need of the Commission but from the point of view of the university and the scientist it has several attractions. It gives the scientist an expanded opportunity for creative research to develop new knowledge and the means whereby to follow up ideas with experiments or calculations. It is the means for more abundantly satisfying his inward urge for intellectual growth and development. It also provides means for encouraging students to continue their education and to specialize in the field of the contract. First the student's interest is attracted by the existing activity within the project; his confidence in the future of that field is bolstered by the show of the Commission's interest; and finally the contract provides a stipend to cover his expenses. The enlarged graduate student enrollment resulting from such contracts appeals to the university as a greater opportunity to make scientific progress, to promote the intellectual life of the nation, and to satisfy the growing needs for trained manpower of our highly technical civilization. Students in larger numbers are desired by the scientist because they bring to his work a more lively spirit of progress which makes his situation more interesting.

36. Although we speak of research as one of the normal functions of a university, the regular sources of university income are usually inadequate to provide essential equipment and assistance. University research has, therefore, often been sustained under conditions of extreme frugality. In many situations research is regarded as a privilege, rather than a regular duty, and the university's contribution to the costs is limited to the spare time of the teacher and the use of laboratory space when it is not needed for classes. When a good research man is

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found in a situation of this kind a small addition of funds for equipment and assistance can make a vast difference in his productivity. This is the kind of a situation in which the university is undersupporting research, and a contract for partial reimbursement of expenses encourages local support from the administration and helps to give research a recognized place in the university program. However, money alone will not establish research on the campus. It must also have the support of the university administration in recognizing research as an important campus activity, in providing adequate time and favorable conditions for research, and in setting the standards of scholarship for the men it is willing to appoint to its faculty. The establishment of research is a long slow process, but once established, it has considerable vitality and impetus to expand. At the present time it is the large well-established university research centers which are most eager to extend their activities in research, and, of course, those are the places that can be of greatest service in the Commission's research program.

THE PRINCIPLE OF JOINT PARTICIPATION

37. If the Commission has a requirement for the work undertaken under a contract for basic research, does it follow that it should pay the full costs? Certainly it would be justified in doing so, but the fact that the university also has an interest in the project indicates that a joint participation in meeting the costs may also be reasonable. Many sound arguments* have been advanced in favor of the university's

* Some of these arguments are listed here as suggestions for whatever one may wish to make of them.

If the university has its own money in the project it will be conducted with due regard for economy.

Insistence on university participation will prevent the university from getting into something it doesn't want because it costs nothing.

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participation in the costs, and some times the same arguments have been misconstrued as supporting the vastly different proposition that the Government should force the university to make such contributions. Both in this country and in England, where university activity, including research, is also heavily supported by public funds, there has been concern on the part of both the government agencies and the universities for the adverse affects of government grants on the freedom and independence of the university program. If the government pays the bills, will it step in and run the program? In this country we are asking ourselves: will it help to preserve autonomy if the university is forced to pay a share of the costs according to the principle of joint participation? There is an underlying concern for the future of the universities in both countries that there will be an increasing awareness of the hand of government in their internal affairs. In England the gravest

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The university administration will hold the project to reasonable size if its own money is involved, or will terminate the project when it ceases to be promising.

Insistence on joint participation will hold the project to a size commensurate with the university's financial capability to continue if government funds are cut off.

Participation in the costs by the university will enable it to retain control.

The university should participate because it has a responsibility to conduct research.

The university has an interest in the project and would be conducting it on a smaller scale if government funds were not available. Therefore it should continue to put in its normal effort.

By paying some of the cost the university will be less liable to scrutiny and interference by the Government.

The university should participate in the operating costs in order to earn a right to the property after the project is terminated.

By insisting on as much participation as the university can give, the Commission will be getting the most for the government dollar.

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fears have been felt in regard to the influence of the funds earmarked for certain programs. This is government control through selective support. Of all of their methods of support these are most closely analogous to the AEC's support of offsite research. In both countries the feeling, as H. W. Dodds has expressed it with regard to England, "is one of mixed confidence and apprehension in proportions varying with the individual," but there is little evidence for direct Government intervention.

38. In the AEC contracts, however, there is one aspect of the insistence on joint-participation which, if it were effective, would give the government an undesirable and unnecessary control on the university program. When the Commission insists on joint participation and at the same time selects the projects for support it not only earmarks its own funds but it also seeks to put the same earmark on private funds of the university. This is government control of the program by coercion. In spite of this aspect of our joint participation contracts there have been almost no complaints. Either the university is eager to truly participate with its own funds to the extent of our insistence; or it can easily document the record to show satisfactory joint participation by extending the scope of the project to include something it is already doing or intends to do anyway; or the Commission backs down by not insisting on a showing of joint-participation. As a matter of honest fact the items which any university can list among its contributions to the costs of a program are legionary but it is often unrealistic and meaningless to assign a dollar value to them. If these contributions were not already recognized the university would not be considered as a contractor for research.

39. As the practice has developed joint participation is

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usually something for the record rather than a real condition of the contract and for those who have tried to take it seriously it is confusing and vague. It is doubtful if use of the concept has any real effect on the level of work done in the field of the contract, for, if the contract failed to mention joint participation, the scientists would still be pressing the university for more adequate support of their work. Even if a policy of no insistence on joint participation should result in withdrawal of university funds from the field of the contract this might have the desirable result of bringing the university program into a better balance between science and the humanities, or that of giving the university the unfettered opportunity to support with its own funds scientific work which it considers important. At least the university would have control of its own funds.

40. From the wording of the General Manager's memorandum of December 6, 1949 it is clear that joint participation was intended as a means of supporting research projects "which are of interest to the research institute as well as to the AEC and which are a normal part of the institution's own research program." It was conceived as a device to prevent undesirable distortion of the university research program through the placing of AEC contracts, and not as the means, which it is becoming, of coercing the universities to commit their own funds to projects of interest to the AEC. The fact that the requirement for joint-participation can be so easily side-stepped is no justification for its continuance, and, under the philosophy that the Commission is contracting only for the research which it needs, the use of the concept of joint participation is a positive danger to the independence of the universities. Because of this danger and because it is unrealistic to appraise the dollar value of the universities' contribution it is recommended that joint participation be discontinued as a basis for contract negotiation.

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41. The contracts should specify what items are to be paid for out of funds provided by the Commission and these should represent, insofar as possible, a definite research project comprising salaries, overhead, supplies, equipment and other expenses and, having as its product, research findings in a certain area. However, it will be realized that no sharp lines of demarcation can or should be established within a university which separate one project from another, and interaction and cross collaboration between projects is both desirable and unavoidable. Therefore the contract should provide the university with discretionary privileges in determining what items within the amount of the contract are chargeable to it. Lump sum contracts based upon payment of full costs of the items attributable to the contract are recommended wherever possible and they should be the rule for contracts of less than $75,000.

no

PAYMENT OF OVERHEAD

42. Indirect costs or overhead are a well-recognized item of expense in conducting research. Any increase in research activity resulting from an AEC contract with a university carries with it an increase in costs of operating the administration and business office, of operating and maintaining the university plant and library, and of the premiums for employees' annuities and group insurance. The method of computing overhead on research contracts may vary from one university to another but many of the universities have adopted accounting procedures which conform with the principles established by the so-called Hills Formula which was "directed specifically to the problem of creating an equitable accounting understanding between the Government and educational institutions . . . in performing research and/or development contracts for the War and Navy Departments. These principles are outlined in a bulletin of the U. S. War Department, dated August 1947, entitled "Explanation of Principles

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for Determination of Costs under Government Research and Development Contracts with Educational Institutions." The Mills Formula is an attempt to estimate the actual indirect cost of research to the university. In those universities whose accounting practices conform with the principles of the Mills Formula it is recommended that it be used with AEC contracts as an equitable estimate of these costs. However, it should be made clear that the present study has not been concerned with the methods of computing overhead and there is no implication here that the Mills Formula has more virtue than that it has been used extensively for five years and is well understood by many institutions.

DISPOSITION OF EQUIPMENT

43. Under the present policy which is based on the General Manager's memorandum of June 27, 1950, the responsibility lies with the Manager of Operations to determine in each case whether it is in the best interests of the Government to allow the contractor to take title to equipment. This has posed a difficult legal question for the Area Offices which has usually been resolved on a strictly financial basis according to whether the contractor has paid in to the operation of the project an amount equal to the value of the equipment or not. In fact the memorandum states that "in normal circumstances the contractor should be required to contribute to the project an amount at least equal to the the /depreciated/ value of any equipment to which the institution will acquire title." The memorandum also expresses some concern lest the net contribution of the institution to the project after it has acquired title to the property should turn out to be zero, and it instructs the contract negotiators both in Washington and the field offices to use the retention of title to the equipment as a bargaining point to force the institution to increase the level of its proposed contribution to

the project and thus to secure for the Government the most financially advantageous proposal. This pattern of reasoning has entered the memorandum in spite of its preamble which states "that in many cases it is in the best interest of the Government and in the furtherance of the purposes of the Atomic Energy Act that the contractor rather than the Government take title to equipment."

44. The value of the equipment to the investigator has been an important and compelling consideration in perpetuating the concept of joint-participation, and if the Commission abandons its use in contract negotiation as recommended in the foregoing discussion it will be necessary to find some other basis for legally transferring title to equipment purchased under the contract. It has been suggested that the contracts should provide only for salaries and supplies and not for capital equipment but in view of the nature of most university participation and its inflexibility such a policy would inevitably be a serious impediment to the research program. Another possibility is for the Commission to retain title and loan the equipment to the university or to move the equipment to a government warehouse. Neither solution is realistic. Usually the university will be continuing research after contract termination along lines similar to those of the contract and the equipment will be of maximum usefulness to both government and university if left where it is. If the Government were to retain title it would become involved in a complex and meaningless accountability. It is therefore recommended that title to property be transferred to the university, when it is obviously in the best interests of the government to do so, under the authority which the Commission has from the provision of the Act for a program of assisting and fostering independent research.

45. It is in fact because of its interest in fostering the independent research of the university after contract termination that

the Commission desires to leave the equipment with the university and believes that this course is in the best interests of the Government. It is rarely meaningful to say, as we do now, that the university has paid into the project certain sums of money and has therefore bought title to the equipment.

46. It should be left to the discretion of the Manager of Operations to determine whether it is in the Government's interest to transfer title at the time of purchase or at the termination of the contract.

SALARIES CHARGEABLE TO THE CONTRACT

47. Because of academic freedoms and the absence of line responsibilities in the organizational structure of a university the Senior Investigator is usually granted considerable authority in the negotiation and conduct of a university contract for basic research. It is therefore questionable that his salary should be chargeable to the contract in view of the interest he might be assumed thus to acquire in perpetuating the contract beyond the time when it ceases to be productive. Furthermore, since the level of his salary may depend upon his performance of the contract, the Senior Investigator may find himself negotiating with the AEC instead of with the university administration for salary increases. Under the present policy the summer salary of the Senior Investigator is usually charged to the contract and recently half the portion of his salary attributable to work on the project has frequently been included.

48. Although it is recognized that the Senior Investigator is entitled to a salary for summer work beyond that paid him by the university for his work during the academic year, the university should be asked to make this payment. If it is impossible for the university

can't understand this.

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to pay the full salary of the Senior Investigator then some other representative of the university should be designated as being in charge of the contract and he should assume responsibility to the Commission for the conduct of the project.

THE TRANSITION TO THE NEW POLICY

49. Since no additional funds have been budgeted to cover increased overhead payments, it will be impossible to increase the amount of the contracts which have been made on the basis of joint-participation. Therefore, the transition to the new policy will at most involve a different listing of items to be covered under the contract, and it is expected that the university will continue to supplement the project through its own participation in about the same degree as it is doing under the present arrangement. The essential difference is that the university will no longer be required to list the dollar value of its own contributions, and overhead may be charged to the AEC up to the full amount calculated by an allowed method of accounting. The latter item will provide the university with additional unlabeled money from which it can, if it chooses, restore items of the budget which will have been eliminated to keep the total amount the same.

STAFF JUDGMENTS

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CONCLUSIONS

51. It is concluded that:

a). The Commission should authorize contracts with universities for only such research as is considered to be needed under program (3) of Section 1(b) of the Act to accomplish the mission assigned to it by the basic legislation at a rate consistent with the annual appropriations. The Commission should be prepared to demonstrate its need for each research project, but its needs should be broadly defined.

b). The value of the project to the university should not be used as a basis for expecting it to share the costs. It is unrealistic to place a dollar value on the participation of the institution in the over-all costs of a project, and its participation should not be used as a basis for contract negotiation. A university which already carries on research at a high level will naturally continue to be favored on the basis of its greater capabilities.

c). Lump-sum contracts covering the estimated cost of specific items, including the audited overhead applicable to those items, should be used wherever possible and should be the rule for contracts of less than $75,000.

d). Unless the Commission can foresee a more profitable use of equipment purchased under the contract, title should be transferred, either initially or on termination of the contract, to the institution in recognition of its desire to continue, and the Commission's desire to foster, independent research in a field related to atomic energy. Such transfer of title is authorized by Section 1 (b) of the Act under Program (1).

e). In order to avoid self-perpetuating projects, contracts for basic research should cover no portion of the salary of the university representative designated as in charge of the contract.

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f). No changes in the terms of any contract should be made until the next renewal date, and no changes in the level of funding should be authorized because of the present change in policy.

RECOMMENDATION

52. That the Atomic Energy Commission:

a). Approve the more extensive use of the principles briefly stated in the Conclusions and more fully elaborated in the foregoing Discussion as a basis for selecting projects and negotiating contracts for basic research in universities and other non-profit institutions.

b). That this paper be used by the Offices of Operations as a guide for negotiating new contracts.

c). That no public announcement be made of a change of policy but that the principles herein outlined be used in future public discussions of the policy of the Commission.

d). That the National Science Foundation, the Public Health Service, the Office of Naval Research, and the members of the Interdepartmental Committee on Research and Development be given copies of this paper.

e). That present contractors be notified of the change of policy by the Operations Offices by an appropriate letter, attached as Appendix "F."

f). That the principles outlined herein not be considered binding if it is apparent that the best interests of the Government will be served by a departure therefrom.

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APPENDIX "A"

TO: [illegible] December [illegible], 1949

FROM: CARROLL L. WILSON, [illegible]

SUBJECT: INTERIM POLICY AND PROCEDURES IN FUNDAMENTAL RESEARCH CONTRACTS

1. The purpose of this memorandum is to establish, on an interim basis, certain policies and procedures in relation to fundamental research contracts with non-profit institutions in the fields of biology and medicine and the physical sciences. These interim policies and procedures will be revised as necessary and ultimately incorporated in a research contract manual.

2. The basic procedures for translating research proposals into research contracts, including the respective responsibilities of the Washington Divisions and the Field Offices, were outlined in my memorandum to Managers of Operations dated January 27, 1949 dealing with research contracts in the fields of Medicine, Biology, and Biophysics. These procedures are also applicable to research projects in the physical sciences. This memorandum is intended to supplement my memorandum of January 27, 1949, with particular reference to those fundamental research contracts entered into with universities and other non-profit institutions on a joint participation basis.

3. POLICY OF JOINT PARTICIPATION. The AEC is now supporting and will continue to support a large number of fundamental research projects which are of interest to the research institution as well as to the AEC and which are a normal part of the institution's own research program. It appears appropriate in the case of such projects that the research institution make a contribution to the cost of the project which is commensurate with its interest in the work and with the institution's resources normally applied to such research activities. It is equally appropriate for the AEC to supplement the institution's funds in order to expand or accelerate research projects of interest to the AEC. Accordingly, it is the policy of the AEC to enter into contracts with the institutions for fundamental research projects on the basis of joint financial participation. The policy of joint participation would not normally be applicable in the case of applied or programmatic research, where the AEC's interest clearly outweighs the interest of the research institution, and accordingly the AEC would normally bear the full cost of contracts for programmatic research projects.

4. SELECTION OF PROJECTS FOR JOINT PARTICIPATION. The Divisions of Research and Biology and Medicine, in their respective field of interest, will identify those research proposals which are properly characterized as fundamental or "nonprogrammatic" research and which will be supported on a joint participation basis, and will inform the Operations Office of this determination in forwarding approved research proposals to the Operations Office for the negotiation of a contract. The practices and policies of these Divisions in the selection of research proposals will be subject to periodic review by the General Manager.

5. DETERMINATION OF AMOUNT OF AEC PARTICIPATION. The Divisions of Research and Biology and Medicine will also determine, within the total amount approved by the Commission or the General Manager for independent research contracts, the approximate extent of AEC's contribution to the cost of the research project. This determination will be based on a number of factors, including the total cost of the project, the relative interests of the AEC and the research institutions in the research activity, and the resources available to the AEC and the institutions for such work. The basis of this determination will in each case be explain insofar as practical to the Operations Office by the appropriate Division in forwarding such proposals in order to assist the Operations Office in the negotiations of a contract and the determination of the precise dollar contribution. Operations Offices should not deviate substantially from the approximate level of support established by the appropriate division without prior consultation with the Division.

6. FORM OF CONTRACT. As indicated in my memorandum of January 27, 1949, the form and content of the research contract is the responsibility of the Operations Office. Continued use of lump sum contracts for projects of moderate costs, however, recommended where the contribution of the research institutions is substantial and the costs of the project can be estimated with reasonable accuracy,

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7. ALLOCATION OF COSTS IN LUMP SUM CONTRACTS. In the submission and review of research proposals and in the determination of AEC's contribution to the project, it is frequently convenient and desirable to identify certain costs as those to be borne by the AEC and others as those to be borne by the research institution. Also, a number of lump sum contracts now in effect refer to a project budget which serves as a guide to the contractor and which identifies certain cost items with the AEC or with the contractor. Commonly such cost items as overhead, certain capital equipment or the salary of the senior investigator have been identified with the research institution and other costs with the AEC. There is, however, no fixed and invariable AEC policy which requires the identification of certain costs with the research institution, and it is the total contribution of the AEC which is most important rather than the allocation of that contribution to particular cost items. Furthermore, it is not intended that Operations Offices necessarily follow the precise allocation of cost items between the AEC and the research institutions which may have been included in the research proposal or reflected in the determination by the Washington Divisions of the approximate level of AEC support. With respect to the item of overhead expenses in particular, there is no objection, if the research institution so requests, to indicating in the project budget that a reasonable portion of the AEC's contribution is application to the institution's overhead expenses. For lump sum contracts not more than 8% (eight percent) of AEC's contribution should, however, be identified with overhead expenses. The principle to be borne in mind is that the 8% (eight percent) figure is acceptable to the AEC; a lower figure may be used if it is mutually agreed to be more appropriate.

8. ALLOCATION OF COSTS IN COST TYPE CONTRACTS. Joint participation in cost type research contracts may be achieved by identifying in the negotiations those items of costs which will be borne by the research institutions and those which will be borne by the AEC. In the determination of actual overhead costs under cost type contracts the accounting policies established by the Controller will govern. In this connection attention is directed especially to Controller's Release No. 21, Accounting Series No. 9, dated December 6, 1949, permitting the use of overhead rates established by other agencies under certain circumstances.

TO: Fred C. Schlemmer, Manager, HOO
James C. Stewart, Manager SOO
Carroll L. Tyler, Manager, SFOO
J. K. Gustafson, Manager, Raw Materials OO
W. E. Kelley, Manager, NYOO
R. W. Cook, Manager, OROO
A. Tammaro, Manager, COO
L. E. Johnston, Manager, IOO

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On December 5, 1949, the General Manager distributed an interim policy and procedures to be used in their operation and administration of fundamental research contracts. All basic or fundamental research will be undertaken by a cost participation type contract with the contractor making the maximum contribution commensurate with his interest in the program.*

The following ground rules will govern NYOO interpretation of the interim policy and handling of contracts:

1. Normally, a lump sum contract will be used for those cases in which the AEC contribution is $50,000 or less per year. If the AEC budget is higher, a cost type contract will generally be used unless the budget is accurate enough and there is sufficient control for a lump sum contract.

2. Normally, NYOO representatives will not question, from the technical point of view, levels of support established by Washington but this does not preclude discussions between the two staffs if NYOO has worthwhile suggestions in fields where it has a special interest. Also, NYOO representatives may examine the reasonableness of budget items, if the field involved is one in which they are especially qualified, for discussion with Washington. Business arrangements negotiated by NYOO should take into consideration precedents established by our experience to the extent required by good judgment.

3. It is preferred that the contractor make his contribution in:

   a). Salary of the Senior Investigator
   b). Capital technical equipment.
   c). Overhead.

4. AEC prefers to contribute toward

   a). Salaries other than that of the principal investigator
   b). Expendable material and supplies
   c). Travel and communications
   d). Special utilities
   e). Overhead, to a minimum and in any event, limited to a maximum of 8% of the total AEC direct expense contribution.

5. In submitting a budget, the contractor should list each piece of capital technical equipment and this list will be analyzed with respect to:

   a). Those items which the contractor will contribute and which will remain his property at the termination of the contract.
   b). Those items which the AEC will contribute and to which it will retain title.

   c). Those items which the AEC will contribute and which will remain the property of the contractor at the termination of the contract. (It is considered desirable not to exceed 10% of the total AEC cost except as noted below.)

   Equipment bought with AEC funds may remain the property of the contractor if there are adequate reasons, of which the following are typical examples:

   1). The equipment will become obsolete or unserviceable for further use by AEC.

   2). The expense of salvaging the equipment is greater than the return to be realized.

   3). The equipment is to be used on work which is of interest to the AEC although the contract is terminated.

*NOTE: Selection of projects and of contractors is a function of the Washington office. Determination of the approximate level of AEC support of and technical responsibility for the contract are also Washington functions. (Usually, the latitude for negotiation of the contract by the Operations Office will be of the order of a 10% variation plus or minus). Operations Offices are primarily responsible for negotiation and administrative aspects of contracts. They are also expected to follow the progress of the work.

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4). The equipment is custom made for the project (e.g. ventilation hoods), and cannot be transferred elsewhere practicably.

5). The cost of dismantling, transporting and erecting equipment from one location to another exceeds the cost of buying or salvaging, as the case may be.

6). If not used, the equipment will deteriorate or maintenance and storage costs are excessive in terms of probability of re-use.

6. In the budget submission, expendable equipment and supplies should be broken down in principal categories, for example, chemicals, glassware, electronics supplies, instruments, laboratory equipment, etc. Wherever possible, items having a unit value of $50.00 or more should be listed individually.

7. For those contracts which were negotiated on a 2-year basis before issuance of the interim policy, every reasonable effort will be made to have the interim policy applied for the second year. If this is not practicable, the second year may be negotiated on the same basis as the arrangements made for the first. In any event, however, the Commission's interim or final policy will apply for the third year if the contract is renewed.

March 13, 1950

1189148

From: Carroll L. Wilson, General Manager

Subject: Disposition of equipment in connection with basic research contracts

Symbol: R:P:JDP

The purpose of this memorandum is to outline the Commission's policy in respect to the disposition of equipment in connection with basic research contracts entered into between the Commission and independent non-profit institutions on a basis of joint financial participation. This policy applies both to cost type and lump sum contracts. This memorandum supplements previous memoranda governing policies and procedures in basic research contracts including my memoranda to Managers of Operations dated January 27, 1949, and December 5, 1949.

It has been the Commission's experience that in many cases it is in the best interest of the Government and in furtherance of the purposes of the Atomic Energy Act that the contractor rather than the Government take title to equipment acquired in connection with basic research projects with independent non-profit institutions. In some instances the value of the equipment is not such as to warrant the administrative expense of accounting to the Government for the equipment and the cost of removing, storing and reshipping or reselling the equipment upon completion of the contract. In others it is apparent that the interests of research will best be served if the equipment remains during its useful life with the research institution. This would be true, for example, where there is a reasonable expectation of continuing government support for the research project upon expiration of the current contract term. It might also be true where the nature of the equipment and the program of the institution are such that it is reasonable to assume that the equipment will be devoted to research of interest to the Commission even without continued government support of the research program. The responsibility lies with the Managers of Operations to determine in each case whether it is in the best interests of the Government to allow the contractor to take title to equipment. On major items of technical equipment, however, the Divisions of Research and of Biology and Medicine should make recommendations to the Managers concerning the disposition of equipment.

The question remains, in cases where the Government does not take title to the equipment, as to the extent to which the financial contribution of the research institution to the project should reflect the value of the equipment to be acquired by the institution. In general, it should be the policy of the Commission to direct its funds toward actual research work rather than improving the physical facilities of the research institution, and in normal circumstances the contractor should be required to contribute to the project an amount at least equal to the value of any equipment to which the institution will acquire title, after allowing for depreciation during the course of the contract. It is realized that the institution might under this policy make a net contribution of zero dollars to a given project; this would occur, of course, only if the level of AEC support is intentionally established to accomplish this result.

Exceptions to the general policy of requiring a contribution by the research institution equal to the depreciated value of the equipment may be made in special circumstances. An example of an exceptional case where departure from the general policy might be justified is the case where expensive equipment is to be purchased only in the first year and subsequent years on the project is anticipated during which the equipment will depreciate in value and during which the institution will be making substantial contributions to the cost of the project.

The value of the equipment to be acquired by the institution is a very important factor to be considered in establishing the level of AEC support for the project and consideration of this factor involves essentially the same elements of judgment that are required in the consideration of other factors which go into the determination of the amount of AEC's contribution. Under existing policies and procedures, this determination is made in the first instances by the Divisions of Research and of Biology and Medicine and necessarily involves a judgment on some of the detailed aspects of the proposed budget. These Divisions should, therefore, in forwarding to the field offices proposals involving substantial amounts of equipment, indicate that disposition of the equipment was contemplated in establishing the amount of the AEC's and the contractor's respective contributions. In discussing research proposals with research institutions it has been established policy that the Divisions of Research and of Biology and Medicine will not make commitments on the detailed provisions and business aspects of the contracts to be negotiated. This policy will continue in effect. In discussions with potential contractors, representatives of these Divisions will make it clear that the responsibility for determining title to equipment lies with the Operations Office. It will be necessary, however, in order that the most financially advantageous proposals be obtained, for these divisions to indicate to research institutions that the Commission will give consideration to proposals under which title to equipment will be retained by the institution and that the

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To: Managers of Operations Date: June 27, 1952

From: Carroll L. Wilson, General Manager

Subject: DISPOSITION OF EQUIPMENT IN CONNECTION WITH BASIC RESEARCH CONTRACTS

SYMBOL: R:P:JEP

The purpose of this memorandum is to outline the Commission's policy in respect to the disposition of equipment in connection with basic research contracts entered into between the Commission and independent non-profit institutions on a basis of joint financial participation. This policy applies both to cost type and lump sum contracts. This memorandum supplements previous memoranda governing policies and procedures in basic research contracts including my memoranda to Managers of Operations dated January 27, 1949, and December 6, 1949.

It has been the Commission's experience that in many cases it is in the best interest of the Government and in furtherance of the purposes of the Atomic Energy Act that the contractor rather than the Government take title to equipment acquired in connection with basic research projects with independent non-profit institutions. In some instances the value of the equipment is not such as to warrant the administrative expense of accounting to the Government for the equipment and the cost of removing, storing and reshipping or reselling the equipment upon completion of the contract. In others it is apparent that the interests of research will best be served if the equipment remains during its useful life with the research institution. This would be true, for example, where there is a reasonable expectation of continuing government support for the research project upon expiration of the current contract term. It might also be true where the nature of the equipment and the program of the institution are such that it is reasonable to assume that the equipment will be devoted to research of interest to the Commission even without continued government support of the research program. The responsibility lies with the Managers of Operations to determine in each case whether it is in the best interests of the Government to allow the contractor to take title to equipment. On major items of technical equipment, however, the Divisions of Research and of Biology and Medicine should make recommendations to the Managers concerning the disposition of equipment.

The question remains, in cases where the Government does not take title to the equipment, as to the extent to which the financial contribution of the research institution to the project should reflect the value of the equipment to be acquired by the institution. In general, it should be the policy of the Commission to direct its funds toward actual research work rather than improving the physical facilities of the research institution, and in normal circumstances the contractor should be required to contribute to the project an amount at least equal to the value of any equipment to which the institution will acquire title, after allowing for depreciation during the course of the contract. It is realized that the institution might under this policy make a net contribution of zero dollars to a given project; this would occur, of course, only if the level of AEC support is intentionally established to accomplish this result.

Exceptions to the general policy of requiring a contribution by the research institution equal to the depreciated value of the equipment may be made in special circumstances. An example of an exceptional case where departure from the general policy might be justified is the case where expensive equipment is to be purchased only in the first year and subsequent work on the project is anticipated during which the equipment will depreciate in value and during which the institution will be making substantial contributions to the cost of the project.

The value of the equipment to be acquired by the institution is a very important factor to be considered in establishing the level of AEC support for the project and consideration of this factor involves essentially the same elements of judgment that are required in the consideration of other factors which go into the determination of the amount of AEC's contribution. Under existing policies and procedures, this determination is made in the first instances by the Divisions of Research and of Biology and Medicine and necessarily involves a judgment on some of the detailed aspects of the proposed budget. These Divisions should, therefore, in forwarding to the field offices proposals involving substantial amounts of equipment, indicate that disposition of the equipment was contemplated in establishing the amount of the AEC's and the contractor's respective contributions. In discussing research proposals with research institutions it has been established policy that the Divisions of Research and of Biology and Medicine will not make commitments on the detailed provisions and business aspects of the contracts to be negotiated. This policy will continue in effect. In discussions with potential contractors, representatives [illegible]

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Commission will expect the institution making such a proposal to make appropriate allowance in the level of its proposed contribution to the project.

Special problems are presented in the case of renewals of contracts, particularly in the renewal of contracts transferred from the Office of Naval Research to the Commission, where title to equipment has been vested in the Government under the terms of the prior contracts. In many such cases it would be desirable, in accordance with the provisions of this memorandum, for the contractor to acquire title to the equipment. This might be done by providing in the contract renewal that title to the equipment is to be acquired by the contractor, with an appropriate reflection of the value of the equipment in the contractor's contribution to the cost of the research project. This might also be accomplished by a provision in the contract affording to the contractor an option to purchase the equipment either at fixed depreciated prices or at a value to be mutually agreed upon by the Commission and the contractor upon exercise of the option.

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In the report on its twenty-sixth meeting of May 11, 1951, the General Advisory Committee added at the end as a suggestion to the General Manager, the following:

> "B. In the field of basic research the Committee noted that relations with universities on fundamental research contracts have had an element of discontent in striking contrast to the prevailing relations with the Office of Naval Research. The Committee suggests that more generous contracts, including full reimbursement of costs, be established as norms."

Since I will not be with the Commission when the General Advisory Committee meets again, I would like to place on record my deep conviction that this recommendation was ill-advised and that its acceptance would have a seriously adverse effect on both the Commission's operations in this area and eventually on the basic research in the country. In spite of the fact that I suggested to the Chairman of the General Advisory Committee at this meeting, the desirability of a discussion of the off-site supported basic research program, prior to any recommendations, no such discussion was held and no indication was given that any recommendation on this topic was contemplated. I would also point out that in their fourth report of June 1, 1947, concerning this same problem the General Advisory Committee recommended that "Projects should be given especially favorable consideration in which there is some local or non-governmental support, in which there is a past record of achievement, and in which the Commission is not asked to initiate wholly new enterprises."

It is impossible to direct basic research in the ordinary meaning of the word "direct." One can only select the most able or promising men, put them in a stimulating atmosphere in an equipped laboratory and let them direct their own research. If a university or other basic research institution has a financial stake in the given research activity, it is possible to delegate effectively to that institution, the selection of these research men and still be in accord with sound procedure and policy. Even then the names and records of these research men constitute the chief evidence in favor of government support of the activity.

For the AEC to pay the full cost of a given professor's research in a university, would effectively make the AEC his employer. It would be the AEC that ought to fix his salary and that of his assistants, determine when he deserves promotion, or when he should be dismissed. I believe it is neither feasible nor desirable for the Atomic Energy Commission to undertake such responsibilities for men scattered throughout the universities of the country. We do, effectively have such responsibilities with respect to the basic research scientists in the National Laboratories. Also, since the Atomic Energy Commission necessarily pays in the vicinity of 80% of the costs of cyclotron or similar large projects in universities, it carries extra responsibilities there.

If the Atomic Energy Commission wishes these large and expensive projects to go forward, it must pay most of the bill, since the universities cannot be expected to match such large expenditures. However, it is feasible for the Atomic Energy Commission to, in a sense, reach into these institutions and to judge the qualifications of the Directors of the National Laboratories. The selection of the other scientists can then be delegated to these Directors.

However, it is utterly inpractical to judge effectively the qualifications of hundreds of individual professor-scientists. For the Atomic Energy Commission to pay the full costs of these research activities without making such judgments would be to court catastrophe. Institutions would be tempted to offer appointments subject to the provision that the Atomic Energy Commission offers a contract for the individual's research and expecting the Atomic Energy Commission to be the real judge of his competence. One may say this would be a disreputable procedure for a university to practice. However, I believe it is important to keep our policy sound and to eliminate, as far as possible, the temptations to indulge in disreputable practices.

The tendency of other sources of funds to avoid competition with the Federal Government is well known and natural. If the Federal Government offers to pay the whole cost for physical science research in the United States, it will be responsible for drying up the presently existing sources of additional revenue. However, the adoption of a definite policy that the United States Government will share the cost, but will not pay the entire cost, would tend to develop these other sources of support.

APPENDIX "D"

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I believe it would be a grave mistake for the Atomic Energy Commission to deprive itself of the "grant-in-aid" mechanism of offering assistance to research activities for which the Atomic Energy Commission does not want to assume the principal responsibility. Our term is, of course, the "joint participation-lump sum contract" for this procedure. I do not believe this basic aspect of our present policy has developed serious discontent with sound and thoughtful university officials, although certain university business agents may have complained, and details of our administration may have caused friction.

Please note that I have said nothing about "overhead" on contracts. Once the principle of joint participation or sharing of the costs has been accepted on both sides, it should be easy to work out the details. Also, it is essential that the Atomic Energy Commission pay the full costs on work undertaken for the specific needs of the Atomic Energy Commission and that such programmatic research be clearly distinguished from the basic research being discussed above.

Addressees:

Gordon Dean, Chairman
T. Keith Glennan, Commissioner
Thomas E. Murray, Commissioner
Sumner T. Pike, Commissioner
Henry D. Smyth, Commissioner
M. W. Boyer, General Manager

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UNCLASSIFIED

ENCLOSURE "B"

ADVISORY COMMITTEE ON CONTRACTUAL RELATIONS
WITH THE FEDERAL GOVERNMENT

ENGINEERING COLLEGE RESEARCH COUNCIL
OF THE
AMERICAN SOCIETY FOR ENGINEERING EDUCATION

Princeton University
Princeton, New Jersey

August 1, 1952

Mr. M. W. Boyer, General Manager
Atomic Energy Commission
19th St. and Constitution Ave., N.W.
Washington 25, D.C.

Dear Mr. Boyer:

The Advisory Committee on Contractual Relations with the Federal Government has been concerned for some time with certain aspects of AEC-university relations. Representatives of the Committee have discussed informally some of these problems with Dr. Glennan, Dr. Smyth, and Dr. Johnson.

The Committee has now prepared in final form and submits herewith a memorandum containing recommendations and discussions with regard to certain of these problems. We strongly believe that, if the Commission can accept our recommendations, the relations between the universities and the Commission will be greatly improved, and that the research being and to be performed by these institutions under AEC contract will be benefited.

The Committee stands ready and willing to discuss the matters presented in the attached memorandum with members of the Commission or its staff if so desired.

Very truly yours,

/s/ Raymond J. Woodrow

Raymond J. Woodrow
Chairman

Enclosure "~~B~~ E"

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UNCLASSIFIED

ADVISORY COMMITTEE ON CONTRACTUAL RELATIONS
WITH THE FEDERAL GOVERNMENT

ENGINEERING COLLEGE RESEARCH COUNCIL
OF THE
AMERICAN SOCIETY FOR ENGINEERING EDUCATION

Davis, T.E., Assistant to the Executive Director
The Ohio State University Research Foundation

Green, G. W., Business Manager
California Institute of Technology

Middlebrook, W. T., Vice President
University of Minnesota

Rosselot, G.A., Director
State Engineering Experiment Station
Georgia Institute of Technology

Sage, N. McL., Director
Division of Industrial Cooperation
Massachusetts Institute of Technology

Schade, H. A., Director
Institute of Engineering Research
University of California

Steward, R. B., Vice President
Purdue University

Walker, E. A., Dean of Engineering
Pennsylvania State College

Williams, C. W., Special Assistant to the President
Case Institute of Technology

Woodrow, R. J., Chairman
Executive Officer and Secretary
Committee on Project Research and Inventions
Princeton University

Enclosure "B"

1189155

Advisory Committee on Contractual Relations
with the Federal Government
Engineering College Research Council
American Society for Engineering Education

MEMORANDUM TO: The Atomic Energy Commission

The universities and colleges of this country are performing at the present time a very substantial volume of research under contract with the Atomic Energy Commission. This research is important both to the fulfillment of the AEC program and to the scientific growth of the country. However, certain of the policies and practices which are being applied to these contracts are inequitable and prejudicial to the integrity and stability of the institutions involved; they make it difficult, and in some cases impossible, for the Commission and the universities to work together.

The problems involved in AEC-university relations can be separated into two primary areas of concern, interrelated in some degree, but capable in large part of separate treatment. The first of these has to do with the question of the degree to which the costs of educational institutions conducting research under AEC contracts are to be reimbursed. The second involves the contract provisions themselves and the methods by which contracts are prepared and administered. The subject of costs will be the primary objective of this memorandum; a later memorandum on contracts is presently in preparation and will, it is hoped, be submitted in the near future.

* * * * * *

The increasingly difficult financial problems facing the educational institutions are almost too well known to require detailed explanation. Unless research performed under contract for the Commission can be handled by the universities without the latter incurring serious financial loss, the very objectives which the Commission seeks to attain will be defeated. Educational institutions will be unable properly to undertake such research without jeopardizing their entire educational programs which, among other things, are aimed at providing the very trained personnel which are demanded in ever-increasing numbers by the Commission and by the activities which the development of atomic energy is creating. The areas of research and education where support is difficult to obtain, in particular the social sciences and humanities which are so important to a broad growth of the country, will be further depleted by the diversion of funds to help support projects undertaken for the AEC.

It is the sincere feeling of the Advisory Committee on Contractual Relations with the Federal Government, therefore, that certain of the policies and practices followed by the Atomic Energy Commission should be modified. Specifically, the Committee makes the following recommendations:

1. That every project negotiated by AEC with an educational institution should recognize the full cost to the institution of undertaking the research, based on its established accounting procedure and including indirect expenses in accordance with the formula developed and proved in almost five years of experience with the military departments.

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2. That arbitrary criteria for cost participation, such as the distinction between programmatic and non-programmatic research, or who initiated the idea or proposal for research, be abandoned.

3. That cost participation by educational institutions in AEC contract research may be mutually desirable in some instances; it should, however, be placed on an optional basis for each project with each institution.

RECOGNIZE THE COSTS

In most projects where cost participation is indicated, the Atomic Energy Commission has adopted an artificial and arbitrary mechanism for determining the manner and amount of such participation. The contracting institution is required to absorb all indirect, or overhead, expenses in excess of eight percent of the direct costs of the project. Such a method of fixing the amount of cost participation is completely inequitable.

In the first place, any fixed overhead formula fails to recognize that the actual overhead rate at any institution is primarily dependent upon the method used to account for indirect expenses. It is not true, as some contracting officers seem to believe, that a high overhead rate means, ipso facto, a more costly project. The total cost of a research project can be identical whether the overhead rate is low and all possible expenses are charged as direct costs, or whether it is high and many such expenses are charged as overhead. A limit on overhead thus means that the institution with a method of accounting which results in a high overhead rate is penalized by being forced to contribute a larger share of the cost of a project than would apply to an institution with a low rate, although the total costs might be identical in both instances. Costs of the following nature are typically treated in some institutions as indirect expenses and in others are charged as direct costs:

- Secretaries
- Administrative and Clerical Personnel
- Purchasing
- Social Security, retirement contributions and group insurance
- Vacations, holidays and sick leave
- Hospitalization and medical services
- Postage and communications
- Stationery and office supplies
- Power
- General technical supervision and administration
- Janitorial services
- Security expenses
- Insurance covering liability, workmen's compensation, etc.
- Equipment, particularly office type
- Buildings and building alterations.

In addition to the inequity, largely between institutions, created by an arbitrary limit on the overhead rate, the utilization of the reduction-in-overhead method of cost participation in any form creates additional inequities. Contractual requirements such as those applying to patent and publication rights, title to property purchased and to notebooks and reports, etc. apply primarily to those services or items which are billed as direct costs. The institution which participates in the cost of a project by absorbing overhead costs finds its equity in these matters largely destroyed.

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In order that the financial integrity of educational institutions can be maintained, the full costs involved in any research project should be recognized. Where cost participation is warranted, it will be best handled in most cases by the institution paying all of the expenses, direct and indirect, of the portion it undertakes to finance, and the Commission doing likewise.

ARBITRARY CRITERIA FOR COST PARTICIPATION

In order to determine when there should be cost participation by educational institutions in AEC contracts, the Commission has utilized as a primary criterion the distinction between "non-programmatic" and "programmatic" research. "Non-programmatic" research is generally interpreted synonymously with fundamental research. There has been a strong tendency for projects proposed by universities to be automatically placed in the "non-programmatic" category.

The Commission's distinction between "non-programmatic" and "programmatic" research is so hazy and so difficult to apply that it cannot be used consistently as a criterion for cost participation. In a sense, all research supported by AEC is "programmatic" in that it must have objectives of specific interest to the Commission's program; these could be new knowledge in nuclear phenomena, the chemical reactions of heavy isotopes, or even the development of a new manufacturing process. Scientists such as physicists and chemists are usually interested in the more abstract and fundamental research; engineers are generally interested in the applied and more immediately practical problems. Why the research of one should be invidiously compared with the other from a cost standpoint, or why an institution should automatically contribute more to the research of one than the other, is difficult to understand.

The Atomic Energy Commission has not, in fact, applied this criterion with consistency. In large programs of "non-programmatic" research, such as those involving cyclotrons, less cost sharing is required than in small ones, although the indirect expenses associated with a number of small projects are fully as great as in one large project. Fundamental research in laboratories such as Brookhaven, is, we understand, encouraged, but no cost sharing is evident in these cases. There have been instances where projects initially classified as "non-programmatic" have been treated as "programmatic" without other changes, because the institution involved was not in a position or willing to share the costs to the extent required. It is possible, on the other hand, that an institution interested in developing a program in an applied or engineering field would be willing and able to finance a portion of the program if the AEC were to contract for the other portion.

The fact that a proposal for research originates within a university is frequently used by the Commission as a determining factor in classifying a project as "non-programmatic" - so that universities are immediately expected to pay part of the cost of projects proposed by them. It is difficult to understand why the genesis of a particular idea should have a determining influence upon cost sharing. It is the policy of practically all universities to undertake only that research in which members of its faculty are interested, whether the idea for a project originated within or outside the university. It seems unreasonable that a university

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should be penalized because one of its staff members has the initiative and foresight to suggest a program of research which proves to be of interest to the Commission.

Research should either be worthy or not worthy of support by the Commission without regard to artificial distinctions. An appraisal of atomic research itself under the definitions used by the Commission would presumably place the important early work in the development of this new science in the "non-programmatic" field, and yet that work is the very foundation stone of the atomic energy program today. Research of similar importance for the future cannot be helped but only hindered by such discrimination.

OPTIONAL COST PARTICIPATION

Under the difficult financial situation facing educational institutions at the present time, arbitrary insistence by the Commission on cost participation on any general basis is almost certain to have disastrous effects. It is quite true that no institution is compelled to take on any project, so that it cannot actually be forced to contribute part of the cost of the AEC program. But, the national emergency, together with the power of the Federal Government and its control over such a large share of the nation's income, have a profound influence over the present operations of the universities.

Members of the faculty of many institutions are patriotically inclined at the present time to undertake research of importance to the nation. Others have research interests in areas where the institution has not or cannot obtain adequate support from other sources. Many of these faculty members are unconcerned about university financing beyond their immediate interests in financing the direct costs of their research. They unfortunately press internally (and sometimes externally) for contract arrangements which are not in harmony with sound institutional fiscal policies. The present practices of the AEC in requiring cost participation accentuate this problem.

The proposal that universities should share in the cost of research under contract with the Government to avoid dependency by the institution on the fluctuating federal budget is unfortunate. Apparently, the theory is that the Commission, by providing only partial support, will thus coerce the university into keeping its financial house in order. To this extent the Commission, by the manner in which it apportions research, seeks, whether knowingly or not, a hand in the running of the universities. Long term commitments dependent on government funds cannot be prevented by the simple expedient of requiring cost participation; each institution must work out its own solutions under the conditions and circumstances peculiar to its operation.

Cost participation has also been defended on the basis that projects will be better performed and managed if the institution is paying part of the cost. What this argument fails to recognize is that an institution has a strong, inherent interest in any project undertaken, since it means a diversion of staff and facilities from other possible undertakings. It implies, further, and more importantly, that university functions which are paid for out of current income are less efficiently performed and managed than those financed from endowment. When it is understood that by far the largest portion of any educational institution's total annual income is on a current basis, of which government

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contract funds represent only a part and in practically all cases a small part, such an implication seems completely unjustified. Educational institutions, dedicated as they are to operate in the public interest without profit, can be relied upon to perform conscientiously their commitments without required cost sharing - their pasts and their futures rest upon the fulfillment of trusts similar in degree and kind to the obligations they assume in undertaking government contracts.

There are cases where cost participation by educational institutions is reasonable and justified. Where a particular program of research is planned by the institution and some part of the program, or an expansion in what the institution would be prepared to finance, is of interest to the AEC, it is reasonable to expect the AEC only to contract for that portion. Where title to certain equipment purchased with contract funds is to remain with the institution, some participation also seems reasonable, if the equipment is expected to be of continuing value to the institution. Where other equities which the institution considers of value are realized, cost participation might also be expected. It will be evident, however, that each of these cases is dependent upon the institution's own judgment of the factors involved in a particular project. No general rule, no insistence on cost participation under any criteria applied from outside can do justice to each situation.

It seems strange indeed that educational institutions should have been singled out as the one segment of the national economy which must absorb part of the costs of work done for the Federal Government. The fact that universities are non-profit organizations does not mean that they can operate at a loss. It does not seem fair to accuse them of becoming commercial or denying their educational charters for an endeavor to recover costs. A university's reputation may be enhanced and its research out-put may be increased (which is in the public interest) by contracts from the Government, but reputation or increased research do not pay bills. If a project, proposed or suggested, is not of any probable value to the AEC program, then it should not be financed. If the Commission believes that it will be of value and desires that it be undertaken, then the Commission should not be unwilling to pay the cost.

* * * * * *

The Advisory Committee is making this presentation to the Commission in the hope that it will lead to a better understanding of some of the problems in university-AEC contract operations and a modification of those AEC practices which are not in harmony with the need for maintaining the universities' position as sound operating institutions dedicated to the public interest. The Committee would welcome the opportunity of meeting with members of the Commission or its staff to discuss the matters presented in this memorandum. The Committee stands ready and willing to render any other assistance desired in the field of research contract relations between the universities and the Commission.

Respectfully submitted by
The Advisory Committee on Contractual
Relations with the Federal Government
Engineering College Research Council

1189160

RMC:C.3

Oak Ridge, Tennessee
January 5, 1952

Carbide and Carbon Chemicals Co.
Post Office Box "P"
Oak Ridge, Tennessee

Attention: Dr. C. E. Larson, Director, Oak Ridge National Laboratory

Subject: JOINT PANEL ON MEDICAL ASPECTS OF ATOMIC WARFARE

Gentlemen:

This office has advance notice of the anticipated meeting in Oak Ridge of the Joint Panel on the Medical Aspects of Atomic Warfare, a group operating in behalf of the Research and Development Board of the Department of Defense. This panel in its entirety is composed of 37 persons, and it is anticipated that 75-80% of the members will be in attendance here on February 24-26, 1952, for this classified meeting.

According to present plans, this group would like to visit the Biology Division, Oak Ridge National Laboratory, on Monday, February 25, and they are particularly interested in Dr. Furth's studies.

For your information we are enclosing a copy of all names on the panel. It is expected that an exact list of the persons in attendance will be furnished us at least one week prior to the meeting.

Anything that can be done by the Laboratory to acquaint the panel with the work in progress here will be very greatly appreciated.

Very truly yours,

Kenneth Rasschau
Acting Director
Office of Research & Medicine

enclosure:
list

CC: Mr. C. E. Center, [illegible]
Mr. [illegible] Gaffrie, [illegible]
Mr. [illegible] Hanke, [illegible]

Shoup:ec

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ORGANIZATION & MANAGEMENT

Paul C. Aebersold, Chief, Isotopes Division
Oak Ridge Operations Office
Shields Warren, M.D., Director
Division of Biology and Medicine
MEETING IN WASHINGTON MARCH 6 and 7

23 February 1952

SYMBOL: BM:SW

Since our discussion the other day, I have given considerable thought to the problems of the Isotope Division as related to Division of Biology and Medicine. It seems to me that it would be highly desirable for you and your staff to meet with us in Washington for the purpose of discussing these problems prior to your next Advisory Committee Meeting. We are particularly desirous of developing a mutually satisfactory approach to the matter of health and safety regulations and the problems associated with the free distribution of isotopes for cancer. If it is at all possible we would like for you to plan to be here March 6 or 7. I have discussed this with Dr. Johnson, and he is in favor of such a meeting and plans to attend.

cc: Production Division
Manager, ~~OROO~~
Division of Research

SUMMARY FEB 28 1952

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ORGANIZATION & MANAGEMENT 6

Oak Ridge, Tennessee
October 29, 1952

Carbide and Carbon Chemicals Co.
Post Office Box [illegible]
Oak Ridge, Tennessee

Attention: Dr. C. E. Larson, Director, Oak Ridge National Laboratory.

Subject: PARTICIPATION OF BIOLOGY DIVISION, ORNL, IN BIOLOGICAL TESTS DURING OPERATION UPSHOT-KNOTHOLE.

Gentlemen:

This Office is in receipt of a memorandum from the Division of Biology and Medicine, Washington, dated October 2[illegible], 1952, stating they believe it desirable for the Biology Division of the Oak Ridge National Laboratory to participate in the biological program planned for the subject tests.

We understand that plans have been made for the extent of ORNL participation in the tests mentioned, and that these include studies on chromosome breaks in Drosophila, mutation rates in Neurospora, and effects of neutrons upon Drosophila mutation rates, as results of the anticipated exposures.

This Office approves of the participation of the Oak Ridge National Laboratory in the test program, and feels that this study of weapons effects is important to the program of the Laboratory and the Commission. The experience gained by personnel participating in this program will, we feel, be of great benefit to the Biology Division.

It is our understanding that the Division of Biology and Medicine will support the expenses of the biological tests at the test site. It is anticipated that no additional personnel will be required for this special purpose. It is expected that ORNL costs for this test participation will be relatively small and accommodated within the present budget of the Biology Division.

We greatly appreciate your willingness to engage in this special phase of the test program.

Very truly yours,

Kenneth Kasschau
Director
Office of Research and Medicine

CC: Mr. [illegible] E. Center
Mr. [illegible] Cairie
Dr. M. [illegible] Woodruff

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