

ISOTOPES 3 Vol. 4

Vol. 4 Correspondence beginning with 7-6-64 to 5-11-65

Vol. 5 Correspondence beginning with 5-12-65 to

	Date	To	From	Class	Pgs. No.	To	From	Class
1	8-7-64	AEC 994/20	Radioisotopes to Private Industry	Transfer of Radioisotopes to Private Industry				
				vee				
2	8-11-64	Not good						
		<i>now filed</i>						
		<i>PL Bill 7. Transferred</i>						
3	12-4-64	Bio-Rad Lab.						
			et					
4	12-31-64	Sale of Deuterium Gas	Deuterium Gas					
				vee				
5	1-11-65	Radiation Machine Mfg.	Radiation Progress					
				et				
6	2-9-65	Pricing Policy on Radioisotopes	Radioisotope Price Changes					
				vee				
7	2-11-65	AEC 994/21	Commercial Transfer of Radioisotopes to Private Industry					
				vee				
8	2-10-65	Iron Ore						
				vee				
9	3-18-65	AEC 994/22	Radioisotope Price Changes					
				et				
10	3-25-65	AEC 994/23						
				vee				
11	4-5-65	AEC 994/24	Strontium 90	Quehana Facility				
				vee				
12	5-11-65	AEC 994/25a	Currie Report	Industry Evaluation of Isotopes and Radiation				
				vee				
13	4-19-65	Industry's Evaluation of	Isotopes and Radiation					
				et				

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Isotopes 3

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AEC 994/25

May 11, 1965

COPY NO. 17

ATOMIC ENERGY COMMISSION
INFORMATION ITEM
COMMENTS ON CURRIE REPORT

Note by the Secretary

1. The attached memorandum of May 6, 1965, from the Acting Director of Isotopes Development, with attachment, is circulated for the information of the Commission at the request of the Executive Assistant to the General Manager.

2. In line with Commission discussion at Information Meeting 477 on May 6, 1965, Commissioners Ramey and Tape will meet with Mr. Lauchlin Currie at an appropriate date.

W. B. McCool

Secretary

Attachments:

- a. Memo of 5/6/65 from Acting Director, ID, to DGM w/
- b. Comments on Currie Report

<u>DISTRIBUTION</u>	<u>COPY NO.</u>
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5-11-65

X-100-7-Isotopes Rad. & Dev. Adv. Center on

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OPTIONAL FORM NO. 10
5010-104

UNITED STATES GOVERNMENT

Memorandum

TO : E. J. Bloch, Deputy General Manager DATE: MAY 6 1965
THRU : S. G. English, AGMRD *J. M. Kavanagh*

FROM : E. J. Fowler, Acting Director
Division of Isotopes Development

SUBJECT: REPORT BY CHAIRMAN, ADVISORY COMMITTEE ON ISOTOPES
AND RADIATION DEVELOPMENT, ON "INDUSTRY'S EVALUATION
OF ISOTOPES AND RADIATION"

In accordance with your request to Dr. English's office, we have prepared comments on the recommendations of the subject report which are attached.

Attachment:
Comments on Currie Report

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RECOMMENDATION (a)

Actively seek jointly funded projects for isotopes and radiation development with industries which can contribute background knowledge, technical skills, and money; and which will utilize the technology upon termination of AEC support.

COMMENT - It is the consensus of the ACIRD and numerous industrial groups with which we have met that demonstration projects for isotopes and radiation development are an essential step for translating this technology into practical usage. The viewpoint is also strongly held that industry should be involved in research and development projects leading to commercial application at the earliest possible stage with jointly funded demonstrations achieved in each case practicable. We share this view and have been moving in this direction. Selected AEC-industry cooperative programs are now in effect. Additional cooperative programs are now being negotiated on an ad hoc basis, such as our plan for joining with the fisheries industry in making use of the Marine Products Development Irradiator in Gloucester, Massachusetts. A press announcement formally soliciting the participation of the fishing industry in such a cooperative program has just been issued. We feel, however, that the Commission

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should formally establish an isotopes and radiation demonstration program and publicly announce its policy for this, including specific criteria for entering into jointly funded programs. We are preparing a staff paper on this subject for Commission consideration.

RECOMMENDATION (b)

Set up procedures for loan or rental of very large radiation sources to industries willing to fund for construction of prototype irradiators.

COMMENT - An announced policy permitting the leasing, loaning, or renting of large radiation sources for prototype or pilot plant applications would provide an incentive for increased private industry participation in translating isotopes and radiation technology into practical usage. A number of industrial companies have proposed cooperative programs under which large sources would be made available by AEC under terms other than direct sale. We have been studying the feasibility of such a policy as one option under the isotopes and radiation demonstration program now being considered.

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RECOMMENDATION (c)

Broaden AEC patent procedures to provide research and development contractors with some form of lead-time (or exclusive position) for contributing unique ideas, competence, and co-sponsorship monies.

COMMENT - The Isotopes Development Program to date has been concerned mainly with research and development activities fully supported by the Government, and in this context, it has experienced no particular adverse effects from administration of the current AEC patent policies.

As elements of the program move forward into demonstration phases, however, and particularly where these involve joint funding by industry, it becomes extremely important that full advantage is taken of AEC patent policies and provisions which can accord to industry some recognition of its contributions. This includes consideration of background rights and proprietary information, liberal treatment of foreground developments, and the establishment of a "lead" time for industrial exploitation of developments resulting from jointly funded work.

The Assistant General Counsel for Patents is being requested to advise on which of the above can be accommodated under existing policies and regulations and which

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may require policy changes. In this connection, the staff paper being prepared on the demonstration program will comment on any patent policies which could deter industrial participation in the program.

RECOMMENDATION (d)

Extend the general license provision to:

- (i) Afford an individual industrial user a general license for multiple purposes, for those types and quantities of radioisotopes which he has previously demonstrated the ability to handle safely under a specific license. Such a general license might be restricted to a maximum of one curie per project of beta and gamma emitters, not as a sealed source; and five curies as a sealed source. Information on the total quantities of byproduct radioisotopes being used could be obtained through record keeping and reporting requirements.
- (ii) Increase a fewfold the low microcurie quantities of radioisotopes generally licensed to anyone in 10 CFR 30, Section 30.72, Schedule B, to permit more meaningful research and development use.

NOTE: That concept (i) would be more consistent with qualification for performing other potentially hazardous tasks.

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NOTE: That recommendation (ii) would assist new users "over the threshold" and would actually improve radiological safety by eliminating many uses of more hazardous radium for preliminary studies, noted in item 8 above.

NOTE: That byproduct radioisotopes have been used for more than 18 years without causing any significant physical injury; thus, it is reasonable to believe that such broadening of the general license can be made without undue risk to the public health and safety.

COMMENT - We believe the concept set forth in paragraph (i) is sound both from the point of view of advancing isotopes and radiation technology and health and safety considerations. The recommendation in paragraph (ii) also would be beneficial to increasing radioisotope use. While implementation of these two recommendations would assist in developing isotope and radiation use, it would appear that a more constructive step to be taken at this time would be a full study of regulatory practices governing radioisotope use in the United States by an independent group of experts similar to the Committee studying reactor licensing. The purpose

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in making this suggestion is that the Currie report has simply highlighted a serious concern which has existed among radioisotope users for a number of years. The Atomic Industrial Forum has considered previously the desirability of making such an assessment. The conduct of a study by the Forum might provide the Commission a convenient and useful vehicle.

The Director of Regulation has been provided copies of the report by the General Manager's Office. Additionally, Dr. Currie met with Mr. Price on January 8, 1965 and on February 1, 1965, to review preliminarily industry comments on the Commission's regulatory practices governing radioisotopes use.

RECOMMENDATION (e)

Adopt a more positive public information program to offset unfounded fears about radioisotopes and radiation. One possible approach would be to obtain contracts with well-known research laboratories to document levels of natural radioactivity in everyday items and foodstuffs, and in living things (e.g., the average human being contains 0.21 microcurie of natural radioactivity - equivalent to 460,000 internal "explosions" every minute). AEC's customary "defensive" attitude about radiation safety, overly restrictive licensing requirements, and intensive inspection procedures is said to actually perpetuate unfounded fears about radioisotopes and radiation.

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RECOMMENDATION (f)

Prepare and publish a handbook directed toward engineering and financial management people in industry. Such a book should cover how to "deal with" - not how to use - nuclear programs. It should provide to corporate executives and working-level management, extensive and easy-to-read information on safety measures, licensing and inspection requirements, waste disposal, insurance, dealings with radiation workers and other concerned plant personnel, general public relations regarding use of radioisotopes, etc. Such a handbook should inform a manager as to what he would have to do in order to put into operation the recommendations of his technical staffs working with radioisotopes.

COMMENT - The statements on the need for a more positive public information program are well taken. This need has long been recognized. The type of information that it is suggested be developed, however, already exists and can be found in various publications. Additionally, it represents but a single example of a multitude of things which must be done if a more effective public information program is to be embarked on. The key problem in our

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view, therefore, is not the compilation of information but its effective communication to the public and to industry. It may well be that the AEC itself is not equipped adequately to carry out fully a public information effort of this nature. The best evidence of this is that, while active efforts have been made through the years on information dissemination, we are still confronted with the problem in a substantial way.

May 7, 1965

MEMORANDUM FOR RECORD:

SUBJECT: LAUGHLIN CURRIE LETTERS

At Information Meeting 477, May 6, the Commissioners agreed that it would be desirable to meet with Mr. Currie but that it did not appear necessary for all Commissioners to participate. In line with this, it was further agreed that arrangements should be made for Mr. Ramey and one other Commissioner to meet at a mutually convenient time with Mr. Currie.

Following the Information Meeting, I reviewed this item with Mr. Yore who said he would discuss the matter with Mr. Ramey and let us know what arrangements Mr. Ramey desires and whether the Secretariat can be of any assistance. I indicated to Mr. Yore that when a final arrangement was made, I felt that the Secretary would want to inform the Commissioners appropriately.

F. T. Hobbs

F. T. Hobbs
Acting Secretary

CC: Dr. Fritsch
Mr. Yore
Meeting Branch
Mr. McCool

5-7-65

Isotope 3

APR 27 1965

Dear Senator Morton:

I am pleased to reply to your letter to me of April 13, 1965, regarding comments by Dr. Felix Bronner of the University of Louisville on the availability and cost of calcium 45.

In his letter of April 7 to me Dr. Bronner protested the Atomic Energy Commission's decision to discontinue providing calcium 45 and other radioisotopes because of their availability from commercial suppliers. Dr. Bronner set forth two reasons for his concern: (1) that the prices charged by commercial suppliers were considerably higher than those charged by the AEC's Oak Ridge National Laboratory and (2) that the calcium 45 available from commercial firms was not of a technical quality suitable for his requirements.

Following receipt of Dr. Bronner's letter he was contacted by telephone to obtain further details concerning his difficulties in obtaining calcium 45. With respect to commercial prices, it developed that Dr. Bronner had not yet had an opportunity to examine the most recent price schedules of the commercial suppliers. Currently the commercial prices for calcium 45 are somewhat lower than those which the AEC had been charging. Dr. Bronner was also advised of the Commission's policy to continue to meet special requirements for radioisotopes from which it has generally withdrawn to the extent that the purchaser cannot obtain material of the technical quality he requires from commercial sources. This policy is identified in the enclosed press release of January 19, 1965, announcing our withdrawal from the routine production and distribution of calcium 45 and other radioisotopes. In light of the above, I would hope that Dr. Bronner will have no difficulty in obtaining the required radioisotopes for his research.

In carrying out our policy of withdrawing from routine production and distribution of commercially available radioisotopes we are sensitive to the need to assure that the public interest is adequately protected. To this end we have established formal policies and procedures for transfer of AEC commercial radioisotope production and distribution activities to private industry. These were published in the Federal Register on March 9, 1965, and I am enclosing a copy for your information. As you will note, this policy statement provides that

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Senator Morton

- 2 -

proposed private radioisotope prices should be reasonable and consistent with encouragement of research and development and use, and that the specifications of the commercially produced product should be comparable to AEC products or adequate to meet user demands.

If you have further questions concerning Dr. Bronner's letter or our policy of transferring radioisotope production to private industry, I will be very pleased to respond to them.

Cordially,

(Signed) Glenn T. Seaborg

Chairman

Honorable Thruston B. Morton
United States Senate

Enclosures:

- 1. Press Release dtd. 1/19/65
- 2. Federal Register Notice dtd. 3/9/65

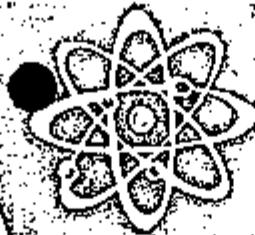
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APR 26 1965
U.S. DEPARTMENT OF ENERGY

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OFFICE ▶	DID:AD	AGMRD	AGM	DGM	GM	CONG. LIA
SURNAME ▶	Fowler				VERIFIED	
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AEC



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

No. H-14
Tel. 973-3335 or
973-3446

FOR IMMEDIATE RELEASE
(Tuesday, January 19, 1965)

AEC TO WITHDRAW FROM
PRODUCTION AND SALE OF SIX RADIOISOTOPES

The Atomic Energy Commission will withdraw from the routine production and distribution of six radioisotopes -- antimony-125, calcium-45, iron-59, selenium-75, tin-113, and zinc-65 -- effective April 18, 1965. This is in accordance with the Commission's general policy to discontinue providing materials or services which are reasonably available from commercial sources.

The Commission will not accept new orders for these radioisotopes after February 17. As with past withdrawals, the AEC will continue to meet requirements to the extent that the purchaser certifies in writing that he requires material of a technical quality which is not commercially available.

These radioisotopes are now produced and distributed through the Commission's Oak Ridge (Tennessee) National Laboratory operated for the AEC by the Union Carbide Corporation. The six radioisotopes are used principally in research and in medical diagnosis.

Private organizations are producing the six radioisotopes in sufficient quantities to meet ordinary commercial demands. Prices published by the producers are believed to be reasonable. Additional information on the availability of these materials may be obtained from commercial suppliers of radioisotopes.

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ATOMIC ENERGY COMMISSION

POLICIES AND PROCEDURES FOR TRANSFER OF COMMERCIAL RADIOISOTOPE PRODUCTION AND DISTRIBUTION TO PRIVATE INDUSTRY

Statement of Policy

Since 1946, the United States Atomic Energy Commission has produced radioisotopes in its own facilities and distributed them for governmental and private use. In recent years, private facilities have become available which are capable of producing and processing some of these radioisotopes. The Commission's policy is to refrain from competing with private sources of materials when they are reasonably available commercially. Accordingly, over the past years the Commission has discontinued production and distribution of selected types, quantities and qualities of radioisotopes and related services as these have become available from private sources.

There is currently a rapidly growing industrial interest in undertaking private production and distribution of increasing numbers of radioisotopes presently being distributed by the Commission. It therefore wishes to reaffirm its policy to transfer its commercial radioisotope production and distribution activities to private industry as rapidly as possible consistent with the national interest. To provide for the orderly transfer to private operation, the Commission developed proposed policies and procedures for effecting such transfer. On September 16, 1964, the Commission published in the FEDERAL REGISTER a request for public comment on the proposed policies and procedures.

Interested persons were requested to direct their comments to the Secretary, United States Atomic Energy Commission, Washington, D.C., 20545, within 60 days from that date. The Commission has now adopted policies and procedures for the transfer of commercial AEC radioisotope production and distribution activities to private industry, effective immediately upon the publication of this notice in the FEDERAL REGISTER.

POLICIES AND PROCEDURES FOR TRANSFER OF COMMERCIAL AEC RADIOISOTOPE PRODUCTION AND DISTRIBUTION ACTIVITIES TO PRIVATE INDUSTRY

The policies and procedures encompass:

- a. The establishment of guidelines governing AEC withdrawal from production and distribution of particular radioisotopes, either voluntarily or upon petition of a private organization.
- b. The establishment of a petition procedure by which private organizations may formally request AEC withdrawal from the

production and distribution of particular radioisotopes.

c. The application of AEC radioisotope pricing policy.

d. The AEC position with respect to its conduct of radioisotope production technology research and development on those radioisotopes from which it has withdrawn from production and distribution.

Withdrawal guidelines. 1. The AEC will voluntarily withdraw from the commercial production and distribution of particular radioisotopes whenever it determines that such radioisotopes are reasonably available from commercial sources.

2. The AEC will withdraw from the commercial production and distribution of particular radioisotopes on petition from a private organization based upon a demonstrable private capability and encompassing the following but recognizing that all these factors need not be completely satisfied:

a. There is effective competition in the production and distribution of the radioisotope in question; however, a single source of supply under certain conditions may be acceptable (e.g. very limited market). Foreign producers will be accepted in determining effective competition provided they are actively marketing the radioisotopes in the U.S.

b. There is assurance that the private producers will not discontinue the venture in a manner that would adversely affect the public interest, to the extent resumption of production by AEC would involve a significant delay.

c. The proposed private radioisotope prices are reasonable and consistent with encouragement of research and development and use.

Government isotope requirements. It is the Atomic Energy Commission's policy to obtain radioisotopes from commercial sources where it has formally withdrawn from the production and distribution of those radioisotopes. However, the AEC maintains the right to produce an isotope for Government use in those circumstances where the Government is a substantial user, or the use is of special programmatic interest to the AEC, and, where procurement from industry would result in significantly higher cost to the Government.

Filing a petition. 1. An organization requesting that the AEC withdraw from the production and distribution of a particular radioisotope may submit a formal petition to this effect. Such a petition should contain sufficient evidence to demonstrate adequate technical, financial and managerial resources, as well as seriousness of intent.

2. The petition should include:

- a. Product specifications to show evidence of their comparability to AEC products or adequacy to meet user demands.
- b. Estimate of current demand. (The petitioner's production capabilities in conjunction with that of other suppliers should be adequate to meet this demand.)
- c. The petitioning organization's production, processing and distribution capability, including identification of the production facilities (e.g., nuclear reactors and/or cyclotrons) available to it and the extent of commitment upon them in relation to market requirements.
- d. Price schedule.
- e. Delivery schedule.
- f. Proposed date of AEC withdrawal.

The AEC may request additional information if the above information is inadequate for AEC to make a finding.

3. Upon making a finding favorable to the petition, the AEC will publish for public comment:

a. The private organization's petition or a summary thereof, exclusive of company confidential information, and will designate the place where a copy of the petition, exclusive of company confidential information, may be seen. (The petitioner should identify those portions of his petition which contain company confidential information; however, the information published must be sufficient to permit meaningful public comment.)

b. A notice of AEC's intent to withdraw. AEC will make a final decision on the withdrawal petition upon receipt and evaluation of public comment.

4. Upon making an unfavorable decision on a petition, either prior to or subsequent to receipt of public comment, AEC will inform the petitioning organization of the reasons for its decision.

5. When AEC determines to withdraw voluntarily from the commercial production and distribution of particular radioisotopes, it will similarly publish a notice of such intent for public comment.

AEC radioisotope prices. 1. AEC radioisotope prices will be established to provide reasonable compensation to the Government (which ordinarily will be the higher of AEC full cost recovery or reasonable commercial rates) unless this would significantly interfere with (a) research and development and use or (b) encouragement of private sources of supply. In individual cases, if (a) and (b) cannot be equally accommodated, greater weight will be given to encouragement of research and development and use.

2. The AEC will publish a 30 day prior notice of proposed price changes, including the reasons for the proposed changes.

3. The AEC will not change the price of a radioisotope during the period it is reviewing a petition for AEC withdrawal from production and distribution of that isotope.

AEC radioisotope production technology research. 1. AEC will place the conduct of radioisotope production technology research and development it deems necessary to be carried out with groups most qualified to perform such work, whether these be AEC facilities or private organizations.

2. AEC will conduct or support production technology research and development on radioisotopes from which it has withdrawn as it deems necessary, but only to the extent that AEC has satisfied itself that industry is unable, is unwilling or simply is not carrying out such work adequately or where it determines that direct AEC effort is necessary, in the interest of the atomic energy program.

(See: 161, 68 Stat. 948; 42 U.S.C. 2201)

Dated at Washington, D.C., this 2d day of March 1965.

For the Atomic Energy Commission.

W. B. McCool,
Secretary.

(P.R. Doc. 65-2382; Filed, Mar. 8, 1965; 8:46 a.m.)

1100 1157

*Dr. Glenn T. Seaborg - Rad. Chem. Div. Center
Isotopes 3*

LAUHLIN M. CURRIE
574 Alda Road
Mamaroneck, New York

April 26, 1965

Dr. Glenn T. Seaborg
Washington, D. C.

Dear Glenn:

Thank you for your letter of the 19th. I am glad that you and the Commission concurred with my recommendations as to membership on the Advisory Committee. Particularly, I am pleased at your approval of Kuranz as Chairman. He has certainly earned "a go" at it, and I was "rotating him off" only on the basis of his length of service. The others mentioned may be considered later.

I assume you have now received the report prepared by Mr. Bizzell and me. I think there are several items of actual, or potential, importance to the future of programs on isotopes. You may note the absence of questions or problems dependent upon prices of isotopes. The absence of these questions is (of itself) important. I was surprised. (Of course, users of multi-curie sources will look, questioning, at prices.)

When you and the other Commissioners have had opportunity to examine our report, I repeat my offer to come to Washington to discuss any portions of interest to you.

My schedule is pretty flexible and almost any date could be arranged. I would prefer to make it in the morning - say about 10:30 - so I could take the 8 or 9 a.m. "shuttle", and would rather not have it on a Thursday, tho neither of these two specifications is "firm".

Sincerely,

/s/ Lauchlin M. Currie
"Lauch"

* Copy filed:
L.M.C. - Isotopes & Rad. Chem. Div. Center

4-26-65

Isotopes - 3

DONALD R. HAYES, M. D.
201 STATE STREET
SPRINGFIELD 8, MASSACHUSETTS
TELEPHONE RB 4-2240

April 20, 1965

Glen Seaborg, M.D.
Chairman
United States Atomic Energy Commission
Washington, D.C.

Dear Dr. Seaborg:

Since 1953, the Wesson Memorial Hospital in Springfield, has had a progressively active isotope department under the direction of Dr. John W. Turner. Dr. Turner was qualified by the American Board of Radiology in Nuclear Medicine by examination in 1958, and has demonstrated his great ability in this field, as well as in radiation treatment, and diagnostic xray. His department has grown, the equipment is available, and the clinicians are making more and more use of scanning techniques. Within the year, Dr. Walton Stevens with similar qualifications has been added to the department. Since 1957 Paul J. Rosenbaum has been consulting physicist on a regular basis.

It has recently come to my attention that there are administrative and licensing problems that seem not only to slow down the development of our department but more important, deny our patients advantages that should be available. A case in point is a recent problem in abdominal trauma which would have profited greatly with a pancreatic scan or a spleen scan.

I find that these studies are unavailable to us, due only to the inability of Dr. Turner to obtain the appropriate isotopes and not because he is unqualified to perform these studies.

I agree wholeheartedly with the careful control of dangerous and new drugs and in limiting their usage to qualified persons and in indicated procedures. The wide spread usage of cortico-steroids in general gives me the horrors. In this instance, however, we have an eminently qualified physician with appropriate equipment, being denied the opportunity to serve the hospital and the community in the best possible way. This administrative denial seems arbitrary and capricious to me and, as a practicing general surgeon, I hate to see my patients going without diagnostic and therapeutic aids that could be available to them.

I sincerely hope that some of these Federal road blocks to the advancement of the practice of medicine and surgery could somehow be removed, and I would greatly appreciate hearing your views.

Thank you very much indeed for your interest in our problems.

Sincerely,

Donald R. Hayes
Donald R. Hayes, M.D.

DRH/keb

4-20-65



Isotopes 3

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

APR 19 1965

Honorable Glenn T. Seaborg
Chairman, U. S. Atomic Energy Commission
Washington, D. C. 20545

Dear Dr. Seaborg:

Last fall, it was suggested that a survey be made to get a better picture of industrial interest, and participation, in work with isotopes and radiation. Accordingly, Mr. Oscar M. Bizzell and I visited about forty firms to discuss their ideas, and we have prepared the enclosed report, entitled "Industry's Evaluation of Isotopes and Radiation."

Discussions were held on a "Business Confidential" basis. It was agreed that no general report (with specific names and details) would be published, but all information (including names) would be made available to the Commission. Thus, the information in the individual company reports should not be released outside AEC.

Although it was not originally part of the agreement, Mr. Bizzell and I subsequently decided to ask the industrial men to read (and clear) the statements we attributed to them. This decision resulted in some "toning down" of the verbal statements originally made to us and caused considerable delay in completion of the report; however, we feel that it permits us to be more positive in our statements and has resulted in a report more free of any "personal equation" on our part.

The enclosed report begins with nine pages of summary,* conclusions and recommendations. I believe the six recommendations merit your consideration.

I trust that this report will prove of interest and help to the Commission. We will be glad to discuss it with you in whatever detail you may desire.

Sincerely yours,

Lauchlin M. Currie

Lauchlin M. Currie, Chairman
Advisory Committee on Isotopes
and Radiation Development

D. C. CLERK
OFFICE OF THE SECRETARY
U. S. ATOMIC ENERGY COMMISSION

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AEC



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

Isotope - 3

B-425

No. H-84
Tel. 973-3335 or
973-3446

FOR IMMEDIATE RELEASE
(Thursday, April 15, 1965)

IDAHO REACTOR IRRADIATES MOST CONCENTRATED COBALT-60 SOURCE

The most concentrated source of gamma radiation ever produced in the world -- a cobalt-60 source for use in cancer treatment -- has been irradiated at the Atomic Energy Commission's National Reactor Testing Station near Idaho Falls, Idaho.

The source weighs 11.6 grams and has an activity of 4,700 curies, or 405 curies per gram. The previous record concentration was another 11.6-gram cobalt-60 source with 308 curies of activity per gram, produced at NRTS in 1960.

A curie is the basic unit used to describe a quantity of radioactivity, and is equal to 37 billion disintegrations per second, or about the radioactivity of one gram of radium. Thus, the source is 405 times as potent as the same amount of radium, by weight.

The source consists of 15 tiny copper-plated disks containing radioactive cobalt-60, transmuted from ordinary cobalt-59 by nearly two years of irradiation in the Materials Testing Reactor.

The source was irradiated by Phillips Petroleum Co., the Commission's principal contractor at NRTS, for the AEC's Argonne Cancer Research Hospital in Chicago. The radioactive wafers have been combined to form a pencil-diameter rod a little more than an inch long. It will be used in the hospital's revolving teletherapy machine for treating internal cancers.

(more)

4-15-65

The slender configuration of the Cancer Hospital-designed cobalt-60 source permits its gamma radiation to be projected in a narrow (0.75 centimeter), sharply defined beam, minimizing damage to healthy tissue.

High specific activity and the slender configuration of the source are desirable for several reasons, including higher dose rate, the near pin-point beam, and minimized exposure time during which patients must remain completely still.

An advantage of man-made cobalt-60 over radium for certain cancer treatments is its more penetrating gamma. Radium could not be used for deep penetration therapy because such large quantities (7,500 grams) would be necessary to do the same initial job as the 11.5 grams of cobalt-60. Moreover, such a source using radium would be too large physically for proper patient administration. Radium is preferred by some hospitals, because of its softer gamma, for skin cancers and for internal cancers susceptible to direct insertion of radium needles.

Radium, which occurs only in nature, is relatively scarce and very costly. At present, the total world supply of radium is estimated at only about 6.6 pounds, or 3,000 curies.

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(NOTE TO EDITORS AND CORRESPONDENTS: This announcement is also being issued simultaneously by the Commission's Operations Office at Idaho Falls, Idaho.)

4/15/65

Isotopes - 3

Congress of the United States
House of Representatives
Washington, D.C. 20515

April 13, 1965

Dr. Glenn T. Seaborg, Chairman
U. S. Atomic Energy Commission
Washington 25, D. C.

Dear Dr. Seaborg:

It has been brought to my attention that the Atomic Energy Commission recently decided that various isotopes, including Ca-45, will no longer be made available to medical schools by the Oak Ridge National Laboratories as they have in the past.

The School of Medicine at the University of Louisville is very much concerned over this decision as it has been using Ca-45 in biomedical research and advises me that commercial suppliers do not have it available in the form and under the conditions that have proved practical and that, if available, the price would be considerably higher than that charged by Oak Ridge National Laboratories.

I shall very much appreciate your giving this matter your careful consideration.

Sincerely,

Charles Farnsley

Charles Farnsley

U.S. OFFICE
OFFICE OF THE SECRETARY
U.S. ATOMIC ENERGY COMMISSION

APR 13 1965

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4-13-65

Loops - 3

WARREN G. MAGRUDEN, WASH., CHAIRMAN	NORRIS COTTON, MISS. V. T.
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United States Senate

COMMITTEE ON COMMERCE

EDWARD JARRETT, CHIEF CLERK

April 13, 1965

Dear Dr. Seaborg:

Dr. Felix Bronner, of the University of Louisville, Louisville, Kentucky, has provided me with a copy of his April 7 letter to you concerning a new Atomic Energy Commission policy requiring certain research laboratories to obtain isotopic material from commercial interests rather than directly from the Oak Ridge National Laboratories.

It occurs to me that the higher cost of isotopes to research organizations, such as Dr. Bronner's, will be reflected in the higher cost of research to the federal government since applications will allow for this increase. Too, it also appears that certain research work will suffer because of qualitative differences in materials acquired. I would appreciate knowing the nature of your reply to Dr. Bronner as well as having your comments on my observations above.

With best wishes,

Sincerely yours,

Thruston B. Morton

Dr. Glenn T. Seaborg, Chairman
U. S. Atomic Energy Commission
Washington 25, D. C.

30 APR 15 1965
FBI - WASHINGTON
TBM:3:el

150 W. 10th St. W. D. 405

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4-13-65



UNITED STATES
ATOMIC ENERGY COMMISSION

WASHINGTON, D.C. 20545

APR 12 1965

MEMORANDUM FOR CHAIRMAN SEABORG
COMMISSIONER BUNTING
COMMISSIONER PALFREY
COMMISSIONER RAMEY
COMMISSIONER TAYZ

SUBJECT: PUBLIC ANNOUNCEMENT ON MOST CONCENTRATED GAMMA SOURCE
EVER PRODUCED

Attached for your information is a public announcement on the irradiation at NEPS of the most concentrated source of gamma radiation ever produced. We plan to issue the announcement simultaneously with the Idaho Operations Office on Thursday morning, April 15.

The General Manager's office has approved the announcement.

(Signed) Philippe G. Jacques
for

Duncan Clark, Director
Division of Public Information

Attachment

cc: P. E. Hollingsworth, General Manager

S. G. English, AGMD
W. G. Brown, AGMA
G. L. Durham, DDM
E. E. Fowler, DID
K. E. Weichold, DDM
J. Maddox, DID
J. J. Burke, OCA
W. B. McGeel, SECRETARY

Isotopes 3
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Res. & Status Br. - 470

UNITED STATES GOVERNMENT

Memorandum

TO : John A. Erlewine, Asst. Gen. Mgr.
for Operations

DATE: April 9, 1965

FROM : W. B. McCool, Secretary

*Original signed
W. B. McCool*

SUBJECT: AEC 994/24 - STRONTIUM 90 PRODUCTION PLANNING

SECY:ICB

1. Following discussion of AEC 994/24 at Meeting 2098 on April 6, 1964, the Commission agreed with the following recommendations of the General Manager regarding the AEC negotiating position with Martin-Marietta Corporation:

a. The AEC should insist that the future operating level of the Quehanna facility is a separate matter from the current negotiations with Martin-U.S. Rubber for construction and operation of an FPCE plant at Hanford;

b. The AEC should attempt to secure Martin's agreement to the lowest reasonable operating level for Quehanna in FY 1966.

2. The General Manager has directed you to take the action required by the above decision.

- cc:
- Chairman
- General Manager
- Deputy General Manager
- Asst. General Manager
- Exec. Asst. to Gen. Mgr.
- Asst. Gen. Mgr. for R&D
- Asst. Gen. Mgr. for P&P
- Asst. Gen. Mgr. for Reactors
- General Counsel
- Director, Contracts
- Director, Isotopes Development
- Controller
- Director, Reactor Dev. & Technology

APR 15 1965

RECYCLED

Copy filed

P.L.B. 1-7- Philip Mathias

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4-9-65



Seaborg 3

UNIVERSITY OF LOUISVILLE
LOUISVILLE, KENTUCKY 40202

SCHOOL OF MEDICINE
DEPARTMENT OF PHYSIOLOGY AND BIOPHYSICS

MEDICAL-DENTAL RESEARCH BUILDING
521 SOUTH FLOYD STREET

April 7, 1965

Dr. Glenn T. Seaborg, Chairman
U. S. Atomic Energy Commission
Washington 25, D. C.

Dear Dr. Seaborg:

I have just been informed that the U. S. Atomic Energy Commission will no longer routinely make available various isotopes, including Ca-45, and that users are asked to obtain these isotopes from commercial sources instead of from Oak Ridge National Laboratories as in the past. My particular interest is in Ca-45 which we are routinely using in bio-medical research, most of which is dependent for its financial support on the United States government. I am writing to you to protest the decision of the Atomic Energy Commission, and do so for two reasons:

1. Commercial suppliers, to the best of my knowledge, have not in the past made Ca-45 available in the form and under the conditions that have proved practical, particularly for animal experiments requiring very high specific activity.

2. The prices charged by commercial suppliers are considerably higher than those charged by Oak Ridge National Laboratories.

Frankly, I see no reason why government funds should be used to support commercial middle men who, so far as I know, simply reprocess the isotopes after purchase from government installations. I believe that this kind of support of private firms is not in the public interest. The mere fact that prices are appreciably higher for commercially obtained Ca-45 means that less funds are available for the remainder of the research program, and I can see no reason why the U. S. taxpayer should support commercial enterprises in this manner.

I strongly urge you to repeal this decision.

OFFICE OF THE FEDERAL
ATTORNEY GENERAL

Sincerely yours,

Felix Bronner

Felix Bronner, Ph. D.
Associate Professor

FB:bhs

cc: Senator Thruston B. Morton
John Sherman Cooper
Congressman Charles Farnsley

4-7-65

CROSS-REFERENCE <i>(Name, number, or subject under which this form is filed)</i>		 Isotopes 3 <div style="background-color: black; height: 100px; width: 100%;"></div>
IDENTIFICATION OF RECORD	DATE	
	TO	
	FROM	
	BRIEF SUMMARY OF CONTENTS	AEC 1087/5 - RADIOISOTOPES PRODUCTION FOR NASA Memo to the CM fr. Production re the above memo constituted an interim analysis of the impact on Production Div. planning to meet those elements of interest in the NASA ltr of 3-16-65.
FILED <i>(Name, number, or subject under which the document itself is filed)</i>	RD 29 NASA Requirements date of paper: 4-5-65	
<div style="height: 400px;"></div>		
<p style="font-size: small;">Optional Form 21 Feb. 1962 GSA Circular 259</p> <p style="text-align: center;">CROSS-REFERENCE</p>		

4-5-65

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April 5, 1965

AEC 994/24

COPY NO. 36

ATOMIC ENERGY COMMISSION

STRONTIUM 90 PRODUCTION PLANNING

(DISCUSSION PAPER)

Note by the Secretary

The General Manager has requested that the attached report by the Acting Director of Isotopes Development be circulated for discussion by the Commission at the meeting scheduled for 2:00 p.m., Tuesday, April 6, 1965.

W. B. McCool

Secretary

DISTRIBUTION

COPY NO.

Secretary	1,33-43
Commissioners	2-6,44-49
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- 1 -

AEC
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X-PLB.1-7 - Pacific Northwest
RD-25
RD-29 - NASA Requirements

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4-5-65

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ATOMIC ENERGY COMMISSION

STRONTIUM 90 PRODUCTION PLANNING

(DISCUSSION PAPER)

Report to the General Manager by the
Acting Director of Division of Isotopes Development

THE PROBLEM

1. To consider the modification of current strontium 90 fuels production plans for FY 1966 and FY 1967.

BACKGROUND AND SUMMARY

2. Strontium 90 fuels for SNAP and other applications are prepared from feed separated and purified at Hanford Atomic Products Operation. This feed is processed, fabricated, and encapsulated at Oak Ridge National Laboratory's Fission Products Development Laboratory and the Martin Company's Quehanna facility which is operated under contract to the AEC. The anticipated inventory of strontium 90 fuels by June 30, 1965, is broken down as follows:

HAPO	In-Process Feed	2.0 megacuries
	Finished Feed	4.3 megacuries
ORNL	In-Process Fuel	0.3 megacuries
	Finished Fuel	2.6 megacuries
Quehanna	In-Process Fuel	0.1 megacuries
	Finished Fuel	0.6 megacuries

3. Current plans call for HAPO to separate and purify strontium 90 feed at the rate of six megacuries annually during FY 1966-67. Additionally, the Fission Products Development Laboratory would process one megacurie of strontium 90 feed during each of the next two years into a fuel form appropriate for terrestrial and marine application. The Martin Company's Quehanna facility would process one megacurie of strontium 90

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feed during each of the next two years into a fuel form appropriate for space application. This production program has been based on a Division of Reactor Development and Technology requirement for strontium 90 fuels, as follows:

	<u>FY 1966</u> (kilocuries)	<u>FY 1967</u> (kilocuries)
SNAP-17 (Space)	840	840 (nominal)
SNAP-21 (Deep Ocean)	300	300
SNAP-23 (Terrestrial)	300	850
Other	-	150

The planned production effort would further provide sufficient aged feed for the proposed private FPCE plant at Hanford beginning in FY 1968.

4. In a memorandum dated March 4, 1965, attached as Appendix "A", the Director, Division of Reactor Development and Technology, informed the Division of Isotopes Development that the SNAP-17 space generator program had been redirected. The net effect of this redirection on the strontium 90 space fuels production effort has been the deferral of requirements for material from the time period FY 1966-67 to FY 1968-69.

5. With the deferral of space fuel requirements, it is believed that other currently anticipated needs for strontium 90 can be met with existing inventories of finished product through FY 1967. Requirements for the FY 1966-67 time period total 1.9 megacuries of fuel for terrestrial and marine systems, while the planned inventory by June 30, 1965, will be 3.2 megacuries of finished fuel. Continued production of strontium 90 fuels at the ORNL Fission Products Development Laboratory and the Martin Company's Quehanna facility beyond FY 1965, therefore, can no longer be justified on the basis of firm requirements or planned needs for terrestrial and space systems.

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6. Even though the processing efforts at the FPDL and the Martin Company's Quehanna facility might be terminated, it is planned that HAPO will continue to separate and purify strontium 90 feed materials to provide for the required 2-year aging and, accordingly, to meet feed needs of the FPCE plant for FY 1968 and beyond. Fabrication and encapsulation of finished strontium 90 fuels now in inventory will be performed at the FPDL on a custom-order basis to satisfy individual generator requirements as they arise. In the event that new requirements placed on the AEC outstrip current inventory levels of finished product, the FPDL could process an additional two megacuries per year of strontium 90 fuels on a multiple product basis, or four megacuries per year on a single product basis.

7. The principal effect of termination in the strontium 90 fuels production program would be termination of AEC support of the Martin Company's Quehanna operation at the end of FY 1965, with whatever additional time and funds required for closeout. The FY 1965 operating cost for the Quehanna facility is \$0.850 million. Approximately 34 people are employed at Quehanna. There would be no change in present operating staff associated with fission product activity at either Oak Ridge National Laboratory or Hanford.

8. It is to be noted that there may be a possible adverse effect on current AEC negotiations with Martin-U.S. Rubber Company related to operation of the 200 area at Hanford and the private construction and operation of the FPCE plant if the Quehanna effort is terminated. Attached as Appendix "B" is a March 29, 1965, memorandum from the Chairman of the FPCE Negotiating Team related to this.

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LIST OF ENCLOSURES

	<u>PAGE NO.</u>
APPENDIX "A" - Memo, Shaw, DRD&T, to Fowler, DID, 3/4/65.	6
APPENDIX "B" - Memo, Braun, FPCE Negotiating Team, to Fowler, DID, 3/29/65.	7

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APPENDIX "A"

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D. C.

March 4, 1965

MEMORANDUM

TO : E. E. Fowler, Acting Director
Division of Isotopes Development

FROM : Milton Shaw, Director
Division of Reactor Development & Technology

SUBJECT: STRONTIUM-90 SPACE POWER PROGRAM

SYMBOL : RDT:ASI:JTA

Reference is made to your memorandum of December 31, 1964, subject as above, which requested information on the current status of the SNAP-17 and/or other strontium-90 fueled space generator programs.

The Phase I SNAP-17 generator contracts with the General Electric and Martin Companies have been completed and terminated. Those thermoelectric modules which were assembled and tested during the Phase I portion of the program are being kept on life test under other AEC contracts. Contract terminations were based on power system utilization dates appearing more realistic in the 1968-1969 period rather than in 1966-1967 as previously indicated for the MACS and Program 461 Satellites, as well as changes in power levels. It is now our intent to redirect and schedule the strontium-90 space power program to first demonstrate that the power supplies can adequately meet the ground handling, remote fueling, and other prelaunch conditions imposed and second to provide flight qualified hardware for launch now estimated to be in 1968, at the earliest.

It is our view that development activities on a satisfactory strontium-90 fuel form should be continued on an uninterrupted basis. There are many generator system design parameters which are affected by the fuel form characteristics and detailed safety analyses are very much dependent on a thorough knowledge of the fuel form and its behavior during the re-entry process and within the biosphere.

In summary, the strontium-90 space generator program has not been terminated, but rather redirected from the original SNAP-17 efforts. Therefore, it is requested that your Division continue to provide us with the necessary support of your strontium-90 fuel form development activities.

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APPENDIX "B"

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D. C.

March 29, 1965

MEMORANDUM

TO : E. Eugene Fowler, Deputy Director
Division of Isotopes Development

FROM : Roman C. Braun, Chairman
FPCE Negotiating Team

SUBJECT: NEGOTIATING POSITION OF MARTIN-U.S. RUBBER RE QUEHANNA
OPERATIONS

During negotiations on the FPCE-200 Area contract, Martin-U.S. Rubber have indicated verbally that their willingness and ability to undertake the FPCE plant is contingent upon continued AEC support of the Quehanna operation at a minimum level of \$550,000 per year until the FPCE goes into commercial operation.

The Martin-U.S. Rubber proposal indicated they plan to use Quehanna to (a) provide a cadre of experienced people to man the FPCE, (b) provide training for additional people for the FPCE and (c) conduct required pre-operational process technology research and development for the FPCE.

It is not unlikely that Martin-U.S. Rubber will ask for a "termination for convenience" clause in the contract for failure of AEC to continue its support of the Quehanna operation. It also appears from their verbal statements that Martin-U.S. Rubber would decline to enter into a contract in the first place with AEC should the Commission determine at this time not to continue to support the Quehanna operation.

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UNITED STATES GOVERNMENT

Memorandum

TO : File

FROM : W. B. McCool, Secretary *WBM*

SUBJECT: RADIOISOTOPE PRICE CHANGES

SECY:JCH

DATE: April 2, 1965

1. At Information Meeting 466 on March 29, 1965, the Commissioners, following review of Mr. Fowler's March 25 memorandum as contained in AEC 994/23, had no objection to the radioisotope price changes which had been recommended in the attachment to the General Manager's February 9, 1965 memorandum for the Commissioners. The Commissioners noted a 30-day prior public notice of these price changes would be provided.

2. The Commissioners had earlier considered the General Manager's February 9 memorandum at Information Meeting 451 on February 12, and had requested the proposal be referred to the Advisory Committee on Isotopes and Radiation Development for comment. Later at Information Meeting 462 on March 19, the Commissioners reviewed Messrs. Abbadessa's and Fowler's March 18 memorandum (circulated as AEC 994/22) and suggested further consideration of the desirability of a longer period of prior notice and of the effect of the proposed cyclotron service irradiation price increases on industrial research, development and use. Mr. Fowler's March 25 memorandum, circulated as AEC 994/23, reported staff's consideration of these matters.

3. It is our understanding the Division of Isotopes Development is taking the required action.

cc:
Chairman
General Manager
Deputy General Manager
Asst. General Manager
Exec. Asst. to Gen. Mgr.
Asst. Gen. Mgr. for R&D
General Counsel
Director, Public Information
Director, Congressional Relations
Director, Isotopes Development
Controller

*Copy filed:
IAO A-14 Primary Policy*

4-2-65-

Isotopes 3

OAK RIDGE NATIONAL LABORATORY

OPERATED BY
UNION CARBIDE CORPORATION
NUCLEAR DIVISION



POST OFFICE BOX X
OAK RIDGE, TENNESSEE 37831

April 1, 1965

Dear Customer:

The Isotopes Development Center of Oak Ridge National Laboratory wishes to announce new prices for radioisotopes and services. The new prices become effective on May 1, 1965. Also enclosed for your further information is the United States Atomic Energy Commission Press Release concerning this matter.

The Center will be pleased to continue to serve you in any way possible within the limits of established policy.

Very truly yours,

E. E. Beauchamp

E. E. Beauchamp, Superintendent
Isotopes Sales Department
Isotopes Development Center

EEB:ac

Enclosure

4-1-65

RADIOISOTOPE PRICE CHANGES

<u>Isotope</u>	<u>New Price</u>
Antimony-122	\$4.50/mc minimum order - \$25.00
Argon-37	\$22.50/mc minimum order - \$25.00
Arsenic-76	\$3.00/mc minimum order - \$25.00
Arsenic-77	\$15.00/mc minimum order - \$25.00
Barium-131	\$90.00/mc minimum order - \$25.00
Barium-133	\$150.00/mc minimum order - \$25.00
Barium-140-Lanthanum-140	\$7.50/mc minimum order - \$25.00
Bismuth-210	\$15.00/mc minimum order - \$25.00
Cadmium-109	\$120.00/mc minimum order - \$25.00
Cadmium-115	\$6.00/mc minimum order - \$25.00
Calcium-47	\$250.00/mc minimum order - \$250.00
Carbon-14	0 - 1,000 mc - \$6.50/mc 1,001 - 5,000 mc - \$5.50/mc 5,001 - 10,000 mc - \$4.50/mc over 10,000 mc - \$3.75/mc minimum order - \$25.00
Chlorine-36	\$0.35/microcurie minimum order - \$25.00
Copper-64	\$2.00/mc minimum order - \$50.00
Gross Fission Products	\$5.50/mc minimum order - \$25.00

<u>Isotope</u>	<u>New Price</u>
Gallium-72	\$6.00/mc minimum order - \$25.00
Gold-198	0-500 mc - \$0.20/mc over 500 mc - \$0.10/mc minimum order - \$50.00
Gold-199	\$7.50/mc minimum order - \$25.00
Tritium (Hydrogen-3)	0- 1,000 C - \$2.00/C 1,001-10,000 C - \$1.50/C over 10,000 C - \$1.00/C plus \$30.00 packing charge minimum order - \$25.00
Iodine-130	\$1.90/mc minimum order - \$25.00
Iodine-131	0-200 mc - \$0.45/mc 201-500 mc - \$0.40/mc 501-1,000 mc - \$0.35/mc 1,001-2,000 mc - \$0.30/mc over 2,000 mc - \$0.25/mc minimum order - \$25.00
Iridium-192 GS	\$9.00/C Source selection charge \$40 (sold only when not commercially available domestically)
Krypton-85	\$22.00/C minimum order - \$25.00
Lanthanum-140	\$3.00/mc minimum order - \$25.00
Mercury-197	\$1.50/mc minimum order - \$25.00
Molybdenum-99	\$2.25/mc minimum order - \$25.00
Neodymium-147-Promethium-147 (based on ¹⁴⁷ Nd content)	\$50.00/mc minimum order - \$25.00
Nickel-63	0-200 mc - \$7.50/mc over 200 mc - \$5.50/mc minimum order - \$25.00

<u>Isotope</u>	<u>New Price</u>
Niobium-95	\$25.00/mc minimum order - \$25.00
Palladium-109	\$1.50/mc minimum order - \$25.00
Phosphorus-32	0-10 C - \$1.30/mc over 10 C - \$1.00/mc minimum order - \$50.00
Potassium-42	\$2.80/mc minimum order - \$25.00
Praseodymium-142	\$4.50/mc minimum order - \$25.00
Praseodymium-143	\$50.00/mc minimum order - \$25.00
Rhenium-186	\$3.00/mc minimum order - \$25.00
Ruthenium-103	\$25.00/mc minimum order - \$25.00
Ruthenium-106-Rhodium-106	\$25.00/mc minimum order - \$25.00
Samarium-153	\$3.75/mc minimum order - \$25.00
Silver-111	\$7.50/mc minimum order - \$25.00
Sodium-24	\$9.00/mc minimum order - \$25.00
Strontium-89	\$13.50/mc minimum order - \$25.00
Sulfur-35-P-1	0- 500 mc - \$0.80/mc 501-1,000 mc - \$0.75/mc 1,001-3,000 mc - \$0.70/mc over 3,000 mc - \$0.65/mc minimum order - \$25.00
Sulfur-35-P-2	\$15.00/mc minimum order - \$25.00
Sulfur-35-P-3	\$15.00/mc minimum order - \$25.00

UNITED STATES
ATOMIC ENERGY COMMISSION
Oak Ridge, Tennessee

Information for Press, Radio and TV (No. 992)

FOR IMMEDIATE RELEASE

Telephone No.
Oak Ridge 483-8611
Extension 3-4231

AEC GIVES ADVANCE NOTICE OF CHANGES IN
RADIOISOTOPE PRICES AND IRRADIATION SERVICE CHARGES

The Atomic Energy Commission will increase prices of fifty-two radioisotopes and will reduce prices of eight others. The price changes become effective on May 1, 1965.

The price increases are necessary to recover full costs of radioisotope production and distribution. Some of the more commonly-used radioisotopes for which prices will be increased are: Krypton-85, Iodine-131, Gold-198, Phosphorus-32, Calcium-47 and Strontium-89. Among those for which prices will be decreased is Carbon-14, a radioisotope widely used in biomedical research.

The prices for cyclotron irradiation service will be increased from \$90 an hour to \$140 an hour. Commercial processors and distributors of cyclotron-produced isotopes use this service because no suitable commercially owned machines are available. These companies use the 86-inch cyclotron at AEC's Oak Ridge National Laboratory for irradiation of materials which the companies then process for the desired radioisotopes. Modest increases also will be made in reactor irradiation service charges.

The advance notice is in keeping with a procedure published by the AEC in the Federal Register, March 9, 1965.

RECEIVED

AEC



**UNITED STATES
ATOMIC ENERGY COMMISSION**
WASHINGTON, D.C. 20545

Isotopes - 3

No. H-66
Tel. 973-3335
973-3446

FOR IMMEDIATE RELEASE
(Thursday, April 1, 1965)

B-425

AEC GIVES ADVANCE NOTICE OF CHANGES IN RADIOISOTOPE PRICES AND IRRADIATION SERVICE CHANGES

The Atomic Energy Commission will increase prices of fifty-two radioisotopes and will reduce prices of eight others. The price changes become effective on May 1, 1965.

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The advance notice is in keeping with a procedure published by the AEC in the Federal Register, March 9, 1965.

(more)

*Draft filed:
I.R.A.-1-1 Pricing Policy*

4-1-65

Copies of the revised price schedule may be obtained from:

Oak Ridge National Laboratory
Isotopes Sales Department
Isotopes Development Center
P. O. Box X
Oak Ridge, Tennessee 37831
Attn: E. E. Beauchamp

Brookhaven National
Laboratory
Hot Laboratory Division
Upton, Long Island,
New York 11973
Attn: Louis Stang

*

(NOTE TO EDITORS AND CORRESPONDENTS: This announcement is also being issued simultaneously by the Commission's Operations Office at Oak Ridge, Tennessee.)

4/1/65

U.S. ATOMIC ENERGY COM.
OFFICE OF THE SECRETARY
GERMANTOWN

1965 APR 2 PM 1 41

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AEC 994/23

March 25, 1965

COPY NO. 18

ATOMIC ENERGY COMMISSION

INFORMATION MEETING ITEM

RADIOISOTOPE PRICE CHANGES

Note by the Secretary

The General Manager has requested that the attached staff memorandum be circulated to the Commission for consideration at an early Information Meeting.

W. B. McCool

Secretary

Attachment:

Memo to Gen. Mgr. from
E.E. Fowler, ID, dated
3/25/65

DISTRIBUTION

COPY NO.

Secretary	1, 17-21
Commissioners	2-6, 22-25
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3-25-65

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OPTIONAL FORM NO. 10
MAY 1962 EDITION
GSA GEN. REG. NO. 27

5010-106

UNITED STATES GOVERNMENT

Memorandum

TO : R. E. Hollingsworth
 General Manager

THRU: S. G. English, AGMRD

FROM : E. E. Fowler
 Acting Director
 Division of Isotopes Development

SUBJECT: RADIOISOTOPE PRICE CHANGES

DATE: March 25, 1965

At Information Meeting 462 on Friday, March 19, in reviewing a memorandum dated March 18, 1965, from the Acting Director of the Division of Isotopes Development and the Controller concerning radioisotope price changes the Commission requested further consideration of

- 1) The desirability of extending the 30 day period of prior notice of radioisotope price changes and
- 2) The effect of the proposed cyclotron service irradiation price increases on industrial research, development and use.

The staff has considered that limiting the period of prior notice of price changes to 30 days is appropriate for the following reasons:

- 1) The publication in the Federal Register on March 9, 1965, of AEC policies and procedures for transfer of its commercial radioisotope production and distribution activities to private industry, which was approved by the Commission at Meeting No. 2085 on February 18, 1965, specifically provides for a 30 day prior notice period. Extension of this period would of course require Commission action and amendment of the Federal Register statement. No criticism of the 30 day notice provision was received during the period provided for public comment on the proposed policies and procedures published in the Federal Register on September 16, 1964.
- 2) To the extent that the 30 day notice of price increases is lengthened AEC losses incurred in the radioisotope distribution program will be proportionately greater. This would have the effect of requiring even greater price increases in the future and complicate the analysis of unit costs and revenues in subsequent fiscal periods.

It is not felt that any substantial benefit would accrue to radioisotope customers by extending the 30 day period of prior notice and that disadvantages to both the customer and the AEC might result.

~~OFFICIAL USE ONLY~~

OFFICIAL USE ONLY

R. E. Hollingsworth

- 2 -

With respect to the second question, the extent of industrial use of cyclotron isotopes is insignificant. During CY 1964 ORNL furnished cyclotron irradiation services to 30 customers, only one of which was an industrial organization using the material for its own research purposes. Additionally, the Commission's Advisory Committee on Isotopes and Radiation Development has concluded that the price increase for cyclotron irradiation services would have no significant effect on research and development and use, including industrial use.

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157
Isotopes - 3 Distribution
Transfer

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March 18, 1965

AEC 994/22

COPY NO. 16

ATOMIC ENERGY COMMISSION

INFORMATION MEETING ITEM

RADIOISOTOPE PRICE CHANGES

Note by the Secretary

AEC
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The General Manager has requested that the attached staff memorandum be circulated to the Commission for consideration at the Information Meeting on Friday, March 19, 1965.

W. B. McCool

Secretary

Attachment:
Memo, 3/18/65, DID and
Controller to Commission

DISTRIBUTION

COPY NO.

- Secretary 1, 15-20
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- AGMRD 12
- Controller 13
- Isotopes Dev. 14

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3-18-65



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

MAR 1 9 1965

MEMORANDUM FOR CHAIRMAN SEABORG
COMMISSIONER BUNTING
COMMISSIONER PALFREY
COMMISSIONER RAMEY
COMMISSIONER TAPE

THROUGH ^{for} GENERAL MANAGER

J. M. Bloch MAR 1 8 1965

SUBJECT: RADIOISOTOPE PRICE CHANGES

In reviewing a memorandum from the Acting Director of the Division of Isotopes Development concerning radioisotope price changes at Information Meeting 451 on February 12, 1965, the Commission requested consideration of the following:

1. The effect of the proposed price increases on research and development and use.
2. The attitude of the Advisory Committee on Isotopes and Radiation Development with respect to the proposed price changes.
3. The desirability of accomplishing necessary price increases in a stepwise fashion or providing more notice of such increases, especially with respect to charges for cyclotron irradiation services.
4. The extent of reliability of the allocation of costs of production to individual radioisotopes.
5. Whether the AEC full cost recovery policy should continue to be applied to the radioisotope distribution program and irradiation services.

MAR 13 1965

The staff has considered these several questions and notes the following:

1. Current AEC policy provides, in part, that radioisotope prices ordinarily will be established at the higher of AEC full cost recovery or reasonable commercial rates unless this would significantly interfere with research and development and use. The radioisotopes for which price increases are being proposed generally are used for research purposes in which they represent only a small portion of the total research program cost. Accordingly, it is not believed that these increases would significantly interfere with research and development and use.

The proposed increase from \$90 to \$140 an hour for cyclotron irradiation services might have some adverse effect, particularly with respect to medical users of cyclotron isotopes. The 86-inch ORNL cyclotron is the principal machine in the United States suitable for the production of such isotopes. Since these materials generally are used in small quantities and often under grants or research contracts, however, it is difficult to establish that any significant interference with research and development and use would result from the proposed price increase for cyclotron irradiation services.

2. The Subcommittee on Commercial Activities of the Advisory Committee on Isotopes and Radiation Development reviewed both the radioisotope and cyclotron irradiation services proposed price changes at a meeting on February 23, 1965, and concluded that their impact would not be of such magnitude as to significantly interfere with research and development and use. They recommended that the price changes be put into effect. On February 26, 1965, the Subcommittee's recommendations were submitted to the full ACIRD for comment with replies requested by March 12. Such replies were received from 16 of the current 22 members of the ACIRD. All respondents recommended that the price changes be implemented and expressed the opinion that this would not result in significant interference with research and development and use.
3. The price increases proposed, resulting from established annual cost price studies, already reflect a deliberate effort begun several

MAR 18 1965

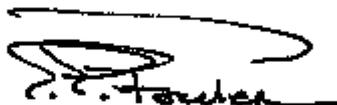
years ago to achieve a full cost recovery position by a stepwise fashion, particularly with regard to cyclotron irradiation services. Thus, in the past two years, cyclotron irradiation service charges have been increased from \$70 an hour to the current \$90. The necessary increase to \$140 an hour could be established in additional steps; however, the resulting further losses ultimately would lead to a need to increase the price even beyond \$140 an hour.

The 30-day prior notice of the price changes which was proposed reflected the provision to this effect which appeared in the September 16, 1964, Federal Register notice of proposed AEC policies and procedures for the transfer of AEC commercial radioisotope production and distribution activities to private industry (subsequently adopted by the Commission in final form on February 18, 1965). None of the comments received on the proposed policies and procedures were addressed either pro or con to the 30-day prior notice provision. There appears to be no clear-cut advantage in extending the period of prior notice. On the other hand, in the case of price decreases, there is a potential disadvantage to AEC and private industry distributors from an overly long prior notice since customers would tend to defer any purchases until the effective date of the price decrease.

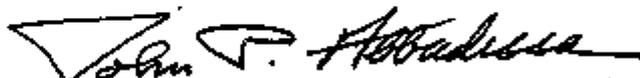
4. The procedures in use for determination and allocation of costs for pricing of isotopes are well conceived and produce reasonable results, particularly at ORNL which produces all but four of the isotopes for which price changes are being proposed. Further refinements of these procedures would not result in a significant change in the cost-price determinations which have been made.
5. Private radioisotope production has become prominent only within the last year and the Commission's formal policies and procedures for transfer of AEC's commercial radioisotope production activities to private industry are only just now being published. Establishing AEC radioisotope prices on a basis other than full cost at this point in time would have the effect of dampening the current industry

MAR 18 1961

interest in private radioisotope production and limiting AEC's opportunity to transfer its commercial radioisotope production activities to private industry. The Atomic Industrial Forum's ad hoc Committee on Isotope Production and Distribution consistently has urged that AEC radioisotope prices be established to recover full costs. It would be preferable, therefore, to continue with the full cost recovery policy until private industry production has had an opportunity to develop and expand and has taken over a greater portion of the production now being done by AEC. At this point it would be appropriate to consider the need for alternate means of financing and pricing the radioisotopes which still remain with AEC.



E. E. Fowler, Acting Director
Division of Isotopes Development



John P. Abbadessa, Controller

cc: Secretary
Commissioners
General Manager
Deputy General Manager
Assistant General Manager
Exec. Asst. to the Gen. Mgr.
AGMRD
General Counsel
Controller
Division of Isotopes Development



RD 25

Isotopes - 3

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
WASHINGTON 25, D.C.

OFFICE OF THE ADMINISTRATOR

March 16, 1965

Dr. Glenn T. Seaborg
Chairman

Dr. Glenn T. Seaborg
Chairman
U. S. Atomic Energy Commission
Washington, D. C. 20545

Dear Dr. Seaborg:

NASA has reviewed its potential need for various isotopes to be used in space power devices in the light of the information on production and cost of plutonium-238, polonium-210, curium-244, strontium-90, and promethium-147 provided by Mr. Hollingsworth. The information has been used by NASA in studying the use of isotopes and respective power systems for various proposed scientific applications and manned space missions.

As we all recognize, planning for future missions, especially out to 1980, is fraught with uncertainties. We will be in a much better position to make more accurate estimates of the future missions this country may wish to undertake and the resulting isotope power requirements after we review the results of presently approved missions such as the Gemini flights to be conducted during this year and next which will better define man's role and capability in space. We will also, during this time, be able to evaluate the results of the studies of the Voyager missions. Based on the broad discussion of the results of our current missions and also of studies of possible future space missions, we will be in a better position to accurately estimate the course of the future program. Consequently, statements with respect to future space activity and need for isotopes are almost certainly subject to change, either upward or downward. There is a good probability that NASA will require certain isotopes in quantities above those currently being produced. This conclusion of the NASA studies, obviously, is contingent upon confirmation by the AEC as to radiation properties, longevity of fueled capsules, power system efficiency, and safety of the isotopes at the power levels that may be needed for proposed space missions. The details of our analysis were discussed with the AEC staff on December 21, 1964.

NASA would support the AEC in producing Pu-238 up to 500Kwt for NASA by 1980 by methods which yield unit costs comparable to that of case A of the November 4, 1964 letter. We expect that more than 500Kwt may be needed if certain manned missions are implemented and if they require Pu-238, but it is not now obvious that action to increase quantities beyond 500Kwt should be taken at this time particularly since many potential NASA missions are

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RD 29-NASA Requirements
materials - Curium

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not yet defined and approved. It appears that the combination of AEC enlarged capacity plus the increasing isotope quantities that could be obtained from the civilian nuclear power industry can meet our foreseeable power needs. Accordingly, the AEC should maintain the option in its planning to increase radioisotopes production to the larger quantities. At the same time, it is clear that Pu-238 may not be exclusively needed for all of our proposed uses, since Po-210, Pm-147, and Cm-244 may be substituted in some cases.

Polonium-210 appears to be most useful to NASA for missions of short duration, or which have a resupply capability. It appears that the lead time for increasing the production quantities of that material is about the same or less than the time required for developing mission hardware. Consequently, production efforts to produce larger quantities of that isotope need not be initiated until applicable missions are defined and authorized. At that time, the AEC will be informed of the need, so that production can be synchronized with the missions. We recognize because of its relatively short half-life, Po-210 cannot be stockpiled, so careful production scheduling will be required.

Promethium-147 appears to be attractive for certain space power applications. Production in accordance with current AEC plan (case A of Dec. 2 letter) is recommended. We suggest that the AEC continue to investigate methods to obtain increased amounts of Pm-147 at about the cost level shown in case A.

Although our present evaluation of curium-244 is favorable because of its half-life, apparent performance and potential availability in large amounts on relatively short notice, this evaluation is uncertain because of the lack of complete or precise knowledge of its properties. Definitive requirements could be formulated concerning the material after its properties are fully determined. Strontium-90 is not favored at this time due to safety and unresolved spacecraft integration problems.

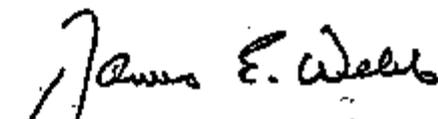
Accordingly, in order that we may better refine our present evaluation of the various isotopes and isotope power systems, as well as to better define mission needs, it would be useful if the AEC could continue or initiate efforts to obtain further fundamental information about the isotopes of interest. It is suggested that the AEC include in its research program the materials properties that are currently lacking or in doubt; the development and validation of improved fuel forms and encapsulation of the most promising isotopes; precise determination of the criticality of Pu-238 and Cm-244; validation of the safety of heat sources as large as 50KWt which may be used; and any other problems that may be encountered during the utilization of isotopes for the production of space power. As part of this investigation, the accurate determination of Cm-244 properties should be accelerated. Finally, it is suggested that sufficient work should be accomplished to provide details of yields and costs of the isotopes of interest at several levels of production at minimum cost up to 250KWt

annually, if appropriate, for the decade 1970 to '80. Further, as future space missions become defined, we will keep the AEC informed as to power requirements for inclusion of isotopes SNAP devices in NASA space vehicles.

The above guidance is intended for the use of the Atomic Energy Commission in planning for production of the various isotopes for potential future use by NASA.

I would like to take this opportunity to express NASA's appreciation for the excellent cooperation and efforts which were forthcoming from your personnel in furnishing the production capability information and for the additional technical and other support which were rendered on what was often very short notice.

Sincerely yours,


James E. Webb
Administrator

AEC



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

No. H-55
Tel. 973-3335 or *Int-type-2*
973-3446

FOR IMMEDIATE RELEASE
(Wednesday, March 10, 1965)

AEC-ADOPTS FORMAL PROCEDURES FOR WITHDRAWAL FROM ROUTINE PRODUCTION AND DISTRIBUTION OF RADIOISOTOPES

The Atomic Energy Commission has adopted formal procedures for AEC withdrawal from routine production and distribution of radioisotopes which are reasonably available from commercial sources.

The AEC action reaffirms the Commission's policy and intent to transfer routine radioisotope production and distribution activities to industry as rapidly as possible consistent with the over-all national interest.

The formal procedures by which the Commission may withdraw voluntarily, or by which industry might take the initiative to request such withdrawal, were published in the Federal Register on March 9, 1965. These policies and procedures became effective immediately upon publication in the Federal Register. When the procedures were first published in the Federal Register, September 16, 1964, the Commission provided a 60-day period for public comment. Twenty comments were received by the AEC from individuals representing 18 organizations.

Since 1946, AEC has produced and processed radioisotopes in its facilities and distributed them for governmental and private use. In recent years, private facilities have become available which are capable of producing and processing radioisotopes. As a result, the Commission has discontinued production and distribution of selected types, quantities, and qualities of radioisotopes. Using informal procedures, the AEC withdrew from routine production and distribution of six radioisotopes -- chromium 51, iron 55, cobalt 58, cesium 134, cerium 141, and strontium 85 -- during 1964. Early this year, AEC announced withdrawal from routine production and distribution of antimony 125, calcium 45, iron 59, selenium 75, tin 113, and zinc 65.

*AEC
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3-10-65

Isotope - 3

Handwritten signature/initials



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D. C.

MAR 3 1965

Mr. David C. Eberhart, Director
Office of the Federal Register
National Archives & Record Service
Washington 25, D. C.

ATTENTION: MR. FRANK DIVERT
Dear Mr. Eberhart:

Attached for publication in the Federal Register as a Notice are an original and two certified copies of a document entitled:

**POLICIES AND PROCEDURES FOR TRANSFER OF COMMERCIAL
RADIOISOTOPE PRODUCTION AND DISTRIBUTION TO PRIVATE INDUSTRY**

STATEMENT OF POLICY

Per your arrangement with the Solicitor, Sid Kingsley, it is understood that the attached statement of policy will be published in the notices section of the Federal Register rather than the rules section.

Publication of the above document at the earliest possible date would be appreciated. Please advise of the filing and publication dates of this document by telephoning Code 119, Extension 3446.

Sincerely yours,

Original signed
W. B. McCool

W. B. McCool
Secretary to the Commission

Enclosures:
Original and 2 cert. cys.

cc: Docket Clerk (Dir. of Reg.)
Wm. Hughes (PI)
Legal Files (OGC)
Law Library (OGC)
Congressional Liaison

D. C. Files (SECY)
Germantown Files (SECY) ✓
Public Proceedings Br. (SECY)
Contracts

3-3-65

ATOMIC ENERGY COMMISSION

POLICIES AND PROCEDURES FOR TRANSFER OF COMMERCIAL
RADIOISOTOPE PRODUCTION AND DISTRIBUTION TO PRIVATE INDUSTRY

Statement of Policy

Since 1946, the United States Atomic Energy Commission has produced radioisotopes in its own facilities and distributed them for governmental and private use. In recent years, private facilities have become available which are capable of producing and processing some of these radioisotopes. The Commission's policy is to refrain from competing with private sources of materials when they are reasonably available commercially. Accordingly, over the past years the Commission has discontinued production and distribution of selected types, quantities and qualities of radioisotopes and related services as these have become available from private sources.

There is currently a rapidly growing industrial interest in undertaking private production and distribution of increasing numbers of radioisotopes presently being distributed by the Commission. It therefore wishes to reaffirm its policy to transfer its commercial radioisotope production and distribution activities to private industry as rapidly as possible consistent with the national interest. To provide for the orderly transfer to private operation, the Commission developed proposed policies and procedures for effecting such transfer. On September 16, 1964, the Commission published in the Federal Register a request for public comment on the proposed policies and procedures.

Interested persons were requested to direct their comments to the Secretary, United States Atomic Energy Commission, Washington, D. C. 20545, within 60 days from that date. The Commission has now adopted policies and procedures for the transfer of commercial AEC radioisotope

production and distribution activities to private industry, effective immediately upon the publication of this notice in the Federal Register.

POLICIES AND PROCEDURES FOR TRANSFER OF COMMERCIAL AEC
RADIOISOTOPE PRODUCTION AND DISTRIBUTION ACTIVITIES TO PRIVATE INDUSTRY

The policies and procedures encompass:

- a. The establishment of guidelines governing AEC withdrawal from production and distribution of particular radioisotopes, either voluntarily or upon petition of a private organization.
- b. The establishment of a petition procedure by which private organizations may formally request AEC withdrawal from the production and distribution of particular radioisotopes.
- c. The application of AEC radioisotope pricing policy.
- d. The AEC position with respect to its conduct of radioisotope production technology research and development on those radioisotopes from which it has withdrawn from production and distribution.

Withdrawal guidelines. 1. The AEC will voluntarily withdraw from the commercial production and distribution of particular radioisotopes whenever it determines that such radioisotopes are reasonably available from commercial sources.

2. The AEC will withdraw from the commercial production and distribution of particular radioisotopes on petition from a private organization based upon a demonstrable private capability and encompassing the following but recognizing that all these factors need not be completely satisfied:

- a. There is effective competition in the production and distribution of

the radioisotopes in question; however, a single source of supply under certain conditions may be acceptable (e.g., very limited market). Foreign producers will be accepted in determining effective competition provided they are actively marketing the radioisotopes in the U.S.

b. There is assurance that the private producers will not discontinue the venture in a manner that would adversely affect the public interest, to the extent resumption of production by AEC would involve a significant delay.

c. The proposed private radioisotope prices are reasonable and consistent with encouragement of research and development and use.

Government isotope requirements. It is the Atomic Energy Commission's policy to obtain radioisotopes from commercial sources where it has formally withdrawn from the production and distribution of those radioisotopes. However, the AEC maintains the right to produce an isotope for Government use in those circumstances where the Government is a substantial user, or the use is of special programmatic interest to the AEC, and, where procurement from industry would result in significantly higher cost to the Government.

Filing a petition. 1. An organization requesting that the AEC withdraw from the production and distribution of a particular radioisotope may submit a formal petition to this effect. Such a petition should contain sufficient evidence to demonstrate adequate technical, financial and managerial resources, as well as seriousness of intent.

2. The petition should include:

a. Product specifications to show evidence of their comparability to AEC products or adequacy to meet user demands.

b. Estimate of current demand. (The petitioner's production capabilities in conjunction with that of other suppliers should be adequate to meet this demand.)

c. The petitioning organization's production, processing and distribution capability, including identification of the production facilities (e.g., nuclear reactors and/or cyclotrons) available to it and the extent of commitment upon them in relation to market requirements.

d. Price schedule.

e. Delivery schedule.

f. Proposed date of AEC withdrawal.

The AEC may request additional information if the above information is inadequate for AEC to make a finding.

3. Upon making a finding favorable to the petition, the AEC will publish for public comment:

a. The private organization's petition or a summary thereof, exclusive of company confidential information, and will designate the place where a copy of the petition, exclusive of company confidential information, may be seen. (The petitioner should identify those portions of his petition which contain company confidential information; however, the information published must be sufficient to permit meaningful public comment.)

b. A notice of AEC's intent to withdraw.

AEC will make a final decision on the withdrawal petition upon receipt and evaluation of public comment.

4. Upon making an unfavorable decision on a petition, either prior to

or subsequent to receipt of public comment, AEC will inform the petitioning organization of the reasons for its decision.

5. When AEC determines to withdraw voluntarily from the commercial production and distribution of particular radioisotopes, it will similarly publish a notice of such intent for public comment.

AEC radioisotope prices. 1. AEC radioisotope prices will be established to provide reasonable compensation to the Government (which ordinarily will be the higher of AEC full cost recovery or reasonable commercial rates) unless this would significantly interfere with (a) research and development and use or (b) encouragement of private sources of supply. In individual cases, if (a) and (b) cannot be equally accommodated, greater weight will be given to encouragement of research and development and use.

2. The AEC will publish a 30 day prior notice of proposed price changes, including the reasons for the proposed changes.

3. The AEC will not change the price of a radioisotope during the period it is reviewing a petition for AEC withdrawal from production and distribution of that isotope.

AEC radioisotope production technology research. 1. AEC will place the conduct of radioisotope production technology research and development it deems necessary to be carried out with groups most qualified to perform such work, whether these be AEC facilities or private organizations.

2. AEC will conduct or support production technology research and development on radioisotopes from which it has withdrawn as it deems necessary, but only to the extent that AEC has satisfied itself that industry is unable, is

unwilling or simply is not carrying out such work adequately or where it determines that direct AEC effort is necessary in the interest of the atomic energy program.

(Sec. 161, 68 Stat. 948; 42 U.S.C. 2201)

Dated at Washington, D. C., this 2nd day of March, 1965.

FOR THE ATOMIC ENERGY COMMISSION



W. B. McCool
Secretary

Isotopes - 3

MAR 2 1965

Mr. John T. Conway
Executive Director
Joint Committee on Atomic Energy
Congress of the United States

Dear Mr. Conway:

On September 10, 1964, we advised you of the Commission's plans to publish for public comment proposed formal procedures for Commission withdrawal from routine production and distribution of radioisotopes which are reasonably available from commercial producers. At that time, we transmitted for your information a copy of the contemplated procedural steps and withdrawal guidelines developed for effecting such a transfer which were to be published in the Federal Register.

Publication took place on September 16, 1964, and interested persons were requested to comment within sixty days. Twenty comments were received from individuals representing 18 organizations. The Commission has concluded that these comments were not of such substance to require changes. Accordingly, the Commission has adopted the proposed policies and procedures which will become effective immediately upon publication in the Federal Register.

Attached for your information are copies of the proposed Federal Register notice and public announcement which we plan to release simultaneously with publication in the Federal Register.

Sincerely yours,

Signed:
John V. Vinciguerra
General Manager

Enclosures:

1. Federal Register Notice
2. Public Announcement

AEC 994/21

F.N.A. OFFICE Maddox SURNAME 3/24/65 DATE	ADPLE:RTD MACHIREK:jma 2/24/65	AD:DTD Fowler 2/25/65	AC:RO 3/1/65	ACM/DGM 2/1/65	GM 2/2/65	CONG. LIAS 3/1/65
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ATOMIC ENERGY COMMISSION

POLICIES AND PROCEDURES FOR TRANSFER OF COMMERCIAL
RADIOISOTOPE PRODUCTION AND DISTRIBUTION TO PRIVATE INDUSTRY

Statement of Policy

Since 1946, the United States Atomic Energy Commission has produced radioisotopes in its own facilities and distributed them for governmental and private use. In recent years, private facilities have become available which are capable of producing and processing some of these radioisotopes. The Commission's policy is to refrain from competing with private sources of materials when they are reasonably available commercially. Accordingly, over the past years the Commission has discontinued production and distribution of selected types, quantities and qualities of radioisotopes and related services as these have become available from private sources.

There is currently a rapidly growing industrial interest in undertaking private production and distribution of increasing numbers of radioisotopes presently being distributed by the Commission. It therefore wishes to reaffirm its policy to transfer its commercial radioisotope production and distribution activities to private industry as rapidly as possible consistent with the national interest. To provide for the orderly transfer to private operation, the Commission developed proposed policies and procedures for effecting such transfer. On September 16, 1964, the Commission published in the Federal Register a request for public comment on the proposed policies and procedures.

Interested persons were requested to direct their comments to the Secretary, United States Atomic Energy Commission, Washington, D. C. 20545, within 60 days from that date. The Commission has now adopted policies and procedures for the transfer of commercial AEC radioisotope

production and distribution activities to private industry, effective immediately upon the publication of this notice in the Federal Register.

POLICIES AND PROCEDURES FOR TRANSFER OF COMMERCIAL AEC
RADIOISOTOPE PRODUCTION AND DISTRIBUTION ACTIVITIES TO PRIVATE INDUSTRY

The policies and procedures encompass:

- a. The establishment of guidelines governing AEC withdrawal from production and distribution of particular radioisotopes, either voluntarily or upon petition of a private organization.
- b. The establishment of a petition procedure by which private organizations may formally request AEC withdrawal from the production and distribution of particular radioisotopes.
- c. The application of AEC radioisotope pricing policy.
- d. The AEC position with respect to its conduct of radioisotope production technology research and development on those radioisotopes from which it has withdrawn from production and distribution.

Withdrawal guidelines. 1. The AEC will voluntarily withdraw from the commercial production and distribution of particular radioisotopes whenever it determines that such radioisotopes are reasonably available from commercial sources.

2. The AEC will withdraw from the commercial production and distribution of particular radioisotopes on petition from a private organization based upon a demonstrable private capability and encompassing the following but recognizing that all these factors need not be completely satisfied:

- a. There is effective competition in the production and distribution of

the radioisotopes in question, however, a single source of supply under certain conditions may be acceptable (e.g., very limited market). Foreign producers will be accepted in determining effective competition provided they are actively marketing the radioisotopes in the U.S.

b. There is assurance that the private producers will not discontinue the venture in a manner that would adversely affect the public interest, to the extent resumption of production by AEC would involve a significant delay.

c. The proposed private radioisotope prices are reasonable and consistent with encouragement of research and development and use.

Government isotope requirements. It is the Atomic Energy Commission's policy to obtain radioisotopes from commercial sources where it has formally withdrawn from the production and distribution of those radioisotopes. However, the AEC maintains the right to produce an isotope for Government use in those circumstances where the Government is a substantial user, or the use is of special programmatic interest to the AEC, and, where procurement from industry would result in significantly higher cost to the Government.

Filing a petition. 1. An organization requesting that the AEC withdraw from the production and distribution of a particular radioisotope may submit a formal petition to this effect. Such a petition should contain sufficient evidence to demonstrate adequate technical, financial and managerial resources, as well as seriousness of intent.

2. The petition should include:

a. Product specifications to show evidence of their comparability to AEC products or adequacy to meet user demands.

b. Estimate of current demand. (The petitioner's production capabilities in conjunction with that of other suppliers should be adequate to meet this demand.)

c. The petitioning organization's production, processing and distribution capability, including identification of the production facilities (e.g., nuclear reactors and/or cyclotrons) available to it and the extent of commitment upon them in relation to market requirements.

d. Price schedule.

e. Delivery schedule.

f. Proposed date of AEC withdrawal.

The AEC may request additional information if the above information is inadequate for AEC to make a finding.

3. Upon making a finding favorable to the petition, the AEC will publish for public comment:

a. The private organization's petition or a summary thereof, exclusive of company confidential information, and will designate the place where a copy of the petition, exclusive of company confidential information, may be seen. (The petitioner should identify those portions of his petition which contain company confidential information; however, the information published must be sufficient to permit meaningful public comment.)

b. A notice of AEC's intent to withdraw.

AEC will make a final decision on the withdrawal petition upon receipt and evaluation of public comment.

4. Upon making an unfavorable decision on a petition, either prior to

or subsequent to receipt of public comment, AEC will inform the petitioning organization of the reasons for its decision.

5. When AEC determines to withdraw voluntarily from the commercial production and distribution of particular radioisotopes, it will similarly publish a notice of such intent for public comment.

AEC radioisotope prices. 1. AEC radioisotope prices will be established to provide reasonable compensation to the Government (which ordinarily will be the higher of AEC full cost recovery or reasonable commercial rates) unless this would significantly interfere with (a) research and development and use or (b) encouragement of private sources of supply. In individual cases, if (a) and (b) cannot be equally accommodated, greater weight will be given to encouragement of research and development and use.

2. The AEC will publish a 30 day prior notice of proposed price changes, including the reasons for the proposed changes.

3. The AEC will not change the price of a radioisotope during the period it is reviewing a petition for AEC withdrawal from production and distribution of that isotope.

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2. AEC will conduct or support production technology research and development on radioisotopes from which it has withdrawn as it deems necessary, but only to the extent that AEC has satisfied itself that industry is unable, is

unwilling or simply is not carrying out such work adequately or where it determines that direct AEC effort is necessary in the interest of the atomic energy program.

(Sec. 161, 68 Stat. 948; 42 U.S.C. 2201)

Dated at Washington, D. C., this 2nd day of March, 1965.

FOR THE ATOMIC ENERGY COMMISSION



W. B. McCool
Secretary

PROPOSED PUBLIC ANNOUNCEMENT

AEC ADOPTS FORMAL PROCEDURES FOR WITHDRAWAL FROM
ROUTINE PRODUCTION AND DISTRIBUTION OF RADIOISOTOPES

1. The Atomic Energy Commission has adopted formal procedures for AEC withdrawal from routine production and distribution of radioisotopes which are reasonably available from commercial sources.
2. The AEC action reaffirms the Commission's policy and intent to transfer routine radioisotope production and distribution activities to industry as rapidly as possible consistent with the over-all national interest.
3. The formal procedures by which the Commission may withdraw voluntarily, or by which industry might take the initiative to request such withdrawal, are published in the Federal Register for _____ (date.) These policies and procedures became effective immediately upon publication in the Federal Register. When the procedures were first published in the Federal Register, September 16, 1964, the Commission provided a 60-day period for public comment. Twenty comments were received by the AEC from individuals representing 18 organizations.
4. Since 1946, AEC has produced and processed radioisotopes in its facilities and distributed them for governmental and private use. In recent years, private facilities have become available which are capable of producing and processing radioisotopes. As a result, the Commission has discontinued production and distribution of selected types, quantities, and qualities of radioisotopes. Using informal procedures, the AEC withdrew from routine production and distribution of six radioisotopes -- chromium 51, iron 55, cobalt 58, cesium 134, cerium 141, and strontium 85 -- during 1964. Early this year, AEC announced withdrawal from routine production and distribution of antimony 125, calcium 45, iron 59, selenium 75, tin 113, and zinc 65.

FEB 24 1965

Dear Mr. Blatnik:

Thank you for your letter of February 10, 1965 regarding the use of atomic energy in iron ore beneficiation processes.

The Atomic Energy Commission has done no work directly related to iron ore beneficiation. It has been suggested that some of the physical and chemical phenomena involved in conventional beneficiation processes, such as flotation, might be benefited by gamma or neutron radiation. This is a theoretical concept, and we know of no investigations to date. Radiation treatment would be expensive, however, and may not be justifiable for iron ore.

The developing iron ore beneficiation industry may benefit from the general industrial developments in the use of nuclear energy in the field of instrumentation and analysis of materials, and in the use of radioactive isotope tracers for process development. Although it is not generally appreciated, this rapidly increasing application has been, and will continue to be, of major benefit in all industrial processes.

In addition, of course, nuclear fueled power from a modern plant of the types now being offered by major equipment manufacturers, if well located with respect to the larger power consuming centers, could be of direct benefit to Minnesota iron mining and beneficiation. Also, we believe that the experience being gained in the Plowshare program on the use of nuclear explosives for rock shattering and for the removal of overburden eventually may find application in taconite mining.

We will be glad to furnish further information on any of these specific applications in which you may have an interest.

Sincerely,

Chairman

Honorable John A. Blatnik
House of Representatives

Retyped in Chairman's Office

2-24-65

UNITED STATES GOVERNMENT

Memorandum

TO : Eugene E. Fowler, Acting Director
Division of Isotopes Development

DATE: February 19, 1965

FROM : W. B. McCool, Secretary *Original signed
W. B. McCool*

SUBJECT: AEC 994/21 - TRANSFER OF COMMERCIAL AEC RADIOISOTOPE
PRODUCTION AND DISTRIBUTION ACTIVITIES TO PRIVATE INDUSTRY

SECY:AJ

1. At Meeting 2085 on February 18, 1965, the Commission:
 - a. Authorized for publication in the Federal Register as a Statement of Policy, to be made effective immediately upon publication, the policies and procedures as set forth in AEC 994/21, Appendix "F";
 - b. Noted that a public announcement such as Appendix "D" to AEC 994/21, will be made simultaneously with publication of the Statement of Policy in the Federal Register; and
 - c. Noted that the Joint Committee on Atomic Energy will be informed of this action by letter such as Appendix "E" to AEC 994/21.
2. As you will recall, Commissioner Bunting noted staff should investigate the difficulties encountered by small institutional organizations and other small consumers in procuring satisfactory services from commercial companies.
3. The General Manager has directed you to take the action required by the above decision. It is our understanding that your office will prepare the correspondence to the JCAE. Copies of this letter together with other pertinent correspondence should be provided the Office of the Secretary.

cc:
Chairman
Commissioner Bunting
General Manager
Deputy General Manager
Asst. General Manager
Exec. Asst. to Gen. Mgr.
Asst. Gen. Mgr. for R&D
General Counsel
Director, Industrial Participation
Director, Public Information
Controller
Director, Congressional Relations

2-19-65

UNITED STATES GOVERNMENT

Memorandum

TO : File
J.T. Hollis/jw
 FROM : W. B. McCool, Secretary

SUBJECT: RADIOISOTOPE PRICE CHANGES
 SECY:JCH

DATE: February 15, 1965

1. At Information Meeting 451 on February 12, 1965, the Commissioners reviewed the General Manager's and Mr. Fowler's February 9, memoranda regarding proposed radioisotope price changes and requested the proposal be referred to the Advisory Committee on Isotopes and Radiation Development for comment.

2. It is our understanding that the Division of Isotopes Development is taking the required action.

- cc:
- Chairman
 - General Manager
 - Deputy General Manager
 - Asst. General Manager
 - Asst. Gen. Mgr. for R&D
 - Exec. Asst. to Gen. Mgr.
 - General Counsel
 - Director, Isotopes Development
 - Controller

copy filed:

*ADM-7 Isotopes & Radiation,
Adv. Control Div.*

2-15-65

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February 15, 1965

CORRECTION NOTICE

COPY NO. 78

ATOMIC ENERGY COMMISSION

CORRECTION TO AEC 994/21 - TRANSFER OF COMMERCIAL AEC
RADIOISOTOPE PRODUCTION AND DISTRIBUTION
ACTIVITIES TO PRIVATE INDUSTRY

Done

Note by the Secretary

Please substitute the attached revised page which now reflects the correct statutory citation.

W. B. McCool

Secretary

<u>DISTRIBUTION</u>	<u>COPY NO.</u>	<u>DISTRIBUTION</u>	<u>COPY NO.</u>
Secretary	1, 75-84	Ind. Participation	33 - 34
Commissioners	2-6, 85-90	Inspection	35
General Manager	7 - 8	Isotope Development	36 - 45
Deputy Gen. Mgr.	9	Plans & Reports	46 - 47
Asst. Gen. Mgr.	10	Production	48 - 51
Dir. of Regulation	11 - 13	Public Information	52 - 53
Deputy Dir. of Regulation	14	Albuquerque Operations	54 - 56
Asst. Dir. of Regulation	15	Brookhaven Office	57
Exec. Asst. to GM	16	Chicago Operations	58 - 59
Asst. GM for Operations	17	Hanford Operations	60
Asst. GM Plans & Prod.	18	Idaho Operations	61 - 62
Asst. GM for R&D	19	Nevada Operations	63 - 64
Asst. to GM	20	New York Operations	65
General Counsel	21 - 25	Oak Ridge Operations	66 - 68
Biology & Medicine	26	Pittsburgh Office	69 - 70
Congr. Relations	27	San Francisco Oprns.	71
Controller	28 - 31	Savannah River Oprns.	72 - 73
Economic Impact	32	Schenectady Office	74

2-15-65

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AEC 994/21

February 11, 1965

COPY NO. 78

ATOMIC ENERGY COMMISSION

TRANSFER OF COMMERCIAL AEC RADIOISOTOPE PRODUCTION AND
DISTRIBUTION ACTIVITIES TO PRIVATE INDUSTRY

AEC
994
21

Note by the Secretary

The General Manager has requested that the attached report by the Acting Director of Isotopes Development be circulated for consideration by the Commission at an early date.

W. B. McCool

Secretary

<u>DISTRIBUTION</u>	<u>COPY NO.</u>	<u>DISTRIBUTION</u>	<u>COPY NO.</u>
Secretary	1,75-84	Ind. Participation	33 - 34
Commissioners	2-6,85-90	Inspection	35
General Manager	7 - 8	Isotope Development	36 - 45
Deputy Gen. Mgr.	9	Plans & Reports	46 - 47
Asst. Gen. Mgr.	10	Production	48 - 51
Dir. of Regulation	11 - 13	Public Information	52 - 53
Deputy Dir. of Regulation	14	Albuquerque Operations	54 - 56
Asst. Dir. of Regulation	15	Brookhaven Office	57
Exec. Asst. to GM	16	Chicago Operations	58 - 59
Asst. GM for Operations	17	Hanford Operations	60
Asst. GM for Plans & Prod.	18	Idaho Operations	61 - 62
Asst. GM for R&D	19	Nevada Operations	63 - 64
Asst. to GM	20	New York Operations	65
General Counsel	21 - 25	Oak Ridge Operations	66 - 68
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Congr. Relations	27	San Francisco Operations	71
Controller	28 - 31	Savannah River Oprns.	72 - 73
Economic Impact	32	Schenectady Office	74

2-11-65

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ATOMIC ENERGY COMMISSION

TRANSFER OF COMMERCIAL AEC RADIOISOTOPE PRODUCTION AND
DISTRIBUTION ACTIVITIES TO PRIVATE INDUSTRY

Report to the General Manager by the
Acting Director of Division of Isotopes Development

THE PROBLEM

1. To consider policies and procedures for the transfer of commercial AEC radioisotope production and distribution activities to private industry.

BACKGROUND AND SUMMARY

2. At Information Meeting 410 on August 27, 1964, the Commission approved, as revised, the Proposed Notice for Transfer of Commercial AEC Radioisotope Production and Distribution Activities to Private Industry (Appendix "A"). The Commission had earlier requested modification of the Proposed Notice during consideration of AEC 994/20 at Meeting 2034 on August 12, 1964. The Notice was published in the Federal Register on September 16, 1964, allowing 60 days for receipt of public comments.

3. To assure full notification of interested parties, approximately 4,000 copies of the announcement were distributed to radioisotope users.

4. Twenty comments were received from individuals representing 18 organizations. Comments by three of these organizations were considered not germane in that they concerned themselves with ancillary questions rather than the proposed policies and procedures per se. The response from the remaining 15 organizations may be classified as follows: user organizations - 6; producers and distributors - 7; trade associations or quasi-governmental bodies - 2.

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5. With the exception of two user organizations, all respondents expressed general agreement with the intent and substance of the proposed policies and procedures. There were no specific criticisms which were not anticipated or recognized in connection with consideration of AEC 994/20. Copies of those comments considered germane are set forth in Appendix "B".

6. As was expected, comments were directed principally toward (a) the withdrawal guideline that the proposed private radioisotope prices are reasonable and consistent with encouragement of research, development, and use, and (b) the provision that the AEC maintains the right to produce an isotope for Government use in those circumstances where the Government is a substantial user or the use is of special programmatic interest to the AEC and where procurement from industry would result in significantly higher cost to the Government.

7. The concern about including reasonableness of price as a withdrawal guideline was expressed from two viewpoints: (a) that the word "reasonable" was ambiguous and therefore would provide difficulties in administration, and (b) that reasonableness of price should not be considered at all if competition existed in the marketing of a given radioisotope. In the judgment of the staff, the arguments set forth are not of such force as to overcome the rationale presented in paragraph 7 of AEC 994/20 for including reasonableness of price as a guideline. Paragraph 7 of AEC 994/20 is attached as Appendix "C".

8. The comments relating to AEC's meeting Government isotope requirements under certain circumstances appeared to reflect an apprehension that this provision might be employed as

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a means of circumventing the over-all policy. There appeared to be recognition, albeit reluctant, that AEC had to include some type of provision in this regard. The respondents felt industry should be given an opportunity to consider developing its production capability prior to AEC's embarking on its own production program to meet such needs. Additionally, they felt that industry should be given an opportunity to modify its prices to meet large Government isotope requirements, and further, that all costs associated with AEC production operations should be fully assessed before AEC production is resumed. The staff believes that industry's apprehensions can be overcome through careful administration of this proviso.

9. There were a number of less significant comments relating to interpretation or methods of administration of various provisions. These will be taken into consideration by the staff in carrying out these policies and procedures.

10. Several respondents identified two problem areas which, while beyond the scope of the request for comment, nevertheless have a relevancy: (a) two user groups stated that their research programs had been significantly retarded or delayed because private producers were not interested in providing the small research quantities of the particular isotopes they required, and (b) two producers and distributors stated that available private reactor facilities were not adequate in the case of certain radioisotopes to produce material of a quality and specific activity required by users and comparable to that made available by AEC through use of its reactors. They suggest that private producers be permitted access to AEC reactors in such cases for the purpose of irradiating targets which would then be processed by the private organization in its own

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facilities. The staff plans to investigate these problem areas and, if policy issues emerge, make appropriate recommendations in a separate paper to the Commission.

STAFF JUDGMENTS

11. The Division of Industrial Participation, and the Offices of the General Counsel and Controller concur in the recommendation of this paper. The Division of Public Information concurs in recommendation 13b. The Division of Congressional Relations concurs in recommendation 13c.

CONCLUSION

12. It is concluded that the comments received in response to the Federal Register announcement are not of such substance as to require changes in the proposed policies and procedures for transfer of commercial AEC radioisotope production and distribution activities to private industry.

RECOMMENDATION

13. The General Manager recommends that the Atomic Energy Commission:

a. Authorize for publication in the Federal Register as a Statement of Policy, to be made effective immediately upon publication, the policies and procedures as set forth in Appendix "F";

b. Note that a public announcement such as Appendix "D" will be made simultaneously with publication of the Statement of Policy in the Federal Register; and

c. Note that the Joint Committee on Atomic Energy will be informed of this action by letter such as Appendix "E".

LIST OF ENCLOSURES

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APPENDIX "B" - Comments Received.	8
APPENDIX "C" - Excerpt of Paragraph 7 from AEC 994/20	49
APPENDIX "D" - Proposed Public Announcement	51
APPENDIX "E" - Draft Letter to JCAE	53
APPENDIX "F" - Proposed Federal Register, "Statement of Policy"	54

(Reprinted from the Federal Register, September 16, 1964)

ATOMIC ENERGY COMMISSION

POLICIES AND PROCEDURES FOR TRANSFER OF COMMERCIAL AEC RADIOISOTOPE PRODUCTION AND DISTRIBUTION ACTIVITIES TO PRIVATE INDUSTRY

Request for Public Comment

Since 1946, the United States Atomic Energy Commission has produced and processed radioisotopes in its own facilities and distributed them for governmental and private use. In recent years, private facilities have become available which are capable of producing and processing radioisotopes. AEC policy provides that it will not compete with private sources of supply of material when such are reasonably available commercially. Accordingly, over the past years the Commission has discontinued production and distribution of selected types, quantities and qualities of radioisotopes as these have become available from private sources.

There is currently a rapidly growing industrial interest in undertaking private production and distribution of increasing numbers of radioisotopes presently being distributed by AEC. The Commission therefore wishes to reaffirm at this time its policy and intent to transfer its commercial radioisotope production and distribution activities to private industry as rapidly as possible consistent with the over-all national interest. To provide for the orderly transfer from AEC to private operation, the Commission has developed, and hereby solicits public comment upon, proposed policies and procedures for effecting such transfer. Interested persons should direct their comments to the Secretary, U.S.A.E.C., Washington, D.C., 20545, within 60 days from date of publication of notice in the Federal Register on September 16, 1964.

PROPOSED POLICIES AND PROCEDURES FOR TRANSFER OF COMMERCIAL AEC RADIOISOTOPE PRODUCTION AND DISTRIBUTION ACTIVITIES TO PRIVATE INDUSTRY

The proposed policies and procedures encompass:

- a. The establishment of guidelines governing AEC withdrawal from production and distribution of particular radioisotopes, either voluntarily or upon petition of a private organization.
- b. The establishment of a petition procedure by which private organizations may formally request AEC withdrawal from the production and distribution of particular radioisotopes.
- c. The application of AEC radioisotope pricing policy.
- d. The AEC position with respect to its conduct of radioisotope production technology research and development on those radioisotopes from which it has withdrawn from production and distribution.

Withdrawal guidelines. 1. The AEC will voluntarily withdraw from the commercial production and distribution of particular radioisotopes whenever it determines that such radioisotopes are reasonably available from commercial sources.

2. The AEC will withdraw from the commercial production and distribution of particular radioisotopes on petition from a private organization based upon a demonstrable private capability and encompassing the following but recognizing that all these factors need not be completely satisfied:

a. There is effective competition in the production and distribution of the radioisotopes in question; however, a single source of supply under certain conditions may be acceptable (e.g., very limited market). Foreign producers will be accepted in determining effective competition provided they are actively marketing the radioisotopes in the U.S.

b. There is assurance that the private producers will not discontinue the venture in a manner that would adversely affect the public interest, to the extent resumption of production by AEC would involve a significant delay.

c. The proposed private radioisotope prices are reasonable and consistent with encouragement of research and development and use.

Government isotope requirements. It is the Atomic Energy Commission's policy to obtain radioisotopes from commercial sources where it has formally withdrawn from the production and distribution of those radioisotopes. However, the AEC maintains the right to produce an isotope for Government use in those circumstances where the Government is a substantial user, or the use is of special programmatic interest to the AEC, and where procurement from industry would result in significantly higher cost to the Government.

Filing a petition. 1. An organization requesting that the AEC withdraw from the production and distribution of a particular radioisotope may submit a formal petition to this effect. Such a petition should contain sufficient evidence to demonstrate adequate technical, financial and managerial resources, as well as seriousness of intent.

2. The petition should include:

- a. Product specifications to show evidence of their comparability to AEC products or adequacy to meet user demands.
- b. Estimate of current demand. (The petitioner's production capabilities in conjunction with that of other suppliers should be adequate to meet this demand.)
- c. The petitioning organization's production, processing and distribution capability, including identification of the production facilities (e.g., nuclear reactors and/or cyclotrons) available to it and the extent of commitment upon them in relation to market requirements.
- d. Price schedule.
- e. Delivery schedule.
- f. Proposed date of AEC withdrawal.

The AEC may request additional information if the above information is inadequate for AEC to make a finding.

3. Upon making a finding favorable to the petition, the AEC will publish for public comment:

a. The private organization's petition or a summary thereof, exclusive of company confidential information, and will

designate the place where a copy of the petition, exclusive of company confidential information, may be seen. (The petitioner should identify those portions of his petition which contain company confidential information; however, the information published must be sufficient to permit meaningful public comment).

b. A notice of AEC's intent to withdraw.

AEC will make a final decision on the withdrawal petition upon receipt and evaluation of public comment.

4. Upon making an unfavorable decision on a petition, either prior to or subsequent to receipt of public comment, AEC will inform the petitioning organization of the reasons for its decision.

5. When AEC determines to withdraw voluntarily from the commercial production and distribution of particular radioisotopes, it will similarly publish a notice of such intent for public comment.

AEC radioisotope prices. 1. AEC radioisotope prices will be established to provide reasonable compensation to the Government (which ordinarily will be the higher of AEC full cost recovery or reasonable commercial rates) unless this would significantly interfere with (a) research and development and use or (b) encouragement of private sources of supply. In individual cases, if (a) and (b) cannot be equally accommodated, greater weight will be given to encouragement of research and development and use.

2. The AEC will publish a 30 day prior notice of proposed price changes, including the reasons for the proposed changes.

3. The AEC will not change the price of a radioisotope during the period it is reviewing a petition for AEC withdrawal from production and distribution of that isotope.

AEC radioisotope production technology research. 1. AEC will place the conduct of radioisotope production technology research and development it deems necessary to be carried out with groups most qualified to perform such work, whether these be AEC facilities or private organizations.

2. AEC will conduct or support production technology research and development on radioisotopes from which it has withdrawn as it deems necessary, but only to the extent that AEC has satisfied itself that industry is unable, is unwilling or simply is not carrying out such work adequately or where it determines that direct AEC effort is necessary in the interest of the atomic energy program. (Sec. 161, 68 Stat. 948; 42 U.S.C. 2201)

Dated at Germantown, Md., this 4th day of September 1964.

For the Atomic Energy Commission.

F. T. HOWES,
Assistant Secretary
to the Commission.

[F.R. Doc. 64-9264; Filed, Sept. 16, 1964; 8:48 a.m.]

APPENDIX "B"

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3. Washington University School of Medicine, Edward H. Reinhard, M.D., ltr. dtd. 10/7/64.....	12
4. Edsel B. Ford Institute for Medical Research, Claudius K. Bugenis, ltr. dtd. 10/14/64.....	13
Edsel B. Ford Institute for Medical Research, Luther E. Preuss, ltr. dtd. 10/15/64.....	15
5. N.C. State of the University of N.C. at Raleigh, D. W. Morgan, Jr., ltr. dtd. 10/15/64.....	17
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7. 3M Company, R. O. Colestock, ltr. dtd. 11/17/64.....	42
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OAK RIDGE NATIONAL LABORATORY

OPERATED BY
UNION CARBIDE CORPORATION
NUCLEAR DIVISION



POST OFFICE BOX X
OAK RIDGE, TENNESSEE 37831

September 24, 1964

Eastern Michigan University
Department of Physics & Astronomy
Ypsilanti, Michigan

Dear Catalog Recipient:

At the request of the U. S. Atomic Energy Commission, Division of Isotopes Development, we are distributing the attached material. This material contains the press announcement and the portion of the Federal Register concerned with the proposed "Formal Procedures for Withdrawal from Routine Production and Distribution of Radioisotopes."

If you have any comments about this matter, please make them known as indicated in the press release.

Very truly yours,

E. E. Beauchamp
E. E. Beauchamp, Superintendent
Isotopes Sales Department
Isotopes Development Center

Attachment

10/5/64

*I am strongly opposed to this action.
I urge the AEC to continue radioisotope
production & distribution*
Karl Parsons

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ASSOCIATED ENGINEERS & CONSULTANTS, INC.

AN AFFILIATE OF
STONE & WEBSTER ENGINEERING CORPORATION



875 STEWART AVENUE
GARDEN CITY, L.I., N.Y. 11534
818 PIONEER 4-4380
TWX 516-248-8000

November 5, 1964

Secretary :
U. S. Atomic Energy Commission
Washington, D. C. 20545

Dear Sir:

In your press release, G-221 dated September 15, 1964, you requested public comment on the formal procedures for the withdrawal from routine production and distribution of radioisotopes by the AEC. We would like to make a comment concerning withdrawal guideline No. 2a.

The last sentence in this section states that "foreign producers will be accepted in determining effective competition providing they are actively marketing the radioisotope in the United States". With regard to the procurement of cobalt-60 from foreign producers, and in particular Canada, a serious question may be raised whether such foreign producers can actually be considered commercial sources. While we cannot claim to be fully informed on the matter, it is our general understanding that cobalt-60 production and distribution in Canada is a quasi-government operation and as such, questions of pricing, guarantees, etc. are subject to considerations relating to government policy, rather than to solely commercial considerations. Furthermore, the Canadian supplier (AECL) also furnishes engineering, A-E, and fabrication services. As a company providing A-E and design services only for cobalt irradiation facilities, this causes us concern for the following reasons. If a foreign producer has been considered as an essential factor in determining effective competition in the United States, then we are faced with the probable situation of procuring cobalt for an irradiator facility from a competitor for furnishing the facility. In that event, there is the opportunity for the price or other conditions of the sale of cobalt to be used as a competitive weapon. It is also evident that in such a situation the competitive advantage need not evidence itself in the quoted price of the cobalt.

A problem is also raised by the question of "replenishment cobalt" for large sources. Without going into great detail it may

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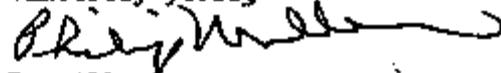
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be pointed out that a situation can arise where the United States price is competitive with the foreign price for the original cobalt sources but not for the replenishment source, because of its smaller amount. The situation can arise where logically the original source could be most cheaply procured in the United States and the replenishment cobalt in Canada. However, in addition to the questions raised above about Canadian procurement, there is a problem relating to physical configuration of the cobalt. While we have not investigated this matter, we believe there is a question (for example) whether cobalt could be procured from Canada in the form of the flat strips developed at Brookhaven.

Therefore, it appears to us that if United States A-E firms are to compete with foreign firms on an equitable basis for furnishing large gamma irradiation facilities, cobalt must be available from U.S. sources of supply at prices and other conditions competitive with those of foreign producers in the amounts needed for replenishment as well as for the initial source.

We hope you will find the above comments helpful, and should perhaps state that they are based on our practical experience rather than any extended study such as this complex subject undoubtedly calls for.

Sincerely yours,


P. Miller
Technical Director

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WASHINGTON  UNIVERSITY

SCHOOL OF MEDICINE
ST. LOUIS, MISSOURI 63110

DEPARTMENT OF MEDICINE
DAVID P. WOHL, JR. MEMORIAL HOSPITAL
4960 AUDUBON AVENUE

October 7, 1964

Mr. E. E. Beauchamp, Superintendent
Isotopes Sales Department
Isotopes Development Center
Oak Ridge National Laboratory
P. O. Box X
Oak Ridge, Tennessee 37831

Dear Mr. Beauchamp:

Thank you very much for sending me the press announcement and the portion of the Federal Register concerned with the proposed "Formal Procedures for Withdrawal from Routine Production and Distribution of Radioisotopes".

I approve and am in favor of the A.E.C.'s plan to transfer its commercial radioactive isotope production and distribution activities to private industry, as set forth in this communication.

Sincerely,



Edward H. Reinhard, M. D.
Professor of Medicine

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*Edsel B. Ford Institute
for Medical Research*

HENRY FORD HOSPITAL
2799 WEST GRAND BOULEVARD
DETROIT, MICHIGAN 48202

DEPARTMENT OF PHYSICS

October 14, 1964

Secretary
U. S. Atomic Energy Commission
Washington, D.C. 20545

Dear Mr. Secretary:

The purpose of this letter is to comment (at your request) on the AEC's withdrawal from the routine production and distribution of radioisotopes. We are adversely affected by this withdrawal and have some strong feelings about it. Our reasons follow.

This institute is engaged in basic research as well as routine and non-routine medical research and diagnostics. In this capacity we use a broad spectrum of radioisotopes - from diagnostic radio-iodine to custom irradiations of several metals. The AEC's withdrawal has imposed an unnecessary burden on our investigative work, hence, our comments.

Our main difficulty so far has been in procuring service irradiations (Cr-51, as an example). We are forced to correspond with more than a dozen companies. Out of these, only three or four are able to irradiate samples. Moreover, none of these few companies have been able to perform satisfactory irradiations (compatible to our prior irradiations) for our work so far. The reasons were: lesser neutron flux density, inadequate sample cooling facilities and a general lack of interest in such small service irradiations.

We were advised by the Oak Ridge Operations to apply for a special consideration so that Oak Ridge facilities could temporarily continue our irradiations. However, all our attempts to secure this interim arrangement have failed so far. We continue to receive letters requesting more evidence. Meantime, our work is suspended for lack of materials.

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We feel this situation does not serve the scientific community well. We also feel that AEC is in a position to serve uniquely, and should serve, the research community and not yield completely to commercial pressure. Because of its unmatched know-how and capability, the AEC's responsibility clearly is to continue services to that part of the research community which continues to require the AEC's special capabilities. While it makes sense to allow for commercial incentive in the production of radioisotopes for routine mass consumption, it does not make good logic to abandon the research individual who may need a 2 gm sample irradiation a few times a year.

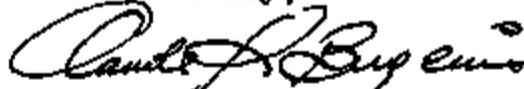
We have discovered a distinct reticence on the part of the commercial people to undertake small and non-regular pile irradiations of the type involved in our research. We conclude that the small non-profit, institutional research organization, of the type to which we belong, is clearly hurt by the commercial people who perforce must be interested only in the large and regular sale of pile irradiations.

May we, therefore, suggest that some special arrangement be considered for workers in our category. Such a policy would not take a measurable amount of irradiation business from the commercial piles and, therefore, it should elicit no protest from them. On the other hand, such a policy would facilitate work done at such organizations as ours with possible future benefits to the technical community and stimulation of the use of radio nuclides in general.

Therefore, we are expressing a protest based on our experience with the AEC curtailment of irradiation services for research purposes.

Finally, we must say that our research, which has no profit motive, but may eventually be of general value, is clearly slowed in schedule and possibly stopped completely by this change-over.

Sincerely,



Claudius K. Bugenis
Department of Physics

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*Edsel B. Ford Institute
for Medical Research*

HENRY FORD HOSPITAL
2700 WEST GRAND BOULEVARD
DETROIT, MICHIGAN 48202

DEPARTMENT OF PHYSICS

October 15, 1964

Secretary
Atomic Energy Commission
Washington, D.C. 20545

Dear Mr. Secretary:

This is my response to your request that we comment on the withdrawal of the Atomic Energy Commission from the production and sale of isotopes. I shall attempt to make my comments brief and to the point.

We are a relatively small and non-profit research institution. This program of withdrawal from sales by the AEC has distinctly hurt us in one area. This is in the region of fundamental research, in which we have special and irregular irradiations made for us in the Oak Ridge piles. Cr-51 and Au-198 are examples of some of this.

In summary, we find that the commercial pile operators are not as cooperative, and do not have available equal facilities in these research irradiations. Our impression of these commercial operations are that they are not interested in the occasional small sale to the research group, but are rather interested in routine repeatable weekly shipments of such isotopes as I-131, as used in routine clinical therapy and diagnostic work. For the small research organization searching for a special irradiation on an irregular basis and on a small scale, innumerable problems are encountered in the change over from the Oak Ridge irradiations.

Finally, I should like to stress that our basic research programs have been hurt, and their schedule interrupted and significantly delayed by this problem as outlined above.

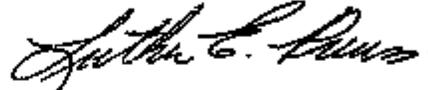
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In conclusion, let me suggest that a logical and necessary solution to this dilemma is to retain special service irradiations at Oak Ridge for the basic research organization. This would not take a significant amount of business away from the commercial piles, in fact, it would relieve them of the type of business which they are reluctant to take on, and which they take on only with considerable delay and at considerable expense to the processor.

Sincerely yours,



Luther E. Preuss
Physics Department

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D. W. Morgan, Jr.
Assistant Radiological Safety Officer
214 David Clark Laboratories
N. C. State of the University
of N. C. at Raleigh
P. O. Box 5344
Raleigh, North Carolina 27607

October 15, 1964

Mr. F. T. Hobbs, Assistant
Secretary to the Commission
U. S. Atomic Energy Commission
Washington, D. C. 20545

Dear Sir:

With reference to the reprint from the Federal Register entitled:

ATOMIC ENERGY COMMISSION

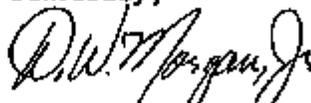
Policies and Procedures for Transfer of Commercial
AEC Radioisotope Production and Distribution Activ-
ities to Private Industry

and dated September 16, 1964; we would like to make the following
comments.

We feel that private industry would have a difficulty maintaining
reasonable comparable price schedules with the A.E.C.. This would apply
especially in the case where insufficient competition existed between com-
panies for the production of a particular isotope.

We respect the ability of the AEC to control these prices and to
insure competition, but we feel that these difficulty will certainly arise.

Sincerely,



D. W. Morgan, Jr.
Assistant Radiological Safety Officer

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THE DOW CHEMICAL COMPANY

ABBOTT ROAD BUILDINGS
MIDLAND, MICHIGAN

November 10th 1964

Mr. E. E. Fowler
Acting Director
Division of Isotopes Development
U. S. Atomic Energy Commission
Washington, D.C. 20545

Dear Mr. Fowler:

The Federal Register published on September 16 included an announcement of proposed "policies and procedures for transfer of commercial AEC radioisotope production and distribution activities to private industry." This notice requested comments. To this end I am addressing this letter.

The proposed policies demonstrate a constructive step towards attaining the AEC's stated goals of encouraging private nuclear industry. This step is welcomed as it will allow private organizations to proceed with their planning for future commercial operations using radioisotopes.

An area in the regulations which we feel might be modified is that pertaining to reasonableness of price. It is recognized that the AEC must always consider its responsibilities for encouraging the growth of the nuclear industry. Improper pricing of radioisotopes would indeed act as a deterrent to wide use of these materials. However, if there is an alternate source of isotopes available, through foreign producers for example, the marketplace itself establishes the necessary competition to assure that prices are reasonable. Imposing too many additional restrictions on the producers may, in fact, discourage further entries into the marketplace and thus ultimately limit the production and use of isotopes.

A second area which we feel deserves comments is that of AEC continuing to conduct production technology research and development on radioisotopes which it no longer produces. The AEC has a responsibility of assuring itself that

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potentially fruitful lines of research are followed and that no company be allowed to throttle the growth of the industry by not carrying out such research. However, the reluctance to conduct further research in production technology may be a result of working under differing economic environments. If the private company has the capability for carrying out such R&D but is unable to justify the expenditures using its project evaluation techniques, it still might be in the interest of the AEC to sponsor its research and development within that company. This would assist in strengthening such producing companies as well as carrying out the AEC's responsibilities to see that the R&D was, in fact, done.

Closely related to the previous subject area is the AEC's reservation to itself the option for production of isotopes for its own uses or for those of other government agencies. This is a right that the AEC must protect. However, we feel that before the AEC continues the production or reactivates production of such isotopes, a great deal of study should be made that all costs associated with its own production operation have been fully considered. Likewise the private price should be scrutinized against the required volume of material which would be required to fill the governments requirements. Many times a small production volume will result in an apparent high price, and the private price might drop considerably if full consideration of the volume requirement is made.

Another area of concern deals with the needs of very small users such as research institutes, particularly as it pertains to small orders or one of a kind special irradiations. On a full cost recovery basis at times these can be prohibitively high cost for a private producer. These same high costs are experienced undoubtedly by the AEC. However, the AEC does not have the same requirement of making a return on its invested capital as the private producer does. Where rather extensive capital requirements are needed for small volumes of production the capital charges are oftentimes a major portion of the price of the sale. Under these circumstances perhaps the AEC should remain in production at a limited level. An alternate would be to consider the production of the small lots as research activities in which the Commission owned the specialized equipment required and the private firm owned the structures, analytical equipment, etc. to support the specialized equipment. Perhaps a criteria could be established based on dollar volume or quantity produced to differentiate between research uses and commercial uses. We do not have a firm recommendation as to the desired course of action. It may almost have to be resolved on an isotope by isotope basis.

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It is hoped that these comments may be of some value. Yours is a difficult position, arriving at a compromise between two seemingly divergent responsibilities. On the one hand you are charged with increasing industrial participation and production of isotopes and on the other hand assuring that the costs are low for research and development activities in the uses. We are confident that the AEC will continue to do a good job of weighing these two responsibilities and arriving at an equitable and workable arrangement for implementing industrialization of isotope production.

Yours very truly,

R. A. Vandegrift
R. A. Vandegrift
Metals Department

jsl

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THE BABCOCK & WILCOX COMPANY
ATOMIC ENERGY DIVISION
LYNCHBURG, VIRGINIA

October 14, 1964

Mr. W. B. McCool, Secretary
U.S. Atomic Energy Commission
Washington, D.C. 20545

Dear Mr. McCool:

The Babcock & Wilcox Company is pleased to note that the United States Atomic Energy Commission has proposed formal policies and procedures for the transfer of its commercial radioisotope production and distribution activities to private industry. These policies and procedures appear to be well thought out and in good form and we in B&W wish to record our general approval. We believe that this action by the Commission will benefit the nation as a whole by expediting the transfer of certain commercial operations to the private sector of the economy.

We have only two specific comments to make:

- (1) When the Commission does actually withdraw from production and/or distribution of a given radioisotope, it should take steps to insure that its decision is executed all the way down the line and is not vitiated to any significant extent by staff members or committees.
- (2) Since the cost of production of cobalt-60 is quite high compared to the price schedules announced by the Commission on September 20, 1963, it may be desirable to place this particular radioisotope in a special category.

Sincerely yours,

R. H. Harrison

R. H. Harrison
Vice President

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THE BABCOCK & WILCOX COMPANY
ATOMIC ENERGY DIVISION
LYNCHBURG, VIRGINIA

October 14, 1964

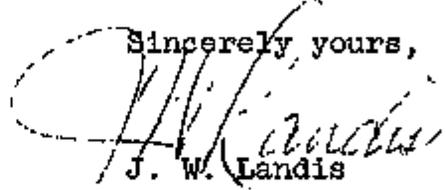
Mr. W. B. McCool, Secretary
U.S. Atomic Energy Commission
Washington, D.C. 20545

Dear Mr. McCool:

Supplementing the comments submitted today by Mr. R. H. Harrison, Vice President of The Babcock & Wilcox Company, on the AEC's proposed formal policies and procedures for the transfer of its commercial radioisotope production and distribution activities to private industry, I would like to suggest, as the result of a discussion which occurred during the recent meeting of the Advisory Committee on Isotopes and Radiation Development, that the following changes be made in the wording of these proposed policies and procedures:

- (1) To make the document self-consistent, the statement under "Withdrawal guidelines" to the effect that one of the factors governing AEC withdrawal is "assurance that the private producers (or distributors) will not discontinue the venture in a manner that would adversely affect the public interest" should be reflected in some manner in the section entitled "Filing a petition."
- (2) Under "Withdrawal guidelines" item 2 (c) might better be worded: "The proposed private radioisotope prices are consistent with market conditions."

Sincerely yours,


J. W. Landis
Manager

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~~INSTRUMENTS~~ ~~LABORATORY~~ DIVISION



November 10, 1964

The Secretary
United States Atomic Energy Commission
Washington, D. C. 20545

Subject: Notice Regarding Policies and Procedures for Transfer
of Commercial AEC Radioisotope Production and Distri-
bution Activities to Private Industry

Dear Sir:

We have received your notice on the above subject and wish to express our general agreement with the policy. However there are two phases of the policy which we believe are contrary to the establishment of a healthy private industry in the radioisotope field.

First, the policy as written reserves for the AEC the right to produce an isotope for Government use in those circumstances where the Government is a substantial user, or where the use is of special programmatic interest to the AEC, and where procurement from industry would result in significantly higher cost to the Government. This statement leaves industry completely in doubt as to which government requirements it will be called upon to meet and therefore uncertain as to the volume of isotopes it will be called upon to produce. Under normal circumstances the higher volume of sales reached by inclusion of sales to the Government will result in lower selling prices by industry. Furthermore, in order to supply Government needs the AEC will be forced to maintain costly facilities and personnel in direct duplication of those of private industry. It is our contention that when the AEC withdraws from commercial production of a radioisotope, it should withdraw completely.

Second, the policy as written requires that a petition for the withdrawal should include a price schedule, presumably so that the AEC may judge whether or not the prices are reasonable. In view of the competitive requirements included in the withdrawal requirements, this pricing requirement appears unnecessary. We

THE BUDD COMPANY / BOX 245, PHOENIXVILLE, PA. / WILMINGTON 3-8965 / TWX: 215-279-4927

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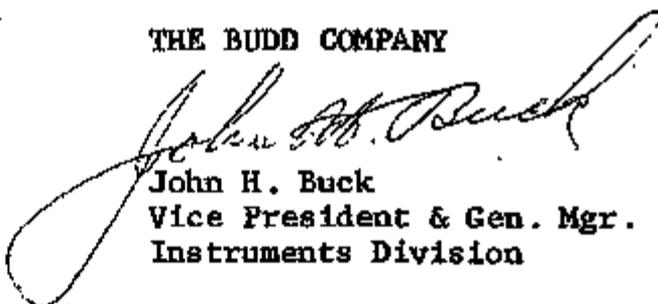
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believe that industry competition will keep the prices reasonable.

We very much appreciate the opportunity to comment on the subject proposed policy and sincerely hope that radioisotope production and distribution will soon join the ranks of private industry.

Very truly yours,

THE BUDD COMPANY



John H. Buck
Vice President & Gen. Mgr.
Instruments Division

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TEL. 426-7311 | AREA CODE 617

NEW ENGLAND NUCLEAR CORP.

NEW ENGLAND NUCLEAR CORP.

575 ALBANY STREET, BOSTON 18, MASSACHUSETTS

November 10, 1964

Secretary,
U.S. Atomic Energy Commission
Washington, D. C., 20545

Reference: Request for Public Comment on Policies
for Transfer of Commercial AEC Radioisotope
Production and Distribution Activities to
Private Industry

Gentlemen:

We are pleased to be given the opportunity to comment on the proposed policies and procedures.

We agree with the AEC comment that "there is currently a rapidly growing industrial interest in undertaking private production and distribution of increasing numbers of radioisotopes presently distributed by the AEC". New England Nuclear is processing and selling over 50 radioisotopes and intends to increase the scope of its operations.

Although New England Nuclear is in general agreement with the proposed withdrawal guidelines and procedures for filing a petition, there is one overriding fact which diminishes our enthusiasm for the proposals. The functions being discussed in the proposal are 1. Production and 2. Processing and Distribution of radioisotopes. Although there are many companies interested in and capable of processing and selling radioisotopes, there are only two companies offering reactor irradiation services. In effect, however, for many isotopes, there is only one producer with a high enough flux (G. E. Vallecitos reactor) capable of producing a high enough specific activity. This is a contrary situation to the withdrawal guideline 2 a., which states that it is desirable that there is effective competition in the production and distribution of the radioisotopes in question. In addition, both companies offering irradiation services also process and distribute radioisotopes in competition with other companies which only process and distribute radioisotopes. The reactor companies are therefore in a position to control the whole industry through the irradiation services which they offer.

Another basic obstacle to relying on commercial reactors for producing radioisotopes is the fact that these reactors must depend on functions other than producing radioisotopes in order to pay for themselves, i.e. to operate economically. In other words, isotope production is a subsidiary function. If the main function of the reactor is discontinued, the irradiation services are in danger of being dropped. This happened with the WTR (Westinghouse) reactor which offered irradiation services. The reactor was closed down when the company decided it could not continue to operate it.

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Our concurrence with the proposed transfer policies and procedures is therefore dependent on whether or not the Oak Ridge and the ETR (Arco) reactors remain accessible to commercial processors. Of course, if another commercial reactor in the United States became available for irradiations with a flux of 2×10^{14} neutrons/cm² sec. or better, our objection would be taken care of.

Sincerely,

NEW ENGLAND NUCLEAR CORP.

Seymour Rothchild

Seymour Rothchild,
President

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Nuclear Science & Engineering Corporation

P. O. BOX 10801, PITTSBURGH, PENNSYLVANIA 15236

AREA CODE 412

PHONE: 482-4000

TWX 842-2182

R. A. BRIGHTSEN
PRESIDENT

November 12, 1964

Secretary
United States Atomic Energy Commission
Washington, D. C. 20545

Dear Sir:

Our firm is pleased to have an opportunity to comment upon the proposed policies and procedures for transfer of commercial AEC radioisotope production and distribution activities to private industry.

We are wholeheartedly in favor of the Commission's intention to proceed with the transfer as rapidly as possible consistent with the over-all national interest. A clearly expressed policy and a vigorous administration of that policy will enable radioisotope production to flourish in a free competitive economy, to the benefit of suppliers and users alike.

However, NSEC believes the transfer cannot be accomplished as rapidly as the Commission would like under the presently proposed detailed procedures. We have endeavored in the attached comments to explain why this is the case.

To place our comments in perspective, we should first like to review several considerations that we regard as relevant to the formulation of policy at this time.

1. The Commission's responsibility encompasses several objectives. These include the simultaneous encouragement of radioisotope applications, research and development, and the development of sources of supply independent of the Commission. These objectives are expressed in various sections of the Atomic Energy Act of 1954, including the introductory sections which call for strengthening "free competition in private enterprise", fostering "research and development", encouraging "maximum scientific and industrial progress", and encouraging "wide-spread participation in the development and utilization of atomic energy for peaceful purposes."
2. Private industry has the capability, including the technological know-how and facilities, to produce and distribute the great bulk of the radioisotopes employed today in research and development as well as other applications.

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3. The industry is a competitive one, consisting of large and small companies, which compete actively not only among themselves, but additionally against foreign producers.

4. Prices established by industry have followed a trend of frequent and substantial reductions. Price reductions have taken place as a result of competition and without influence by the Commission.

5. Relations between the AEC and industry with respect to isotope production matters have been strained in the past. To overcome this and establish close cooperation between the AEC and private producers for the future, it is vital that the final Commission statement create a climate of business confidence.

6. Producers and users have common interests. Both desire increased uses of radioisotopes. Such growth in demand will enable unit costs to be lowered, thereby permitting price cuts to be made.

Keeping these considerations in mind, we are led to suggest the following principal points, which are discussed in greater detail in the attachment.

1. The Commission should not include reasonableness of price in its withdrawal guidelines. This standard is unnecessary in view of the competitive situation; it is so undefined and ambiguous as to make its application unpredictable; and it would involve the Commission in determinations that are inconsistent with a free market system.

2. The Government should use the same criteria for procurement of radioisotopes as it applies to other commercially-available products. If any departure from this policy is to be made, it should be to acquire more from industry than would normally be the case. Radioisotopes should be obtained through commercial channels unless an urgent requirement which industry cannot meet necessitates in-house production.

3. The petition procedure should be administered in a manner that will stimulate private initiative. The period for public comment should be short so that the petitioner's legitimate competitive advantage can be preserved.

4. The AEC's own radioisotope prices should provide for full-cost recovery on an isotope-by-isotope basis, or the commercial price, whichever is higher.

5. AEC should refrain from research and development on radioisotope production technology where it has reason to believe that its efforts will discourage comparable privately-financed work.

6. AEC reactors should be available for service irradiations to meet requirements that cannot be satisfied with existing private facilities.

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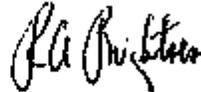
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In preparing these suggestions, we have tried to bear in mind the interests of all parties concerned, as well as the policy goals of the AEC, in the hope that we might make a genuine contribution to your review.

Should the proposed policy and procedures be considered by the Advisory Committee on Isotopes and Radiation Development, upon which our principal competitors are represented, we respectfully request an opportunity to be present and participate in its deliberations.

We wish to acknowledge the improved rapport between private suppliers and the Division of Isotopes Development as well as our continued confidence in the Division of Industrial Participation for its awareness of the programs and problems of the radioisotope industry. We look forward to further progress in achieving cooperative policies and procedures for the benefit of all the interested parties.

Sincerely,



R. A. Brightsen
President

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NUCLEAR SCIENCE & ENGINEERING CORPORATION

Attachment to Letter of R. A. Brightsen to the
Secretary, United States Atomic Energy Commission

November 12, 1964

These comments are prepared in response to the request for public comment on the Atomic Energy Commission's proposed policies and procedures for transfer of commercial radioisotope production and distribution activities to private industry (Federal Register, September 16, 1964).

The first five section headings correspond to those used in the Commission's request. A sixth heading is added to cover the question of the availability of AEC reactors for certain special irradiation services.

1. Withdrawal Guidelines

NSEC urges deletion of the section (Sec 2. c.) which would provide for Commission review of commercial prices at the time of withdrawal.

The proposed guideline that AEC must find the commercial prices to be "reasonable" is, we suggest, ambiguous and administratively unworkable and will tend to retard the pace of isotope development and use. It would involve the AEC in a price-fixing role that departs from traditional concepts of Government-industry relations.

We regard the guideline as ambiguous not only because of the inherent vagueness of "reasonableness", but also because no effort is made to give the term specific content. Under these circumstances, investment in private production capability will be discouraged for fear that AEC would find the price levels required to provide a satisfactory reward for risk to be too high.

A "reasonable" price might be defined, say, as one which provided for recovery of full direct and indirect costs, including development and market expense, plus profit determined in accordance with normal commercial practice. But what confidence would a given firm have that its prices, determined by the firm itself under this definition, would be accepted as "reasonable" by the AEC? The problem is that the terms being used may be applied in good faith in radically different ways, based upon subjective decisions as to the classification, timing, and allocation of costs as well as other factors.

The process of AEC price review is therefore likely to be prolonged and complex, leading to dispute and consequent delays in implementation of the Commission's basic policy objective.

The proposed criterion seems unwise to us for the further reason that it implies a continuing price monitoring role for the Commission. That is, a producer would be faced with the prospect that any price increase he might propose after withdrawal would result in the resumption of Commission production, or at the

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least a requirement for justification of the increase to the AEC staff. The most effective way to stimulate private investment surely requires no such Sword of Damocles to be held over the entrepreneur. The only justification for such a continuing AEC role is an expectation that industry will behave arbitrarily and irresponsibly, to the detriment of isotope users. There is no apparent basis for such a position. Competitive forces would result in a prompt readjustment of price levels should they rise without good cause and the firm which raised prices would no doubt suffer a loss of customer goodwill and confidence.

In a competitive peacetime industry in which supply and demand can be balanced through the operation of a free market, the traditional course in our economy has been for Government to stand aside. The result has been an allocation of resources based upon maximum efficiency in production and distribution. Where Government has tried to influence the market by price-fixing techniques, the result characteristically leaves much to be desired. We doubt that Commission price control would contribute at all to the development of isotope uses; on the contrary, by inhibiting private investment, such control would actually cause such development to be delayed.

Though we suggest deletion of section 2. c. in its entirety, the portion thereof which would have AEC review prices to assure that they are "consistent with encouragement of research and development and use" would probably create few practical difficulties. If section 2. c. were retained, striking out only the words "reasonable and", producers would rarely have cause for concern. (In most research, the scope of the investigation is not greatly affected by the price of the isotope employed, so price levels would have little bearing on the extent of the work.) However, in this event, a price should be deemed to meet the revised criterion unless, at the time of AEC withdrawal, users of the isotope in question establish by public comment that the proposed price level would cause their efforts to be cut back by a substantial degree.

We recognize that the Commission has in mind Section 81 of the Atomic Energy Act in its concern over radioisotope prices. That section, of course, deals with radioisotopes owned by the Commission and not with commercial products. If it is relevant at all, it is because a policy is established with respect to prices to be paid by the user. From the user's point of view, the section assumes that the price will be set (consistent with the other objectives including development of independent sources of supply) so as to be consistent with the encouragement of research and development and use. There is no part of Section 81 which requires prices to be "reasonable" except insofar as "reasonable compensation to the Government" is to be provided. Since the material being distributed is not Government-owned, the proviso in the context of withdrawal is meaningless.

Accordingly, if statutory considerations are deemed to require Commission review of prices at the time of withdrawal, the scope of the review should be limited to the criteria enumerated by the Atomic Energy Act. The words "reasonable and" should be eliminated from the proposed guideline.

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2. Government Isotope Requirements

The extent to which AEC should produce isotopes for the Government's needs is part of a broader question--namely, what commercial-industrial activities should the Government carry out for itself in competition with private industry?

We think it is relevant in this regard to refer to the policy set forth in Bureau of the Budget Bulletin 60-2. It provides, in general, that "the Federal Government will not start or carry on any commercial-industrial activity to provide a service or product for its own use if such product or service can be procured from private enterprise through ordinary business channels."

The Commission followed this policy when it withdrew as a supplier of plutonium-beryllium neutron sources in November 1961.

A reasonable approach was taken by the Commission during hearings on authorizing legislation for fiscal year 1963, when a decision to have curium-242 produced at Oak Ridge was questioned by the Joint Committee on Atomic Energy. The criteria which officials of the AEC applied appeared to be that production in AEC facilities would be authorized if, and only if, there was a Government need for a specific quantity for a specific mission on a given date and private suppliers were unable to meet the requirement by that date.

There are reasons why the Commission should be especially reluctant to engage in its own production operations. In particular, it has a unique promotional responsibility to strengthen free enterprise in the nuclear field; even though in-house procurement might be appropriate under some circumstances for other agencies, the Commission might very properly rely upon the resources of private firms.

Moreover, the Commission's decision to produce an isotope for its own needs can adversely affect other users. The loss of a major market can easily result in a need for a private producer to charge a higher price to the remaining purchasers in order that total revenues will be sufficient to cover costs.

At this stage in the development of the radioisotope industry, subsidy is neither desired nor asked. However, to the extent that the Commission can meet its needs from commercial suppliers, by purchasing from the lowest bidder, it will strengthen the industry; it will thereby foster the spirit of cooperation and industrial progress envisaged by the Atomic Energy Act of 1954.

It should not be overlooked, either, that privately-owned reactors are not being utilized to their fullest capacity. Several reactors, constructed for use in research and development of programmatic interest to the AEC, rely heavily upon industrial concerns for revenues. Obtaining isotopes from private sources will contribute to the successful operation of these facilities.

We are concerned not only with the basic concept of procurement from in-house sources. We think the proposed criteria for such procurement are so broad as to afford little guidance or limitation. What circumstances would be deemed to

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make the Government a "substantial user" of an isotope? Would it be some arbitrary percentage of all uses of the isotope? Would it be some arbitrary monetary value, say \$200,000 per year? What uses are of "special programmatic interest" to the AEC? Isn't every AEC isotope requirement based upon such an interest? How is Government cost to be determined in comparing with the cost of purchasing from a private supplier? Is Government "full cost recovery" the guide? Will adjustments be made to take into account realistically taxes, interest, insurance, privately-sponsored development expense and other items which would otherwise be inadequately compensated for by the full cost recovery principle? What differential would be deemed to constitute a "significantly" higher cost to the Government? Some percentage? Some dollar amount? What procedure will be followed in making these determinations? Who will make the decisions? What public record will be available concerning in-house procurement?

These questions are important in themselves, but they are especially important because they point out basic uncertainties concerning the Commission's intention to foster a strong industry. If Government and industry are to cooperate most effectively, as NSEC hopes they will, ambiguities such as those enumerated should be avoided. Private capital should be invested on the basis of realistic appraisals of markets, including Government markets, and the decision to make such investment should not be undermined by subsequent production by the AEC.

NSEC suggests that the proposed policy be revised to read as follows:

"It is the Atomic Energy Commission's policy to obtain radioisotopes from commercial sources where it has formally withdrawn from the production and distribution of those radioisotopes. AEC will take such steps as may be practicable to advise private suppliers in advance of known and projected requirements. However, the AEC maintains the right to produce an isotope for Government use in those circumstances where private concerns are unable to supply the required product in time to meet the Government's needs."

3. Filing a Petition

The proposed petition procedure has the merit of affording an opportunity for public comment prior to formal withdrawal. We would expect such comment to be valuable to both the Commission and the petitioner by providing a basis for determining (a) whether the proposed price schedule is consistent with encouragement of research and development and use (if this criterion is retained) and (b) whether product specifications are adequate to meet user demands. With respect to both these items, the petition should be approved unless the claims of the petitioner are rebutted by clear and convincing evidence to the contrary in the public record.

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If the specifications of commercially-produced material do not meet user demand, the use of AEC reactors for irradiations should be authorized, as discussed under item 6. of this letter.

While recognizing the advantages of public comment, it should be noted that a lengthy review period will have some inhibiting effect on private initiative. As soon as public notice is given in the Federal Register, the petitioner's competitors may naturally be expected to go into production themselves, scheduling their operation to coincide with the proposed withdrawal date. The petitioner will have unique expenses, including prosecution of his application for withdrawal and probably (though not necessarily) maintaining an inventory of the radioisotope during the transition period.

The petitioner, having demonstrated initiative and invested his energies and capital first, should not be denied a competitive advantage. Accordingly, it is proposed that withdrawal notices generally allow fifteen days for comment, with withdrawal to become effective thirty days thereafter unless the comments received raise questions of policy requiring Commission consideration.

4. AEC Radioisotope Prices

NSEC suggests that AEC radioisotope prices should not be set below levels which will provide full cost recovery. Our concern is based upon the belief that the AEC price may result in comparable pricing by subsidized foreign producers; the result will be the establishment of such artificially low levels that domestic private sources of supply are effectively precluded from entering the market even if AEC were to withdraw.

Moreover, in several countries isotopes are being produced by quasi-governmental bodies. U. S. industry would be adversely affected by operating subsidies granted these producers by their respective governments. Such objections are likely to have little weight if our own Government engages in similar subsidization.

We recognize, of course, that the proposed criteria are based upon statutory directives, and that these are difficult to reconcile. Where there is a need to encourage research and development or isotope use, this can be done in a variety of ways, including the award of research contracts and grants, or the establishment of a discount certificate program similar to the one long used by AEC, without inhibiting the entry of private industry into production and distribution activities.

5. AEC Radioisotope Production Technology Research

NSEC believes that the Commission's production technology research policy should be designed to stimulate the investment of capital in privately-sponsored efforts. We have already noted that price restrictions, market restrictions, and other administrative actions may inhibit such investment. In the same way, AEC research may have a negative effect.

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When a company risks capital in a research and development effort, it does so with the expectation that its success will give it a competitive advantage. The danger of a Commission-sponsored program is that its very conduct, no matter how excellent technically, may cause private efforts to be suspended. The industrial firm would find it difficult to justify an investment in production technology when its competitors can look to the Government to give it equivalent know-how without risk or expense.

Within this framework, there may yet be occasions when only a publicly-supported program may be feasible. When this is the case, we would concur in the desirability of contracting with the best-qualified group. Care should be exercised to ensure that the selection is made with particular conscientiousness to avoid unfounded criticism from competitive organizations.

In the case of isotopes from which the Commission has withdrawn, AEC research should be specially limited. Before conducting such efforts, AEC should consult with the commercial producers to encourage the work under private auspices. Public monies should be used only if such efforts are unavailing.

NSEC has confidence that the radioisotope industry can and will support an accelerated production technology research program if the climate is one of mutual understanding and cooperation between Government and industry.

6. Utilization of Government Reactors for Isotope Production

We should like to comment also upon an important matter of policy raised only inferentially by the request for public comment--namely, the use of AEC reactors by private isotope producers.

The quality and usefulness of a particular radioisotope for certain applications is often dependent upon the product's specific activity. The specific activity achieved is a function of several parameters, including the neutron flux of the reactor being used. Thus, the higher the flux, the higher the specific activity, for a given time period of irradiation.

Privately-owned reactors are available with fluxes on the order of 10^{14} nv. While the resultant product may be expected to be adequate for most user needs, a higher flux achievable only in AEC reactors may sometimes be required if the product is to meet specifications established by the Commission for its own products.

In such circumstances, the appropriate reactors should be used, for otherwise the conduct of research and development or other radioisotope application may be limited.

There are two apparent alternatives that may be considered, both involving continued AEC participation. The first is for the AEC to produce and process the isotope as it is now doing. The second is for the AEC to provide a service irradiation, with the processing to be carried out in commercial facilities.

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NSEC is of the opinion that the first alternative would lead to further friction between AEC and industry. The continued production by AEC would be inconsistent with the intent to transfer such activity to private enterprise. Suppose a withdrawal were to take place, only to be followed by a resumption of AEC production in the guise of meeting user needs. Whether or not the determination in the particular case is proper, industry's confidence in the Commission's withdrawal program would be jeopardized.

Conversely, an AEC-administered program of authorized service irradiations would maximize industrial participation while at the same time meeting all user requirements. The one important caveat is that the use of AEC facilities should be carefully restricted so that private reactors continue to be employed whenever they can be.

We suggest addition of a policy statement similar to the following:

"Utilization of AEC Reactors for Isotope Production Following AEC Withdrawal:

1. After the AEC has formally withdrawn from the production of a particular radioisotope, it will continue to provide service irradiations to produce the radioisotope to meet a user need which the AEC finds cannot be met by commercial sources of supply using privately-owned reactors. The user or commercial producer on whose behalf the service irradiation is performed will have the responsibility for processing the target in private facilities.
2. Material produced in a service irradiation may not be used for purposes other than those for which the irradiation is authorized."

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~~OFFICIAL USE ONLY~~

November 13, 1964

The Secretary
United States Atomic Energy Commission
Washington, D. C. 20545

Dear Sir:

This letter is written in response to the Commission's September 15 announcement of intent to transfer to private industry the production and distribution of certain radioisotopes, and in view of the accompanying request for comment.

First, it is acknowledged that the Commission's willingness and ability to supply radioisotopes in meaningful quantities and make associated technology available to the industry has been, and in some cases continues to be, important to the wide utilization of radioisotopes and radioisotope techniques. Nevertheless, we believe that the Commission's proposed withdrawal from radioisotope production in areas where adequate industrial capability exists is timely, and should strengthen the industry.

Moreover, we believe that the general policy of withdrawal should apply with equal force to process development, engineering, and consulting in the field of radioisotope production technology. Here, we submit that there exist adequate skill and knowledge in the industry to perform most of the engineering and development work required by both industry and government with regard to the production and utilization of radioisotopes. This is particularly true where the isotopes in question are capable of being produced in private facilities.

Accordingly, with particular regard to that item of the September 15 announcement which deals with radioisotope production technology research, we would hope that the Commission's policy of withdrawal would apply to restricting its technical and developmental effort whenever and wherever private organizations evidence consequential effort in a particular area of product or process development.

Affiliated With



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Further, it is requested that the Commission, in fulfilling its responsibility to satisfy substantial government requirements, give due recognition to the initiative of private firms which have developed or conceived processes and techniques for producing isotopes in advance of a well-established need, and due consideration to the increased efficiency that would result from the employment of such private firms in the further development of production techniques for the Commission's purposes.

Finally, we would hope that the Commission will refrain from independently developing and offering for general use, technology for producing isotopes commercially where it is clear that private firms are actively and competently engaged in the development of production techniques. Particularly where the clearly established market is insufficient to support an industry-wide production program, we submit that the excessive promotion of commercial production by the Commission can be destructive of the intent by threatening the infant market with oversupply.

In conclusion, we believe that the Commission's responsibility to promote the peaceful uses of atomic energy in the field of radioisotope technology are best served by the encouragement of private engineering effort as well as private production endeavors.

Respectfully,



J. A. Ranschoff
President

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**GENERAL  ELECTRIC
COMPANY**

**ATOMIC PRODUCTS
DIVISION**

VALLECITOS ATOMIC LABORATORY, P.O. BOX 848, PLEASANTON, CALIFORNIA 94566
AREA CODE 415, TEL. 842-2211, TWX NO. 408-287-6484

IRRADIATION PROCESSING OPERATION

November 12, 1964

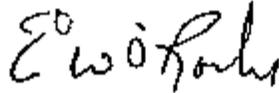
**Subject: Proposed Policies and Procedures for
Transfer of Commercial AEC Radioisotope
Production and Distribution Activity
to Private Industry**

Secretary
United States Atomic Energy Commission
Washington, D. C. 20545

Gentlemen:

We respectfully submit six (6) copies of the
attached comments in response to your request
for public comment appearing in the Federal
Register of September 16, 1964.

Sincerely,



E. W. O'Rourke
General Manager
Irradiation Processing Operation

Attach.

Irradiation Services and Radiolotopes for Research and Industry



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COMMENTS OF GENERAL ELECTRIC COMPANY

General Electric Company welcomes the September 15 publication of proposed policies and procedures for transfer of commercial radioisotope production and distribution activities to private industry. There is in this country a potentially viable radioisotope production and distribution industry which will be strengthened by the Commission's proposal. General Electric believes, however, that several changes in the Commission's proposal would be in the mutual interest of the Commission, radioisotope producers, distributors as well as consumers. Our suggestions in this respect follow:

1. The Commission has proposed two sets of guidelines for withdrawal from production and distribution of particular radioisotopes. Where the impetus for withdrawal originates within the Commission, the guideline for withdrawal is simply reasonable commercial availability. Where a petition for withdrawal has been filed, however, some but not all of the following factors must be present:
 - a. effective competition,
 - b. assurance of a continuing source of supply, and
 - c. reasonableness of prices.

General Electric believes that the guidelines for withdrawal should be identical regardless of the source of a suggestion for withdrawal. General Electric believes further that criterion (c) reasonableness of price, is meaningful only where criterion (a) effective competition, is not present. In every case where effective competition is present, market pressures will ensure price levels which are reasonably related to the cost of production, and will protect the consumer against inflated prices. Accordingly, General Electric urges that reasonableness of price be a withdrawal guideline only where effective competition does not exist.

2. Industry recognizes that in certain cases the Commission must reserve the right to produce a product for its own use. An example would be a case where the Commission's programmatic requirements are considerably in excess of normal industrial market requirements and where such will appreciably reduce the cost of production. We urge, however, that the Commission's policy reflect an intention to provide industry with the opportunity to develop the necessary capability to meet the Government's requirements prior to embarking on its own production program. We urge also, that the Government's resumption of production for particular programs not extend to, building up inventories which will adversely effect commercial activities in production of identical or competing isotopes.
3. General Electric believes that the Commission's radioisotope research and development activities on isotopes which it no longer sells commercially should emphasize new isotope applications rather than production techniques.
4. General Electric believes that some improvement in the proposed procedures relating to petitions for withdrawal is possible. Since upon publication of notice of intention to withdraw from production of a particular isotope,

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the Commission will have made a preliminary finding that its guidelines for withdrawal have been satisfied, it would appear wise to require commentators to set forth facts establishing that the preliminary finding has been in error. Unless the comments are so directed, each petition for withdrawal may result in a re-evaluation of the Commission's withdrawal policy or establishment of new and different guidelines for withdrawal. Moreover, if comments are directed only to the petitioner's compliance with the Commission's guidelines, Commission action on the petition may be expected to be sufficiently prompt to enable the petitioner to form sound production and distribution plans.

5. Finally, General Electric has noted that AEC radioisotope prices will ordinarily but not invariably reflect "the higher of AEC full cost recovery or reasonable commercial rates". The statement is inconsistent with Chapter 1701, The Commission's General Pricing Policy whereunder "the higher of the full cost recovery price or commercial price shall be charges unless it has been determined by AEC that the commercial price is unreasonable". (emphasis added). We see no reason for deviating from that general policy in this instance. Moreover, the Commission's published proposal gives no hint of the circumstances in which the Commission will set isotope prices below its recovery costs and below "reasonable" commercial rates. The Commission's General Pricing Policy appears eminently sound and deserving of recognition in isotope sales as well as in other commercial ventures by the Commission.

General Electric is grateful for the opportunity to submit the foregoing comments.

Eugene W. Burke

The General Electric Company
November 12, 1964

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GENERAL OFFICES • 2501 HUDSON ROAD • ST. PAUL 19, MINNESOTA • TEL: 733-1110

Nuclear Products

November 17, 1964

U. S. Atomic Energy Commission
1717 H Street
Washington, D. C.

Subject: Proposed Criteria for Withdrawal From
Production and Processing of Radioisotopes

Gentlemen:

We wish to respond to the opportunity for public comment recently offered by the Commission.

The Nuclear Products Department of 3M Company does not produce radioisotopes but is primarily a converter of raw isotopes to finished articles. As such, we are concerned with the proposed policy for government isotope requirements. The present wording indicates that large isotope procurements (and presumably the subsequent encapsulation) which may be economically very attractive, will be unavailable to private industry. Since the purpose of the transfer is to encourage private industry, we suggest that the section of the proposed policy which deals with government isotope requirements be reworded to invite industrial participation in the fabrication of substantial uses.

In addition to encouraging the widespread participation of private enterprise in accord with the 1954 Act, the government will benefit from industrial arts which have contributed to the present state of nuclear technology.

We appreciate the opportunity to participate in the Commissions deliberations via these remarks and trust that the results will be mutually beneficial.

Very truly yours,

R. O. Colestock

R. O. Colestock
Nuclear Products
TCAAF-588

MINNESOTA MINING AND MANUFACTURING COMPANY

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STATE OF NEW YORK
EXECUTIVE DEPARTMENT
OFFICE OF ATOMIC AND SPACE DEVELOPMENT
ALBANY

P. O. Box 7036

November 13, 1964

Mr. W. B. McCool, Secretary
U. S. Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. McCool:

This concerns the request for public comments on the "Policies and Procedures for Transfer of Commercial AEC Radioisotopes Production and Distribution Activities to Private Industry," which appeared in the September 16, 1964 issue of the Federal Register.

This Office has solicited the views of the members of its pertinent advisory committees and has found general agreement that the proposed policies and procedures are sound and should be supported by the atomic energy community. We have also found general agreement with respect to the two following comments and recommendations which we submit for the consideration of the Commission:

1. Under the section entitled "Government isotope requirements", the Commission maintains the right to produce an isotope for Government use, even after it withdraws from production and distribution, if the Government is a substantial user, or the use is of special programmatic interest to the Commission, and "where procurement from industry would result in significantly higher cost to the Government". The extent to which the Commission would continue isotope production after withdrawal under the foregoing exception would, of course, depend upon how a theoretical Government cost is determined for purposes of comparing it to the procurement cost from industry. It was questioned, however, whether the Commission should produce any isotopes for Government use if such isotopes are available at reasonable prices from industry.

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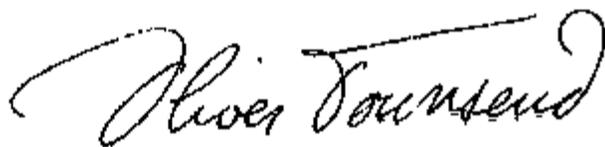
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even if such prices are significantly higher than theoretical Government costs, since purchases by the Government would be helpful in stimulating additional independent sources of supply. It was indicated that the only circumstances when Government purchases might be warranted would arise if the Government required large quantities of isotopes being produced industrially only in small quantities and industry had not indicated its willingness to undertake "quantity" production on a timely schedule or to offer "quantity" prices. It was accordingly recommended that the Commission maintain the right to produce isotopes for Government use only in those circumstances where, because of the large amounts of such isotopes required by the Government, the schedule upon which they would need to be produced would be beyond the capability of industry or would result in costs that would be unreasonably high.

2. Under the first paragraph of the section entitled "AEC radioisotope production technology research", the Commission states that it "will place the conduct of radioisotope production technology research and development it deems necessary to be carried out with groups most qualified to perform such work, whether these be AEC facilities or private organizations". Since the placing of isotope production technology research and development work with private organizations would encourage the development of additional independent sources of supply of such isotopes, it was recommended that, instead of attempting to determine the "most qualified" organization for the conduct of such work, the Commission preferentially place such work on a competitive proposal basis with private industrial organizations wherever possible, provided that such organizations are well qualified to perform the work.

Very truly yours,



Oliver Townsend
Director

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ATOMIC INDUSTRIAL FORUM INC.

850 THIRD AVENUE • NEW YORK NY 10022 • PLAZA 4-1075

November 16, 1964

Mr. E. E. Fowler
Acting Director
Division of Isotopes Development
U.S. Atomic Energy Commission
Washington, D.C. 20545

Dear Gene:

Thank you for your letter of September 1 enclosing a copy of the notice subsequently published in the September 16 issue of the Federal Register setting forth the "policies and procedures for transfer of commercial AEC radioisotope production and distribution activities to private industry."

The Forum's ad hoc Committee on Isotope Production and Distribution acknowledges with thanks your expression of appreciation for the past service of the Committee to the program. The Committee also appreciates your invitation to comment on the public announcement.

Several members of the Committee are expected to comment directly as representatives of the companies and organizations with which they are associated. Those members whose names appear on the attached list wish to supplement their individual comments by endorsing the following observations and opinions.

We believe that in implementing the proposed withdrawal criteria the Commission will have taken a constructive step towards attaining its stated goal "to transfer its commercial radioisotope production and distribution activities to private industry as rapidly as possible consistent with the over-all national interest."

In commenting on the proposed criteria, reference is made to Enclosure II of your September 1 letter in which you set forth those "areas wherein the Commission concluded that it could not fully accommodate the Forum Committee's recommendations." Following the topic order of your enclosure, our additional comments are:

1. We concur that the acceptance of foreign producers of radioisotopes in determining effective competition, provided they are actively marketing in the United States the radioisotope(s) being considered for AEC withdrawal, does meet the sense of the Committee's recommendation.

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2. We acknowledge your notation that reasonableness of price, even though it has been retained as one of the criteria to AEC withdrawal, is only one of three factors to be considered and that not all three factors need be completely satisfied for the AEC to reach a decision to withdraw. We still believe that where effective competition exists reasonableness of price is an unnecessary criterion. We further believe that in implementing the proposed transfer policies and procedures the AEC will come to regard reasonableness of price as a factor of decreasing importance to the withdrawal guidelines.
3. The added provision of requiring a petitioner to identify the production facilities available to him and the extent of his commitment on them appears reasonable and appropriate.
4. Although we recognize the Commission's desire to maintain latitude in pricing the isotopes which it continues to produce and distribute, we wish to point out that private industry must of necessity carry out its cost accounting procedures on an item-by-item basis. Comparable AEC cost information could be expected to assist private industry in determining the feasibility of its taking on increasing isotope production activities. We also believe it extremely important in setting prices to reflect "the higher of AEC full cost recovery or reasonable commercial rates" that the AEC take full cognizance of all commercial cost factors. Because many of the AEC facilities used in isotope production were designed and are used for other purposes, it is imperative, even in light of the complexities involved, that the AEC take account of all allocable costs. Finally, in those instances where the encouragement of research and development and use and the encouragement of private sources of supply cannot be equally accommodated and the AEC believes it necessary to give "greater weight" to encouragement of research and development and use, we suggest again that AEC assistance should be offered in some other form than an artificially low price for the isotopes, e.g., through the granting of research contracts.
5. The proposed criterion permitting the AEC to conduct or support production technology research and development on radioisotopes which it has ceased producing, but only if the AEC "has satisfied itself that industry is unable, is unwilling or simply is not carrying out such work adequately," appears appropriate if fairly and reasonably applied. This discretion retained by the AEC could prove most influential in either encouraging or discouraging private initiative in isotope production and distribution activities. Accordingly, we believe that the AEC should initiate such research and development only after very careful consideration of the factors involved and the impact that such action can be expected to have on the private industry. We also believe that

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in an effort to encourage maximum industrial participation in the program the AEC should preferentially select private organizations to carry out its research and development projects provided the AEC believes these private organizations are capable of carrying out the work.

6. Intimately related to points 4 and 5 above, we strongly believe that the AEC should make every effort to meet its own requirements and those of other government agencies by purchasing from private producers those isotopes which it no longer makes available to non-government users. If the required isotopes are available in the required quantities from private producers, we believe that the AEC should not reactivate its own production operations. Further, if an apparent price differential appears to justify government production, the AEC should not make a decision to produce a particular isotope until it has satisfied itself (a) that all costs associated with its own production operations have been fully assessed, and (b) that a higher private price, which may be contingent upon a small production volume, may not be subject to modification if the producer were asked to fill the government's requirements.

We hope these further comments by the Committee will assist the AEC in its final publication and implementation of effective and equitable isotope production withdrawal criteria.

Sincerely yours,

Ed
Edwin A. Wiggin, Secretary
Committee on Isotope Production & Distribution

Enclosure

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Members of Forum ad hoc Committee

on Isotope Production and Distribution

endorsing this letter of November 16, 1964 to Mr. E. E. Fowler

- J. Calvin Brantley, Director of Research - Nuclear Division,
Union Carbide Corporation
- J. H. Buck, Vice President and General Manager, Instruments
Division, The Budd Company
- R. O. Colestock, Nuclear Products Department,
Minnesota Mining and Manufacturing Company
- Joseph J. Fitzgerald, President,
Iso/Serve, Inc.
- John L. Kuranz, Vice President
Nuclear-Chicago Corporation
- John W. Landis, Manager, Atomic Energy Division
The Babcock & Wilcox Company
- Ralph F. Lumb, Director,
Western New York Nuclear Research Center, Inc.
- Edward J. Matson, Director of Commercial Development,
Abbott Laboratories
- Fred Perella, Nuclear Fuel Services, Inc.
- E. W. O'Rorke, General Manager, Irradiation Services and
Products Section, Vallecitos Atomic Laboratory,
General Electric Company
- R. A. Vandegrift, Project Coordinator, Metals Department
The Dow Chemical Company

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APPENDIX "C"

PARAGRAPH 7 OF AEC 994/20

7. Reasonableness of price is, in staff's view, a necessary criterion for AEC withdrawal because:

a. Staff believes this concept is built in the spirit of pertinent provisions of the Atomic Energy Act of 1954 as amended. Section 3 provides for:

"a. A program of conducting, assisting and fostering research and development in order to encourage maximum scientific and industrial progress;---

"d. A program to encourage widespread participation in the development and utilization of atomic energy for peaceful purposes to the maximum extent consistent with the common defense and security and with the health and safety of the public;---

"f. A program of administration which will be consistent with the foregoing policies and programs,---

Section 81 provides:

"The Commission may distribute, sell, loan, or lease such byproduct material as it owns to licensees with or without charge: Provided, however, That for byproduct material to be distributed by the Commission for a charge, the Commission shall establish prices on such equitable basis as, in the opinion of the Commission, (a) will provide reasonable compensation to the Government for such material, (b) will not discourage the use of such material or the development of sources of supply of such material independent of the Commission, and (c) will encourage research and development."

It is interesting to observe that the Forum Committee does not wholly eliminate the factor of reasonable price (see 5e above). As it states, "It may be appropriate to include reasonableness of price as a criterion" - under two circumstances: (i) uniqueness of facilities, and (ii) patent advantages which indicate the likelihood that competition will eventually not serve to lower an unreasonable price to a reasonable level. Staff is concerned that during any significant interval between an unreasonable and reasonable price stage, scientific and industrial progress in some areas may be importantly stifled by immoderate prices.

b. There is an aspect to this problem other than the basic feature that a single producer may charge a high price in order to

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cash in on his preferential no competition status. Thus, proposed private prices may be competitive and "reasonable" in light of current uses and production volume, yet they may be "unreasonable" with respect to price requirements for applications under development and production costs achievable under a more fully developed market deriving from commercialization of such applications. Cobalt-60 is a case in point. Current commercial prices for this isotope are reasonable insofar as teletherapy applications are concerned, but prohibitive for such developing uses as radiation processing of chemical products and food. The Commission has recognized this by virtue of making Cobalt-60 available in bulk quantities at 50¢ per curie to encourage radiation applications while maintaining the commercial rates for Cobalt-60 suitable for teletherapy, radiography, and similar applications. In view of the Commission's policy objective of fostering development and accelerating applications of radioisotopes in the national interest, a determination cannot arbitrarily be made "a priori" that private radioisotope prices are reasonable merely because they are competitive. Neither can it be assumed they are not reasonable. An evaluation of reasonableness must be made on a case by case basis.

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APPENDIX "D"

PROPOSED PUBLIC ANNOUNCEMENT

AEC ADOPTS FORMAL PROCEDURES FOR WITHDRAWAL FROM
ROUTINE PRODUCTION AND DISTRIBUTION OF RADIOISOTOPES

1. The Atomic Energy Commission has adopted formal procedures for AEC withdrawal from routine production and distribution of radioisotopes which are reasonably available from commercial sources.

2. The AEC action reaffirms the Commission's policy and intent to transfer routine radioisotope production and distribution activities to industry as rapidly as possible consistent with the over-all national interest.

3. The formal procedures by which the Commission may withdraw voluntarily, or by which industry might take the initiative to request such withdrawal, are published in the Federal Register for _____ (date.) These policies and procedures became effective immediately upon publication in the Federal Register. When the procedures were first published in the Federal Register, September 16, 1964, the Commission provided a 60-day period for public comment. Twenty comments were received by the AEC from individuals representing 18 organizations.

4. Since 1946, AEC has produced and processed radioisotopes in its facilities and distributed them for governmental and private use. In recent years, private facilities have become available which are capable of producing and processing radioisotopes. As a result, the Commission has discontinued production and distribution of selected types, quantities, and qualities of radioisotopes. Using informal procedures, the AEC withdrew from routine production and distribution of six radioisotopes -- chromium 51, iron 55,

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cobalt 58, cesium 134, cerium 141, and strontium 85 -- during 1964. Early this year, AEC announced withdrawal from routine production and distribution of antimony 125, calcium 45, iron 59, selenium 75, tin 113, and zinc 65.

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APPENDIX "E"

DRAFT LETTER TO THE JOINT COMMITTEE ON ATOMIC ENERGY

1. On September 10, 1964, we advised you of the Commission's plans to publish for public comment proposed formal procedures for Commission withdrawal from routine production and distribution of radioisotopes which are reasonably available from commercial producers. At that time, we transmitted for your information a copy of the contemplated procedural steps and withdrawal guidelines developed for effecting such a transfer which were to be published in the Federal Register.

2. Publication took place on September 16, 1964, and interested persons were requested to comment within sixty days. Twenty comments were received from individuals representing 18 organizations. The Commission has concluded that these comments were not of such substance to require changes. Accordingly, the Commission has adopted the proposed policies and procedures which will become effective immediately upon publication in the Federal Register.

3. Attached for your information are copies of the proposed Federal Register notice and public announcement which we plan to release simultaneously with publication in the Federal Register.

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APPENDIX "F"

ATOMIC ENERGY COMMISSION

POLICIES AND PROCEDURES FOR TRANSFER OF COMMERCIAL
RADIOISOTOPE PRODUCTION AND DISTRIBUTION TO PRIVATE INDUSTRY

Statement of Policy

Since 1946, the United States Atomic Energy Commission has produced radioisotopes in its own facilities and distributed them for governmental and private use. In recent years, private facilities have become available which are capable of producing and processing some of these radioisotopes. The Commission's policy is to refrain from competing with private sources of materials when they are reasonably available commercially. Accordingly, over the past years the Commission has discontinued production and distribution of selected types, quantities and qualities of radioisotopes and related services as these have become available from private sources.

There is currently a rapidly growing industrial interest in undertaking private production and distribution of increasing numbers of radioisotopes presently being distributed by the Commission. It therefore wishes to reaffirm its policy to transfer its commercial radioisotope production and distribution activities to private industry as rapidly as possible consistent with the national interest. To provide for the orderly transfer to private operation, the Commission developed proposed policies and procedures for effecting such transfer. On September 16, 1964, the Commission published in the Federal Register a request for public comment on the proposed policies and procedures.

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Interested persons were requested to direct their comments to the Secretary, United States Atomic Energy Commission, Washington, D.C. 20545, within 60 days from that date. The Commission has now adopted policies and procedures for the transfer of commercial AEC radioisotope production and distribution activities to private industry, effective immediately upon the publication of this notice in the Federal Register.

POLICIES AND PROCEDURES FOR TRANSFER OF COMMERCIAL AEC RADIOISOTOPE PRODUCTION AND DISTRIBUTION ACTIVITIES TO PRIVATE INDUSTRY

The policies and procedures encompass:

- a. The establishment of guidelines governing AEC withdrawal from production and distribution of particular radioisotopes, either voluntarily or upon petition of a private organization.
- b. The establishment of a petition procedure by which private organizations may formally request AEC withdrawal from the production and distribution of particular radioisotopes.
- c. The application of AEC radioisotope pricing policy.
- d. The AEC position with respect to its conduct of radioisotope production technology research and development on those radioisotopes from which it has withdrawn from production and distribution.

Withdrawal guidelines. 1. The AEC will voluntarily withdraw from the commercial production and distribution of particular radioisotopes whenever it determines that such radioisotopes are reasonably available from commercial sources.

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2. The AEC will withdraw from the commercial production and distribution of particular radioisotopes on petition from a private organization based upon a demonstrable private capability and encompassing the following but recognizing that all these factors need not be completely satisfied:

a. There is effective competition in the production and distribution of the radioisotopes in question; however, a single source of supply under certain conditions may be acceptable (e.g., very limited market). Foreign producers will be accepted in determining effective competition provided they are actively marketing the radioisotopes in the U.S.

b. There is assurance that the private producers will not discontinue the venture in a manner that would adversely affect the public interest, to the extent resumption of production by AEC would involve a significant delay.

c. The proposed private radioisotope prices are reasonable and consistent with encouragement of research and development and use.

Government isotope requirements. It is the Atomic Energy Commission's policy to obtain radioisotopes from commercial sources where it has formally withdrawn from the production and distribution of those radioisotopes. However, the AEC maintains the right to produce an isotope for Government use in those circumstances where the Government is a substantial user, or the use is of special programmatic interest to the AEC, and where procurement from industry would result in significantly higher cost to the Government.

Filing a petition. 1. An organization requesting that the AEC withdraw from the production and distribution of a particular radioisotope may submit a formal petition to this effect. Such a petition should contain sufficient evidence to demonstrate adequate technical, financial and managerial resources, as well as seriousness of intent.

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2. The petition should include:

a. Product specifications to show evidence of their comparability to AEC products or adequacy to meet user demands.

b. Estimate of current demand. (The petitioner's production capabilities in conjunction with that of other suppliers should be adequate to meet this demand.)

c. The petitioning organization's production, processing and distribution capability, including identification of the production facilities (e.g., nuclear reactors and/or cyclotrons) available to it and the extent of commitment upon them in relation to market requirements.

d. Price schedule.

e. Delivery schedule.

f. Proposed date of AEC withdrawal.

The AEC may request additional information if the above information is inadequate for AEC to make a finding.

3. Upon making a finding favorable to the petition, the AEC will publish for public comment:

a. The private organization's petition or a summary thereof, exclusive of company confidential information, and will designate the place where a copy of the petition, exclusive of company confidential information, may be seen. (The petitioner should identify those portions of his petition which contain company confidential information; however, the information published must be sufficient to permit meaningful public comment)

b. A notice of AEC's intent to withdraw.

AEC will make a final decision on the withdrawal petition upon receipt and evaluation of public comment.

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4. Upon making an unfavorable decision on a petition, either prior to or subsequent to receipt of public comment, AEC will inform the petitioning organization of the reasons for its decision.

5. When AEC determines to withdraw voluntarily from the commercial production and distribution of particular radioisotopes, it will similarly publish a notice of such intent for public comment.

AEC radioisotope prices. 1. AEC radioisotope prices will be established to provide reasonable compensation to the Government (which ordinarily will be the higher of AEC full cost recovery or reasonable commercial rates) unless this would significantly interfere with (a) research and development and use or (b) encouragement of private sources of supply. In individual cases, if (a) and (b) cannot be equally accommodated, greater weight will be given to encouragement of research and development and use.

2. The AEC will publish a 30 day prior notice of proposed price changes, including the reasons for the proposed changes.

3. The AEC will not change the price of a radioisotope during the period it is reviewing a petition for AEC withdrawal from production and distribution of that isotope.

AEC radioisotope production technology research. 1. AEC will place the conduct of radioisotope production technology research and development it deems necessary to be carried out with groups most qualified to perform such work, whether these be AEC facilities or private organizations.

2. AEC will conduct or support production technology research and development on radioisotopes from which it has withdrawn as it deems necessary, but only to the extent that AEC has satisfied itself that industry is unable, is

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unwilling or simply is not carrying out such work adequately or where it determines that direct AEC effort is necessary in the interest of the atomic energy program.

(Sec. 161, 68 Stat. 948; 42 U.S.C. 2201)

Dated at Germantown, Md., this _____ day of _____, 1965

For the Atomic Energy Commission

W. B. McCool, Secretary
to the Commission

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Congress of the United States
House of Representatives
Washington, D. C.

February 10, 1965

Dr. Glenn T. Seaborg, Chairman
Atomic Energy Commission
Washington, D. C. 20545

Dear Dr. Seaborg:

Several of my constituents have suggested the possibility of using atomic energy for research work in improving low-grade deposits of iron ore.

The background on this situation is that for several years the high-grade deposits of the great Mesabi Iron Range have been rapidly depleted, leaving us with vast reserves of low-grade iron ore. These low-grade ores can, by various processes, be improved to form a high-grade pellet or concentrated ore, which is suitable for blast furnace use. Most of these beneficiation processes are expensive which, of course, increases the cost of the finished product.

I would appreciate it, therefore, if you could inform me as to whether atomic energy has been used, or considered for use, in iron ore beneficiation processes.

With every good wish.

Sincerely,

John A. Blatnik
John A. Blatnik, M. C.

JAB:jm

2-10-65

CROSS-REFERENCE (Name, number, or subject under which this form is filed)	➔	ISOTOPES 3-
IDENTIFICATION OF RECORD	DATE	
	TO	
	FROM	
	BRIEF SUMMARY OF CONTENTS	ISOTOPES DEVELOPMENT PROGRAM. the fiscal year 1966 budget request for the Isotopes Dev. Program is \$12,800,000, an increase of \$3,500,000 over fiscal year 1965.
FILED (Name, number, or subject under which the document itself is filed)	Budget 2- 1966 date 2-10-65	
Optional Form 21 Feb. 1962 GSA Circular 259		
CROSS-REFERENCE		

2-10-65



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

Sec.

FEB 9 1965

MEMORANDUM FOR CHAIRMAN SEABORG
COMMISSIONER BUNTING
COMMISSIONER PALFREY
COMMISSIONER RAMEY
COMMISSIONER TAPE

SUBJECT: RADIOISOTOPE PRICE CHANGES

Attached is a copy of a memorandum to me from the Acting Director of the Division of Isotopes Development concerning radioisotope price changes. I would like to bring this matter up at an early Information Meeting.

Note that 52 price increases and 8 price reductions are planned. The Acting Director of the Division anticipates the increase from \$90.00 to \$140.00 per hour for cyclotron irradiation service may elicit substantial protests from cyclotron isotope processors and users. He does not expect the other price increases will cause major comment since the isotopes involved generally are used for research purposes in which their cost usually represents only a small part of the total research program cost.

Signed:
John V. Vinciguerra

JV
General Manager

2-965

UNITED STATES GOVERNMENT

Memorandum

TO : R. E. Hollingsworth, General Manager
THRU: S. G. English, Assistant General Manager
for Research and Development
FROM : E. E. Fowler, Acting Director
Division of Isotopes Development
SUBJECT: RADIOISOTOPE PRICE CHANGES

DATE: FEB 9 1965

As a result of our review of radioisotope cost and price experience for FY 1964, and in accordance with Manual Chapter 1701, we are planning a substantial number of radioisotope price changes. These are identified in an attachment. Prices are being increased on fifty-two items and reduced on eight. The Office of the Controller concurs in these changes.

Based on AEC full costs, radioisotope and irradiation services sold outside the AEC resulted in a substantial loss in FY 1964. Details are as follows:

	<u>Full Cost</u>	<u>Revenue</u>	<u>Profit (Loss)</u>
Radioisotopes	\$1,930,091	\$1,431,191	(\$498,900)
Irradiation Services	<u>526,024</u>	<u>413,414</u>	<u>(112,610)</u>
Total	\$2,456,115	\$1,844,605	(\$611,510)

In addition to sales to outsiders, the AEC provided radioisotopes and irradiation services for use in projects of the AEC and projects of other government agencies in which the AEC had a programmatic interest. On the basis of full cost recovery, these transactions would have amounted to approximately \$910,000.

The loss shown above resulted in large part from the withdrawal by AEC from the production and distribution of several radioisotopes in favor of private industry and a reduction in revenue from a number of other items which are now being partially supplied by private industry. In addition, approximately 31% of the radioisotope losses were experienced in the sale of the following fission products:

	<u>Full Cost</u>	<u>Revenue</u>	<u>Profit (Loss)</u>
Cesium-137	\$ 101,830	\$ 50,173	(\$ 51,657)
Promethium-147	92,126	11,797	(80,329)
Strontium-90	<u>34,447</u>	<u>10,817</u>	<u>(23,630)</u>
Total	\$ 228,403	\$ 72,787	(\$155,616)

The Commission has agreed in principle to make current ABC fission product prices commensurate with those to be charged by the FPCE plant operator at Richland. Accordingly, no price adjustments are being suggested at this time for the above fission products pending discussions on this point with the FPCE-200 area contractor. The Staff has this matter under active consideration.

Your specific attention is called to the price change for irradiations on the 86-inch cyclotron at ORNL. During FY 1964 the loss on the operation of this machine was \$105,269, about 59% greater than the previous year. Therefore in a continuing effort to recover full costs, the price for cyclotron service irradiations will have to be increased from \$90.00 per hour to \$140.00 per hour. This will have a major adverse impact on the private processors and distributors of cyclotron produced isotopes. Since there are no suitable commercially owned machines available, these firms use the ORNL machine for irradiation of targets which they subsequently chemically process. This increase most likely will be reflected in the prices charged their customers, most of whom are medical users. These prices might be as much as doubled. We anticipate this price increase may result in substantial protests from the processors and users.

Note that Nuclear Science and Engineering Corp is a major customer, having purchased approximately \$56,000, \$38,000, and \$42,000 worth of cyclotron irradiation services in calendar years 1962, 1963 and 1964. This represented about 61%, 32% and 22% respectively of our total dollar volume of commercial cyclotron business in those years.

In accordance with the procedure set forth in the recently published Federal Register notice concerning private radioisotope production, we will provide a 30 day prior public notice of these price changes. The Division of Public Information concurs in the attached proposed public announcement.

You may wish to refer this matter to the Commission for consideration at an early Information Meeting prior to the price changes being implemented.

Attachments:

1. Proposed public announcement
2. Table of proposed radioisotope price changes

Proposed release date Feb. 12.

AEC GIVES ADVANCE NOTICE OF CHANGES IN RADIOISOTOPE PRICES
AND IRRADIATION SERVICE CHARGES

The Atomic Energy Commission will increase prices of fifty-two radioisotopes and will reduce prices of eight others. The price changes become effective on March 15, 1965.

The price increases are necessary to recover full costs of radioisotope production and distribution. Some of the more commonly-used radioisotopes for which prices will be increased are: krypton-85, iodine-131, gold-198, phosphorus-32, calcium-47 and strontium-89. Among those for which prices will be decreased is carbon-14, a radioisotope widely used in biomedical research.

The prices for cyclotron irradiation service will be increased from \$90 an hour to \$140 an hour. Commercial processors and distributors of cyclotron-produced isotopes use this service because no suitable commercially owned machines are available. These companies use the 86-inch cyclotron at AEC's Oak Ridge National Laboratory for irradiation of materials which the companies then process for the desired radioisotopes. Modest increases also will be made in reactor irradiation service charges.

The advance notice is in keeping with a procedure published by the AEC in the Federal Register, September 16, 1964.

Copies of the revised price schedule may be obtained from:

Oak Ridge National Laboratory
Isotopes Sales Department
Isotopes Development Center
P.O. Box X
Oak Ridge, Tennessee 37831

Brookhaven National Laboratory
Hot Laboratory Division
Upton, Long Island, New York 11973

RADIOISOTOPE PRICE CHANGES
(From ORNL unless otherwise shown as BNL)

Item	FY-64		Current Price	Proposed Price
	Revenue	Profit (loss)		
Carbon-14	\$213,558	\$35,535	0-1,000 mc -\$7.50/mc 1,001-5,000 mc -\$6.50/mc 5,001-10,000 mc-\$4.50/mc over 10,000 mc-\$4.00/mc	0-1,000 mc -\$6.50/mc 1,001-5,000 mc -\$5.50/mc 5,001-10,000 mc-\$4.50/mc over 10,000 mc-\$3.75/mc minimum order-\$25.00
Technetium-99	\$69,761	\$1,149	\$90.00/gram minimum order-\$10.00	\$55.00/gram minimum order-\$25.00
Krypton-85	\$81,636	(\$42,128)	0-1,000 C-\$15.00/C over 1,000 C-\$7.50/C minimum order-\$25.00	\$22.00/C minimum order-\$25.00
Chlorine-36	\$26,799	(\$7,611)	\$0.325/microcurie	\$0.35/microcurie minimum order-\$25.00
Nickel-63	\$15,307	\$6,222	0-200 mc-\$10.00/mc over 200 mc-\$6.00/mc	0-200 mc-\$7.50/mc over 200 mc-\$5.50/mc minimum order-\$25.00
Thallium-204	\$13,550	\$7,093	0-5,000 mc-\$1.00/mc over 5,000-\$0.60/mc	0-5,000 mc-\$0.75/mc over 5,000 mc-\$0.50/mc minimum order-\$25.00
Tritium (Hydrogen-3)	\$128,736	(\$11,745)	0-1,000 C-\$2.00/C 1,001-10,000 C-\$1.50/C over 10,000 C-\$1.00/C plus \$30.00 packing charge	0-1,000 C-\$2.00/C 1,001-10,000 C-\$1.50/C over 10,000 C-\$1.20/C plus \$30.00 packing charge minimum order-\$25.00

Item	FY-64		Current Price	Proposed Price
	Revenue	Profit (Loss)		
Xenon-133	\$12,638	(\$20,067)	0-100 C-\$30.00/C over 100 C-\$12.00/C minimum order \$60.00	0-10 C-\$75.00/C over 10 C-\$30.00/C minimum order \$150.00
Iodine-131	\$42,193	(\$19,534)	0-200 mc \$0.35/mc 201-500 mc \$0.31/mc 501-1,000 mc \$0.28/mc 1,001-1,500 mc \$0.26/mc 1,501-2,000 mc \$0.25/mc 2,001-3,000 mc \$0.24/mc 3,001-4,000 mc \$0.23/mc over 4,000 mc-\$0.20/mc	0-200 mc-\$0.45/mc 201-500 mc-\$0.40/mc 501-1,000 mc-\$0.35/mc 1,001-2,000 mc-\$0.30/mc over 2,000 mc-\$0.25/mc minimum order-\$25.00
Iridium-192 GS	\$28,248	(\$8,405)	\$6.00/C Source selection charge \$40.00	\$9.00/C Source selection charge \$40. (sold only when not com- mercially available domestically)
Phosphorus-32	\$63,579	(\$18,971)	0-10 C-\$1.00/mc over 10 C-\$0.75/mc	0-10 C-\$1.30/mc over 10 C-\$1.00/mc minimum order-\$50.00
Calcium-47	\$42,035	(\$21,428)	\$200.00/mc	\$250.00/mc minimum order-\$250.00
Copper-64	\$6,313	(\$3,241)	\$1.30/mc	\$2.00/mc minimum order-\$50.00
Gold-198	\$6,992	(\$5,157)	0-500 mc-\$0.20/mc over 500 mc-\$0.06/mc	0-500 mc-\$0.20/mc over 500 mc-\$0.10/mc minimum order-\$50.00
Potassium-42	\$10,330	(\$2,302)	\$2.30/mc	\$2.80/mc minimum order-\$25.00

Item	FY-64		Current Price	Proposed Price
	Revenue	Profit (loss)		
Sodium-24	\$7,788	(\$2,185)	0-100 mc-\$7.00/mc 101-500 mc-\$5.00/mc over 500 mc-\$2.75/mc	\$9.00/mc minimum order \$25.00
Sulfur-35-P-1	\$12,226	(\$2,056)	0- 500 mc-\$0.80/mc 501-1,000 mc-\$0.75/mc 1,001-3,000 mc-\$0.70/mc over 3,000 mc-\$0.65/mc minimum order-\$15.00	0- 500 mc-\$0.80/mc 501-1,000 mc-\$0.75/mc 1,001-3,000 mc-\$0.70/mc over 3,000 mc-\$0.65/mc minimum order-\$25.00
Sulfur-35-P-2	\$1,490		\$10.00/mc minimum order-\$15.00	\$15.00/mc minimum order-\$25.00
Sulfur-35-P-3	\$2,373		\$10.00/mc minimum order-\$15.00	\$15.00/mc minimum order-\$25.00
Minor fission products (10 isotopes-see Annex)	\$32,299	(\$52,842)		Increase prices by factor of 2.7
Developmental processed materials (22 isotopes-see Annex)	\$66,105	(\$27,290)		Increase prices by factor of 1.5
86-inch cyclotron	\$126,508	(\$105,269)	\$90.00 per hour plus target cost	\$140.00 per hour plus target cost

Item	FY-64		Current Price	Proposed Price
	Revenue	Profit (loss)		
LITR-ORR Service Irradiations	\$49,107	(\$7,319)	\$90.00 first week \$60.00 each additional week minimum charge-\$90.00	\$105.00 first week \$75.00 each additional week minimum charge-\$105.00
Packing and shipping	\$262,372	(\$46,232)	\$20.00-Nonreturnable container \$35.00-Customer returnable container \$60.00-ORNL returnable container	\$25.00-Nonreturnable container \$35.00-Customer returnable container \$60.00-ORNL returnable container
Special Services	\$93,812	(\$35,477)		Quotations will be increased by 35%
Cesium-137 Source Fabrication	\$49,610	(\$24,865)		Quotations will be increased by 50%

Item	FY-64		Current Price	Proposed Price																				
	Revenue	Profit (loss)																						
Molybdenum-99 (from BNL)	\$1,375	(\$878)	100 mc-\$55.00 shipped in bottle	100 mc-\$45.00 101-150 mc-\$67.50 151-200 mc-\$90.00 201-250 mc-\$112.50 shipped in bottle																				
Technetium-99m (from BNL)	\$6,545	(\$4,453)	100 mc-\$55.00 shipped in generator	<table border="0"> <thead> <tr> <th></th> <th><u>Mo⁹⁹</u></th> <th><u>Generator</u></th> <th><u>Total</u></th> </tr> </thead> <tbody> <tr> <td>100 mc-</td> <td>\$45.00</td> <td>\$10.00</td> <td>\$55.00</td> </tr> <tr> <td>101-150 mc-</td> <td>\$67.50</td> <td>\$10.00</td> <td>\$77.50</td> </tr> <tr> <td>151-200 mc-</td> <td>\$90.00</td> <td>\$10.00</td> <td>\$100.00</td> </tr> <tr> <td>201-250 mc-</td> <td>\$112.50</td> <td>\$10.00</td> <td>\$122.50</td> </tr> </tbody> </table> Shipped in generator		<u>Mo⁹⁹</u>	<u>Generator</u>	<u>Total</u>	100 mc-	\$45.00	\$10.00	\$55.00	101-150 mc-	\$67.50	\$10.00	\$77.50	151-200 mc-	\$90.00	\$10.00	\$100.00	201-250 mc-	\$112.50	\$10.00	\$122.50
	<u>Mo⁹⁹</u>	<u>Generator</u>	<u>Total</u>																					
100 mc-	\$45.00	\$10.00	\$55.00																					
101-150 mc-	\$67.50	\$10.00	\$77.50																					
151-200 mc-	\$90.00	\$10.00	\$100.00																					
201-250 mc-	\$112.50	\$10.00	\$122.50																					
Tellurium-132 (from BNL)	\$440	(\$297)	10 mc- \$55.00 100 mc-\$190.00 shipped in bottle	10 mc- \$45.00 100 mc-\$180.00 shipped in bottle																				
Iodine-132 (from BNL)	\$5,020	(\$3,452)	10 mc- \$55.00 100 mc-\$190.00 Shipped in return- able shield in- cluding generator	<table border="0"> <thead> <tr> <th></th> <th><u>Iel32</u></th> <th><u>Generator</u></th> <th><u>Total</u></th> </tr> </thead> <tbody> <tr> <td>10 mc-</td> <td>\$45.00</td> <td>\$10.00</td> <td>\$55.00</td> </tr> <tr> <td>100 mc-</td> <td>\$180.00</td> <td>\$10.00</td> <td>\$190.00</td> </tr> </tbody> </table> Shipped in returnable shield including generator		<u>Iel32</u>	<u>Generator</u>	<u>Total</u>	10 mc-	\$45.00	\$10.00	\$55.00	100 mc-	\$180.00	\$10.00	\$190.00								
	<u>Iel32</u>	<u>Generator</u>	<u>Total</u>																					
10 mc-	\$45.00	\$10.00	\$55.00																					
100 mc-	\$180.00	\$10.00	\$190.00																					

Annex

Minor Fission Products

Item	Current Price	Proposed Price
1. Barium-140-Lanthanum-140	0-200 mc - \$2.80/mc 201-2,000 mc- \$1.50/mc 2,001 mc-50C -\$150.00/C 51C-100C -\$100.00/C over 100C- \$65.00/C minimum order- \$25.00	\$750/mc minimum order-\$25.00
2. Strontium-89	0-100 mc-\$5.00/mc over 100 mc-\$1.75/mc	\$13.50/mc minimum order-\$25.00
3. Gross Fission Products	0-200 mc -\$2.00/mc 201-1,000 mc-\$1.00 mc over 1,000 mc-\$0.50/mc minimum order-\$25.00	\$5.50/mc minimum order-\$25.00
4. Zirconium-95-Niobium-95	0-1,000 mc-\$2.00/mc over 1,000 mc-\$1.00/mc minimum order-\$25.00	\$5.50/mc minimum order-\$25.00
5. Niobium-95	0-100 mc-\$10.00/mc over 100 mc- \$5.00/mc minimum order-\$25.00	\$25.00/mc minimum order-\$25.00
6. Praseodymium-143	0-100 mc-\$50.00/mc 101-500 mc- \$5.00/mc over 500 mc- \$2.00/mc minimum order-\$25.00	\$50.00/mc minimum order-\$25.00
7. Neodymium-147 Promethium-147 (based on ND ¹⁴⁷ content)	0-100 mc-\$50.00/mc 101-500 mc- \$5.00/mc over 500 mc- \$3.00/mc minimum order-\$25.00	\$50.00/mc minimum order-\$25.00

Item	Current Price	Proposed Price
8. Ruthenium-103	1-100 mc-\$10.00/mc 101-500 mc- \$5.00/mc over 500 mc- \$2.00/mc minimum order-\$25.00	\$25.00/mc minimum order-\$25.00
9. Ruthenium-106-Rhodium-106	0-100 mc-\$10.00/mc over 100 mc- \$5.00/mc minimum order-\$25.00	\$25.00/mc minimum order-\$25.00
10. Yttrium-91	0-100 mc-\$4.00/mc over 100 mc-\$2.00/mc minimum order-\$25.00	\$11.00/mc minimum order-\$25.00
	<u>Developmental Processed Materials</u>	
1. Antimony-122	0-50 mc-\$3.00/mc over 50 mc-\$1.50/mc minimum order-\$25.00	\$4.50/mc minimum order-\$25.00
2. Argon-37	0-50 mc-\$15.00/mc over 50 mc- \$7.50/mc minimum order-\$25.00	\$22.50/mc minimum order-\$25.00
3. Arsenic-76	0-500 mc-\$2.00/mc over 500 mc-\$0.65/mc minimum order-\$25.00	\$3.00/mc minimum order-\$25.00
4. Iodine-130	0-1,000 mc-\$1.25/mc over 1,000 mc-\$0.40/mc minimum order-\$25.00	\$1.90/mc minimum order-\$25.00
5. Lanthanum-140	0-2,000 mc-\$2.00/mc over 2,000 mc-\$1.25/mc minimum order-\$25.00	\$3.00/mc minimum order-\$25.00

Item	Current Price	Proposed Price
6. Mercury-197	0-1,000 mc-\$1.00/mc over 1,000 mc-\$0.40/mc minimum order-\$25.00	\$1.50/mc minimum order-\$25.00
7. Arsenic-77	0-150 mc-\$10.00 mc over 150 mc-\$4.00/mc minimum order-\$25.00	\$15.00/mc minimum order-\$25.00
8. Barium-131	0-50 mc-\$60.00/mc over 50 mc-\$40.00/mc minimum order-\$25.00	\$90.00/mc minimum order-\$25.00
9. Barium-133	0-100 mc-\$100.00/mc over 100 mc- \$75.00/mc minimum order-\$25.00	\$150.00/mc minimum order-\$25.00
10. Bismuth-210	0-200 mc-\$10.00/mc over 200 mc- \$4.00/mc minimum order-\$25.00	\$15.00/mc minimum order-\$25.00
11. Cadmium-109	0-100 mc-\$80.00/mc over 100 mc-\$45.00/mc minimum order-\$25.00	\$120.00/mc minimum order-\$25.00
12. Cadmium-115	0-500 mc-\$4.00/mc over 500 mc-\$1.50/mc minimum order-\$25.00	\$6.00/mc minimum order-\$25.00
13. Gallium-72	0-500 mc-\$4.00/mc over 500 mc-\$1.50/mc minimum order-\$25.00	\$6.00/mc minimum order-\$25.00
14. Gold-199	0-1,000 mc-\$5.00/mc over 1,000 mc-\$1.50/mc minimum order-\$25.00	\$7.50/mc minimum order-\$25.00

Item	Current Price	Proposed Price
15. molybdenum-99	0-5,000 mc-\$1.50/mc over 5,000 mc-\$1.00/mc minimum order-\$25.00	\$2.25/mc minimum order-\$25.00
16. Palladium-109	0-2,000 mc-\$1.00/mc over 2,000 mc-\$0.50/mc minimum order-\$25.00	\$1.50/mc minimum order-\$25.00
17. Praseodymium-142	0-1,000 mc-\$3.00/mc over 1,000 mc-\$1.00/mc minimum order-\$25.00	\$4.50/mc minimum order-\$25.00
18. Rhenium-186	0-1,000 mc-\$2.00/mc over 1,000 mc-\$0.50/mc minimum order-\$25.00	\$3.00/mc minimum order-\$25.00
19. Samarium-153	0-1,000 mc-\$2.50/mc over 1,000 mc-\$1.50/mc minimum order-\$25.00	\$3.75/mc minimum order-\$25.00
20. Silver-111	0-1,000 mc-\$5.00/mc over 1,000 mc-\$3.00/mc minimum order-\$25.00	\$7.50/mc minimum order-\$25.00
21. Thulium-170	0-1C-\$100.00/C or fraction over 1C- \$35.00 each additional C minimum order-\$25.00	\$150.00/curie minimum order-\$150.00
22. Tungsten-187	0-100 mc-\$6.00/mc 101-500 mc-\$3.00/mc over 500 mc-\$2.00/mc minimum order-\$25.00	\$9.00/mc minimum order-\$25.00

Isotopes - 3

FEB 1 1965

MEMORANDUM FOR CHAIRMAN SEABORG
COMMISSIONER BARTLETT
COMMISSIONER FALKNER
COMMISSIONER RAMEY
COMMISSIONER TAFE

Signed:

for THROUGH GENERAL MANAGER John Y. Vinciguerra

FEB 1 1965

SUBJECT: ISOTOPES AND RADIATION DEVELOPMENT 10-YEAR PLAN

The attached report on a proposed 10-year plan for the Isotopes and Radiation Development Program is transmitted in accordance with your request. This is a preliminary draft which is currently undergoing revision by the Division of Isotopes Development both as to technical content and budgetary projections. The elements of this plan have been under development for the past year. Substantial assistance in this effort has been obtained from the Advisory Committee on Isotopes and Radiation Development and approximately 30 outside experts knowledgeable in the various aspects of isotopes use.

E. E. Fowler, Acting Director
Division of Isotopes Development

Attachment:
IFD Plan, July 1964

cc: GM
AGMD
Secretariat (2) ←

** filed in Bulky Package*

DID:ADP&E	DID:D Acting	AGMD	AGM	DGM	GM
JMachurek:bb	E. E. Fowler				
2/1/65	2/1/65	2/1/65	2/1/65	2/1/65	2/1/65

2-1-65

AEC



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

Isotope - 3

No. H-14
Tel. 973-3335 or
973-3446

FOR IMMEDIATE RELEASE
(Tuesday, January 19, 1965)

B-495

AEC TO WITHDRAW FROM
PRODUCTION AND SALE OF SIX RADIOISOTOPES

The Atomic Energy Commission will withdraw from the routine production and distribution of six radioisotopes -- antimony-125, calcium-45, iron-59, selenium-75, tin-113, and zinc-65 -- effective April 18, 1965. This is in accordance with the Commission's general policy to discontinue providing materials or services which are reasonably available from commercial sources.

The Commission will not accept new orders for these radioisotopes after February 17. As with past withdrawals, the AEC will continue to meet requirements to the extent that the purchaser certifies in writing that he requires material of a technical quality which is not commercially available.

These radioisotopes are now produced and distributed through the Commission's Oak Ridge (Tennessee) National Laboratory operated for the AEC by the Union Carbide Corporation. The six radioisotopes are used principally in research and in medical diagnosis.

Private organizations are producing the six radioisotopes in sufficient quantities to meet ordinary commercial demands. Prices published by the producers are believed to be reasonable. Additional information on the availability of these materials may be obtained from commercial suppliers of radioisotopes.

#

1/19/65

1-19-65

Isotopes - 3

JAN 11 1965

MEMORANDUM FOR CHAIRMAN STABRO
COMMISSIONER BOWLING
COMMISSIONER PALFREY
COMMISSIONER RABRY
COMMISSIONER TATE

THROUGH GENERAL MANAGER S. G. ENGLISH

SUBJECT: RELATIONSHIPS BETWEEN AEC AND RADIATION MACHINE
MANUFACTURERS -- A PROGRESS REPORT

Significant accomplishments have been made during the past nine months in improving relationships between the AEC staff and the major manufacturers of machines used for radiation processing. The purpose of this memorandum is to acquaint the Commission with the progress made, as evidenced by a recent meeting held with the manufacturers.

AEC 994/18, April 27, 1964, advised the Commission of the results of an initial meeting with the machine manufacturers which was held on April 16, 1964. At that time a series of problems jointly facing the industry and the AEC was delineated and recommendations for their solution were made.

A second informal conference with the manufacturers was held at Germantown on November 18, 1964. Also in attendance were interested observers and participants from the U.S. Army and National Bureau of Standards. The principal objectives of this meeting were:

1. To determine the status of recommendations made previously.
2. To enumerate and discuss problem areas which appeared to be restricting expansion of the process radiation industry.
3. To ascertain whether research and development programs, both public and private, could be reoriented to better serve the needs of users of machines and isotopes as sources of radiation.

1-11-65

The consensus of the private sector was that substantial progress had been made by the AEC in responding to the industry's original complaints. Specifically recognized by the industry were the following improvements:

1. Speeches, reports, and other published information have consistently noted that machines as well as isotopes may be used as sources of radiation, depending on the particular application involved.
2. A comparatively large number of NRE research and development programs employ commercial machines as a source of ionizing radiation.
3. The use of machines as radiation sources in the preservation of foods will be requested by the AEC in petitions presented to FDA for approval of irradiated foods for public consumption.
4. AEC research programs take into account the potential use of machines in large-scale radiation processes.

Major problems restricting expansion of the radiation processing industry are now held to be mostly those created within the machine industry itself:

1. A need for better design techniques, and a lack of uniform design and equipment standards.
2. The need for more research work on extended X-ray sources, energy deposition in thin windows, and other technical matters.
3. The reluctance on the part of the manufacturers to exchange technical information or to establish standards because of the desire to protect proprietary information and to maintain competitive positions.
4. The lack of knowledge of the techniques and capabilities of radiation processing on the part of potential users.

The Government representatives present reported on the future plans of their respective organizations to support research and development on technical problems of interest to the machine industry. In particular, a 3-year program at the National Bureau of Standards, to be partly supported by the AEC, was discussed in detail and received the enthusiastic support of the industry group. (The Division of Isotope Development is now awaiting the receipt of a formal proposal from NBS.)

The possibility of a joint AEC-industry demonstration project in the field of radiation processing was suggested by an industry representative. A favorable response from the industry was predicted if the suggestion were to be proposed formally by the AEC.

The AEC was encouraged to expand its educational activities, both in public information and in the training of technologists, to pave the way for broader acceptance of radiation as a process tool.

The meeting concluded with the stated intention of the manufacturers to form a trade association which would include fabricators of isotopic radiation sources as well as machines.

The remarkable spirit of harmony and accord which has prevailed throughout the past several months is perhaps best evidenced by the attached letter from Dr. Kenneth Margenstern, President of Radiation Dynamics, Inc., to Mr. John Conroy of the JCS staff.

A more detailed summary of the meeting is available upon request.

Original signed by
E. E. Fowler

E. E. Fowler, Acting Director
Division of Isotope Development

Attachment:
Ltr. Margenstern to Conroy,
11/24/64

bcc: GM
AGRD
Secretariat (2) ✓

BID:RAB

JEB:cm
1/ /65

BID:RAB BID:D Acting AGRD AGM DGM GM

GRB:tz:rl/bbEEFowler

1/7/65 1/ /65 1/ /65 1/ /65 1/ /65 1/ /65

RADIATION DYNAMICS, INC.

Westbury Industrial Park

Westbury, Long Island • EDgewood 4-3990

Cable Address: Rodyne Westbury NY
November 24, 1964

Joint Committee on Atomic Energy
Congress of the United States
Washington, D. C.

Attention: Mr. John T. Conway
Executive Director

Gentlemen:

In the past I have voiced criticism of some of the activities of the Isotope Development Division of the Atomic Energy Commission, specifically with respect to their attitude regarding exploitation and expansion of the radiation process industry.

I feel it would be less than fair, therefore, not to offer my comments and express my pleasure at the obvious change in attitude of the Isotope Development Division at this time.

In the last six months, this group has made a concerted effort to bring the whole area of radiation processing into proper perspective and has provided a focal point for both industry and governmental activities related to the growth of this potentially important element of our national economy.

I feel that through their continued efforts our national long range goals will be achieved in the most efficient and effective manner.

Respectfully yours,

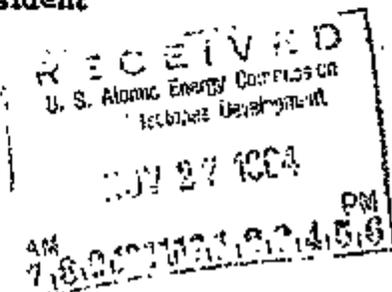
RADIATION DYNAMICS, INC.

Kennard H. Morganstern
Kennard H. Morganstern, Ph. D.
President

KHM/mz

cc: The Honorable Kenneth B. Keating
The Honorable Jacob K. Javits
✓ ~~Mr. E. J. Fowler~~, Deputy Director,
Division of Isotopes Development

RDI



DATE:

INDEX: Isotopes 3

~~Materials - Curium~~

~~INDEX: Isotopes of Power Knowledge~~

~~DOE Y 2083~~

~~DOE Y 2083~~

TO:

FROM:

SUMMARY: AEC 384/28 - OPERATION OF THE PRODUCTION REACTORS FOR NON-WEAPONS PURPOSES - Discussion Paper
To formalize, as requested by ACRS for guidance in their review of reactor safety aspects, the general policy for operations of production ~~reactors~~ reactors for non-weapon purposes. These reactors could produce certain radioisotopes including Curium, improve diversification potential and other uses.

FILED: Materials U-233 Program

INDEXER: date of paper: 1-27-65

REMARKS:

CONFIRMED TO BE UNCLASSIFIED
DOE HAS DECLASSIFICATION REVIEW E.O. 12958
BY JOI S. BUCKNER DOE/RS-823

U. S. ATOMIC ENERGY COMMISSION
CORRESPONDENCE REFERENCE FORM

1-27-65

UNITED STATES GOVERNMENT

Memorandum

TO : File DATE: January 12, 1965

FROM : W. B. McCool, Secretary *WBM*

SUBJECT: AEC WITHDRAWAL FROM PRODUCTION AND DISTRIBUTION OF ANTIMONY-125, CALCIUM-45, IRON-59, SELENIUM-75, TIN-113, AND ZINC-65

SECY:JCH

1. At Information Meeting 440 on January 11, 1965, the Commission approved the General Manager's recommendation, as contained in the attachment to the General Manager's January 5, 1965 memorandum, regarding AEC withdrawal from routine production and distribution of reactor-made Antimony-25, Calcium-45, Iron-59, Selenium-75, Tin-113, and Zinc-65.
2. It is our understanding the Division of Isotopes Development is taking the required action.

cc:
Chairman
General Manager
Deputy General Manager
Asst. General Manager
Asst. Gen. Mgr. for R&D
General Counsel
Controller
Director, ID
Director, Public Information



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

JAN 5 1965

MEMORANDUM FOR CHAIRMAN SEABORG
COMMISSIONER HUNTING
COMMISSIONER PALFREY
COMMISSIONER RANCY
COMMISSIONER TAPP

SUBJECT: AEC WITHDRAWAL FROM PRODUCTION AND DISTRIBUTION OF
ANTHONY-125, CALCIUM-45, IRON-59, SELENIUM-75,
TIN-113, AND ZINC-65

Attached is a copy of a memorandum of January 4, 1965, to me
from the Acting Director of the Division of Isotopes Develop-
ment concerning AEC withdrawal from production of certain
radioisotopes. I would like to bring this matter up at an
early Information Meeting.

John V. Vinciguerra
for General Manager

filed in date order

Isotope 3

UNITED STATES GOVERNMENT

Memorandum

TO : R. E. Hollingsworth, General Manager
THRU: S. G. English, Assistant General Manager
for Research and Development
FROM : E. E. Fowler, Acting Director
Division of Isotopes Development
SUBJECT: AEC WITHDRAWAL FROM PRODUCTION AND DISTRIBUTION OF ANTIMONY-125, CALCIUM-45,
IRON-59, SELENIUM-75, TIN-113, AND ZINC-65

DATE: JAN 7 1965

This is to recommend your approval of AEC withdrawal from routine production and distribution of reactor-made Antimony-125, Calcium-45, Iron-59, Selenium-75, Tin-113, and Zinc-65. These correspond to the nine ORNL catalog items, Sb-125-P, Ca-45-P-1, Ca-45-P-2, Ca-45-P-3, Fe-59-P, Se-75-P-1, Se-75-P-2, Sn-113-P, and Zn-65-P. This recommendation is made in consequence of requests from the Nuclear Science and Engineering Corporation (NSEC) (Attachment "A"). Pertinent information follows:

1. The criterion of reasonable price has been met since NSEC simply adopted AEC prices.
2. AEC could resume providing these radioisotopes, if required, in a timely manner.
3. Effective commercial competition currently exists in the case of only low specific activity Iron-59, (Abbott) and low specific activity Selenium-75, (Carbide) but not for the other radioisotopes. We have no means of determining how actively the British and French governments are marketing these products in the U. S. as suggested by NSEC. Union Carbide Corporation (Tuxedo) expects to begin production in 3 months of Zn-65, Ca-45-P-1 and P-2 and Fe-59. In 6 months Carbide will start production of Sn-113 and Ca-45 (P-3), but it will take about one year for them to produce Sb-125. However, the market for the low specific activity quality radioisotopes is small enough presently to be served by a single supplier.
4. A number of the major distributors (see Attachment "B") of radioisotopes have strongly recommended that we continue to make available the very high specific activity material which is of a quality that cannot be supplied commercially from production in private reactors. NSEC and other groups have confirmed their inability to produce the extremely high specific activity material being offered by ORNL. NSEC has requested they be given access to AEC reactors having a higher flux than the General Electric Test Reactor as a means of meeting the market requirements for the high specific activity products. We have advised NSEC that we will study the feasibility of making AEC reactors available for such purposes. On

1-4-65

this basis NSEC has agreed that the AEC will continue to supply material upon certification by the customer that the commercially available product does not meet their technical requirements. Since the ORNL volume of business for these products will continue to decrease, it is expected that prices may have to be raised in an attempt to recover costs.

ORNL FY-64 Business Volume for Requested Withdrawal Items

<u>Isotope</u>	<u>Shipments</u>	<u>Mc.</u>	<u>\$ Revenue</u>
1. Sb-125-P	22	25	2,546
2. Ca-45-P-1 (LSA)	118	1,289	8,403
3. Ca-45-F-2 (ISA)	203	1,659	19,910
4. Ca-45-P-3 (enriched-HSA)	145	385	17,313
5. Fe-59-P (enriched)	464	1,686	50,305
6. Se-75-P-1 (LSA)	31	228	485
7. Se-75-P-2 (enriched-HSA)	64	924	23,056
8. Sn-113-P	52	74	2,613
9. Zn-65-P	174	4,025	7,924
Total	1,273	10,295	\$ 132,555

If you approve of the recommended action, we will notify NSEC that the Commission will not accept new orders for delivery of these isotopes effective 30 days following the Commission's public announcement of withdrawal from their routine production and will withdraw completely 90 days from the date of the announcement. The proposed public announcement (Attachment "C") has the concurrence of the Division of Public Information.

Attachment "A" - Correspondence between NSEC, AEC, and ORNL
 Attachment "B" - Correspondence from major radioisotope distributors
 Attachment "C" - Proposed public announcement

Approved:

 General Manager

 Date



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

Secretariat

DEC 31 1964

Dear Mr. Baldwin:

In connection with your letter of December 4, we have had the opportunity of reviewing our policies on the sale of deuterium gas and reprocessing dilute heavy water with Mr. Tom Harrocks of Bio-Rad Laboratories. Based on our conversation with Mr. Harrocks on December 10, 1964, we plan to meet again with representatives of Bio-Rad Laboratories in January to discuss their capabilities for reprocessing heavy water and in meeting the market for deuterium gas.

It is Commission policy that the Commission will cease to provide any service or product to the public whenever such service or product can be provided under reasonable terms by private industry. However, in many cases, only limited private capability exists, and the AEC cannot completely withdraw its service or product.

When the AEC furnishes materials or services, the price charged the customer is the commercially competitive price, assuming the commercial price is reasonable, or AEC's full cost recovery, whichever is higher. The AEC's full cost recovery price is made up of all costs including depreciation and an added factor to cover interest on investment, research and development, etc. Therefore, the central problem is whether Bio-Rad has the capability to furnish the services in question at reasonable prices.

The Commission has sold heavy water for many years in quantities not less than 125 pounds. To our knowledge, no one has taken exception to this policy. In August of 1964, the Commission announced to private domestic heavy water customers including Bio-Rad that it would reprocess degraded heavy water, provided the quantity of contained heavy water exceeded 125 pounds. Our prices for this service, which were determined in accordance with our full cost recovery pricing policy, are enclosed. The minimum of 125 pounds was chosen to be consistent with our heavy water sales policy.

12-31-64

Some time ago, we were informally advised of Bio-Rad's proposed prices for comparable services and they appeared to be substantially higher than AEC prices. For the small user of heavy water who incidentally, probably purchases his material at "retail," considerably above our \$24.50 per pound price, Bio-Rad's prices may be reasonable. As indicated above, the Commission does not reprocess quantities of heavy water less than 125 pounds of contained D_2O as additional heavy water may be purchased or reprocessing obtained commercially.

In response to the specific issues raised by Mr. Schwartz in his letter, we have the following comments.

The AEC manufactures deuterium gas at Brookhaven National Laboratory to meet an AEC demand for kilogram quantities of high purity deuterium for high energy physics research. Although this service is principally for AEC's own benefit, there has been one recent export of this material to Switzerland. However, consonant with AEC policy, we will consider withdrawing from the sale of deuterium gas if it becomes available commercially at a reasonable price. The normal practice is for companies interested in supplying such materials or services to advise us as to their proposed capabilities and prices, after which the AEC is in a position to take appropriate action.

Although the AEC does not give away materials, it does have an educational assistance program which includes, among other things, the loan of nuclear materials to colleges and universities for use in student instructions. Deuterium oxide is among the materials which have been loaned under this program. However, there has been no instance when deuterium gas has been supplied nor has any of the loaned material been returned for reprocessing.

The minimum quantity that will be accepted by AEC is 125 pounds of contained D_2O (not 500 pounds of total water). The only change in the AEC price schedule for reprocessing dilute heavy water since February 20, 1963, was a price increase on May 14, 1964. Both the old and new price were based on the AEC's full cost, recovery policy. Our latest price schedule, together with the terms and conditions of our reprocessing service, were sent to Bio-Rad on August 14, 1964. With respect to the Merck of Canada order, the quantity of contained heavy water was in excess of 500 pounds,

Mr. John F. Baldwin

- 3 -

and the charge for this service will be based on our latest price schedule which is enclosed.

I hope that we have satisfactorily responded to the questions set forth in your letter.

Sincerely yours,

Chairman

Honorable John F. Baldwin
House of Representatives

Enclosures:

Pricing tables for heavy water

PRR PRR ER P. OGC OC IP AGMPP AGM DGM GM
RJMoore:mg
12/24/64

AEC PRICE FOR REMORING DEGRADED HEAVY WATER

<u>Wt. % D₂O.</u>	<u>Charges Per Pound</u>
10	\$12.85
20	8.35
30	6.30
40	5.05
50	4.15
60	3.45
70	2.90
80	2.30
90	1.75
95	1.30
99	.55
99.5	.30

This price list is based on the current heavy water price of \$24.50 per pound and is subject to change. Straight line interpolation can be used if the wt. % of contained D₂O falls between those wt. % listed above.

Leah

JOHN F. BALDWIN
MEMBER OF CONGRESS
14TH DISTRICT, CALIFORNIA

COMMITTEE ON PUBLIC WORKS

SUBCOMMITTEES:

ROADS

FLOOD CONTROL

WATERSHED DEVELOPMENT

FEDERAL AID HIGHWAY PROGRAM

WASHINGTON ADDRESS:
ROOM 221
CANNON HOUSE OFFICE BUILDING
WASHINGTON, D.C. 20515
PHONE: CAPITOL 4-3121
EX. 5511

Congress of the United States
House of Representatives
Washington, D. C.

DISTRICT OFFICE:

447 TENTH STREET

RICHMOND, CALIFORNIA

PHONE: 233-6343

*SM/A
c/I*

December 4, 1964

Please reply to:
447 Tenth Street
Richmond, California 94801

Dr. Glenn T. Seaborg, Chairman
U. S. Atomic Energy Commission
Washington, D.C. 20545

Dear Dr. Seaborg:

Enclosed is a copy of a letter which has been sent to the U. S. Atomic Energy Commission by my constituent, Mr. David Schwartz, President, Bio-Rad Laboratories, 32nd and Griffin Avenue, Richmond, California.

I am deeply concerned about the facts set forth in this letter. I have discussed this matter personally with Mr. Schwartz and have ascertained that the Savannah River Facility of the A.E.C. deliberately made a series of cuts in its prices on reprocessing heavy water to take an order from Merck Company of Canada away from Bio-Rad Laboratories. I see no reason why the Atomic Energy Commission should be taking such action to outbid private enterprise in a transaction of this type. Merck Company of Canada had actually initially indicated it was going to place an order with Bio-Rad Laboratories. When the Savannah River Facility found out about the order the Savannah River Facility twice reduced its price on reprocessing heavy duty water to make sure that it would outbid Bio-Rad Laboratories for this transaction. Since the transaction originally was from a private corporation to a private corporation it seems to me this is a completely improper action on the part of the Savannah River Facility. Government agencies of this type should not be competing with private enterprise.

I should like to urge that you take action to issue instructions to the Savannah River Facility to keep out of transactions of this type involving private enterprise. Will you please let me know what steps can be taken to accomplish this objective.

Sincerely yours,

John
JOHN F. BALDWIN
Member of Congress

JFB/mas

12-4-64

SECRETARY
U. S. A. E. C.
WASHINGTON, D. C. 20545

GENTLEMEN:

WE WOULD APPRECIATE A STATEMENT OF POLICY AND INTENT REGARDING THE TRANSFER OF STABLE ISOTOPE PRODUCTION AND DISTRIBUTION FROM GOVERNMENT FACILITIES TO PRIVATE INDUSTRY.

YOUR COMMISSION HAS ON SEVERAL OCCASIONS EXPRESSED A POLICY OF NONCOMPETITION WHEN MATERIALS ARE AVAILABLE FROM PRIVATE INDUSTRY AT A REASONABLE PRICE.

SPECIFICALLY, WE WOULD LIKE TO REQUEST THE FOLLOWING ACTION:

1. THAT THE GOVERNMENT DISCONTINUE THE PRACTICE OF SELLING OR GIVING AWAY DEUTERIUM GAS TO UNIVERSITIES, PRIVATE INDUSTRY, OR FOREIGN ORGANIZATIONS WHEN THIS MATERIAL IS AVAILABLE FROM PRIVATE INDUSTRY AT A REASONABLE PRICE.
2. THAT THE GOVERNMENT DISCONTINUE RE-ENRICHMENT OF HEAVY WATER IN QUANTITIES BELOW 500 POUNDS OF CONTAINED (CONTAINED UNDERLINED) D2O. THE PRESENT AEC SCHEDULE REFERS ONLY TO THE TOTAL QUANTITY OF WATER TURNED IN AND A CUSTOMER WHO HAS 15 POUNDS OF 90 PERCENT HEAVY WATER TO BE RE-ENRICHED CAN ADD 110 POUNDS OF TAP WATER TO THIS, SHIP IT TO THE AEC AND MEET CURRENT REQUIREMENTS FOR 125 POUNDS OF WATER AS WELL AS GETTING A LOWER PRICE PER POUND OF CONTAINED D2O FOR RE-ENRICHMENT THAN A PERSON SENDING IN 125 POUNDS OR MORE OF CONTAINED D2O AT 90 PERCENT CONCENTRATION.
3. IN CASES WHERE THE QUANTITY IS IN EXCESS OF 500 POUNDS, WE WOULD LIKE THE GOVERNMENT TO CEASE AND DESIST FROM PRICE FIXING AND COMPETITIVE PRICE CUTTING ON THE BASIS THAT EQUIPMENT HAS BEEN AMORTIZED AND IS NO LONGER INCLUDED IN THE COST OF OPERATION.

BIO-RAD LABORATORIES HAS A PROVEN CAPABILITY IN THESE AREAS, AND CAN SERVE BOTH THE U. S. AND FOREIGN ORGANIZATIONS WITH THEIR REQUIREMENTS (OTHER THAN FOR WEAPONS) AT A COMPETITIVE PRICE. OUR PRESENT DEUTERIUM OXIDE RE-ENRICHMENT FACILITIES ARE BEING EXPANDED TO A CAPABILITY IN EXCESS OF 520 POUNDS PER WEEK OF HIGH ENRICHMENT HEAVY WATER, EFFECTIVE DECEMBER 1964. OUR DEUTERIUM GAS PRODUCTION IS ADEQUATE FOR ANY NORMAL REQUIREMENT OTHER THAN WEAPONS. WE WOULD BE GLAD TO DISCUSS OUR CURRENT CAPACITY IN A CONFIDENTIAL HEARING.

MAY WE TAKE THIS OPPORTUNITY TO ENCOURAGE A TIMELY DECISION ON THIS PROPOSAL BY CITING SOME OF THE EXPERIENCES WE HAVE ENDURED UNDER THE PRESENT POLICIES WHICH MAKE DEVELOPMENT OF A HEALTHY INFANT INDUSTRY EXTREMELY DIFFICULT.

BIO-RAD LABORATORIES RECENTLY BID ON REPROCESSING HEAVY WATER FOR MERCK OF CANADA. OUR BID WAS BELOW THE BID FROM THE SAVANNAH RIVER FACILITY, YET THE ORDER WAS TAKEN BY SAVANNAH RIVER. SUCH ACTION MAKES IT DIFFICULT TO OPERATE AS A PRIVATE ENTERPRISE.

FURTHERMORE, IT IS OUR IMPRESSION THAT WHEN FOREIGN GOVERNMENTS ARE WILLING TO ORDER FROM US, THE AEC IS THEN WILLING TO SELL AT EVEN LOWER PRICES OR TO GIVE AWAY MATERIAL. SUCH CUTTING OF GOVERNMENT PRICES CLEARLY TENDS TO FORCE GROWING INDUSTRIES OUT OF BUSINESS. IN ADDITION, IT ENCOURAGES PREMATURE EXPANSION OF THIS TYPE OF FACILITY BY FOREIGN GOVERNMENTS AND PRIVATE INDUSTRIES.

WE LOOK FORWARD TO YOUR FAVORABLE DECISION ON THIS MATTER. WE WILL BE HAPPY TO PROVIDE ANY ADDITIONAL INFORMATION YOU MAY NEED FOR EVALUATION AND WOULD LIKE TO ADDRESS THE APPROPRIATE COMMITTEE ON THIS SUBJECT.

VERY TRULY YOURS

DAVID SCHWARTZ
PRESIDENT

DS/JL

END

BIORADLAB RCMD
*
BIORADLABS NYK

Handwritten:
5000-548
12-2-64
9/10
C

DATE:

INDEX: ISOTOPES 3-

~~SECRET - SAVANNAH~~

TO:

FROM:

SUMMARY: Ltr. to J.T.Conway JCAE . FRM.OM. As discussed with the JC- on AE during the review of the FY 1965 Budget, a curium production program was approved involving the irradiation plutonium-239 for 21 months in a Savannah River production reactor for the production of three kilograms of CM-244 . The changes in reactor loadings for the Savannah River reactor would not increase the cost of reactor operations.

FILED: ~~SECRET~~ MATERIAL - Curium

INDEXER: date 11-27-64

REMARKS:

CONFIRMED TO BE UNCLASSIFIED
DOE NSI DECLASSIFICATION REVIEW E.O. 12958
BY JOIS BUCKNER DOE/NN-623
U. S. ATOMIC ENERGY COMMISSION

CORRESPONDENCE REFERENCE FORM

11-27-64

Isotopes - 3

8

Comm/T
DL

NOV 23 1964

Dear Albert:

Thank you for your letter of November 13, 1964, regarding AEC policy in the field of radioisotope production.

I want to assure you that we are very mindful of the important points raised in your letter. As you recognize, principal consideration must be given to the overall national interest in the development of the peaceful uses of atomic science as represented by the field of radioisotopes. The aspects of the problem which you have identified will certainly be prominent in our deliberations leading to a final decision on the proposed regulations.

Cordially,

(Signed) Glenn T. Seaborg
Glenn T. Seaborg

Honorable Albert Gore
United States Senate

Retyped in Chairman's Office

11-23-64

Isotopes 3

J. W. FULBRIGHT, ARK., CHAIRMAN

JOHN SPARKMAN, ALA.	GEORGE B. WICKENLUND, WYOM.
MURKIN M. HUMPHREY, MINN.	GEORGE D. ARKEN, VTT.
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ALBERT BORE, TENN.	
FRANK J. LAUSCHE, OHIO	
FRANK CHURCH, IDAHO	
STUART SYMINGTON, MD.	
THOMAS J. DODD, CONN.	
GEORGE A. SMATHERS, FLA.	

United States Senate

COMMITTEE ON FOREIGN RELATIONS

CARL MARCY, CHIEF OF STAFF
BARRELL ST. CLERK, CLERK

November 13, 1964

8M/A
-1/E
2,

Honorable Glenn T. Seaborg
Chairman
Atomic Energy Commission
Washington 25, D.C.

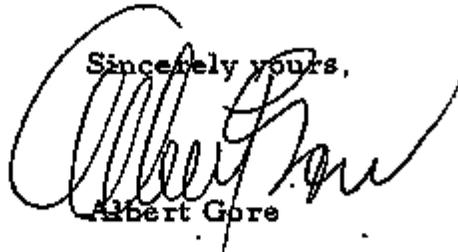
Dear Mr. Chairman:

This will acknowledge receipt of your letter of November 7 with which you enclose a copy of proposed regulations and other materials concerning Commission policy in the field of isotope production.

In my view, the overall national interest in the development of peaceful aspects of atomic science requires assurance of production facilities for all types of isotopes fully adequate to meet demands in this developing field. Moreover, isotopes must be available at reasonable prices and safeguards must be established to prevent monopolistic practices in their distribution.

I urge the Commission to consider further these aspects of the problem prior to reaching a final decision on the proposed regulations.

Sincerely yours,



Albert Gore

AG:rf

11-13-64

Isotopes - 3

Res. & Status Br. - GTR

OPTIONAL FORM NO. 10
MAY 1962 EDITION
GSA GEN. REG. NO. 27

~~OFFICIAL USE ONLY~~

UNITED STATES GOVERNMENT

Memorandum

TO : File

FROM : W. B. McCool, Secretary

SUBJECT: NOVAWOOD PROGRAM

SECY: JCH

DATE: November 13, 1964

*Original signed
W. B. McCool*

1. At Information Meeting 423 on November 9, 1964, the Commissioners accepted the General Manager's recommendation to proceed with the NOVAWOOD program as set forth in Mr. E. E. Fowler's November 6, 1964 Memorandum for the Commissioners. Mr. Fowler's memorandum was circulated as an attachment to the General Manager's November 6, 1964 memorandum.
2. It is our understanding the Division of Isotopes Development is taking the required action.

cc:

- Chairman
- Commissioner Ramey
- General Manager
- Deputy General Manager
- Assistant General Manager
- Asst. Gen. Mgr. for R&D
- Director, Isotopes Development
- General Counsel

Copy filed:

PLB.L.7. Novawood

~~OFFICIAL USE ONLY~~

11-13-64

CROSS-REFERENCE (Name, number, or subject under which this form is filed)	➔	ISOTGPES 3-
IDENTIFICATION OF RECORD	DATE	
	TO	
	FROM	
	BRIEF SUMMARY OF CONTENTS	AEC 720/159 POLICY ON COBALT 60 PRODUCTION AND PRICING Three letters attached. Ltr. frm. The ACR&D to Mr. H. Richardson 10-20-64 ltr. frm. H. Richardson to Dr. S. English 9-24-64. ltr. to Mr. Richardson frm Mr. J.H. Frankfurt of Vitor Engineering Co. 9-2-64.
FILED (Name, number, or subject under which the document itself is filed)		IR&A 1-1- PRICING POLICY date 10-23-64
		CONFIRMED TO BE UNCLASSIFIED DOE/OFFICE OF DECLASSIFICATION W.M. MATHIESON, A.D.D. DATE: 6/25/96 <i>W.M. Mathieson</i>

10-23-64

Isotopes 3

Nuclear Science & Engineering Corporation

P. O. BOX 10901, PITTSBURGH, PENNSYLVANIA 15236

AREA CODE 412

PHONE 462-4000

TWX 642-9192

Comm + Gen/IT

R. A. BRIGHTSEN
PRESIDENT

October 7, 1964

Mr. E. E. Fowler, Acting Director
Division of Isotopes Development
U. S. Atomic Energy Commission
Washington, D. C. 20545

Dear Gene:

I am pleased to report to you that we have now successfully completed our first production runs of the following reactor-produced isotopes: Sn-113-HSA, Sb-125-CF, Ca-45-HSA, Ca-45-ISA, and Ca-45-LSA. In each case, the radioactive materials have been placed in inventory and are available for distribution. The materials, as a minimum, meet the technical specifications which were submitted to you on April 13, 1964. Our firm specifications and price and delivery schedules for these products are shown in the attached technical specification sheets. Public distribution of these sheets is being made along with a press release issued this date to a number of technical journals. A copy of this press release is attached for your information.

Our present annual production capabilities for these isotopes, and estimated current demand, are as follows:

	<u>Production Capability (mc/yr)</u>	<u>Estimated Demand (mc/yr)</u>
Sn-113-HSA	> 2,500	100 - 300
Sb-125-CF	> 1,500	25 - 100
Ca-45-HSA	> 5,000)	
Ca-45-ISA	> 5,000)	2,500 - 8,000
Ca-45-LSA	> 5,000)	

We have programmed our short-term production of these radioisotopes at the GETR at Vallecitos, California. We anticipate using this reactor for the majority of our production irradiations. We are, however, making provision for use of other privately owned and operated reactors (e. g., Union Carbide, Babcock and Wilcox) for supplementing production or as alternative production sources in the event that the GETR is inoperative. We could meet the production levels set

10-7-64

October 7, 1964

forth above with the alternate facilities in lieu of the GETR. As you know, we have every intention of continuing a vigorous program of producing these and other radioisotopes.

There is effective competition in the production and distribution of the radioisotopes in question, including competition by foreign producers actively marketing in the United States. This is apparent from the following:

<u>Isotope and Supplier</u>	<u>Price/mc (excl. handling)</u>
<u>Tin - 113</u>	
NSEC	\$35.00
RCC (Amersham)	L 40
CEA	\$30.00
(ORNL)	\$35.00)
<u>Antimony - 125</u>	
NSEC	\$100.00
RCC	L 50
CEA	\$25.00
(ORNL)	\$100.00)
<u>Calcium - 45</u>	
NSEC	
-HSA	\$45.00
-ISA	\$12.00
-LSA	\$ 6.50
RCC	L 20
CEA	\$ 5.00
(ORNL)	
P-1	\$ 6.50
P-2	\$12.00
P-3	\$45.00)

On the basis of the above facts, we request that you now initiate formal withdrawal action with regard to these isotopes. Since we are presently in production and are maintaining an inventory of the enumerated radioisotopes, we will welcome your review of this request at the earliest possible date.

October 7, 1964

It is requested that Commission withdrawal take place ninety (90) days from the date of announcement and that Oak Ridge National Laboratory not be permitted to accept orders for these materials later than thirty (30) days after such announcement.

NSEC appreciates the continuing cooperation of the Division of Isotopes Development. We wish to acknowledge receipt of the proposed policies and procedures for transfer of isotope production and distribution activities to industry. We are formulating our comments and will be pleased to submit them within the time provided. Although the policies are not yet in effect, and would therefore not affect the present situation, we have nevertheless tried to include the kinds of information which would be called for thereunder. Should you have any further questions, we would be glad to clarify any point or provide additional information by telephone.

Sincerely,



R. A. Brightsen
President

RAB:ljs

Enclosures

P. S. With reference to your letter of June 15, 1964, concerning the tentative specifications for the level of Sn-113m impurities in our Sn-113-HSA, I am pleased to report that we were overly conservative in assigning this specification. Measurement of the Sn-119 in our present stock indicates a concentration no more than a few percent of that of Sn-113. Therefore, we have assigned, as a specification, a maximum concentration of 10% of Sn-119m to Sn-113. Since the techniques for measuring Sn-119m in Sn-113 are somewhat erudite, we tend to agree with your observation that levels of Sn-119m even exceeding our specifications probably do not raise any problems for most prospective users.

R. A. B.

NUCLEAR science & engineering corporation

PITTSBURGH 36, PENNSYLVANIA

NEWS

PHONE: 482-4000

AREA CODE 412

FOR RELEASE: Immediately

CONTACT: R. A. Brightsen

PR-53

NEW REACTOR-PRODUCED RADIOISOTOPES IN STOCK AT NSEC

PITTSBURGH, PA., October 7, 1964 ---- Nuclear Science & Engineering Corporation announced today the immediate availability of 118-day tin-113, 2.78-year antimony-125, and 167-day calcium-45. The technical specifications of these radioisotopes compare favorably with those of the AEC and the prices are identical. Radioisotope specification sheets for these materials are attached.

In making this announcement, Mr. R. A. Brightsen, President of NSEC, pointed out that the availability of these isotopes from NSEC was part of a planned program of expansion in the production and distribution of reactor-produced isotopes. In addition to its extensive line of cyclotron-produced isotopes, the company is now distributing 16 reactor-produced isotopes and plans to announce the production of additional radioisotopes in the near future.

Mr. Brightsen also announced that a new NSEC Radioactive Materials Catalog is now available on request.

NSEC was formed in Pittsburgh, Pa., immediately after passage of the Atomic Energy Act of 1954. It conducts research and development utilizing nuclear and radioactive tracer techniques on production and research problems of industry and government. It also provides specialized radioactivity and radiation measurement services, and is a leading producer of radioactive isotopes.



Nuclear Science & Engineering Corporation

F. O. Box 10901 • Pittsburgh, Pa. 15236 • 462-4000 • Area Code 412 • TWX 642-3192

RADIOISOTOPE SPECIFICATIONS

No. R410-19

TIN-113-HSA

Half Life		118 days
Radiations	<u>Sn¹¹³</u>	<u>1.7 hour In^{113m} daughter</u>
Electron Capture	100%	
Gamma	0.22 Mev (weak)	0.392 Mev
K X-ray	~16 Kev	~16 Kev
Production Method		Sn ¹¹² (n, γ) Sn ¹¹³
Chemical Form and Acidity		Sn ^{II} in ~6N HCl
Concentration		>0.1 mc/ml
Specific Activity		~50 mc/g Sn
Radiochemical Purity		>99% (exclusive of In ^{113m} daughter and Sn ^{119m} ; Sn ^{119m} <10%)
Delivery		In Stock
Price		\$35.00/mc

Minimum Order - 1 mc

Handling Charge - \$20.00 per shipment

Byproduct material license is required.

RADIOISOTOPE SPECIFICATIONS

No. R410-18

ANTIMONY-125-CF

Half Life		2.78 years
Radiations	Beta	0.124 Mev 0.295 Mev Others (weak)
	Gamma	0.0353 Mev 0.1096 Mev 0.427 Mev 0.598 Mev Others (weak)
	K X-ray	~27.3 Kev
Production Method		$\text{Sn}^{124} (n, \gamma) \text{Sn}^{125} \xrightarrow[\sim 10d]{\beta^-} \text{Sb}^{125}$
Chemical Form and Acidity		Sb^{III} in ~6N HCl
Concentration		>0.1 mc/ml
Specific Activity		Carrier-free
Total Solids		<4 mg/mc
Radiochemical Purity		>99% (exclusive of Te^{125m} daughter)
Delivery		In Stock
Price	1-100 mc	\$100.00/mc
	>100 mc	25.00/mc

Handling Charge - \$20.00 per shipment

Byproduct material license is required.

RADIOISOTOPE SPECIFICATIONS

No. R410-20

CALCIUM-45-HSA

Half Life	167 days
Radiations	
	Beta 0.254 Mev (100%)
Chemical Form and Acidity	Ca ^{II} in 0.5 <u>N</u> HCl
Concentration	>1.0 mc/ml
Heavy Metals (as Pb)	<10 µg/mc
Specific Activity	~10,000 mc/g Ca
Radiochemical Purity	>99%
Delivery	In Stock
Price	\$45.00/mc

Minimum Order - 1 mc

Handling Charge - \$20.00 per shipment

Byproduct material license is required.



RADIOISOTOPE SPECIFICATIONS

No. R410-21

CALCIUM-45-ISA

Half Life		167 days
Radiations		
	Beta	0.254 Mev (100%)
Production Method		$\text{Ca}^{44} (n, \gamma) \text{Ca}^{45}$
Chemical Form and Acidity		Ca^{II} in 0.5 <u>N</u> HCl
Concentration		>0.1 mc/ml
Heavy Metals (as Pb)		<10 $\mu\text{g}/\text{mc}$
Specific Activity		>500 mc/g Ca
Radiochemical Purity		>99%
Delivery		In Stock
Price	1-1000 mc	\$12.00/mc
	>1000 mc	\$5.25/mc

Handling Charge - \$20.00 per shipment

Byproduct material license is required.

RADIOISOTOPE SPECIFICATIONS

No. R410-22

CALCIUM-45-LSA

Half Life		167 days
Radiations	Beta	0.254 Mev (100%)
Production Method		$\text{Ca}^{44} (n, \gamma) \text{Ca}^{45}$
Chemical Form and Acidity		Ca^{II} in 0.5 N HCl
Concentration		>0.1 mc/ml
Heavy Metals (as Pb)		<10 $\mu\text{g}/\text{mc}$
Specific Activity		>15 mc/g Ca
Radiochemical Purity		>99%
Delivery		In Stock
Price	1-1000 mc	\$6.50/mc
	>1000 mc	\$2.00/mc

Handling Charge - \$20.00 per shipment

Byproduct material license is required.

Isotopes - 3

J. W. FULLERIGHT, ARIZ., CHAIRMAN

JOHN SPARKMAN, ALA.	EDMOND B. HICKENLOPER, IOWA
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FRANK CHURCH, IDAHO	
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THOMAS J. DODD, CONN.	
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United States Senate
 COMMITTEE ON FOREIGN RELATIONS

CARL MARCY, CHIEF OF STAFF
 DARRELL ST. CLAIR, CLERK

October 3, 1964

SM/R
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13.

Honorable Glenn T. Seaborg
 Chairman
 Atomic Energy Commission
 Washington 25, D.C.

Dear Mr. Chairman:

Enclosed herewith is a letter I received from a constituent, Mr. T. C. Whitson of Oak Ridge, concerning a recent announcement of the intention of the AEC to withdraw from the sale and production of radioisotopes.

With the return of the enclosure, I would very much appreciate having your comments thereon.

Sincerely yours,

Albert Gore
 Albert Gore

AG:rf
 Encl.

10-3-64

106 E. Pasadena Road
Oak Ridge, Tennessee
September 28, 1964

Honorable Albert Gore
Senate Office Building
Washington, D. C.

Dear Senator:

The recent announcement of the intention of the U. S. Atomic Energy Commission to withdraw from the sale and production of radioisotopes disturbs me considerably and raises the following points which require consideration.

Why can't the radioisotope production exist with the same relationship as TVA and private power companies? TVA is an excellent price stabilizer and similarly, production of radioisotopes by AEC contractors could afford a stabilization of the prices in this field.

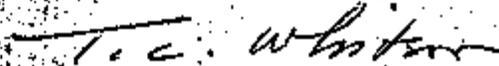
The announcement states that foreign producers will be accepted as valid competition. May I ask, is it in the national interest to subsidize foreign industries as this might well be?

Since General Electric has the only reactor capable of producing products of commercial specifications of these isotopes, is not this in effect offering them a monopoly?

Further, since the total radioisotopes sales were less than three million dollars per year at its peak, no commercial producer should expect to make a fortune in this activity.

As a Tennessean I am sure you can appreciate the loss of this atomic energy activity in Oak Ridge.

Very truly yours,



T. C. Whitson

VISO

Isotopes - 3

September 16, 1964

c/I
SM/A
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Dr. Glenn T. Seaborg, Chairman
U. S. Atomic Energy Commission
Washington, D. C.

Dear Dr. Seaborg:

This is to advise you of the first use of isotope radiography for tuberculosis surveys in an area of the world where there is no electrical power and where medical radiographic services had never been available before. The success of the program was recently described to us by one of the Department of State's South American representatives.

This is an outgrowth of developments since Mr. William Hawkins and I chatted with you for a few minutes in a conference room near your Washington office October 31, 1963. At that time we showed you one of our medical exposure units which is the heart of systems in use overseas now.

One of our Model 10 Chest Radiography Systems using ytterbium 169 for the energy source is used under the program of the U. S. Agency for International Development and Alliance for Progress in Bolivia. The system has been flown into remote areas and used quite successfully for tuberculosis surveys by the Bolivian Institute of Occupational Health. It is also being evaluated for silicosis detection among tin miners in the Andes Mountains.

An enclosed bulletin describes the type system which is used in Bolivia under their Ministry of Health.

Perhaps it is interesting to note that President Johnson in one of his messages early this year made several statements about our country's intended assistance with health programs in foreign countries, particularly in South America, and his personal observation of problems there, including that of tuberculosis. Since his address, the introduction of the new isotope technique of diagnosing tuberculosis has been demonstrated in the field for the first time.

9-16-64

This medical isotope technology is a unique product of our country, of course. Not only is the technology important in itself, but it is also a good demonstration, I think, of the effective working relationship between free enterprise and government groups in making a contribution to a major problem. Many men, each working in his own area, have made concentrated efforts over a period of years because of the belief in the importance of this program.

We are planning a documentary film which will tell the story of the development of this technology by private enterprise cooperating with government agencies, including the Atomic Energy Commission and Department of State groups. Color film documenting the first uses in Bolivia and a statement of the problem by their Minister of Health has already been made.

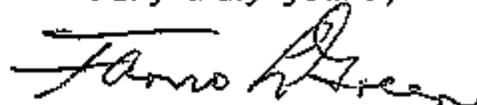
In order to produce the complete film we are proposing that the Atomic Energy Commission and the U. S. Agency for International Development cooperate with us in providing funds for the film. AID has already expressed interest in assisting financially.

We would be pleased if you can give us an appointment September 22, 23 or 24, at which time we can describe with charts, still photographs and selected footage from the Bolivian film the proposed content of the final documentary film. In order to save your time we can make the presentation in 15 minutes. After this brief presentation we shall be prepared to go into greater detail with representatives of the Division of Isotopes Development or with any others whom you would suggest.

You may be interested to know that our original interest in Yb-169 was obtained from the Hollander, Perlman and Seaborg "Table of Isotopes" published in the Reviews of Modern Physics. We used the tables for years in continued studies of various isotopes over which Yb-169 is the present winner for tuberculosis and general medical radiographic purposes.

We shall appreciate very much any help which you can give officially or personally in spreading the knowledge of this new technology, which is potentially useful for much of the world's population. We would be most pleased if, in any of your contacts in this country or abroad, you should refer potential users of this technology to us so we may be of service to them.

Very truly yours,



Farno L. Green
Vice President

AEC**UNITED STATES
ATOMIC ENERGY COMMISSION**
WASHINGTON, D.C. 20545No. G-221
Tel. 973-3335 or
973-3446*Isotopes - 3*
FOR IMMEDIATE RELEASE
(Tuesday, September 15, 1964)**AEC SEEKS PUBLIC COMMENT ON FORMAL PROCEDURES FOR
WITHDRAWAL FROM ROUTINE PRODUCTION AND
DISTRIBUTION OF RADIOISOTOPES**

The Atomic Energy Commission has published for public comment proposed formal procedures for Commission withdrawal from routine production and distribution of radioisotopes which are reasonably available from commercial producers. In doing so, the Commission reaffirmed its policy and intent to transfer its commercial radioisotope production and distribution activities to private industry as rapidly as possible consistent with the over-all national interest. The Commission would continue to produce some radioisotopes as necessary for governmental uses or sale.

Under the proposed formal procedures the Commission may withdraw either voluntarily, or on industrial initiative expressed through the filing of a formal petition. The contemplated procedural steps and withdrawal guidelines were published today in the U.S. Federal Register. Interested persons are asked to submit written comment to the Secretary of the Commission within sixty days.

The proposed policies and procedures for transfer to industry of production and distribution activities include guidelines governing AEC withdrawal and provide a formal method of petition.

Since 1946, AEC has produced and processed radioisotopes in its facilities and distributed them for governmental and private use. In recent years, private facilities have become available which are capable of producing and processing radioisotopes. As a result the Commission has discontinued production and distribution of selected types, quantities, and qualities of radioisotopes. Using informal procedures, the AEC has withdrawn from routine production and distribution of six radioisotopes during 1964. These are chromium-51, iron-55, cobalt-58, cesium-134, cerium-141 and strontium-85.

(more)

9-15-64

G-221

-2-

Past withdrawal actions have been based upon letters of request from interested industry sources.

-30-

(NOTE TO EDITORS AND CORRESPONDENTS: This announcement is being issued simultaneously by the Commission's Oak Ridge Operations Office in Oak Ridge, Tennessee.)

9/15/64

U.S. ATOMIC ENERGY COMMISSION
OFFICE OF THE SECRETARY
GERMANTOWN

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Isotopes-3

Sept 10, 1964

Mr. John T. Conway
Executive Director
Joint Committee on Atomic Energy
Congress of the United States

Dear Mr. Conway:

The Atomic Energy Commission plans to publish for public comment proposed formal procedures for Commission withdrawal from routine production and distribution of radioisotopes which are reasonably available from commercial producers. It continues to be the Commission's policy and intent to transfer its commercial radioisotope production and distribution activities to private industry as rapidly as possible, consistent with the over-all national interest.

Attached for your information are copies of a public announcement which we plan to release in the next few days and a copy of the contemplated procedural steps and withdrawal guidelines which will be published in the U. S. Federal Register.

The Joint Committee will be kept advised of the Commission's progress in this matter.

Sincerely yours,

General Manager

Enclosures:

1. Public Announcement
2. Federal Register Notice

2EC994/20

9-10-63

OFFICE APPRE: DID S: DIC AGM: ID ACP: 47 CONG. LIAS.

ATOMIC ENERGY COMMISSION

POLICIES AND PROCEDURES FOR TRANSFER OF COMMERCIAL AEC RADIOISOTOPE PRODUCTION AND DISTRIBUTION ACTIVITIES TO PRIVATE INDUSTRY

Request for Public Comment

Since 1946, the United States Atomic Energy Commission has produced and processed radioisotopes in its own facilities and distributed them for governmental and private use. In recent years, private facilities have become available which are capable of producing and processing radioisotopes. AEC policy provides that it will not compete with private sources of supply of material when such are reasonably available commercially. Accordingly, over the past years the Commission has discontinued production and distribution of selected types, quantities and qualities of radioisotopes as these have become available from private sources.

There is currently a rapidly growing industrial interest in undertaking private production and distribution of increasing numbers of radioisotopes presently being distributed by AEC. The Commission therefore wishes to reaffirm at this time its policy and intent to transfer its commercial radioisotope production and distribution activities to private industry as rapidly as possible consistent with the over-all national interest. To provide for the orderly transfer from AEC to private operation, the Commission has developed, and hereby solicits public comment upon, proposed policies and procedures for effecting such transfer. Interested persons should direct their comments to the Secretary, U.S.A.E.C., Washington, D.C., 20545, within 60 days from date of publication of notice in the FEDERAL REGISTER on September 16, 1964.

PROPOSED POLICIES AND PROCEDURES FOR TRANSFER OF COMMERCIAL AEC RADIOISOTOPE PRODUCTION AND DISTRIBUTION ACTIVITIES TO PRIVATE INDUSTRY

The proposed policies and procedures encompass:

a. The establishment of guidelines governing AEC withdrawal from production and distribution of particular radioisotopes, either voluntarily or upon petition of a private organization.

b. The establishment of a petition procedure by which private organizations may formally request AEC withdrawal from the production and distribution of particular radioisotopes.

c. The application of AEC radioisotope pricing policy.

d. The AEC position with respect to its conduct of radioisotope production technology research and development on those radioisotopes from which it has withdrawn from production and distribution.

Withdrawal guidelines. 1. The AEC will voluntarily withdraw from the commercial production and distribution of particular radioisotopes whenever it determines that such radioisotopes are reasonably available from commercial sources.

2. The AEC will withdraw from the commercial production and distribution of particular radioisotopes on petition from a private organization based upon a demonstrable private capability and encompassing the following but recognizing that all these factors need not be completely satisfied:

a. There is effective competition in the production and distribution of the radioisotopes in question; however, a single source of supply under certain conditions may be acceptable (e.g., very limited market). Foreign producers will be accepted in determining effective competition provided they are actively marketing the radioisotopes in the U.S.

b. There is assurance that the private producers will not discontinue the venture in a manner that would adversely affect the public interest, to the extent resumption of production by AEC would involve a significant delay.

c. The proposed private radioisotope prices are reasonable and consistent with encouragement of research and development and use.

Government isotope requirements. It is the Atomic Energy Commission's policy to obtain radioisotopes from commercial sources where it has formally withdrawn from the production and distribution of those radioisotopes. However, the AEC maintains the right to produce an isotope for Government use in those circumstances where the Government is a substantial user, or the use is of special programmatic interest to the AEC, and, where procurement from industry would result in significantly higher cost to the Government.

Filing a petition. 1. An organization requesting that the AEC withdraw from the production and distribution of a particular radioisotope may submit a formal petition to this effect. Such a petition should contain sufficient evidence to demonstrate adequate technical, financial and managerial resources, as well as seriousness of intent.

2. The petition should include:

a. Product specifications to show evidence of their comparability to AEC products or adequacy to meet user demands.

b. Estimate of current demand. (The petitioner's production capabilities in conjunction with that of other suppliers should be adequate to meet this demand.)

c. The petitioning organization's production, processing and distribution capability, including identification of the production facilities (e.g., nuclear reactors and/or cyclotrons) available to it and the extent of commitment upon them in relation to market requirements.

d. Price schedule.

e. Delivery schedule.

f. Proposed date of AEC withdrawal.

The AEC may request additional information if the above information is inadequate for AEC to make a finding.

3. Upon making a finding favorable to the petition, the AEC will publish for public comment:

a. The private organization's petition or a summary thereof, exclusive of company confidential information, and will

designate the place where a copy of the petition, exclusive of company confidential information, may be seen. (The petitioner should identify those portions of his petition which contain company confidential information; however, the information published must be sufficient to permit meaningful public comment).

b. A notice of AEC's intent to withdraw.

AEC will make a final decision on the withdrawal petition upon receipt and evaluation of public comment.

4. Upon making an unfavorable decision on a petition, either prior to or subsequent to receipt of public comment, AEC will inform the petitioning organization of the reasons for its decision.

5. When AEC determines to withdraw voluntarily from the commercial production and distribution of particular radioisotopes, it will similarly publish a notice of such intent for public comment.

AEC radioisotope prices. 1. AEC radioisotope prices will be established to provide reasonable compensation to the Government (which ordinarily will be the higher of AEC full cost recovery or reasonable commercial rates) unless this would significantly interfere with (a) research and development and use or (b) encouragement of private sources of supply. In individual cases, if (a) and (b) cannot be equally accommodated, greater weight will be given to encouragement of research and development and use.

2. The AEC will publish a 30 day prior notice of proposed price changes, including the reasons for the proposed changes.

3. The AEC will not change the price of a radioisotope during the period it is reviewing a petition for AEC withdrawal from production and distribution of that isotope.

AEC radioisotope production technology research. 1. AEC will place the conduct of radioisotope production technology research and development it deems necessary to be carried out with groups most qualified to perform such work, whether these be AEC facilities or private organizations.

2. AEC will conduct or support production technology research and development on radioisotopes from which it has withdrawn as it deems necessary, but only to the extent that AEC has satisfied itself that industry is unable, is unwilling or simply is not carrying out such work adequately or where it determines that direct AEC effort is necessary in the interest of the atomic energy program.

(Sec. 161, 68 Stat. 948; 42 U.S.C. 2201)

Dated at Germantown, Md., this 4th day of September 1964.

For the Atomic Energy Commission.

F. T. HOSES,
Assistant Secretary
to the Commission.

(P.R. Doc. 64-6964; Filed, Sept. 15, 1964; 8:46 a.m.)

AEC**UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545**

No. G-221
Tel. 973-3335 or
973-3446

FOR IMMEDIATE RELEASE
(Tuesday, September 15, 1964)

**AEC SEEKS PUBLIC COMMENT ON FORMAL PROCEDURES FOR
WITHDRAWAL FROM ROUTINE PRODUCTION AND
DISTRIBUTION OF RADIOISOTOPES**

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Under the proposed formal procedures the Commission may withdraw either voluntarily, or on industrial initiative expressed through the filing of a formal petition. The contemplated procedural steps and withdrawal guidelines were published today in the U.S. Federal Register. Interested persons are asked to submit written comment to the Secretary of the Commission within sixty days.

The proposed policies and procedures for transfer to industry of production and distribution activities include guidelines governing AEC withdrawal and provide a formal method of petition.

Since 1946, AEC has produced and processed radioisotopes in its facilities and distributed them for governmental and private use. In recent years, private facilities have become available which are capable of producing and processing radioisotopes. As a result the Commission has discontinued production and distribution of selected types, quantities, and qualities of radioisotopes. Using informal procedures, the AEC has withdrawn from routine production and distribution of six radioisotopes during 1964. These are chromium-51, iron-55, cobalt-58, cesium-134, cerium-141 and strontium-85.

(more)

G-221

-2-

Past withdrawal actions have been based upon letters of request from interested industry sources.

-30-

(NOTE TO EDITORS AND CORRESPONDENTS: This announcement is being issued simultaneously by the Commission's Oak Ridge Operations Office in Oak Ridge, Tennessee.)

9/15/64

Is a copy - 3



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

SEP 10 1964

Mr. David C. Eberhart, Director
Office of the Federal Register
National Archives & Record Service
Washington 25, D. C.

Dear Mr. Eberhart:

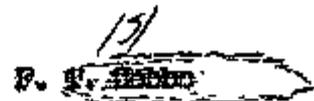
Attached for publication in the Federal Register as a Notice are an original and two certified copies of a document entitled:

**Notice Regarding Policies and Procedures for
Transfer of Commercial AEC Radiotopes Production
and Distribution Activities to Private Industry**

Request for Public Comment

Publication of the above document at the earliest possible date would be appreciated. Please advise of the filing and publication dates of this document by telephoning Code 119, Extension 3446.

Sincerely yours,

15


Assistant Secretary to the Commission

Enclosures:
Original and 2 cert. cys.

- cc: Docket Clerk (Dir. of Reg.)
- Mr. Hughes (PI)
- Legal Files (OO)
- Law Library (OO)
- Congressional Liaison

- D. C. Files (SACX)
- Government Files (SACX)
- Public Proceedings Br. (SACX)
- Contracts

9-10-64

ATOMIC ENERGY COMMISSION

NOTICE REGARDING POLICIES AND PROCEDURES FOR
TRANSFER OF COMMERCIAL AEC RADIOISOTOPE PRODUCTION
AND DISTRIBUTION ACTIVITIES TO PRIVATE INDUSTRY

Request for Public Comment

Since 1946, the United States Atomic Energy Commission has produced and processed radioisotopes in its own facilities and distributed them for governmental and private use. In recent years, private facilities have become available which are capable of producing and processing radioisotopes. AEC policy provides that it will not compete with private sources of supply of material when such are reasonably available commercially. Accordingly, over the past years the Commission has discontinued production and distribution of selected types, quantities and qualities of radioisotopes as these have become available from private sources.

There is currently a rapidly growing industrial interest in undertaking private production and distribution of increasing numbers of radioisotopes presently being distributed by AEC. The Commission therefore wishes to reaffirm at this time its policy and intent to transfer its commercial radioisotope production and distribution activities to private industry as rapidly as possible consistent with the over-all national interest. To provide for the orderly transfer from AEC to private operation, the Commission has developed, and hereby solicits public comment upon, proposed policies and procedures for effecting such transfer. Interested persons should direct their comments to the Secretary, U.S.A.E.C., Washington, D. C. 20545, within 60 days from date of publication of notice in the Federal Register on _____.

Proposed Policies and Procedures for Transfer of
Commercial AEC Radioisotope Production and
Distribution Activities to Private Industry

The proposed policies and procedures encompass:

- a. The establishment of guidelines governing AEC withdrawal from production and distribution of particular radioisotopes, either voluntarily or upon petition of a private organization.
- b. The establishment of a petition procedure by which private organizations may formally request AEC withdrawal from the production and distribution of particular radioisotopes.
- c. The application of AEC radioisotope pricing policy.
- d. The AEC position with respect to its conduct of radioisotope production technology research and development on those radioisotopes from which it has withdrawn from production and distribution.

Withdrawal Guidelines

1. The AEC will voluntarily withdraw from the commercial production and distribution of particular radioisotopes whenever it determines that such radioisotopes are reasonably available from commercial sources.
2. The AEC will withdraw from the commercial production and distribution of particular radioisotopes on petition from a private organization based upon a demonstrable private capability and encompassing the following but recognizing that all these factors need not be completely satisfied:
 - a. There is effective competition in the production and distribution of the radioisotopes in question; however, a single source of supply under certain conditions may be acceptable (e.g., very limited market). Foreign producers will be accepted in determining effective competition provided they are actively marketing the radioisotope in the U. S.
 - b. There is assurance that the private producers will not discontinue the venture in a manner that would adversely affect the public interest, to the extent resumption of production by AEC would involve a significant delay.

c. The proposed private radioisotope prices are reasonable and consistent with encouragement of research and development and use.

Government Isotope Requirements

It is the Atomic Energy Commission's policy to obtain radioisotopes from commercial sources where it has formally withdrawn from the production and distribution of those radioisotopes. However, the AEC maintains the right to produce an isotope for Government use in those circumstances where the Government is a substantial user, or the use is of special programmatic interest to the AEC, and, where procurement from industry would result in significantly higher cost to the Government.

Filing A Petition

1. An organization requesting that the AEC withdraw from the production and distribution of a particular radioisotope may submit a formal petition to this effect. Such a petition should contain sufficient evidence to demonstrate adequate technical, financial and managerial resources, as well as seriousness of intent.

2. The petition should include:

a. Product specifications to show evidence of their comparability to AEC products or adequacy to meet user demands.

b. Estimate of current demand. (The petitioner's production capabilities in conjunction with that of other suppliers should be adequate to meet this demand.)

c. The petitioning organization's production, processing and distribution capability, including identification of the production facilities (e.g., nuclear reactors and/or cyclotrons) available to it and the extent of commitment upon them in relation to market requirements.

d. Price schedule.

e. Delivery schedule.

f. Proposed date of AEC withdrawal.

The AEC may request additional information if the above information is inadequate for AEC to make a finding.

3. Upon making a finding favorable to the petition, the AEC will publish for public comment:

a. The private organization's petition or a summary thereof, exclusive of company confidential information, and will designate the place where a copy of the petition, exclusive of company confidential information, may be seen. (The petitioner should identify those portions of his petition which contain company confidential information; however, the information published must be sufficient to permit meaningful public comment).

b. A notice of AEC's intent to withdraw.

AEC will make a final decision on the withdrawal petition upon receipt and evaluation of public comment.

4. Upon making an unfavorable decision on a petition, either prior to or subsequent to receipt of public comment, AEC will inform the petitioning organization of the reasons for its decision.

5. When AEC determines to withdraw voluntarily from the commercial production and distribution of particular radioisotopes, it will similarly publish a notice of such intent for public comment.

AEC Radioisotope Prices

1. AEC radioisotope prices will be established to provide reasonable compensation to the Government (which ordinarily will be the higher of AEC full cost recovery or reasonable commercial rates) unless this would significantly interfere with (a) research and development and use or (b) encouragement of private sources of supply. In individual cases, if (a) and (b)

cannot be equally accommodated, greater weight will be given to encouragement of research and development and use.

2. The AEC will publish a 30 day prior notice of proposed price changes, including the reasons for the proposed changes.

3. The AEC will not change the price of a radioisotope during the period it is reviewing a petition for AEC withdrawal from production and distribution of that isotope.

AEC Radioisotope Production Technology Research

1. AEC will place the conduct of radioisotope production technology research and development it deems necessary to be carried out with groups most qualified to perform such work, whether these be AEC facilities or private organizations.

2. AEC will conduct or support production technology research and development on radioisotopes from which it has withdrawn as it deems necessary, but only to the extent that AEC has satisfied itself that industry is unable, is unwilling or simply is not carrying out such work adequately or where it determines that direct AEC effort is necessary in the interest of the atomic energy program.

(Sec. 161, 68 Stat. 948; 42 U. S. C. 2201)

Dated at Germentown, Maryland this 4th day of September, 1964

FOR THE ATOMIC ENERGY COMMISSION

F. T. Hobbs
F. T. Hobbs, Assistant Secretary
to the Commission

UNITED STATES GOVERNMENT

Memorandum

TO : File

FROM : *J.T. Hanson/sov*
W. B. McCool, Secretary

DATE: September 2, 1964

SUBJECT: PROPOSED NOTICE FOR TRANSFER OF COMMERCIAL AEC RADIOISOTOPE
PRODUCTION AND DISTRIBUTION ACTIVITIES TO PRIVATE INDUSTRY

SECY:JCH

1. At Information Meeting 410 on August 27, 1964, the Commission approved as revised the Proposed Notice for Transfer of Commercial AEC Radioisotope Production and Distribution Activities to Private Industry as attached to Mr. Vinciguerra's August 26, 1964 Memorandum for the Commissioners. The Commission had earlier requested modification of the Proposed Notice at Meeting 2034 on August 12, 1964.

2. It is our understanding the Division of Isotopes Development has taken the required action.

cc:
Chairman
General Manager
Deputy General Manager
Acting Asst. Gen. Mgr.
Asst. Gen. Mgr. for R&D
General Counsel
Director, Isotopes Development
Director, Industrial Participation

9-2-64

Isotope - 3

SEP 1 1964

Dr. Leuchlin H. Corrie, Chairman
USABC Advisory Committee on
Isotopes and Radiation
574 Alda Road
Newburgh, New York

Dear Leuch:

On August 12 and 27, 1964, the Commission took action on our policy paper, "Transfer of Commercial AEC Radioisotope Production and Distribution Activities to Private Industry". The attached notice soliciting public comment on the proposed policy was approved for early publication in the Federal Register.

As you know, for the past year and one-half, we have been working with the Atomic Industrial Forum's Committee on Isotope Production and Distribution. They have provided us with a number of very valuable comments regarding these policy matters. Most of their suggestions were accepted; however, there were some areas in which the Commission concluded it could not fully accommodate the Forum Committee's recommendations. These are identified in Enclosure II to the attached copy of my letter to the AIF Committee.

On behalf of the AEC and myself, I wish to express our appreciation to you and the other members of the Advisory Committee for your guidance during the past three years on these policy matters.

Sincerely yours,

E. K. Fowler, Acting Director
Division of Isotope Development

Enclosure:
Cy. of ltr. Fowler to AIF, dtd. 9/21/64

cc: Secretariat (2) ←
ADWD - OGC - DC

ADWD:DED AD:DXD
MADDOX:mas Fowler
9/1/64 9/1/64

9-1-64



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

Dr. Lauchlin M. Currie, Chairman
Committee on Isotope Production &
Distribution
Atomic Industrial Forum, Inc.
850 Third Avenue
New York, New York 10022

Dear Lauch:

On August 12, 1964, the Commission took action on our policy paper, "Transfer of Commercial AEC Radioisotope Production and Distribution Activities to Private Industry". The attached notice (Enclosure I) soliciting public comment on the proposed policy was approved for early publication in the Federal Register.

There are some areas wherein the Commission concluded that it could not fully accommodate the Forum Committee's recommendations. These are identified in Enclosure II.

We would welcome any further comments your Committee may care to submit to us relative to the public announcement.

On behalf of the AEC and myself, I wish to express our appreciation to you and the other members of the Forum Committee for the invaluable service that you have rendered to the isotopes and radiation industry.

Sincerely yours,

E. E. Fowler, Acting Director
Division of Isotopes Development

Enclosures:

1. Notice
2. Enclosure II

PROPOSED NOTICE REGARDING POLICIES AND PROCEDURES FOR
TRANSFER OF COMMERCIAL AEC RADIOISOTOPE PRODUCTION
AND DISTRIBUTION ACTIVITIES TO PRIVATE INDUSTRY

Since 1946, the United States Atomic Energy Commission has produced and processed radioisotopes in its own facilities and distributed them for governmental and private use. In recent years, private facilities have become available which are capable of producing and processing radioisotopes. AEC policy provides that it will not compete with private sources of supply of material when such are reasonably available commercially. Accordingly, over the past years the Commission has discontinued production and distribution of selected types, quantities and qualities of radioisotopes as these have become available from private sources.

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Proposed Policies and Procedures for Transfer of
Commercial AEC Radioisotope Production and
Distribution Activities to Private Industry

The proposed policies and procedures encompass:

- a. The establishment of guidelines governing AEC withdrawal from production and distribution of particular radioisotopes, either voluntarily or upon petition of a private organization.
- b. The establishment of a petition procedure by which private organizations may formally request AEC withdrawal from the production and distribution of particular radioisotopes.
- c. The application of AEC radioisotope pricing policy.
- d. The AEC position with respect to its conduct of radioisotope production technology research and development on those radioisotopes from which it has withdrawn from production and distribution.

Withdrawal Guidelines

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 - a. There is effective competition in the production and distribution of the radioisotopes in question; however, a single source of supply under certain conditions may be acceptable (e.g., very limited market). Foreign producers will be accepted in determining effective competition provided they are actively marketing the radioisotope in the U. S.
 - b. There is assurance that the private producers will not discontinue the venture in a manner that would adversely affect the public interest, to the extent resumption of production by AEC would involve a significant delay.
 - c. The proposed private radioisotope prices are reasonable and consistent with encouragement of research and development and use.

Government Isotope Requirements

It is the Atomic Energy Commission's policy to obtain radioisotopes from commercial sources where it has formally withdrawn from the production and distribution of those radioisotopes. However, the AEC maintains the right to produce an isotope for Government use in those circumstances where the Government is a substantial user, or the use is of special programmatic interest to the AEC, and, where procurement from industry would result in significantly higher cost to the Government.

Filing A Petition

1. An organization requesting that the AEC withdraw from the production and distribution of a particular radioisotope may submit a formal petition to this effect. Such a petition should contain sufficient evidence to demonstrate adequate technical, financial and managerial resources, as well as seriousness of intent.

2. The petition should include:

a. Product specifications to show evidence of their comparability to AEC products or adequacy to meet user demands.

b. Estimate of current demand. (The petitioner's production capabilities in conjunction with that of other suppliers should be adequate to meet this demand.)

c. The petitioning organization's production, processing and distribution capability, including identification of the production facilities (e.g., nuclear reactors and/or cyclotrons) available to it and the extent of commitment upon them in relation to market requirements.

d. Price schedule.

e. Delivery schedule.

f. Proposed date of AEC withdrawal.

The AEC may request additional information if the above information is inadequate for AEC to make a finding.

3. Upon making a finding favorable to the petition, the AEC will publish for public comment:

a. The private organization's petition or a summary thereof, exclusive of company confidential information, and will designate the place where a copy of the petition, exclusive of company confidential information, may be seen. (The petitioner should identify those portions of his petition which contain company confidential information; however, the information published must be sufficient to permit meaningful public comment).

b. A notice of AEC's intent to withdraw.

AEC will make a final decision on the withdrawal petition upon receipt and evaluation of public comment.

4. Upon making an unfavorable decision on a petition, either prior to or subsequent to receipt of public comment, AEC will inform the petitioning organization of the reasons for its decision.

5. When AEC determines to withdraw voluntarily from the commercial production and distribution of particular radioisotopes, it will similarly publish a notice of such intent for public comment.

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2. The AEC will publish a 30 day prior notice of proposed price changes, including the reasons for the proposed changes.

3. The AEC will not change the price of a radioisotope during the period it is reviewing a petition for AEC withdrawal from production and distribution of that isotope.

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1. AEC will place the conduct of radioisotope production technology research and development it deems necessary to be carried out with groups most qualified to perform such work, whether these be AEC facilities or private organizations.

2. AEC will conduct or support production technology research and development on radioisotopes from which it has withdrawn as it deems necessary, but only to the extent that AEC has satisfied itself that industry is unable, is unwilling or simply is not carrying out such work adequately or where it determines that direct AEC effort is necessary in the interest of the atomic energy program.

Enclosure II

1. The Forum Ad Hoc Committee report stated that foreign producers of radioisotopes should be accepted in determining effective competition in the United States.

The Commission concluded that foreign producers would be accepted in determining effective competition provided they are marketing actively the radioisotope(s) being considered for AEC withdrawal in the United States. This would appear to meet the sense of the Committee's recommendation.

2. The Committee's report stated that reasonableness of price need not be considered as a criterion to AEC withdrawal.

The Commission felt that reasonableness of price should be one of the factors in considering AEC withdrawal because this concept is built into the spirit of pertinent provisions of the Atomic Energy Act of 1954, as amended. It should be noted, however, that this is only one of three factors and that not all of these need be completely satisfied.

3. The Commission action regarding the filing of a withdrawal petition modified the Committee's recommendation to the extent that the petitioner is required to identify the production facilities (e.g., reactors and/or cyclotrons) available to him and the extent of his commitment on them in relationship to market requirements and additionally, to require specific identification of those sections of the petition that contain Company Confidential Information.

4. The Committee recommended that AEC isotope prices should provide for full cost recovery on an isotope by isotope basis taking into account all commercial cost factors.

The Commission recognized the objective the Committee had in view in making this recommendation. However, the Commission felt the position it adopted as set forth in the Section entitled, "AEC Radioisotope Prices", in the public announcement provides a degree of flexibility which would more readily permit accommodation of the mutual interests of AEC and industry.

5. The Committee's report stated that AEC should not conduct or support development work on radioisotope production technology where it has withdrawn from production, processing and distribution of a particular radioisotope.

The Commission has an obligation under the Atomic Energy Act of 1954, as amended, to conduct research in the field of atomic energy. The Commission therefore determined that it would conduct or support such work but only to the extent that AEC has satisfied itself that industry is unable, is unwilling, or simply is not carrying out such work adequately or where it determines that direct AEC effort is necessary in the interest of the atomic energy program.

6. Although it apparently was not one of the Forum Committee's specific recommendations, we noted that the Committee report states "Consistent with existing directives of the Bureau of the Budget, the AEC should refrain from producing or processing a particular radioisotope for use by government agencies once it has withdrawn from distributing the same isotope to non-government users".

The Commission is in agreement with this position but feels that it is necessary to make provision for AEC production to meet Government needs under selected circumstances. The statement of policy in this regard is "the AEC maintains the right to produce an isotope for Government use in those circumstances where the Government is a substantial user, or the use is of special programmatic interest to the AEC, and, where procurement from industry would result in significantly higher cost to the Government."

Isotypes - 3

AUG 28 1964

Dr. Lushin H. Currie, Chairman
Committee on Isotope Production &
Distribution
Atomic Industrial Forum, Inc.
250 Third Avenue
New York, New York 10017

Dear Lushin:

On August 12, 1964, the Commission took action on our policy paper, "Transfer of Commercial AEC Radioisotope Production and Distribution Activities to Private Industry". The attached notice (Enclosure I) soliciting public comment on the proposed policy was approved for early publication in the Federal Register.

There are some areas wherein the Commission concluded that it could not fully accommodate the Forum Committee's recommendations. These are identified in Enclosure II.

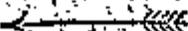
We would welcome any further comments your Committee may care to submit to us relative to the public announcement.

On behalf of the AEC and myself, I wish to express our appreciation to you and the other members of the Forum Committee for the invaluable service that you have rendered to the isotope and radiation industry.

Sincerely yours,

R. E. Fowler, Acting Director
Division of Isotope Development

- Enclosures:
- 1. Notice
 - 2. Enclosure II

cc: Secretariat (2) 
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ADWD: DID	ADWD: DID	AQBD	GGC	CC	IF
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8/28/64	8/ /64	8/ /64	8/ /64	8/ /64	8/ /64

8-28-64

Enclosure II

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6. Although it apparently was not one of the Forum Committee's specific recommendations, we noted that the Committee report states "Consistent with existing directives of the Bureau of the Budget, the AEC should refrain from producing or processing a particular radioisotope for use by government agencies once it has withdrawn from distributing the same isotope to non-government users".

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Isotopes 3

AUG 26 1964

MEMORANDUM FOR COMMISSIONER CASE

THROUGH GENERAL MANAGER

SUBJECT: COMMENTS BY DR. CURTIS AND MASON ON AEO 99A/20

I am attaching copies of letters received from Dr. Joachim Curtis, Chairman of the Advisory Committee on Isotopes and Radiation Development, and Dr. Edward Mason, Chairman, Subcommittee on Commercial Activities of the Committee, in which they present personal comments on AEO 99A/20, "Transfer of Commercial AEO Radioisotope Production and Distribution Activities to Private Industry." You will recall that these letters were specifically identified and discussed at the time the paper was reviewed with the Commission.

S. M. Fowler, Acting Director
Division of Isotope Development

Attachments:

- 1. Ltr. Curtis to Fowler, 7/30/64
- 2. Ltr. Mason to Fowler, 8/11/64

cc: GM
AIGRD
Secretariat (2)

DID:D Acting AIGRD AOM DDM GM

RE: Fowler:bb
8/25/64

8-26-64

Isotope 3

Secretary

AUG 26 1964

MEMORANDUM FOR CHAIRMAN BOARD
COMMISSIONER JEFFERS
COMMISSIONER PALMER
COMMISSIONER RABY
COMMISSIONER TAPP

SUBJECT: AEO 554/20 - ISSUANCE OF COMMERCIAL AEC RADIOISOTOPES
PRODUCTION AND DISTRIBUTION APPLICATING TO PRIVATE INDUSTRY

During consideration of AEO 554/20 at Meeting 203b, the Commission requested that certain changes be made in Appendix "F", the proposed public notice; this principally involved the statement under the section "Government Isotope Requirements". These changes have been accommodated and copies of the revised public notice are attached. Upon your approval of the attached public notice, we will arrange for its publication in the Federal Register. Your approval is recommended.

As requested at Meeting 203b, we will provide advance notice of the Commission's action to the Commission's Advisory Committee on Isotopes and Radiation Development and to the Atomic Industrial Forum's ad hoc Committee on Isotope Production and Distribution. In our letters to both of these Committees, we will identify the variances of the Commission's action with the recommendations of the Forum's ad hoc Committee.

Your attention is invited to a difference of opinion as to the wording for the section "Government Isotope Requirements". The Division of Industrial Participation suggests the following:

"It is the Atomic Energy Commission's policy to obtain radioisotopes for Government use from commercial sources where the AEC has withdrawn formally from the production and distribution of these radioisotopes. Exemption to this policy may be required where large quantities of an isotope are needed for Government use and where procurement

8-26-64

AUG 26 1964

from industry would result in a large cost increase to the Government. Under such circumstances, the AEC would maintain the right to produce the isotopes for Government use."

The differences between the statement set forth in the proposed public notice and that of the Division of Industrial Participation are:

1. The staff position would permit AEC to produce for programmatic purposes even when the quantity required was not large. The Division of Industrial Participation's position would permit production for programmatic purposes only when the quantity was "large".
2. The staff position would permit production when the cost was "significantly higher" which would permit an evaluation of cost on a relative basis. The Division of Industrial Participation's position would require that procurement from industry result in a "large cost increase". This would seem to require a large dollar differential without regard to the relative difference between producing cost and purchase price.

Signed:
John V. Vinciguerra

for General Manager

Attachment:
Revised Public Notice

Doc: Secretariat (2) ←
OGC
GM
ACRF
AGMRD

DID:D Acting AGMRD AGM DGM GM

ESFowler: db

8/26/64 8/ /64 8/ /64 8/ /64 8/ /64

PROPOSED NOTICE REGARDING POLICIES AND PROCEDURES FOR
TRANSFER OF COMMERCIAL AEC RADIOISOTOPE PRODUCTION
AND DISTRIBUTION ACTIVITIES TO PRIVATE INDUSTRY

Since 1946, the United States Atomic Energy Commission has produced and processed radioisotopes in its own facilities and distributed them for governmental and private use. In recent years, private facilities have become available which are capable of producing and processing radioisotopes. AEC policy provides that it will not compete with private sources of supply of material when such are reasonably available commercially. Accordingly, over the past years the Commission has discontinued production and distribution of selected types, quantities and qualities of radioisotopes as these have become available from private sources.

There is currently a rapidly growing industrial interest in undertaking private production and distribution of increasing numbers of radioisotopes presently being distributed by AEC. The Commission therefore wishes to reaffirm at this time its policy and intent to transfer its commercial radioisotope production and distribution activities to private industry as rapidly as possible consistent with the over-all national interest. To provide for the orderly transfer from AEC to private operation, the Commission has developed, and hereby solicits public comment upon, proposed policies and procedures for effecting such transfer. Interested persons should direct their comments to The Secretary, U.S.A.E.C., Washington, D. C. 20545, within 60 days from date of publication of notice in the Federal Register on _____.

Proposed Policies and Procedures for Transfer of
Commercial AEC Radioisotope Production and
Distribution Activities to Private Industry

The proposed policies and procedures encompass:

- a. The establishment of guidelines governing AEC withdrawal from production and distribution of particular radioisotopes, either voluntarily or upon petition of a private organization.
- b. The establishment of a petition procedure by which private organizations may formally request AEC withdrawal from the production and distribution of particular radioisotopes.
- c. The application of AEC radioisotope pricing policy.
- d. The AEC position with respect to its conduct of radioisotope production technology research and development on those radioisotopes from which it has withdrawn from production and distribution.

Withdrawal Guidelines

1. The AEC will voluntarily withdraw from the commercial production and distribution of particular radioisotopes whenever it determines that such radioisotopes are reasonably available from commercial sources.
2. The AEC will withdraw from the commercial production and distribution of particular radioisotopes on petition from a private organization based upon a demonstrable private capability and encompassing the following but recognizing that all these factors need not be completely satisfied:
 - a. There is effective competition in the production and distribution of the radioisotopes in question; however, a single source of supply under certain conditions may be acceptable (e.g., very limited market). Foreign producers will be accepted in determining effective competition provided they are actively marketing the radioisotope in the U. S.
 - b. There is assurance that the private producers will not discontinue the venture in a manner that would adversely affect the public interest, to the extent resumption of production by AEC would involve a significant delay.
 - c. The proposed private radioisotope prices are reasonable and consistent with encouragement of research and development and use.

GOVERNMENT ISOTOPE REQUIREMENTS

It is the Atomic Energy Commission's policy to obtain radioisotopes from commercial sources where it has formally withdrawn from the production and distribution of those radioisotopes. However, the AEC maintains the right to produce an isotope for Government use in those circumstances where the Government is a substantial user, or the use is of programmatic interest to the AEC, and, where procurement from industry would result in significantly higher cost to the Government.

Filing A Petition

1. An organization requesting that the AEC withdraw from the production and distribution of a particular radioisotope may submit a formal petition to this effect. Such a petition should contain sufficient evidence to demonstrate adequate technical, financial and managerial resources, as well as seriousness of intent.
2. The petition should include:
 - a. Product specifications to show evidence of their comparability to AEC products or adequacy to meet user demands.
 - b. Estimate of current demand. (The petitioner's production capabilities in conjunction with that of other suppliers should be adequate to meet this demand.)
 - c. The petitioning organization's production, processing and distribution capability, including identification of the production facilities (e.g., nuclear reactors and/or cyclotrons) available to it and the extent of commitment upon them in relation to market requirements.
 - d. Price schedule.
 - e. Delivery schedule.
 - f. Proposed date of AEC withdrawal.

The AEC may request additional information if the above information is inadequate for AEC to make a finding.

3. Upon making a finding favorable to the petition, the AEC will publish for public comment:

a. The private organization's petition exclusive of company confidential information. (The petitioner should identify those portions of his petition which contain company confidential information; however, the information published must be sufficient to permit meaningful public comment).

b. A notice of AEC's intent to withdraw.

AEC will make a final decision on the withdrawal petition upon receipt and evaluation of public comment.

4. Upon making an unfavorable decision on a petition, either prior to or subsequent to receipt of public comment, AEC will inform the petitioning organization of the reasons for its decision.

5. When AEC determines to withdraw voluntarily from the commercial production and distribution of particular radioisotopes, it will similarly publish a notice of such intent for public comment.

AEC Radioisotope Prices

1. AEC radioisotope prices will be established to provide reasonable compensation to the Government (which ordinarily will be the higher of AEC full cost recovery or reasonable commercial rates) unless this would significantly interfere with (a) research and development and use or (b) encouragement of private sources of supply. In individual cases, if (a) and (b) cannot be equally accommodated, greater weight will be given to encouragement of research and development and use.

2. The AEC will publish a 30 day prior notice of proposed price changes, including the reasons for the proposed changes.

3. The AEC will not change the price of a radioisotope during the period it is reviewing a petition for AEC withdrawal from production and distribution of that isotope.

AEC Radioisotope production Technology Research

1. AEC will place the conduct of radioisotope production technology research and development it deems necessary to be carried out with groups most qualified to perform such work, whether these be AEC facilities or private organizations.

2. AEC will conduct or support production technology research and development on radioisotopes from which it has withdrawn as it deems necessary, but only to the extent that AEC has satisfied itself that industry is unable, is unwilling or simply is not carrying out such work adequately or where it determines that direct AEC effort is necessary in the interest of the atomic energy program.

Isotopes - 3

AUG 26 1964

MEMORANDUM FOR CHAIRMAN BOARD

THROUGH GENERAL MANAGER

SUBJECT: COMMENTS BY DRS. CURRIE AND NASON ON AEC 994/20

I am attaching copies of letters received from Dr. Lauchlin Currie, Chairman of the Advisory Committee on Isotopes and Radiation Development, and Dr. Howard Nason, Chairman, Subcommittee on Commercial Activities of the Committee, in which they present personal comments on AEC 994/20, "Transfer of Commercial AEC Radioisotope Production and Distribution Activities to Private Industry." These letters were specifically identified and discussed at the time the paper was reviewed with the Commission.

E. E. Fowler, Acting Director
Division of Isotopes Development

Attachments:

- 1. Mr. Currie to Fowler, 7/21/64
 - 2. Mr. Nason to Fowler, 8/11/64
- 3 - filed in date order*

cc: GM
AGRD
Secretariat (2) ←

DID: Acting AGRD AGM DGM GM

E.Fowler:bb
8/25/64

UNITED STATES GOVERNMENT

Memorandum

TO : E. Eugene Fowler, Acting Director
Division of Isotopes Development

DATE: August 14, 1964

FROM : F. T. Hobbs, Acting Secretary *original signed by*
F. T. Hobbs

SUBJECT: AEC 994/20 - TRANSFER OF COMMERCIAL AEC RADIOISOTOPE PRODUCTION
AND DISTRIBUTION ACTIVITIES TO PRIVATE INDUSTRY

SECY:AJ

1. At Meeting 2034 on August 12, 1964, the Commission:

a. Authorized for publication in the Federal Register the revised proposed withdrawal guidelines, petition procedures and pricing policy in the form of Appendix "D" to AEC 994/20, allowing 60 days for public comment;

b. Noted that an annual report will be made to the Commission on AEC production technology research and development for those radioisotopes from which AEC has withdrawn;

c. Noted that a public announcement such as Appendix "F" to AEC 994/20 will be made simultaneously with publication of the notice in the Federal Register;

d. Noted that the Joint Committee on Atomic Energy will be informed of this action by letter such as Appendix "G" to AEC 994/20; and

e. Noted that AEC 994/20 is unclassified.

2. The Commission requested revision of the first paragraph on page 48 of AEC 994/20, subject to Commission review and approval.

3. The Commission requested line 1 of paragraph "d", page 47 of AEC 994/20 be revised to read as follows: "The AEC position with respect...."

4. The Commission requested the order of paragraphs "a" and "c", under Withdrawal Guidelines, page 47 of AEC 994/20, be reversed.

E. Eugene Fowler
AEC 994/20

-2-

August 14, 1964

5. The Commission requested the order of paragraph 1 under AEC Radioisotopes Production Technology Research, page 49, and paragraph 2, page 50 of AEC 994/20 be reversed.

6. The Commission requested paragraph 2 under AEC Radioisotope Prices, page 49 of AEC 994/20 be revised to read as follows: "The AEC will publish a 30 day prior notice..."

7. The Commission requested the AEC Advisory Committee on Isotopes and Radiation Development, and Atomic Industrial Forum's Ad Hoc Committee on Radioisotope Production and Distribution be notified of the proposed action prior to publication in the Federal Register.

8. The Commission noted copies of the notice to be published in the Federal Register should be sent to interested "user" groups for comments.

9. The General Manager has directed you to take the action required by the above decision and requests. It is our understanding that your office will prepare the correspondence to the JCAE, AEC Advisory Committee on Isotopes and Radiation Development, and Atomic Industrial Forum's Ad Hoc Committee on Radioisotope Production and Distribution. Copies of these letters together with other pertinent correspondence should be provided the Office of the Secretary.

cc:
Chairman
General Manager
Deputy General Manager
Acting Asst. General Manager
Asst. Gen. Mgr. for R&D
General Counsel
Controller
Director, Industrial Participation
Director, Public Information
Director, Congressional Relations

MONSANTO RESEARCH CORPORATION

800 NORTH LINDBERGH BOULEVARD . . ST. LOUIS 88, MISSOURI

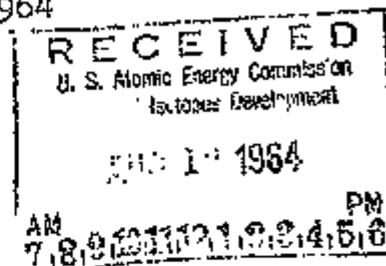
OFFICE OF
HOWARD M. NASON
PRESIDENT

WYBORN 8-1000

11 August, 1964

3503

Mr. E. Eugene Fowler
Acting Director
Division of Isotopes Development
U. S. Atomic Energy Commission
Washington, D. C. 20545



Subject: Staff paper on
transfer of isotope
production and distri-
bution activities to
private industry.

Dear Gene:

As requested, I am confirming in writing our discussion concerning the draft of the staff paper which was made available at the recent meeting of the Executive Committee of the Advisory Committee on Isotope and Radiation Development. These comments are my own, as I have not had an opportunity to discuss this document with our subcommittee on commercial distribution. However, from previous discussions of this subject matter with them, I believe that they generally would be in agreement with my comments.

Broadly, I am in agreement with the action proposed in the paper, and have reservations principally on those provisions dealing with control of pricing and with retention of Government manufacture of isotopes for Government use.

As I told you, I feel that the provisions concerning the control of pricing places too much power in the Commission without suitable definition as to how this power may be exercised. I understand the intent of the Commission in this respect, but experience teaches that as time passes and personnel change, interpretation may change also, unless definite guidelines are available for reference. Ultimately, competition in the market place will determine success or failure of any commercial operation. "Unreasonable prices" cannot persist in a directly competitive atmosphere. Nevertheless, I do recognize the need for protection, particularly during the transition period when the business is being converted from a Government monopoly to a directly competitive operation under conditions prevailing in a free enterprise.

8-11-64
f

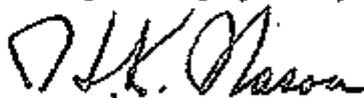
11 August, 1964

My suggestion is that this section be revised to provide more positive guidelines for future reference in interpreting the Commission's activities with respect to control of prices.

In the matter of the AEC's continuing "to produce an isotope for Government use if procurement from industry would result in significantly higher cost to the Government", I feel that we are on very dangerous ground indeed, and that this provision would have a very deleterious effect on the development of a sound commercial isotope industry. If a price is determined as reasonable, this reasonableness should refer to Government requirements as well as those of the private economy. The provision as written could be interpreted many different ways by those responsible for its administration. (They are spread through many echelons of the Government.) Again, I recognize the intent of DID and DIP with respect to this matter, but know from experience that Government will remain in the production of isotopes when commercial capacity is available to supply Government requirements at reasonable prices. I recognize that this section has been included at the insistence of the Office of the Comptroller, but urge that further attention be given to it. In the early stages of the development of an isotope, the Government may be the principal or only user. It is nearly always possible for an agency to show that it can produce an isotope at lower cost to the Government than the isotope can be supplied from private industry. The reasons for the differences are well known. In many areas of current concern, application of this provision would effectively kill private participation in isotope programs, the conversion of which to the private economy has received serious and concentrated attention.

I hope that these comments may be helpful to you.

Very truly yours,



H. K. Nason
President

HKN/ka

August 7, 1964

COPY NO. 121

ATOMIC ENERGY COMMISSION

CORRECTION TO AEC 994/20 - TRANSFER OF COMMERCIAL AEC
RADIOISOTOPE PRODUCTION AND DISTRIBUTION ACTIVITIES
TO PRIVATE INDUSTRY

Note by the Acting Secretary

Handwritten initials

1. The Office of the General Counsel has submitted a revised staff judgment reflected in the attached revised page 11 which should be substituted in the subject paper.

2. In addition, in the first paragraph of Appendix "D" page 46 - the word reasonable should be changed to reasonably.

F. T. Hobbs

Acting Secretary

<u>DISTRIBUTION</u>	<u>COPY NO.</u>	<u>DISTRIBUTION</u>	<u>COPY NO.</u>
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Economic Impact	42	New York Operations	108
Isotope Development	43 - 52	Oak Ridge Operations	109 - 111
Ind. Participation	53 - 55	Pittsburgh Office	112 - 113
Public Information	56 - 57	San Francisco Oprns.	114
Inspection	58	Savannah River Oprns.	115 - 116
International Affairs	59 - 64	Schenectady Office	117

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AEC 994/20

August 7, 1964

COPY NO. 121

AEC
994
20

ATOMIC ENERGY COMMISSION

TRANSFER OF COMMERCIAL AEC RADIOISOTOPE PRODUCTION AND
DISTRIBUTION ACTIVITIES TO PRIVATE INDUSTRY

Note by the Acting Secretary

The Acting General Manager has requested that the attached report by the Acting Director of Isotopes Development be circulated for consideration by the Commission at an early date.

F. T. Hobbs

Acting Secretary

<u>DISTRIBUTION</u>	<u>COPY NO.</u>	<u>DISTRIBUTION</u>	<u>COPY NO.</u>
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Asst. Dir. of Regulation	13	Plans and Reports	72 - 73
Deputy Gen. Mgr.	14	Production	74 - 77
Asst. Gen. Mgr.	15	Reactor Development	78 - 87
Asst. Gen. Mgr. IA	16	Manager, Naval Reactors	88
Asst. GM-Plans & Prod.	17	Reactor Licensing	89 - 90
Asst. GM Operations	18	Research	91 - 92
Asst. Gen. Mgr. R&D	19	Safety Standards	93 - 94
Asst. Gen. Mgr. Adm.	20	State & Lic. Relations	95 - 96
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International Affairs	59 - 64	Schenectady Office	117

appendix A - B
plus in B.P.

8-7-64

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ATOMIC ENERGY COMMISSION

TRANSFER OF COMMERCIAL AEC RADIOISOTOPE PRODUCTION AND
DISTRIBUTION ACTIVITIES TO PRIVATE INDUSTRY

Report to the General Manager by the
Director of Division of Isotopes Development

THE PROBLEM

1. To consider policies and procedures for the transfer of commercial AEC radioisotope production and distribution activities to private industry.

BACKGROUND AND SUMMARY

2. At Meeting 1929 on May 6, 1963, the Commission considered AEC 994/11, "AEC-Industry Participation in the Production and Distribution of Radioisotopes." This paper discussed:

a. Proposed guidelines for AEC withdrawal from the production and distribution of particular radioisotopes in favor of private industry.

b. The establishment of a formal petitioning procedure through which industry would request AEC withdrawal.

c. The impact of such withdrawal upon AEC radioisotope costs and prices.

d. The need to assign relative importance to the radioisotope pricing criteria set forth in Section 81 of the Atomic Energy Act of 1954.

3. Subsequently, the Staff prepared and the Commission considered at Meeting 1963 on September 10, 1963, AEC 994/13 Addendum to AEC 994/11. Among other things, this paper proposed revised withdrawal guidelines as follows:

a. Private radioisotope prices should be reasonable and consistent with encouragement of research and development and use.

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b. There should be effective competition in the production and distribution of the radioisotope in question, but a single source of supply under certain conditions may be acceptable. Foreign producers are accepted in determining effective competition except when they have captured 70% or more of the domestic market.

c. Assurance should be had that the private producers will not discontinue the venture in a manner that would adversely affect public interest, to the extent resumption of production by AEC would involve a significant delay.

d. An organization's participation in private radioisotope production should not create a conflict of interest with other contractual obligations it may have to the AEC or to the Federal Government.

The Commission requested that the foregoing guidelines be discussed with the Atomic Industrial Forum prior to Commission action on them and that industry be provided general withdrawal guidelines for comment following the discussion with the Forum.

4. On October 17, 1963, the Commission met with the Atomic Industrial Forum's Ad Hoc Committee on Radioisotope Production and Distribution to discuss policies and procedures important to the transfer of commercial radioisotope production and distribution activities from the AEC to industry. Subsequently, the Forum's Ad Hoc Committee submitted its views in a letter from Dr. Lauchlin M. Currie, dated December 31, 1963. The Ad Hoc Committee's recommendations are set forth in Appendix "A". Dr. Currie indicated that, in accordance with a Commission suggestion at the October 17 meeting, the Atomic Industrial Forum would solicit the views of a cross section of commercial isotope processors and isotope users since these were not represented adequately on the Ad Hoc Committee. The comments are set forth in Appendices "B" and "C", respectively. Regarding the users' comments, it is to be noted the sampling was extremely limited and little response was received. Hence, it is not considered that the comments from the sample of radioisotope users taken by the Forum are representative.

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5. With respect to the proposed AEC withdrawal guidelines, the Forum Ad Hoc Committee report states:

"The Forum Committee endorses the Commission's general policy 'to discontinue providing materials or services which are reasonably available from commercial sources.' The Committee also subscribes to the AEC staff recommendation that 'the AEC can initiate withdrawal actions upon determining that such action is appropriate.' In accordance with these broad policy guides, the Committee recommends:

"(a) The AEC should voluntarily withdraw from the production, processing and distribution of a particular radioisotope whenever the particular radioisotope is 'reasonably available from commercial sources.' To expedite such action, the AEC should undertake a positive, vigorous and continuing assessment of private capability to produce, process and distribute radioisotopes.

"(b) As an integral part of its withdrawal policies and procedures, the AEC should withdraw upon the petition of a private organization if:

"(1) The petitioning organization, either by itself or in conjunction with other non-AEC sources of supply, can meet current domestic demands for a particular radioisotope; and

"(2) AEC withdrawal will not unreasonably restrict competition.

"(c) In accordance with AEC staff recommendations, foreign producers should be 'accepted in determining effective competition' in the United States.

"(d) Reasonableness of price need not be considered as an additional criterion to AEC withdrawal if the above criteria are met.

"(e) When the AEC considers withdrawal in favor of a single source of supply, it may be appropriate to include reasonableness of price as a criterion if the uniqueness of the facilities or the patent advantages associated with the single source of supply presage the preclusion of competition.

"(f) A petition should be approved promptly unless the AEC has reason to question its contents or finds that approval would be inconsistent with the above criteria.

"(g) To assure an uninterrupted source of supply to users, the AEC should publish a prior notice of its decision to withdraw."

6. The withdrawal guidelines set forth in paragraph 3 above are generally consistent with the Forum Committee's recommendations

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with the exceptions that the Staff has consistently felt that (1) reasonableness of price should be considered as a criterion to AEC withdrawal, and (2) the mere existence of foreign isotope producers does not constitute competition insofar as the U.S. market is concerned.

7. Reasonableness of price is, in staff's view, a necessary criterion for AEC withdrawal because:

a. Staff believes this concept is built in the spirit of pertinent provisions of the Atomic Energy Act of 1954 as amended. Section 3 provides for:

"a. A program of conducting, assisting and fostering research and development in order to encourage maximum scientific and industrial progress;---

"d. A program to encourage widespread participation in the development and utilization of atomic energy for peaceful purposes to the maximum extent consistent with the common defense and security and with the health and safety of the public; ---

"f. A program of administration which will be consistent with the foregoing policies and programs, ---"

Section 81 provides:

"The Commission may distribute, sell, loan, or lease such byproduct material as it owns to licensees with or without charge: Provided, however, That for byproduct material to be distributed by the Commission for a charge, the Commission shall establish prices on such equitable basis as, in the opinion of the Commission, (a) will provide reasonable compensation to the Government for such material, (b) will not discourage the use of such material or the development of sources of supply of such material independent of the Commission, and (c) will encourage research and development."

It is interesting to observe that the Forum Committee does not wholly eliminate the factor of reasonable price (see 5e above). As it states, "it may be appropriate to include reasonableness of price as a criterion" - under two circumstances: (1) uniqueness of facilities, and (11) patent advantages which indicate the likelihood that competition will eventually not serve to lower an unreasonable price to a reasonable level. Staff is concerned that during any significant interval between an unreasonable and

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reasonable price stage, scientific and industrial progress in some areas may be importantly stifled by immoderate prices.

b. There is an aspect to this problem other than the basic feature that a single producer may charge a high price in order to cash in on his preferential no competition status. Thus, proposed private prices may be competitive and "reasonable" in light of current uses and production volume, yet they may be "unreasonable" with respect to price requirements for applications under development and production costs achievable under a more fully developed market deriving from commercialization of such applications. Cobalt-60 is a case in point. Current commercial prices for this isotope are reasonable insofar as teletherapy applications are concerned, but prohibitive for such developing uses as radiation processing of chemical products and food. The Commission has recognized this by virtue of making Cobalt-60 available in bulk quantities at 50¢ per curie to encourage radiation applications while maintaining the commercial rates for Cobalt-60 suitable for teletherapy, radiography, and similar applications. In view of the Commission's policy objective of fostering development and accelerating applications of radioisotopes in the national interest, a determination cannot arbitrarily be made "a priori" that private radioisotope prices are reasonable merely because they are competitive. Neither can it be assumed they are not reasonable. An evaluation of reasonableness must be made on a case by case basis.

8. The mere fact that foreign isotope producers exist does not imply they are a competitive factor in the U.S. market. To qualify as "effective competition" they should be competing actively in the U.S. market. Accordingly, it would be acceptable and appear to meet the sense of the Committee's recommendation if the last sentence of guideline b, paragraph 3 were modified to read "Foreign producers are accepted in determining effective competition provided they are marketing actively the radioisotope in the U.S."

9. With respect to industry being required to file a withdrawal petition, the Forum Committee report states:

"The Forum Committee concurs in the AEC staff recommendation that a private organization requesting the AEC to withdraw from the production, processing and distribution of a particular radioisotope should be required to submit a formal petition. The Committee further agrees that such a petition should contain sufficient evidence to demonstrate adequate technical,

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financial and managerial resources, as well as seriousness of intent.' Accordingly, the Forum Committee recommends:

"a. A petition form of standardized scope and format should be designed to facilitate industry's filing and AEC's reviewing a requested withdrawal action. The petition should include:

"(1) Product specifications to show evidence of their comparability to AEC products or adequacy to meet user demands;

"(2) Estimate of current demand;

"(3) The petitioning organization's production, processing and distribution capability;

"(4) Price schedule (to be considered as a criterion to withdrawal only in the absence of a competitive source of supply);

"(5) Delivery schedule;

"(6) Proposed date of AEC withdrawal;

"(7) Additional information on request concerning the petitioning organization's technical and financial resources if the above information is inadequate for the AEC to make a finding.

"b. The AEC should not publish or otherwise release the contents of a petition (1) to the extent it includes company confidential information or (2) prior to publication of a notice of an AEC decision to withdraw.

"c. If the AEC reaches a decision not to approve a petition, it should provide to the petitioning organization information on the reasons for its decision."

10. The Committee's recommendations concerning the filing of a petition are consistent with the Staff's views except for the proposed elimination of reasonableness of price in 9a (4) above, and the need to modify 9a (3) to require the petitioner additionally to identify the production facilities (e.g., reactors and/or cyclotrons) available to him and the extent of commitment upon them in relation to market requirements, and to modify 9b(1) to require the petitioner to identify specifically those sections of the petition that are company confidential information.

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11. With respect to AEC radioisotope pricing, the Committee report states:

"The Forum Committee is cognizant of the obligations imposed on the AEC by Section 81 of the Atomic Energy Act in the pricing of radioisotopes which it produces, processes and distributes. The Forum Committee endorses the policy set forth in Chapter 1701 of the AEC Manual 'that materials and services furnished to others (by AEC) shall be priced at the higher of full cost recovery or current commercial prices.' In view of the above, the Committee recommends:

"a. Isotope prices should provide for full cost recovery on an isotope-by-isotope basis, taking into account all commercial cost factors. Once established on the basis of costs or reasonable commercial prices, whichever is higher, AEC prices should only be changed to appropriately reflect significant changes in production costs or to make them conform to the policy set forth in the AEC Manual.

"b. The AEC should publish prior notice of proposed price changes, including in such notice the reasons for the proposed price changes.

"c. The AEC price for a particular radioisotope should not be changed during the period when the AEC is reviewing a petition filed by a private organization requesting AEC withdrawal from production of the same isotope."

12. The Staff does not agree that AEC radioisotope prices should provide for full cost recovery on an isotope-by-isotope basis, taking into account all commercial cost factors. It is neither practical, necessarily consistent with Section 81 of the Act, nor in accord with Commission policy objectives for AEC to price in this manner.

a. Costing all radioisotopes on an isotope-by-isotope basis would involve a huge and disproportionately expensive accounting system. It is to be observed that over 100 isotopes would be involved, many with a sales volume of less than a hundred to a few thousand dollars annually. Until a few years ago, AEC did in fact attempt to maintain costs on every isotope. This was abandoned because of the expense and physical effort involved and the limited value of the data thus obtained. Currently, the major radioisotopes in terms of sales (about 30) are costed individually, but the remaining items are divided into groups of related items and costed as a group.

b. The AEC cannot arbitrarily price radioisotopes in the manner the Committee suggests. This would be

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inconsistent with the requirements of Section 81 of the Act. Thus, current AEC radioisotope pricing policy (AEC 720/96) states that radioisotope prices shall be established to recover full costs or going commercial rates provided such prices are consistent with Section 81 of the Act.

c. With few exceptions, an AEC price for an isotope could not be truly meaningful in terms of all commercial cost factors because the latter will vary significantly from company to company depending on the isotope in question, mode of production, production facility employed, company investment objectives, accounting methods, company location, tax bracket, and company advertising and financial policy.

13. As discussed in paragraph 13a of AEC 994/11, the pricing criteria set forth in Section 81 of the Act at times can be contradictory. It is deemed necessary that the Commission weigh and establish their relative order of application in those cases where as a practical matter they cannot be equally accommodated. Accordingly, it is concluded that AEC radioisotope prices should be established to provide reasonable compensation to the Government (which ordinarily would be the higher of AEC full cost recovery or reasonable commercial rates) unless this would significantly interfere with (a) research and development and use or (b) encouragement of private sources of supply. In individual cases, if (a) and (b) cannot be equally accommodated, greater weight should be given to encouragement of research and development and use and such individual cases would be referred to the Commission for final pricing action.

14. With respect to AEC isotope production research and development support, the Committee report states:

"The Forum Committee recognizes the value of AEC-supported research on new concepts and techniques for the production and utilization of radioisotopes. In this context, the Committee recommends:

"a. The AEC should continue its support of basic research designed to lead to new radioisotope production and application concepts and techniques. Such support will assist in promoting wider utilization of radioisotopes and also encourage private firms to enter into radioisotope production.

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"b. The placement of AEC-supported research should be determined by the previously used criteria of 'unique ideas, capabilities and facilities,' whether found in AEC, commercial, university or non-profit industrial laboratories. When AEC-supported research relating to radioisotope production is placed in commercial facilities already engaged in the production of radioisotopes, it will tend to strengthen private production capabilities.

"c. AEC-supported research should be reported promptly and fully.

"d. The AEC should not conduct or support development work on radioisotope production technology where it has withdrawn from production, processing and distribution of a particular radioisotope."

15. The Staff is in agreement with all of the above provisions with the exception of 14d. The reasons for disagreeing are:

a. For the AEC not to conduct or support development work on radioisotope production technology where it has withdrawn from production, processing and distribution of a particular radioisotope would be inconsistent with AEC's obligation to conduct research in the field of atomic energy as set forth under the Act and would have the effect of retarding isotope development and application. AEC possesses in its National Laboratory complex and at its production sites unique radioisotope research and development and production facilities. Under the Forum Committee's recommendation, the application of these unique facilities to develop advanced radioisotope production technology would not be possible because AEC would be precluded from using them for this purpose and industry does not possess them. Also, opportunity might present itself to achieve significant economic advantages leading to greatly expanded application of a particular radioisotope through development of unique production methods. If industry chose not to, or could not, conduct the necessary research, AEC still would be precluded from doing this work and the foreseen opportunity would not be realized. Finally, in the course of "permitted" research and development, AEC, as it has in the past, might conceive new isotope production technology concepts which would have applicability to radioisotopes from which it has previously withdrawn. Unless picked up by industry, these new ideas would lie dormant since AEC would not be permitted to apply them. It is essential that AEC continue such activities in those cases where industry is unable, is unwilling or simply is not carrying out necessary development work adequately.

b. AEC's isotope sales volume during FY-1963 was \$2.05 million consisting of \$1.19 million in commercial sales and \$0.86 million in intra-AEC transfers. (This is the basis for an isotope industry, e.g., labeled compounds and radiography, having a gross revenue of about \$20 million annually.) Assuming the idealized situation where private industry would devote 10% of its isotope sales to research

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and development and all of this was directed to isotope production technology, then the total national effort to improve isotope production methods, and to develop isotopes of improved quality as well as needed chemical and physical forms would amount to about \$205,000 annually. It is doubtful that even this level of private research and development support can be achieved over the near term future because of the fragmentation of isotope production activities among numerous concerns. This situation plus the market size would seem to provide negligible financial opportunity to any one organization to conduct the necessary research and development. Accordingly, unless the AEC conducts such activities, they will not be pursued at a level consistent with national research and development requirements.

c. Radioisotope applications development also would suffer if the Committee's proposals were adopted. For example, if several years ago AEC had withdrawn from strontium-90 production because of private capability at the level of a few curies per year, it would not have been free to develop production technology for strontium titanate. Consequently, current isotopic power and heat applications would not have been feasible. It is not conceivable that private industry would have been financially able or willing to undertake a program of this magnitude with its own resources, especially in view of the nebulous market for such material at the time.

16. It is to be noted particularly that the Staff is in substantial accord with the Forum Committee recommendation that "The placement of AEC-supported research should be determined by the previously used criteria of unique ideas, capabilities and facilities, whether found in AEC, commercial, university or non-profit industrial laboratories." This represents one of the most effective means by which AEC can foster the development of private capability for radioisotope production.

17. In those instances where the Government is a substantial user, or the use is of programmatic interest to the Atomic Energy Commission, AEC may continue to produce an isotope for Government use if procurement from industry would result in significantly higher cost to the Government. (In this connection, the Forum Committee report states, "Consistent with existing directives of the Bureau of the Budget, the AEC should, in the opinion of the Forum Committee, refrain from producing or processing a particular radioisotope for use by government agencies once it has withdrawn from distributing the same isotope to non-government users.")

18. Adoption of the foregoing policies would result in withdrawal on an item by item basis, with accompanying financial ramifications as discussed in paragraph 13d of AEC 994/11. This reduced production will result in larger unit costs for the remaining isotope productions and larger costs for related research activities. This will involve budgetary considerations. Further discussion of this problem will be included in a separate paper concerning distribution of fission products, with respect to which the identical problem exists.

CONCLUSION

19. It is concluded that the Atomic Energy Commission should publish for public comment the withdrawal guidelines, petition procedure and pricing policy identified in Appendix "D".

STAFF JUDGMENTS

20. The Office of the Controller concurs in the recommendation of this paper. The Division of Industrial Participation concurs with the exception that it is opposed to the action set forth in paragraph 17 of this paper. Its comments are attached as Appendix "E". The Office of the General Counsel has no legal objection to paragraph 17 and otherwise concurs in this paper. The Division of Public Information concurs in recommendation 21 c.

RECOMMENDATION

21. The Acting General Manager recommends that the Atomic Energy Commission:

a. Authorize for publication in the Federal Register the proposed withdrawal guidelines, petition procedures and pricing policy in the form of Appendix "D", allowing 60 days for public comment;

b. Note that an annual report will be made to the Commission on AEC production technology research and development for those radioisotopes from which AEC has withdrawn;

c. Note that a public announcement such as Appendix "F" will be made simultaneously with publication of the notice in the Federal Register;

d. Note that the Joint Committee on Atomic Energy will be informed of this action by letter such as Appendix "G"; and

e. Note that this paper is unclassified.

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LIST OF ENCLOSURES

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Filed in B.A

COPY *Isotopes 3*

Nuclear Science & Engineering Corporation

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*Comm + Dno/I
DL-459*

R. A. BRIGHTEN
PRESIDENT

August 3, 1964

Mr. E. E. Fowler, Acting Director
Division of Isotopes Development
U. S. Atomic Energy Commission
Washington, D. C. 20545

Dear Gene:

I am pleased to report to you that we have now successfully completed our first production runs of the following reactor-produced isotopes: iron-59, zinc-65, selenium-75 (HSA) and selenium-75 (LSA). In each case the materials exceed the technical specifications which were submitted to you on April 13, 1964.

I am also enclosing for your information a press release issued today to a number of technical journals in which the availability of these radioisotopes is formally announced. Based upon these facts, I should like to request that you now initiate formal withdrawal action with regard to these isotopes. It is my understanding that the AEC withdrawal, if approved, will take place ninety days from today and that Oak Ridge National Laboratory will not be permitted to accept orders for these materials after approximately September 3, 1964.

If any additional information is required, please do not hesitate to contact me.

With kindest regards.

Sincerely,



RAB:ljs

Enclosure

8-3-64

NUCLEAR

science & engineering corporation

PITTSBURGH 36, PENNSYLVANIA

NEWS

PHONE: 462-4000

AREA CODE 412

FOR RELEASE:

Immediately

CONTACT:

R. A. Brightsen

PR-52

NEW REACTOR-PRODUCED RADIOISOTOPES IN STOCK AT NSEC

PITTSBURGH, PA., August 3, 1964 ---- Nuclear Science & Engineering Corporation announced today the immediate availability of 45-day iron-59, 120-day selenium-75, and 245-day zinc-65. The technical specifications of these radioisotopes compare favorably with those of the AEC and the prices are identical. Radioisotope specification sheets for these materials are available upon request.

In making this announcement, Mr. R. A. Brightsen, President of NSEC, pointed out that the availability of these isotopes from NSEC was part of a planned program of expansion in the production and distribution of reactor-produced isotopes. In addition to its extensive line of cyclotron-produced isotopes, the company is now distributing 13 reactor-produced isotopes and plans to announce the availability of additional radioisotopes in the near future.

Mr. Brightsen also announced that a new NSEC Radioactive Materials Catalog will be available on request by September 1, 1964.

NSEC was formed in Pittsburgh, Pa., immediately after passage of the Atomic Energy Act of 1954. It conducts research and development utilizing nuclear and radioactive tracer techniques on production and research problems of industry and government. It also provides specialized radioactivity and radiation measurement services, and is a leading producer of radioactive isotopes.

574 Alda Road
Mamaroneck, N. Y.
July 30, 1964

Mr. E. Eugene Fowler
Acting Director
Division of Isotopes Development
U.S. Atomic Energy Commission
Washington, D.C. 20545

Dear Gene: "White" Working Paper (Report to the
General Manager by the Director of DID)

I appreciate the opportunity to review the staff paper, on the transfer of production and distribution activities to private industry, which you plan to send to the Commission. I had hoped that it might be possible for me to get my comments to you a day or two earlier but, upon reading the paper, I decided that such comments might prove of more assistance to you if I took time to develop them in more detail.

The recommendations on page 10 and in Appendix "D," which I assume to be the main thrust of the paper, appear, with certain exceptions, to be a generally reasonable and measured approach to the production and distribution problem. Several items in the background and summary section, however, give me real concern, particularly since this section may more accurately reflect the way in which the DID staff proposes to implement the recommendations.

I have three general comments on this section of the paper. First, the treatment of pricing, both with respect to privately produced and AEC-produced isotopes, suggests a staff intent to exercise continuing arbitrary controls over distribution, even after AEC withdrawal from the production of a particular isotope. Second, I am not sure that the paper takes full advantage of the recommendations offered by the Forum committee and hence the staff may be subject to Commission criticism in not having been responsive to the Commission's request following its review of AEC 994/11. I personally feel that the Advisory Committee, at its recent meeting, may have given too much weight to apparent limitations introduced by the relatively small number of comments from users. Finally, I do not find persuasive some of the arguments offered by the staff in support of its position, particularly those based on the Atomic Energy Act or upon certain unstated policy objectives of the Commission.

Perhaps the following detailed comments will better describe my concern. These comments are offered in chronological order rather than in order of importance.

1. Page 2, Item 4 - Reference to the limited comments offered by isotope users to the Forum committee's recommendations fails to indicate that the users invited to comment were selected by the AEC staff as representative. The fact that the response was not more extensive suggests

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July 30, 1964

a lack of concern on the part of users about production and distribution policies. This question should be resolved by the proposed public notice procedures recommended in later sections of the paper.

2. Page 3, Item 7 - This, in my opinion, is one of the most troublesome parts of the paper. I do not believe that the quoted parts of Sections 3 and 81 of the Act provide adequate support of the staff's position.

It appears that the staff may have misinterpreted the intent of the Forum committee recommendations. If the AEC did not withdraw from the production of a particular radioisotope in favor of a single private supplier unless it had satisfied itself on the reasonableness of the private supplier's price, there would be no basis for the staff's concern over "any significant interval between an unreasonable and reasonable price stage" or the stifling of "scientific and industrial progress... by immoderate prices."

What concerns me more, however, is the staff's reservations that commercial competition will not lead to reasonable prices. If competition will not accomplish this goal, what will? Also, if - as the paper recommends - reasonableness of price is to be evaluated on a case-by-case basis, what criteria will be used in making the evaluation? These criteria are not spelled out and will undoubtedly be requested by the Commission in its review of the paper.

Of even greater concern is the unstated, but clearly implied, intent of the staff to continue to control by the mechanism of "price reasonableness" evaluation the price of isotopes from the production of which the AEC has withdrawn. I can think of no other withdrawal criterion that would have a more deleterious effect on private initiative in the production and distribution of radioisotopes. This is not to say that in certain instances such evaluations would not be appropriate and desirable. The Forum recognized these exceptions in submitting its summary of comments, obtained from isotope processors, when it pointed out that although it had "attempted to formulate withdrawal criteria which would be applicable to the AEC's total isotope program, it is recognized that the production and distribution of cobalt-60 may raise problems different from those associated with other isotopes produced by neutron irradiation." My point is that commercial competition should, in almost all instances, prove to be a more accurate and realistic gauge of price reasonableness than any AEC staff evaluation, and I would be surprised if the other members of the Advisory Committee, as well as the Commission, did not agree.

3. Page 5, Item 8 - The recommended qualification on the acceptance of foreign producers as effective competition appears to be an excellent compromise between the initial recommendations of the staff and those of the Forum committee. It should also prove a workable solution to the problem.

July 30, 1964

4. Page 6, Item 10 - My concern over the staff's views on the importance of an AEC evaluation of reasonableness of price is expressed in 2 above.

5. Page 6, Item 12 - This is the other part of the paper which gives me the greatest trouble. I cannot agree with the staff position, which I find ambiguous and poorly stated.

To be more specific, I see nothing impractical about costing isotopes on an isotope-by-isotope basis. The arguments of excessive expense and physical effort and limited value are not, in my judgment, valid. Private industry would certainly have to carry out its costing on an item-by-item basis if it were producing the materials. If the staff anticipates difficulty in defining "meaningful commercial cost factors," I suggest that it request the further assistance of the Forum committee.

The staff position also points up a contradiction in AEC administration of the program if, as the paper states, 30 isotopes are costed on an individual basis and 70 isotopes are not. How can both approaches be considered to be consistent with the directives of Section 81 of the Act?

In Item 13 of the paper, reference is made to the fact that the price of an isotope should be set at a level which will encourage its widespread use. Perhaps this is what the staff had in mind in referring earlier to "Commission policy objectives" with which the Forum committee's recommendations would not be in accord. Admittedly, if certain isotopes are priced to reflect true production costs, the effect may be to discourage their use, or at least the development of uses. This problem was recognized by the Forum committee when it suggested: "In those instances where the 'full cost recovery' price or reasonable commercial price might tend to restrict an isotope application which the AEC believes merits support, the Forum committee suggests that AEC assistance should be offered in some form other than an artificially low price for the isotope, e.g., through the granting of research contracts" to the users.

To sum up my comments on this issue, I believe it extremely important that AEC isotope prices provide for full cost recovery on an isotope-by-isotope basis, taking into account all commercial cost factors. Unless and until this is done and meaningful costing information is made available, there can be little basis for expecting to transfer the production of many isotopes to private industry.

6. Page 7, Item 13 - In commenting on the obligations imposed by Section 81 of the Act, the DID Advisory Committee in March 1962 suggested a preferred order for the stated criteria. It assigned principal importance to encouraging the use of radioisotopes and followed this with promoting private sources of supply and providing a reasonable return to the government in that order. I still think this is the proper order. Setting prices to reflect full cost recovery is important for the reasons stated above, but any relationship to simultaneously assuring reasonable compensation to the government seems to me to be incidental.

July 30, 1964

7. Page 7, Item 14 - As I have stated on previous occasions, I personally agree with the staff position, d, on AEC support of research and development on isotope production technology and disagree with the recommendation of the Forum committee. I still feel that AEC supported work in AEC facilities only is justified on isotopes whose production it has discontinued.

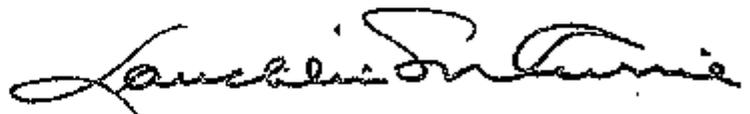
8. Page 10, Item 17 - I agree with the position taken by the Division of Industrial Participation. If, as was stated in Item 15 of the paper, intra-AEC transfers represent 40% of AEC's total isotopes sales volume, every effort should be made to transfer this production requirement to private industry as quickly as possible. Indeed, herein lies a readily available incentive which the AEC should be able to use in effecting increased private production activity.

9. Appendix D, Page 2, Withdrawal Guidelines - I disagree with the staff assertion in Item 6, page 3, that the Forum committee recommendations "are generally consistent" with the staff's earlier recommendations. In my opinion the recommendations of the staff and those of the Forum committee are markedly different. The latter, I believe are more specific and comprehensive and hence preferable to those now being recommended by the staff.

10. Additional comments - My comments on other sections of Appendix "D," i.e., on government isotope requirements, filing a petition, AEC radioisotope prices, and AEC radioisotope production technology research, have already been stated.

In concluding what has proved to be a long, but hopefully helpful, commentary on the proposed staff paper, let me say simply that I do not feel that the staff recommendations are entirely consistent with the background and summary discussion leading to those recommendations. I also question whether the paper in its entirety is sufficiently responsive to the expressed desires of the Advisory Committee, and of the Commission, to transfer radioisotope production and distribution to private industry as quickly and as effectively as circumstances will permit.

Sincerely,



Lauchlin M. Currie

LMC:d

AEC



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

Isotopes - 3

Off. of the Secretariat

B-425

No. G-170
Tel. 973-3335 or
973-3446

FOR IMMEDIATE RELEASE
(Tuesday, July 14, 1964)

**AEC TO WITHDRAW FROM PRODUCTION
AND SALE OF STRONTIUM-85**

The Atomic Energy Commission will withdraw from the routine production and distribution of strontium-85, effective October 15. This is in accordance with the Commission's general policy to discontinue providing materials or services which are reasonably available from commercial sources. The Commission will not accept new orders for strontium-85 after August 15.

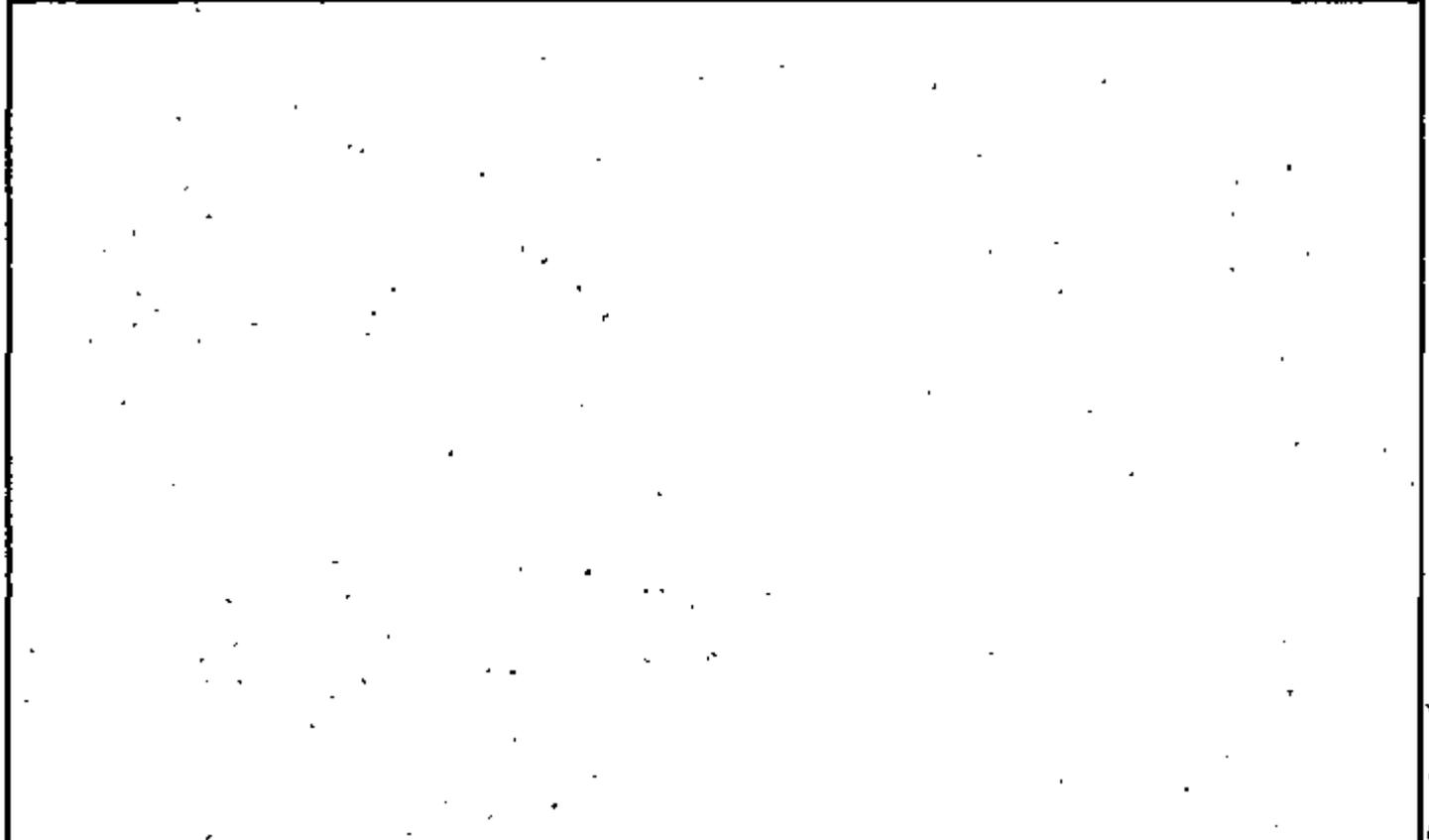
The radioisotope is now produced and distributed through the Commission's Oak Ridge (Tenn.) National Laboratory operated for AEC by the Union Carbide Corporation.

Strontium-85 is used principally in medical research for studying bone metabolism and in medical diagnosis for localizing bone tumors.

Strontium-85 is being produced by private organizations in sufficient quantities to meet ordinary commercial demands. Additional organizations are expected to begin producing the isotope about the time of AEC's withdrawal. Prices published by the producers are believed to be reasonable. Additional information on the availability of strontium-85 may be obtained from commercial suppliers of radioisotopes.

7/14/64

7-14-64

CROSS-REFERENCE (Name, number, or subject under which this form is filed)		
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IDENTIFICATION OF RECORD	DATE	
	TO	
	FROM	
	BRIEF SUMMARY OF CONTENTS	AEC. 1143/14 - PROPOSAL FOR PURCHASING SULPHURIC ACID FOR RICHLAND FACILITIES - To consider entering into a five-year contract with Associated Chemical Co. for supply of sulphuric acid.
FILED (Name, number, or subject under which the document itself is filed)	PLB&L 7 Hanford date of paper: 7-6-64	
		

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