THE CANCER LETTER

Vol. 6 No. 18

May 2, 1980

Subscription $125.00 per year

P.O. Box 2370 Reston, Virginia 22090 Telephone 703-620-4646

MARKUP COMPLETED ON SENATE CANCER ACT RENEWAL; WAXMAN AGREES TO $90 MILLION CENTERS LINE ITEM

The Senate Health Subcommittee finally marked up S. 988, the "Health Sciences Promotion Act of 1979," last week, including for the most part provisions sought by Cancer Program advocates, along with a few some of those advocates do not particularly like.

Meanwhile, Chairman Henry Waxman of the House Health Subcommittee was scheduled to take his bill (H.R. 7036) to the parent Com-

(Continued to page 2)

In Brief

FIVE CANDIDATES INTERVIEWED FOR NCI JOB, HARRIS TO MAKE RECOMMENDATION WITHIN MONTH

FIVE CANDIDATES for the NCI director's job have been interviewed by the search committee, including some present government employees, others from outside government. HEW Secretary Patricia Harris considers getting the permanent appointment made as top priority and intends to submit her recommendation to President Carter within a month, ***The Cancer Letter*** has learned. Although the appointment does not require Senate confirmation, HEW plans to discuss the appointment with appropriate congressional leaders, ***The Cancer Letter*** was told. That would raise an interesting question: The appropriate leaders would be Chairman Henry Waxman of the House Health Subcommittee and Chairman Edward Kennedy of the Senate Health Subcommittee. Would the Administration really ask for Ted Kennedy's advice on an appointment at this stage of the primary campaign? Perhaps; if Carter is renominated as seems likely, he will need Kennedy's support in the fall. . . . **NIH POLICY** has been established on the fate of a grant when the principal investigator leaves the grantee institution. The original grantee institution has the first choice of retaining the grant with a new PI. If that option is not exercised, the original PI can take the grant to his new institution but must submit an application with no significant change in objectives or level of budget. . . . "**NURSING CARE** Plans for Patients with Cancer" is a new publication developed by the Nursing Committee of the Grand Rapids Clinical Oncology Program. Guidelines which outline nursing care for 27 malignancies are included, with descriptions of nursing care for patients receiving chemotherapy or radiotherapy. Copies are available at $10 each. Write to Grand Rapids COP, 100 Michigan N.E., Grand Rapids, Mich. 49503. . . . **SIX STORY**, $13 million cancer research center is planned by the Ephraim McDowell Community Cancer Network in Lexington, Ky. The new center will incorporate many of the cancer research projects being conducted at the Univ. of Kentucky Medical Center and the administrative and program activities of the Network. The land will be donated by the university, the money will be raised by McDowell.

WAXMAN TO SEEK LINE ITEM FOR CENTERS IN CANCER ACT RENEWAL LEGISLATION

(Continued from page 1)

merce Committee this week with an amendment sought by cancer centers.

Waxman has agreed to ask the full committee to go along with a line item for cancer center support (core) grants, authorizing $90 million for the 1981 fiscal year. If Waxman is successful in that request and the line item is included in the final bill approved by Congress, that still will not guarantee $90 million for centers. Appropriations committees are required by authorization figures only not to exceed those amounts.

A line item, however, would guarantee that a certain amount of money would be appropriated for centers and assure that NCI would make that amount available for the program when it is appropriated. The Assn. of American Cancer Institutes, stung by NCI's decision not to request any appreciable increases for the Centers Program in the 1980 and 1981 fiscal years over 1979, has made getting a line item into the Cancer Act renewal legislation a top priority.

AACI failed to move the Senate subcommittee, chaired by Sen. Edward Kennedy. The subcommittee went along with the AACI and National Cancer Advisory Board recommendation that core grants be awarded for periods up to five years, with five year renewals, as does the Waxman bill. But Kennedy balked at the line item.

"That would not be consistent with our feeling that the bill should not include authorization figures," a subcommittee staff member told ***The Cancer Letter.*** Instead of dollar totals authorized for each year, the Senate bill calls for the appropriation of "such sums as may be necessary."

The Waxman bill authorizes specific figures.

AACI and the NCAB have supported specific authorization levels, although considerably higher than those in the Waxman bill. The American Cancer Socity asked for no specific levels for 1981, contending that dollar figures in the authorizations have become ceilings rather than goals.

Both Senate and House bills include provisions strongly backed by NCAB, ACS, AACI, Citizens Committee for the Conquest of Cancer, Assn. of Community Cancer Centers, and others: Preservation of NCI's budget bypass authority, retention of Presidential appointment of the NCI director and NCAB members, retention of the President's Cancer Panel.

One feature of the Senate bill which has caused some concern among those groups is what Kennedy feels is the cornerstone of the legislation—establishment of a new "President's Council for the Health Sciences."

The Council would consist of 16 members appointed by the President with the advice and consent of the Senate. Eight members would be "distinguished in the biomedical sciences," five would be "distinguished in the behavioral, social, or general sciences," and three would be from the general public "who by virtue of their training, experience, and background are especially qualified to serve on the Council." Various agency heads would be ex officio members.

Primary duty of the Council would be preparation of an annual "National Health Sciences Research Plan," including budget recommendations. It is here that Cancer Program advocates see a potential conflict.

The bill says the plan shall include policy recommendations concerning health sciences research conducted and supported by HEW, recommend goals for that research, and recommend budget ranges and spending priorities for the impending fiscal year and succeeding four years. The plan will include "identification of those areas of hdalth sciences research that have been relatively underfunded or under developed and measures needed to promote research in such areas."

The budget recommendations of the Council would be limited to calling for one of four actions: a five percent decrease from the previous year's congressionally approved level of appropriations, no change, an increase to keep pace with inflation, or a 10 percent net increase over the rate of inflation.

Cancer Program advocates are concerned that the Council in all probability would be dominated by interests not especially friendly to their cause. They fear the Council's budget recommendations would overshadow NCI's bypass budget. The White House pays little attention now to the bypass budget and probably would not be much influenced by the Council's budget. The real damage would occur when conflicting proposals between NCI and the Council go to Congress.

The bill does, however, include some provisions which could strengthen the hand of the Cancer Program in development of the Council's budget recommendations. It requires that the annual plan take into consideration:

* The basic processes of human growth, development, and aging.

* The mortality and morbidity rates of diseases and other health problems which are, or may be, the subject of health sciences research.

* The areas of health sciences research that show promise of making valuable contributions to human knowledge with respect to the cause, prevention, or methods of diagnosis and treatment of diseases, the principles of human growth, development, and aging, and other health problems.

* The past levels of spending for health sciences re-

search by federal agencies other than HEW.

The needs of federal regulatory agencies dealing with health concerns should also be considered, the bill says.

Proponents of adequate support for cancer research have not fared badly in the past in demonstrating to Congress that increased appropriations was justified by such considerations. But they do not especially look forward to the necessity of dealing with another body which has to be sold on the Cancer Program, particularly one which may include members with a vested interest in de-emphasizing cancer research.

A provision in the Waxman bill which bothers some would require NCAB (and other NIH council) approval of certain contracts, which would add months to the already lengthy contract process. Another would require study section review of intramural research projects, which NIH executives feel is unnecessary and inappropriate.

NATCHER SUBCOMMITTEE KILLS RECISION, INCLUDING $17 MILLION FROM NCI

The House HEW Appropriations Subcommittee Tuesday killed President Carter's request for a $41 million recision in the 1980 fiscal year appropriation for NIH, including a $17 million cut for NCI.

The subcommittee's action possibly could be overturned by the full Appropriations Committee, or by the House if the recision measure reaches the floor. But for all practical purposes, the recision is dead.

Both houses of Congress must approve a recision request for it to take effect.

The subcommittee, chaired by William Natcher (D.-Ky.) also turned down Tuesday requests for supplemental appropriations for 1980, which included $10.8 million for NIH, and a supplemental to cover pay increases. That means the 1980 fiscal year NCI pay raises will have to come out of NCI's $1 billion appropriation, squeezing the budget some but not as much as would the $17 million cut.

FIBROBLAST INTERFERON CONTRACT SIGNED; PRICE STALLS LYMPHOBLASTOID PACT

NCI has completed negotiations on its $2 million contract with Flow Laboratories for the production of 50 billion units of fibroblast interferon. John Douros, chief of the Natural Products Branch in the Div. of Cancer Treatment Developmental Therapeutics Program, signed the contract with Flow Tuesday. He is project officer for the contract.

NCI previously had awarded a contract for $895,000 to Warner Lambert for leukocyte interferon. Both types will be used in clinical trials supported by DCT.

Negotiations have reached a standstill on a contract for the production of lymphoblastoid interferon. Burroughs Wellcome is the firm involved in those negotiations, ***The Cancer Letter*** has learned. The hangup: BW's price. The firm reportedly is asking considerably more than NCI is willing to pay, and probably 50 percent more than NCI thinks it would cost to produce at Frederick Cancer Research Center.

NCI would prefer to obtain lymphoblastoid interferon from a commercial source, but will use its FCRC option if it has to. Meanwhile, negotiations are under way for another source of leukocyte interferon.

Fibroblast interferon from Flow will be available within six months. The 50 billion units should be enough to treat 50 patients. — 150

AACI OPPOSES MOST NEW GUIDELINE PROVISIONS; NO CONSENSUS ON CEILING

Members of the Assn. of American Cancer Institutes rejected most major provisions of the new core grant guidelines proposed by NCI staff but could not reach a consensus on the most important one—relating the size of the grant, and even a center's eligibility to apply for one, to the amount of cancer research and training at the institution.

Representatives of 51 AACI member centers met for two days this week in Bethesda to consider the new proposals, the second attempt in three years by NCI Centers Program staff to change the guidelines (***The Cancer Letter***, April 4). Overwhelming opposition from AACI convinced NCI and the National Cancer Advisory Board to withdraw the first proposals.

AACI opposition to the new package was not so vehement this time, although near unanimous consensus was expressed on most issues.

The only real split came when AACI President Alvin Mauer called for a vote on the question, "Is it possible to establish a relationship between the core grant and the research component of a center?"

Representatives of 18 centers voted in the affirmative, when it was qualified with the caveat that center directors would have more flexibility in managing core grant funds than provided in the NCI proposals. Thirteen favored the status quo—no limit on core awards (except the statutory $5 million limit), and no eligibility requirement tied to research components.

The NCI proposal would require a center to have a minimum of $750,000 a year in NCI research and training support to be eligible for a core grant. The core award could not exceed 50 percent of the total NCI support, or in the case of consortium centers, 20 percent of the total at member institutions.

AACI members were unanimous in objecting to limiting the determining factor to NCI support.

"In the past, NCI has said we ought to have diversity of support," commented Timothy Talbot, Fox

Chase Cancer Center. "They encouraged us to seek grants from NIGMS, NSF, American Cancer Society. What has happened to that? Now they say they will judge us only on NCI support."

"Relating the size of the core to cancer research at an institution should not just be based on NCI support alone," said Albert Owens, Johns Hopkins Cancer Center. "There are adequate ways to establish the size of peer reviewed activities. It would be unwise to relate it to NCI alone."

William Terry, acting director of the Cancer Centers Program, had acknowledged that his staff had felt uneasy about limiting the determinant to NCI support. It was done because of difficulties in separating cancer research from non-cancer work supported by agencies other than NCI. Including ACS would not make much difference to most centers, Terry said.

AACI members objected on principle, felt that leaving out other support would hurt some centers, and did not agree that including non-NCI sources would pose insurmountable administrative difficulties.

A.A. Román Franco, director of the Puerto Rico Cancer Center, pointed out that he has emphasized support from the Commonwealth government over NCI. Lower salaries and per diem hospital costs have resulted in holding down the size of NCI awards, factors which would penalize his center in determining his eligibility for a core award under the guideline proposal, Franco said. "When we see the guidelines, we call them economic sanctions," he said.

Major impetus behind the attempt to develop guidelines which would limit the size of core awards are the huge increases in funds requested in renewal applications coupled with increasing pressures on the NCI budget. When the 1977 proposals were withdrawn, Centers Program staff determined that some formula would have to be developed which would establish ceilings on the grants.

Opposition among AACI members to a ceiling was based on two factors: The feeling that the diverse nature of cancer centers makes it impossible to arrive at a formula which would be equitable; and the contention that a ceiling is not really necessary.

Palmer Saunders, Univ. of Texas Medical Branch Clinical Cancer Center in Galveston, was director of NCI's Div. of Cancer Research Resources & Centers until 1974. Noting that NCI's budget has historically leveled off after periods of sharp increases, Saunders said that restrictions were handled by asking centers to take across the board cuts. "Almost without exception, when we had to do that, center directors agreed as long as they were permitted to rebudget without interference and subject to peer review," Saunders said.

Saunders pointed out that the Centers Program budget had increased only $6 million in the last five years. Although centers have escalated their budget requests, the Cancer Center Support Grant Review Committee has held them down, through the peer review process. "We already have a damn good system to hold down costs," Saunders said. "Peer review (and the across the board cuts) have held the increase to two percent a year."

"Palmer's 11-year-old mechanism has worked," Talbot said. "It is adjustable, and it did not lead to bureaucratic interference."

Richard Steckel, UCLA Comprehensive Cancer Center and a member of the Cancer Center Support Grant Review Committee, did not agree. "A link to the cancer research effort, peer reviewed, is not a bad way to fund core grants," Steckel said. "The peer review process can be subverted just as much by across the board cuts as by a formula."

"Except it is temporary and a formula is permanent," Saunders said.

"It looks like it may not be temporary," Steckel said. "A level budget may be with us to stay."

"Who says so?" Saunders replied. "I see NCI attempting to solve a problem in fiscal management by setting up easily construed guidelines."

Peter Magee, Fels Research Institute, said, "The peer review system has been a remarkable system for keeping expenses down. On some reviews I have been on, I've been almost embarrassed by the savage cuts made."

Nathaniel Berlin, Northwestern Univ. Cancer Center, said the argument for a ceiling rested on a number of assumptions, some of which can be challenged:

—In the short range, and medium to long range, NCI's budget will not show a real increase, and probably will not keep up with inflation.

—The centers budget will not show a real increase.

—The first priority for NCI and NIH will be to fund R01 grants, second P01 grants, and third cancer center core grants.

—It is necessary to stabilize most, but not all, existing centers.

Four workshops dealing with various aspects of the guideline proposals were held during the first day of the meeting, chaired by Berlin; Harry Eagle, Albert Einstein Cancer Research Center; William Shingleton, Duke Univ. Comprehensive Cancer Center; and Gordon Zubrod, Florida Comprehensive Cancer Center.

Berlin said his group agreed that if an overall ceiling is established, the various other ceilings called for in the guidelines should be dropped; without an overall ceiling, the limits within the grant would be more appropriate.

Zubrod said his group disagreed with the policy on developmental funds in the new guidelines. "Developmental grants were used effectively and wisely under the old guidelines. How they were used was left up to

the site visitors and discretion of center directors. They can be used very effectively when there is not too much red tape."

Zubrod said the new guidelines place too much emphasis on individuals and disregard programs. "New programs are needed, not simply a recruiting device. Both are involved, but the emphasis should be on new programs."

Zubrod's group opposed, and the rest of the membership agreed:

* The provision permitting NCI staff to reject grant applications not meeting requirements in the guidelines.

* The $60,000 limit on developmental funds for an investigator. Members agreed that developmental funds should be available to established investigators recruited from outside an institution, as well as to new investigators (new being defined as an investigator who has never received a peer reviewed award of $35,000 or more).

Steckel argued that developmental funds should be available to support an established investigator moving into a new research area. Others felt that established investigators usually can use existing funds to support a change of direction.

Steckel suggested that at the discretion of center directors, internal peer review and core grant reviewers, developmental funds could be used for pilot programs, not going beyond one year, with no restrictions on use either by new or established investigators. The membership agreed.

* The provision requiring prior approval by NCI staff of investigators receiving developmental support. Members agreed that NCI should be informed of the names of individuals when the decision is made to give them such support, with internal review and after the fact external peer review the controls.

Robert Hickey, M.D. Anderson, argued against informing NCI of those decisions. "If I inform Dr. Clark of something I want to do, that gives him a chance to disapprove it (Lee Clark was sitting next to Hickey when he made that comment). What will you do if NCI disapproves?"

"What do you do?" Mauer asked. "You negotiate with Dr. Clark, don't you?"

"No, I don't," Hickey said.

Shingleton said his group also agreed that there should not be an overall limit established on the core grant size, but that if one is established, it should be based on all cancer related research at the institution, "with some flexibility to permit adjustments in a fair way."

Shingleton's group opposed the NCI staff veto and said the letter of intent (upon which the guideline proposals say would be based the decision whether to permit a center to apply for a grant) should be an instrument of information exchange only.

Members agreed to the Shingleton group recommendations to eliminate the staff veto; add prevention as one of the purposes of a cancer center; eliminate the requirement that CVs of all center members accompany grant applications; eliminate the six month notification requirement.

Eagle's group considered the issue of chargeback for shared resources, as required in the guideline proposals.

"There was agreement that there should be some sort of chargeback," Eagle said. "These portions of the guidelines are vague, and that was seen as a plus. It was felt we should not tamper with them."

Clarification is needed, Eagle said, on hospital costs, which the guidelines say should be charged to research grants or contracts, "when those are available," should be added, Eagle said; on use of shared resources by all members of a center, regardless of how funded, and not just by those supported by NCI or NIH, as the guidelines imply; and on partial chargeback implementation. The schedule should be in the same time frame as phasing in other fiscal aspects of core grants, Eagle said.

The guideline proposals would limit the funds used for professional salaries to 25 percent of the total core grant, with no more than 35 percent of an individual's salary coming from the core.

Eagle pointed out that if the chargeback provision results in a reduction in amount requested in the grant, funds available for salaries would be correspondingly reduced.

The members agreed with the recommendation that new guidelines may require some form of chargeback or cost sharing (adding the term "cost sharing"), with the stipulation that shared resources be available to all members of a center without regard to funding sources.

The guideline proposals would make it more difficult, probably impossible, to support salaries of cancer control and education associate directors with the core grant.

"There ought to be some flexibility," Talbot said. "I agree that control support should be from control funds, not research. I don't know how to handle it."

"The purposes of a center include control and education," said Lawrence Piette, Cancer Center of Hawaii. "That should be covered by the core grant."

Zubrod said the issue was "murky." The guidelines should permit salary support for all senior leadership of a center "including control until NCI clarifies control support."

"This is the time for some smart statesmanship," Talbot said. "Core should be viewed essentially as research support. It is not uniformly viewed that way, but apparently is now by NCI. I think we should recommend to NCI that mechanisms be devised for the support of cancer control, without arguing over

research. Something new is needed, but I don't know what it is."

"NCI is talking out of both sides of its mouth," Eagle said. "They are saying you can't use core funds for control but make no provision for it."

"We should toss it back to them," Berlin said.

"We've got to define the associate director for cancer control as an important senior leader and one who needs support," Mauer said.

Shingleton's motion that guidelines should permit payment of salaries of the center director, deputy director, and associate directors was approved.

The guideline proposals would limit salary support for major program leaders to no more than 20 percent of their salaries. Steckel's motion that the percentage of support should reflect the contribution of time devoted to the job of program director, eliminating the 20 percent limit, was approved.

Members also voted to eliminate the requirement that to qualify for salary support, an investigator would have to be considered a "center investigator"—that is, one with a research grant of more than $35,000. That decision would be left to the center director.

The guideline proposals would permit support from core funds for a center investigator who loses his grant, permitting a grace period of one year to enable him to seek other support. Talbot asked that the grace period be extended to two years, but the members voted that down, approving a compromise of 18 months.

Members voted to drop the "residency requirement" in the guideline proposals, which say that no more than 50 percent of the staff investigators could work in lab space not controlled by the center director.

Mauer said that with the issue of an overall ceiling not resolved, the question would be considered further at the regular semiannual AACI meeting, scheduled for June 22-24 at Yale. In the meantime, the association's positions on other issues would be conveyed to NCI, and the National Cancer Advisory Board. The NCAB is scheduled to hear Terry's report on the guidelines May 19.

RFPs AVAILABLE

Requests for proposal described here pertain to contracts planned for award by the National Cancer Institute, unless otherwise noted. Write to the Contracting Officer or Contract Specialist for copies of the RFP, citing the RFP number. Some listings will show the phone number of the Contract Specialist, who will respond to questions. Listings identify the respective sections of the Research Contracts Branch which are issuing the RFPs. Address requests to the contract officer or specialist named, NCI Research Contracts Branch, the appropriate section, as follows:
Biology & Diagnosis Section and Biological Carcinogenesis & Field Studies Section—Landow Building, Bethesda, Md. 20205; Control & Rehabilitation Section, Chemical & Physical Carcinogenesis Section, Treatment Section, Office of the Director Section—Blair Building, Silver Spring, Md. 20910. Deadline date shown for each listing is the final day for receipt of the completed proposal unless otherwise indicated.

RFP N01-CP-05601-58

Title: *Synthesis of radiolabeled retinoids for metabolic and pharmacologic studies in chemoprevention of cancer*

Deadline: *Approximately June 15*

NCI is interested in establishing a contract for this purpose. The basic objective of this project is the synthesis of radioactive retinoids for use as tracers in metabolic studies, both in vivo and in vitro, for pharmacokinetic investigations in vivo and for the investigations into the mechanisms of action of retinoids.

The approach will involve the synthesis of small quantities of several different retinoids, the choice of which will be dictated by the needs and interests of the Chemoprevention Program. Proposed compounds will include modifications of the ring, side chain, or terminus of the retinoid molecule with variations in both the radioactive isotope (^{14}C or ^{3}H) specific activity and the position of label incorporation.

The proposed project represents recompetition of ongoing contracts for the purpose of providing continuity to these very important efforts. A four year effort is anticipated.

Contract Specialist: Mary Armstead
Carcinogenesis
301-427-8764

RFP N01-CP-05613-72

Title: *Compound synthesis, purification and characterization*

Deadline: *June 9*

NCI is requesting proposals for the synthesis, purification and characterization of selected derivatives (primarily oxygenated of polynuclear aromatic hydrocarbons in gram quantities. The types of compounds include dihydrodiols; phenols; quinones; diole-poxides; epoxides; dialdehydes resulting from cleavage of vicinally-disubstituted oxygenated derivates alkyl and hydroxyalkyl-substituted parent hydrocarbons; conjugated derivatives (chemical or biosynthetic) such as glutathiones, glucuronides, and sulfates; and labeled (^{3}H, ^{13}C, ^{14}C) analogs.

The compounds are urgently required in carcinogenesis research as authentic standards and substrates to aid in the lucidation of the pathways of carcinogen metabolism activation, and molecular mechanism of action.

The overall objective of this project is the preparation of the selected compounds by unequivocal methods to produce gram quantities of high purity and well characterized materials.

Initially, the compounds are to be prepared in ex-

ploratory syntheses on a small scale and then prepared in a production run to yield one to several grams of sufficiently pure material (generally 99+%). Compounds are to be characterized by a meaningful combination of appropriate techniques including possibly infrared and ultraviolet-visible spectroscopies, melting point, elemental analysis, NMR, mass spectrometry, HPLC, thin layer chromatography and imaging optical rotation.

Characterized compounds are to be shipped to the NCI Repository according to shiping protocols established by the Repository. Distribution to the research community will be handled by the Repository contractor for all unlabeled compounds. Labeled compounds will be subdivided and shipped to designated recipients by the synthesis contractor(s) as instructed by the project officer.

The contractor(s) will be required to provide analytical, handling, and storage data with all shipments. The contractor(s) will provide details of all procedures in reports and on the request of the project officer.

A high degree of cooperativity with NCI, the repository contractor, and other synthesis program contractors is necessary. It is expected that the successful contractors (two or more) from this competition will carry out the same highly productive, responsive and innovative synthesis work that has resulted in the availability to the carcinogenesis research community of a continuous supply of more than 150 metabolites of seven parent hydrocarbons for a 62 month incrementally funded contract. The incumbent contractors in this ongoing program include Midwest Research Institute and the Univ. of Chicago.

Contract Specialist: Jackie Matthews
Carcinogenesis
301-427-8771

RFP N01-CP-05614-73

Title: *Prepare selected chemical carcinogens and certain of their derivatives for the chemical carcinogen standard reference repository and ultimately for distribution to the scientific community as reference compounds*

Deadline: *June 9*

The compounds required will normally be sufficient purity. The project being competed is designed to complement ongoing programs and to provide sufficient capability to the repository and to be responsive to the needs of the chemical carcinogenesis research community. A high degree of cooperativity with NCI, the repository contractor, and other synthesis program contractors is necessary.

The successful contractor(s) will prepare designated compounds by unequivocal methods to produce (1-5) gram quantities (amount to be specified by the project officer) of highly purified, well characterized materials. Occasionally, larger quantities up to several kilograms may be requested. For compounds for which synthetic route and yield and not well established by modern methods the compounds are to be prepared in exploratory synthesis on a small scale and then prepared in a production run to yield the required number of grams at sufficient purity.

Compounds are to be thoroughly characterized by a relevant combination of techniques such as thin layer chromatography (TLC), infrared and ultraviolet visible spectrophotometry, melting point and boiling point, HPLC, elemental analysis, GC/MS, NMR. A major portion of the workscope will involve resynthesis of polynuclear aromatic hydrocarbon derivatives. The initial synthesis of specified derivatives will be made by contractors on another program. Subsequent resynthesis by established protocols will be performed by contractor(s) resulting from this competition.

The derivatives most frequently requiring resynthesis would include epoxides, dihydrodiols, phenols, quinones, and diolepoxides. PAH-derivatives requiring resynthesis will be flagged in the computer inventory report generated the repository.

The selected contractor(s) would be assigned metabolites to prepare as needed. In the event that more than one award is made, there will be an equitable assignment of parent hydrocarbons for which a given contractor will have responsibility for preparing specified derivatives.

The assignment of parent hydrocarbons will be designated in the contractor's workscope and will be based on the interest, experience, and capability of the selected contractors together with the objective of establishing a balanced workload distribution among contractors. The assignment of additional synthesis work would be based on the interest, experience and capability of the contractor(s) to prepare compound classes needed by NCI. These would include, for example, aromatic amines, nitrosamines, nitrosamides, polynuclear aromatic hydrocarbons, aflatoxin metabolites, and steroid derivatives. The assignment of compound classes for which a contractor will have synthesis responsibility will be designated in the contract workscope. A 39 month effort is planned.

This RFP is intended to select a small number of contractors who will replace the synthesis effort now filled by a basic ordering agreement with seven contractors.

Contract Specialist: Rodolfo Reyes
Carcinogenesis
SOURCES SOUGHT 301-427-8764

Title: *Seed plastmacytomas*

Deadline: *Approximately July 24 for submission of resumes*

NCI is interested in assuring an adequate supply of

homogeneous mouse immunoglobulins to the scientific community. Therefore, NCI is willing to supply to any legitimate source (commercial or other) seed plasmacytomas of six major heavy chain classes as well as tumors producing free Kappa and Lambda chain of BALB/c origin, for the purpose of producing homogeneous immunoglobulin products which in turn will be supplied to the scientific community. The seed plasmacytomas are:

	Kappa	Lambda
IgM	TEPC183	MOPC104E
IgG3	FLOPC21	J606
IgG1	MOPC21	---
	MOPC31C	
IgA	TEPC15	MOPC315
IgG2G	AdjPC5	HOPC1
	UPC10	
IgG2b	MOPC195	---
	MOPC141	
None	MOPC41	RPC-20

This is not a request for proposal. Evidence of an organization's interest and capability to produce is a prerequisite; therefore, a brief resume of experience and capabilities must be sent with request for seed tumors to:

Contract Specialist: Damian Crane
Biology & Diagnosis
301-496-5565

REQUEST FOR RESEARCH COOPERATIVE AGREEMENT APPLICATIONS

Bureau of Radiological Health, FDA-HFX-80-1 Food & Drug Administration

Title: *Optimization of mammographic examinations*
Deadline: *June 15*

The Medical Physics Program of the Bureau of Radiological Health, FDA, invites applications for a cooperative agreement to be awarded in FY 80 related to development of a mathematical model capable of predicting physical imaging performance in mammography as a function of the design parameters involved.

The competing requirements of high image quality and low patient dose in x-ray examinations of the breast have prompted much research in this area. Advances in mammographic imaging techniques have recently been demonstrated in three areas: 1) optimization of x-ray spectrum; 2) better scatter rejection; and 3) minimization of resolution loss due to the combined effects of focal spot and image receptor blurring. The optimination of the x-ray spectrum has been studied in detail at the Bureau of Radiological Health and elsewhere.

To accomplish the objective stated above, the selected applicant will be expected to:

1. Develop a mathematical model as stated above. The model should include, but need not be limited to, consideration of anode material, anode heat limits, focal spot size, high voltage amplitude (KVp) and waveform, x-ray beam filtration, system geometry, scattered radiation and techniques for its suppression, patient size and composition distributions, image receptor characteristics, and appropriate evaluation criteria such as contrast, signal-to-noise ratio (SNR), latitude, and patient dose.
2. Use the model developed to determine the optimum system design for several imaging tasks associated with mammography for each of the evaluation criteria considered. The model will also be used to determine relative optima when certain system parameters are held constant.

Support mechanism for this program will be the cooperative agreement due to the requirement for substantial involvement on the part of FDA. It is anticipated that at least one award will be made in FY 1980. The approximate level of support is $30,000.

The factors considered in evaluation of each application will be:

1. Scientific merit of the research design.
2. Demonstrated experience in the analysis of image quality in mammography, in particular the optimization of x-ray energy, evaluation of scatter reduction devices and techniques, and prediction of optimum resolution and configurations.
3. Availability of personnel qualified to assist in the implementation of model developed on the VAX 11/780 computer, in Fortran.
4. Availability of investigator for consultation with the BRH staff on a regular basis (twice a month by phone; two visits per year).

Prospective applicants are requested to submit a one-page letter of intent which should include a very short synopsis of proposed areas of research and identification of any other participating institutions. This letter should be received no later than May 15, 1980 at the following address:

Dr. DeWitt G. Hazzard (HFX-14),
Director, Extramural Research Staff, OMS
Bureau of Radiological Health, FDA
5600 Fishers Ln., Rockville, Md. 20857
Phone 301-443-4190

Applications must be submitted on form PHS 398. These forms are available at all major schools through whichever office handles extramural funding activities or directly from the Div. of Research Grants, NIH.

The Cancer Letter _Editor Jerry D. Boyd

Published fifty times a year by The Cancer Letter, Inc., P.O. Box 2370, Reston, Virginia 22090. Also publisher of The Clinical Cancer Letter.