

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

DATE May 7, 1982
IN REPLY REFER TO James N. Bradbury
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MES-200

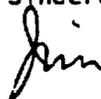
Dr. Francis J. Mahoney
Program Director
Research Development Branch
Division of Cancer Treatment
Landow Bldg., Room 4C-33
7910 Woodmont Avenue
Bethesda, MD 20814

Dear Dr. Mahoney:

Please find enclosed two copies of the Grant Application for the Los Alamos National Laboratory participation in the Follow-up Phase of the Pion Project, "Clinical Studies of Pion Radiotherapy," Grant #2, POI CA16127-08.

The budget included in this application reflects only the amount unspent from the previous grant as of April 30, 1982. Please let us know if further information would be useful.

Sincerely yours,



James N. Bradbury
Group Leader, MP-3

JNB/gd

Encl: a/s

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Los Alamos National Laboratory Follow-up Budget
for Pion Project Grant #2, POI CA16127-08

GRANT PERIOD

The period requested for the grant is one year from 1 May 1982 to 30 April 1983. This period coincides with the period requested by the Cancer Research and Treatment Center, University of New Mexico for patient follow-up and assures treatment planning during that period. It also provides a reasonable time in which to finalize three-dimensional treatment planning capabilities. The budget reflects only the amount unspent from the previous grant as of 30 April 1982.

OBJECTIVES

The objectives for this grant period are to finalize previously developed capabilities in three-dimensional treatment planning (PIPLAN) and to perform calculations in support of patient follow-up and clinical observations.

SPECIFIC AIMS

1. Finalize three-dimensional treatment planning capabilities.
 - A. Convert computer codes to VAX computer for cost-effectiveness and technology transfer capability with other institutions.
 - B. Complete changes in models and methods currently in progress to realize benefits of previous development.
 - C. Finalize documentation of models and methods.
 - D. Compare PIPLAN predictions with experimental data to complete determination of accuracy.
2. Calculations.
 - A. Calculate physical and effective three-dimensional dose distributions as required for active patient follow-up.
 - B. Replan selected patients with PIPLAN to determine significance of more accurate dose descriptions in clinical results.

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**BUDGET ESTIMATES FOR ALL YEARS OF SUPPORT REQUESTED
DIRECT COSTS ONLY**

BUDGET CATEGORY TOTALS		1st BUDGET PERIOD (from page 4)	ADDITIONAL YEARS SUPPORT REQUESTED			
			2nd	3rd	4th	5th
PERSONNEL (Salary and fringe benefits.) (Applicant organization only)		\$ 92,600				
CONSULTANT COSTS						
EQUIPMENT						
SUPPLIES		1,000				
TRAVEL	DOMESTIC	970				
	FOREIGN					
PATIENT CARE COSTS	INPATIENT					
	OUTPATIENT					
ALTERATIONS AND RENOVATIONS						
CONTRACTUAL OR THIRD PARTY COSTS						
OTHER EXPENSES		88,400				
TOTAL DIRECT COSTS		\$182,970				
TOTAL FOR ENTIRE PROPOSED PROJECT PERIOD (Also enter on page 7, item 7) →						\$

JUSTIFICATION (Use continuation pages if necessary): Briefly describe the specific functions of the personnel and consultants. For all years, justify any costs for which the need may not be obvious, such as equipment, foreign travel, alterations and renovations, and contractual or third party costs. For future years, justify any significant increases in any category. In addition, for **COMPETING CONTINUATION** applications, justify any significant increases over current level of support. If a recurring annual increase in personnel costs is anticipated, give percentage.

See next page.

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BUDGET JUSTIFICATION
Los Alamos Physics

A. SALARIES AND WAGES

The staff requested is the minimum necessary to provide treatment planning for patient follow-up, finalize three-dimensional treatment planning capabilities, and perform calculations required to evaluate clinical results. Responsibilities of individuals are listed below.

P. BERARDO Overall status of treatment-planning codes and capabilities, physics models, computer systems.

M. PACIOTTI Documentation of beams for input to treatment planning code.

J. WING Facility engineering, computer maintenance, technical writer for sub-system procedures, backup system operator.

B. SWENSON Programming assistance, calculations.

C. WARE Computer systems operations, programming assistance, calculations.

B. TRAVEL

Ten round trips between Los Alamos and Albuquerque are required for coordination and transport of treatment plans in support of patient follow-up.

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