

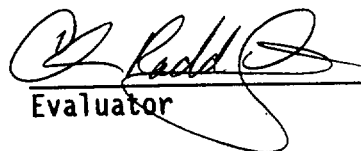
RES GRANT PROPOSAL EVALUATION

GRANT TITLE: CRITICAL EVALUATION OF THE LINEAR - NO - THRESHOLD
ASSUMPTION

GRANTEE: NATIONAL COUNCIL ON RADIATION PROTECTION AND MEASUREMENTS

CRITERION EVALUATED: ADEQUACY OF THE RESEARCH DESIGN

- A. Strengths: The proposer intends to convene a scientific committee of nationally recognized experts in the fields of radiation protection, epidemiology, cellular molecular effects, biophysics, genetics, DNA repair, experimental animal oncogenesis and dosimetry. In addition, the proposer would consult an additional 10 to 15 scientists with diverse backgrounds. These scientists would review all of the available literature, research developments, experimental data, and radiobiological theories. This approach should prove successful in critically evaluating the linear-no-threshold assumption of the response to radiation in humans.
- B. Weaknesses: The proposer does not propose to provide information on appropriate next step in developing a more appropriate model for relating risk to radiation dose.


Evaluator

415-6215
extension

*Last page provides overall summary

A/80

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CRITERION EVALUATED: SCIENTIFIC SIGNIFICANCE OF THE PROPOSAL

- A. Strengths: The assumption of linearity plays a vital role in our system of radiation protection. Current dose limits are based primarily on risk estimates extrapolated from high dose, high dose rate studies of atomic bomb survivors. Dose to workers in the United States and to members of the public are generally at low doses and dose rates. A critical examination of the scientific support, or lack thereof, for the assumption that these risk estimates are true at low dose and low dose rates is warranted.
- B. Weaknesses: The proposal does not include a plan for identifying approaches that might be feasible for reducing uncertainties in risk estimates.


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CRITERION EVALUATED: TECHNICAL ADEQUACY OF THE INVESTIGATORS AND THEIR
INSTITUTIONAL BASE

A. Strengths: The NCRP is imminently qualified to perform this task. The principal investigator is a well respected national expert in the field of radiation. In addition, the NCRP has the responsibility to meet the objectives of this study as given in its charter. The NCRP is chartered by the U.S. Congress to collect, analyze, develop and disseminate recommendations about radiation protection. No other organization in the United States is so chartered.

B. Weaknesses: None.

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CRITERION EVALUATED: RELEVANCE TO RESEARCH AREA DESCRIBED IN THE FEDERAL
REGISTER NOTICE

A. Strengths: This proposal is not in response to a Federal Register Notice
or Request for Proposal.

B. Weaknesses:

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CRITERION EVALUATED: REASONABLENESS OF ESTIMATED COST IN RELATION TO THE WORK
TO BE PERFORMED AND ANTICIPATED RESULTS

A. Strengths: The primary scientists performing tasks under this grant are volunteers. Funding is for travel for these volunteers and for consultants as needed. The cost is extremely reasonable considering the depth of expertise expected.

B. Weaknesses: None.

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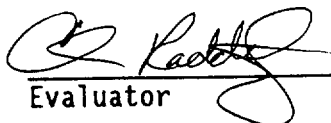
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CRITERION EVALUATED: POTENTIAL BENEFIT OF THE PROJECT TO THE OVERALL BENEFIT
OF THE INSTITUTION'S GRADUATE RESEARCH PROGRAM

A. Strengths: N/A

B. Weaknesses:

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RES GRANT PROPOSAL EVALUATION

Overall Summary and Comments

- (X) Acceptable and should receive financial assistance. (Please comment as to reasons below. Additionally, comment on reasonableness of cost in relation to effort and expected results.)
- () Proposal should be modified as described below.
- () Not acceptable. Nature of work is not something for which NRC should provide financial assistance.
- () Not acceptable. Work is not for a public purpose or is something NRC should acquire by contract.
- () Not acceptable - for reasons other than above (describe below).

COMMENTS

This proposal provides a mechanism for an important first step in determining if the linear no threshold hypothesis is prudently conservative in its projection of risk from exposure to ionizing radiation. The cost of this examination of the paradigm under which all radiation protection decisions are currently made is very minor relative to its potential benefits to the government and to society as a whole.

Charleen T. Raddatz
Evaluator's Name


Evaluator's Signature

RES/DRA/RPHEB
Organization

415-6215 / T 9 C 28 / T 9 C 24
Extension/Room Number/Mail Stop