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FROM: DUE: 02/28/01 EDO CONTROL: G20010080
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FINAL REPLY:

Laurence J. N. Cooper
Fred Hutchinson Cancer Research Center

TO:

Chairman Meserve

FOR SIGNATURE OF : ** PRI ** CRC NO: 01-0114

Chairman

DESC:

Request Comments on the Idea to Help Protect the
Bone Marrow Function of Individuals Who Are
Exposed to High-Levels of Radiation

ROUTING:

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Date Printed: Feb 16, 2001 08:47

PAPER NUMBER: LTR-01-0114 **LOGGING DATE:** 02/15/2001
ACTION OFFICE: EDO ✓

AUTHOR: Dr. Laurence J.N. Cooper
AFFILIATION:
ADDRESSEE: CHRM Richard Meserve
SUBJECT: Requests comments regarding the idea to help protect the bone marrow function of individuals who are exposed to high-levels of radiation

ACTION: Signature of Chairman
DISTRIBUTION: RF

LETTER DATE: 02/11/2001
ACKNOWLEDGED No
SPECIAL HANDLING: SECY to Ack
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FILE LOCATION: ADAMS
DATE DUE: 03/02/2001 **DATE SIGNED:**

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February 11, 2001

Richard A. Meserve
Chairman
US Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, Maryland 20852-2738

Dear Chairman:

I would appreciate your comments regarding the following idea to help protect the bone marrow function of individuals who are exposed to high-levels of radiation.

I am a physician trained in the use of infusing stem cells to restore a crippled immune system, in other words performing a stem cell (bone marrow) transplant. For example, this procedure can be used in the treatment of cancer when the bone marrow is destroyed as a result of large doses of chemotherapy and radiation. If the stem cells were not infused in patients undergoing a stem cell transplant there would be an irrevocable loss of infection fighting cells, red blood cells and platelets produced by the bone marrow. The sources of the stem cells used to restore the function of the bone marrow can be from the patient themselves (autologous transplant) or from individuals that share a similar genetic background (allogeneic transplant). Currently, stem cells can be readily collected using peripheral IVs in a short out-patient procedure that is available at numerous sites across the United States, as well as abroad.

The storage of autologous stem cells offers the opportunity for an individual to repopulate his/her bone marrow after a large radiation exposure that had obliterated marrow function. For example, following an exposure to a lethal dose of radiation, stem cells that had previously been collected can be thawed, infused and marrow function can potentially be restored.

The *a priori* collection of autologous stem cells could be offered to individuals at increased risk for a large radiation exposure. These might include personnel trained to respond to contain a nuclear accident or key members of the civilian and military institutions whose continued good-health would help control a nuclear incident. The stem cell collection could be undertaken overseas and maybe of added benefit to nations that do not have adequate safeguards to protect their personnel from large doses of radiation in the event of a nuclear accident.

I would welcome your thoughts and your opinion on whether you think this is an area worth pursuing.

Sincerely,

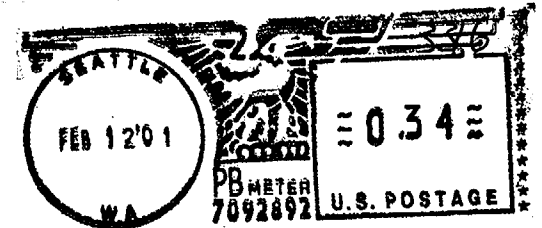
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