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FCDA FORM 27
FEB. 1951

FEDERAL CIVIL DEFENSE ADMINISTRATION

405012

ROUTING SLIP

TO THE FOLLOWING IN ORDER INDICATED

	NAME OR TITLE	ORGANIZATION	BLDG. AND ROOM No.	INITIALS / DATE
1.	Dr. Walter Claus			
2.				
3.				
4.				

- [ ] APPROVAL
- [ ] NECESSARY ACTION
- [ ] RECOMMENDATION
- [ ] RECOMMEND SIGNATURE
- [ ] PREPARE REPLY
- [ ] NOTE AND FILE
- [ ] NOTE AND RETURN
- [ ] INFORMATION

REMARKS:

Attached are the notes on medical effects from a course on Radiological Defense Monitoring prepared by the State of Delaware, as discussed with Jack Greene.

Since Dr. Williams is out of town, I should appreciate your comments on it. A telephone call to discuss it or penciled notes on this copy, whichever you prefer, would be fine.

FROM Roscoe H. Goeke
Roscoe H. Goeke
(NAME AND ORGANIZATION)
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DATE 3-12-54

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I. Time Relationships

Radiation injuries fall roughly into three time periods;

1. Immediate - from a few minutes to a few hours. Very massive doses are needed to produce these early symptoms.
2. Delayed - Some symptoms in the first couple of days and more severe symptoms coming after ten days to two weeks.
3. Late - Occuring after years.

Immediate - Nausea, vomiting, diarrhea. These symptoms may disappear only to reappear after a few days. Then they will be accompanied by bleeding from the gums, and bowel, loss of appetite, weakness, loss of hair. The white blood cells are sharply reduced and somewhat later the red cells are reduced. The patient becomes very susceptible to infections. Death is frequent in this group of patients.

Delayed - Same as immediate but usually less severe. Men in this group lose their sperm and women often stop menustrating, but if the people live, these functions recover too. Reddening, blistering or tanning of the skin is rare in people exposed only to gamma rays, but may happen to people who get their hands contaminated with fission products and get a heavy dose of beta rays.

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Late - These things happen to some people who get a fairly heavy dose of gamma rays externally but who survive and to all of those who get long lived alpha emitting particles deposited in their bones. The symptoms may not appear for many years. Life is shortened. Cancers of various kinds may appear. Anemia is common.

Genetic changes - We don't know much about these, except that ionizing radiation can increase the number of "mutations", or abnormal offspring. It seems likely that women will not be affected much this way from external radiation because their ovaries are protected deep in their bodies. Amounts of whole-body external radiation sufficient to cause such changes would also be enough to cause death in most victims. Men, with their exposed testes, are more susceptible. It will take several generations after some atomic explosions to answer most of the questions of possible genetic changes.

Just as some cells in the body are more sensitive than others, so some people are more sensitive than others. A dose which makes one person extremely ill, may hardly disturb another. A dose which one person survives easily may kill another. Young healthy people stand radiation better than old, ill individuals.

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