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DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW

11/2/94

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REVIEWER (ADD):
NAME: ML KOUBRY

DETERMINATION (CIRCLE NUMBER(S))

1. CLASSIFICATION RETAINED

2. CLASSIFICATION CHANGED TO:

3. CONTAINS NO DOE CLASSIFIED INFO

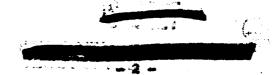
ACCORDINATE WITH:

5. CLASSIFICATION CANCELLED

6. CLASSIFIED INFO BRACKETED

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DOS ARCHIVES



personnel shelter Test. (Athlitecture) The protection of AEC personnel and plant installations continues to be of prime importance to the Commission. In addition, security and geographic considerations require that civil defense measures be implemented. Civil defense practices and protective construction have been under constant study and review to insure optimum protection for workers or plants, and to insure against heavy production losses.

A recent survey in connection with disaster planning program was completed which assessed individual installations in terms of criticality and vulnerability. Shelters were recommended for construction at prime target areas and a prototype shelter was designed for testing during Operation Buster in the fall of 1951. The design criteria for this shelter is described in the November report.

The first preliminary report prepared by the Givil Defense Limison
Branch on this project has been submitted to the Test Organization whose
purpose is to plan and communt the Weapons Test, and to review and analyze
the results. This report will also be furnished to the PCDA for use in civil
defense shelter studies.

### Direct and Genetic Effects of Rediation in Massels. (UNCLASSIFIED)

Current data on biological effects of radiation in mammals has been assembled in summary form by Dr. H. H. Plough of the Biology Branch. This memorandum outline represents a compilation of much of the literature on the subject and lists many references. The paper will be distributed to the various Divisions to serve as a working summary in discussions of permissible radiation dosage or expected genetic effects. Copies are available from the Biology Branch for those who may have an interest in the subject.

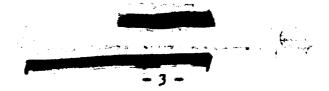
# Low Level Fortable Cobalt Irradiator (UNGLASSIFIND)

A pilot model portable cobalt irradiator was developed by the Brookhaven National Laboratory under the direction of the Division of Biology and Medicine. This experiment was completed with successful results. Arrangements have been made to deliver this instrument to the Worcester Foundation for Experimental Biology. The Foundation will use the instrument in the program for investigating the effects of radiation on the protection of the adrenal corticle hormones.

This cobalt irradiator is designed to handle a moderate level source up to 250 curies of cobalt 60, and will fill a definite need in the experimental radiobiology program of the Commission for chesp flexible sources of highly penetrating gamma radiation for use in smimil and other experiments.

The pilot unit described above was designed and fabricated at a cost of

8	upproximately	\$7,500. It	is estimated the	t the cost	of addi	tional mode	als of
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### Research in Fractionation of Formed Blood Elements. (UMCLASSIFIED)

The Harvard University Laboratory has made significant progress on the AEC-research project on separation of the formed blood elements. This study is being conducted by Doctors E. J. Cohn and J. L. Tullis. It has been found that blood platelets may be quantitatively isolated from blood being processed in the national blood program, and recovered in relatively undamaged form for subsequent medical study. The importance of this work lies in the fact that blood platelets are a necessary factor in controlling the hemorhagic state which accompanies exposure to high desages of ionizing radiation. In radiation injury of this nature the platelet producing mechanism of the bone marrow is damaged and patients frequently die of multiple internal. hemorhages. If these platelets prove to be viable they will contribute greatly to the therapy of radiation injury. Similar progress has been made in the isolation of the white blood cell fractions from processed whole blood. The white cells are under investigation to determine if they may be transfused into patients suffering a deficiency of white blood cells, and thus aid in combatting the overwhelming infection which frequently accompanies acute exposure to whole body radiation.

## Fellowship Program - Health Physics (UNCLASSIFIED)

The latest class of the Fellowship Program conducted at ORML included 20 members. Information has been received from the Laboratory that nineteen of the group had received offers for employment prior to graduation. It is understood that the twenty members under this program at Rochester-Brookhaven have also been solicited for employment.

### Visit to Savannah River Site (UNCLASSIFIED)

A recent visit was made by staff members to the Savannah River Site to study the biological and medical problems relevant to plant operations. The progress was reviewed of the biological survey being conducted under the auspices of the University of South Carolina, the Philadelphia Academy of Natural sciences, and the U. S. Public Health Service. This survey involves an accurate record of aquatic life in the area. These observations will be compared with the results of similar surveys made later in order to determine the effects on aquatic life of small amounts of radioactive material released into the streams.

### Meeting of A.A.A.S. (UNCLASSIFIED)

The Director and representatives of the Division attended meetings held by the AAAS in Philadelphia from December 26-31. The session of the Symposium on Cancer Therapy with Radioisotopes included the address of Dr. Shields Warren on "The Impact of Radioisotopes in Cancer Research."

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