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OUTLINE OF PRESENT WORK AND PROPOSED PLANS

Preemployment physical exams and check-up examinations, accidents, etc.

The personnel program has had no diminution. In order to keep up with this side of the work it is necessary, at the present rate of hiring, to do 60 - 75 exams per month pre-employment. This, in addition to check-ups for one reason or another, seeing and arranging for accident care, etc., leaves little time for Dr. Nickson to continue surveys of the literature or experimental work which needs to be done.

Dr. Nickson and I discussed the possibility of obtaining another M.D. This would depend upon (1) any help we might expect in this regard from the two DuPont men who are being assigned to us and (2) future plans for Site X. If medical personnel is taken from Chicago for Site X, provision should be made now for replacement and training.

Laboratory

Under the present schedule 3 technicians are engaged on blood counts of personnel and one on urinalyses. Two technicians are doing blood counts on animals; a third is organizing the pathologic laboratory, and in the meantime helping with blood counts in both personnel and animals.

With this group we are able to keep up with the present needs. As personnel increases more technicians will be needed. The work at Argonne when it begins may require a full time technician. Provision is tentatively made for six technicians at Site X. At the present time only two of our present technicians are available to move. Four to six weeks before such a move the additional technicians should be secured and their work observed. Miss Johnson will go as head of the laboratory.

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SURVEYS OF LITERATURE AND EXPERIMENTAL WORK

Radiation and genetic effects: A survey of the literature is in progress by

Dr. Nickson

Beta ray effects upon skin: This study is still in progress by Parker and Cantril, in an attempt to arrive at some figure for a tolerance dose. This includes (1) measurements of active samples being handled, (2) supervision of protective procedures (3) check-up on hands.

At the present time it is our conclusion that for high energy Beta radiation (long life fission products \sim 1.3 MeV average energy) the tolerance dose for the skin should not be more than .2r per day, and preferably less. It is also our opinion that the hazard from Beta radiation is greater on the project than that of γ or neutrons.

Vitamin C and radiation leukopenia: There is some evidence in the literature that Vitamin C in massive doses may have a beneficial effect upon radiation leukopenia. It is proposed to investigate this property in rabbits. When a sufficiently large number of animals has been studied by Zirkle and Jacobson, using 200 K.V. x-ray, to establish leukopenic levels and natural recovery, animals with irradiation induced leukopenia will be studied with massive doses of Vitamin C.

Proposed time of study 2 - 3 months, to be completed by August 1.

Whole Body irradiation with Dr. Cutler: Suitable patients have not yet been located. I am seeing two more prospective patients (3/16/43). It is proposed to give 50 r whole body irradiation at one treatment using 400 k.V. and to study blood effects and recuperation. This will be followed in other patients by exposures to 100 r one time only.

This work will continue indefinitely, depending largely on the supply of patients.

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Site X development plans: With Wollan and Parker (and with a joint committee appointed by Mr. Compton, of which Wollan is chairman) provision must be made for monitoring radiation hazards at Site X. As far as the Health Division is concerned, the instrumentation and securing personnel is largely Wollan's responsibility. The medical responsibility lies in appraising hazards.

In this respect closer cooperation is needed with the group under Mr. Whitaker now designing the plant. One of the functions of the above mentioned committee is to cooperate in design and instrumentation.

Medical care at Site X needs rather urgent clarification: Our own plans for care of industrial accidents, pre-employment exams, required personnel, etc. cannot be fixed until we can learn from Dr. Friedell what the organization will be.

We are proceeding with plans and equipment for our own hematologic laboratory and first aid work at the plant Site. Examination of possibly exposed personnel will also be done in our medical building. Space in this building has been added for 3 - 5 physicians whom Du Pont wishes to have at Site X in training for Site W.

Industrial surveys: This is now the province of Dr. Friedell except as we are asked for special help or consultation. Our own studies here will be in the uranium work going on in the shops (and foundry to be constructed). We now have our electrostatic precipitator. The instrument for measuring the collected dust has to be adjusted to fit new collecting tubes. Samples of dust have been taken from the dismantling of pile in WS and from building of pile at Argonne.

Other dust samples taken in plants away from Chicago will be measured here. Dr. Friedell will arrange for the specimens. One set of samples has already come in from Westinghouse.

Toxicology;

A. Dr. Norwood is undertaking a survey of the toxicology of:

1. Chemicals used in the extraction plant in the wet fluoride process.
2. Chemical toxicity of fission material, apart from any radiation toxicity.

B. Uranium toxicity.

The dogs which have been receiving oxide and metal by mouth and lung will be sacrificed as soon as the measuring instrument with the newly devised chambers is ready (approximately April 1)

Training Program

Dr. Stearns has asked for our cooperation in his training program for DuPont men. This will involve lectures to these men on various aspects of radiation and toxicological hazards. Cole and Wollan will cooperate in this program.

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