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LABORATORY FOR ENERGY RELATED HEALTH RESEARCH

University of California, Davis

Davis, California 95616

Environmental Monitoring Report

Calendar Year 1981

Department of Energy Operating Contractor

DE-AM03-76SF00472

The following environmental summary will address programs and the results of the following areas of concern:

1. Facility Description
 - a. Location
 - b. Work Performed
 - c. Environmental Setting
2. Pollutants Released in Effluents
 - a. Air
 - b. Liquid (Including those released to sanitary sewers.)
3. Radiological Impact
 - a. Air
 - b. Water
 - c. Soil
 - d. Sediment
 - e. Food and Vegetation
 - f. Milk
 - g. Penetrating
4. Nonradioactive Pollutants
5. References
6. Distribution

1. Facility Description

- a. The Laboratory for Energy Related Health Research is a government owned, contractor operated facility located on a 15 acre site at UC Davis Campus in an area designated as appropriate for animal research and one which is rural in nature.
- b. The laboratory program is focussed on the study of the biomedical effects of energy derived effluents.
- c. There are approximately 5000 square feet of specialized laboratory and animal holding areas which comprise the facility.

2. Pollutants Released in Effluents

There are no releases pertinent to this category from the LEHR facility.

3. Radiological Impact

- a. There are no releases of isotopes into the air at the LEHR facility. These are prevented by filtering of hood exhausts and subsequent frequent filter monitoring.
- b. There are no releases into the sanitary sewage system at LEHR of any radioisotope. All liquid waste is either contained and removed via the campus waste removal system or is allowed to drain into the Imhoff sewage system. (See Attachment Reference 1)
- c. There are no release of isotopes from the LEHR facility to the soil either off or on-site.
- d. There are no releases to food and/or vegetation or milk as a result of isotope work done at the LEHR facility.
- e. Penetrating radiation measurements of personnel, visitors, and facility perimeter areas indicate absorbed doses which are well below Federal, State, and the even more restrictive UC Davis campus limits. (See Attached Reference 2 and 3)

1) Personnel Exposure:

Of the 94 employees at the LEHR facility, 83 received no whole body exposure to ionizing radiation. Eight employees received a dose greater than 0.1 Rem. Two employees received

doses in the 0.100 - 0.249 Rem range and one employee received a dose in the 0.250 - 0.499 Rem range for the calendar year.

2) Visitor Dosimetry:

No visitor to the LEHR facility is permitted in any area where by they may be exposed to levels of ionizing radiation which are above background (.02 - .04 mR/hr) levels.

3) Perimeter Dosimetry:

The irradiator consists of a 360 curie source of 60-Cobalt mounted on the roof of a concrete building in such a manner as to provide independent irradiation of a segment of an outdoor field with a 170 Ci equivalent source strength and/or the room beneath the source. Seven dosimetry stations are monitored on six month intervals. (See Attachment Reference 4)

The reported figures are not corrected for background radiation. Note that column fifteen is the Rem corrected value per location. No reading for any station is greater than 1.75 Rem per six months with the mean value of approximately 0.83 Rem per six months. There are no immediate facilities adjacent to the LEHR irradiation field due to its rural setting. The area is well secured.

4. Nonradioactive Pollutants

There are no releases pertinent to this category from the LEHR facility.

5. References

Please see attached references 1 through 4.

6. Distribution

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