

REPOSITORY Records Holding Area
Richland, WA
COLLECTION Promethium Study

BOX No. 030247
FOLDER N/A

HEHF-00007-DEL

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HANFORD ENVIRONMENTAL HEALTH FOUNDATION

MONTHLY REPORT, DECEMBER, 1967

1. GENERAL

- 1.1 A meeting was held with Dr. H. D. Bruner, Chief Medical Research Branch, Division of Biology and Medicine, AEC, and Battelle Northwest personnel to explore the feasibility of establishing a Plutonium Registry of AEC and AEC contractor employees. A decision was made for the Foundation to prepare a project proposal to operate a Plutonium Registry. It is planned that the proposal will be prepared and submitted to the AEC, Division of Biology and Medicine at an early date.
- 1.2 Expert witnesses were provided by the Foundation to testify in a Federal Court case where the plaintiff alleged that death resulted from the handling of a ¹⁹²Ir iridium capsule used during construction of the "N" area reactor.

2. VISITS

- 2.1 Onsite - ~~DELETED~~ was a visitor on December 1, 1967.
~~DELETED~~, Manager Group and Pension Divisions, Aetna Life Insurance spent most of one day in reviewing the financial status of the Foundation's insurance programs.
Dr. H. D. Bruner, Chief, Medical Research Branch, AEC, Washington, D.C.
- 2.2 Offsite - ~~DELETED~~ visited Boeing Company to obtain information on laser control program for Hanford contractors in the near future.

3. OCCUPATIONAL MEDICINE

- 3.1 ~~DELETED~~ joined the Foundation's Physician Staff on December 29th, 1967.
- 3.2 A total of 597 examinations were done, 95 of these were for preplacement, 183 periodic, 176 interim, 83 recheck and 60 termination. Proctosigmoidoscopic examinations were done on 17 employees and tonometry examinations on 117 employees.
- 3.3 The BNW Environmental Health and Engineering Section is 98% complete in their project of setting up the whole-body counter in the Radiosurgery Facility.
- 3.4 The Promethium Study progressed satisfactorily and 90% of the first phase was completed which included injection of Promethium and DTPA, bioassays and body counts. Fourteen volunteers are participating in the study.
- 3.5 There were no disabling injuries during the month.
- 3.6 There was one Pu skin contamination case where consultation was provided but no treatment was required.
- 3.7 EHS has agreed to give talks on the various aspects of their operation to the physicians at their staff meetings. These talks are scheduled two per month for the next six months.

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4. OCCUPATIONAL NURSING

- 4.1 ~~DELETED~~ was reemployed as a staff nurse to fill the full-time position to be vacated by ~~DELETED~~ ~~DELETED~~ has had previous experience on our staff and in the Emergency Room at Kadlec Hospital. She is being oriented by individualized on-the-job training and instructional conferences to supplement her previous nursing experience.
- 4.2 One grievance, concerning assignment, was received from a member of the Nursing Staff and answered apparently to the nurse's satisfaction since there has been no further communication.
- 4.3 There were 200 hours overtime worked in December, primarily because of illness.
- 4.4 ~~DELETED~~, RN, and ~~DELETED~~ Nurses Aide, completed the six-session industrial first aid course presented by the Richland Public Schools, from December 5 to 21.
- 4.5 The semiannual accountable drugs audit was completed.
- 4.6 Influenza immunizations administered in December and totals for the year, as tabulated in the nursing stations, are as follows:

	1st doses	2nd doses	Booster doses	Total
December, 1967	2	97	62	161
Totals for 1967	464	223	1270	1967
Totals for 1966	1046	743	887	2676

- 4.7 In order to improve staffing of the Medical-Dental Building nursing station and relieve the 300 Area nurses of responsibility for service at Donald Douglas Laboratories, a part-time nursing position will be initiated next month. It is expected that the medical examination services will be facilitated and augmented through this additional nursing service time.

5. RECORDS AND STATISTICS

- 5.1 Personnel remained the same.
- 5.2 Medical approvals, transfers and record reviews

Approvals for special work	1
Review of records	50
Record research from stored records	329
Medical clearance approval for inter-company transfer	5

Abstract and correspondence

Medical abstracts	51
Record copies	63
Transfer of records to other G.E. plants	1
X-ray films loaned	14

5.3 Workmen's Compensation

Claims	5
Reports	
Battelle Northwest	32
Douglas United	58
Atlantic Richfield	34
ITF/FSS	19
AEC	1
Other Government	1
Construction	38

5.4 Medical Staff Assistance

Staff Physicians were given assistance through the performance of clerical and semi-technical services as follows:

Programming and scheduling resulted in completion of 81.2% for the month and 81.4% of the year's estimated quotas for medical examinations.

Pre-placement examinations	95
Exit examinations	60
Audiometric hearing testing	292
Ortho-rater visual tests	281
Visual field screen tests	<u>258</u>
Total	986

5.5 Offering of and handling of appointments for special examinations

Cynecological	14
Sigmoidoscopic	17
Executive	6
Pre-retirement physicals	4
Achillometer	11
Ocular tension	117
Pulmonary function	25
Tetanus immunizations	5
Whole body counts	128
Total	327

5.6 Medical stenographic services

Preparation and distribution of employee letters of examination results and/or recommendations	307
Notice of impairments	155
Notices pertaining to work limitation (20 new, 21 continuation, 7 discontinued)	48
Total	510

5.7 Procurement of reference materials and research assistance was provided as follows:

New texts	11
Journal routings	103
Texts loaned	12
Reference research	3
Reproductions ordered	5
Other library requests	2
University of Oregon	2

6. PSYCHOLOGY OPERATIONS

- 6.1 Although the number of individuals seeking counselling in December was up 19% over November, the number of new individuals seeking counselling was down 9%, compared to November. The problems presented were, typically, situational stresses or problems associated with fairly specific worries or anxieties. Fewer on-the-job problems such as supervisory or co-worker conflicts were discussed. Of those seen for counselling or examination, 96% continued at or returned to work, 4% were off work. Of those seen, 15% were referred to outside resources. Interest in the health options (weight, smoking, and emotional control) remained high - up 22% over November and higher than the average per month for the year. As in November, the majority of health consultations involved concern for emotional patterns rather than for smoking or weight control which, up until November, had predominated in the consultation visits. Occupational physicians consulted on a variety of individuals, primarily on return to work or psychological aspects of medical problems. Management consultations, typically down in December compared to other months, involved some employee problems but were primarily about programs such as retirement programs, educational courses, and discussions of role of testing in selection and placement as well as some aspects of minority group problems.
- 6.2 Of the 58 pre-employment individuals who took the NSQ in December, 20% were referred for elevated screening scores. All were recommended for employment without an interview or need for follow-up. Some follow-up was concluded on pre-employment screening problems from previous months and all of these were fully ok'd for employment.
- 6.3 4 on-site talks were given to 125 employees. All of these talks concerned safety and human reliability and were part of the Human Reliability Safety Climate Program. No off-site talks were given during December.
- 6.4 Previously started studies and research were being continued including collection of data and analysis of previously collected data. We are also taking part in 2 nationwide studies including a study involving short-term counselling and the validation of a management interest inventory. A study of pre-employment screening and work performance is expected to form the basis of a research proposal for other funds.
- 6.5 Shown in the following chart are the monthly figures for December, November, and Year Through Date for 1967. Compared to November, there were fewer visits for functioning problems by individuals although the increase in requests for emotional evaluations seemed to be picking up the decrease in functioning problems. No clear or solid picture developed in terms of any disruptive plant climate.

	<u>Dec.</u>	<u>Nov.</u>	<u>Monthly</u>	<u>Totals CY 1967</u>
1. Total Individual Cases	56	47	---	782
2. Total New Cases	19	21	34%	436
3. Total Employee Visits	76	73	---	1082
Functioning Problems	37	45	49%	494
Work Clearance Exams	5	3	7%	67
Health Options	30	18	39%	332
Problem Drinking	0	1	---	35
Pre-Employment Exams	3	6	4%	38
Other Assessment Prog.	1	0	1%	91
4. Mean Contact/Person	1.36	1.70	---	---
5. Managers Consulting	6	8	---	283
6. Management Consultations	7	10	---	246
7. Physician Consultations	7	9	---	40
8. Other Consultations	3	6	---	39
9. Off-site Talks	0	5	---	15
10. On-site Talks	4	6	---	27

1. Does not include management problems or pre-employment cases.
2. Does not include management problems consults.
6. All types of management problems.
7. Number of individuals discussed by physicians and nurses.
(Figures kept only since September.)
8. Consultations with outside resources re plant personnel.

7. ENVIRONMENTAL HEALTH SCIENCES

- 7.1 ~~DELETED~~ , it will be necessary for ~~DELETED~~ to terminate with EHS on January 26. This will cause the Gasket Study to become fully inactivated until a replacement can be obtained.
- 7.2 As a part of the Air Surveillance program, the measurements for nonradioactive materials discharged to the atmosphere from BNW Buildings were completed. A report of the findings will be issued. Planning a mobile laboratory for the Air Surveillance program continued. Specifications for the modification of a 16-foot camp trailer were submitted to ITT/FSS for cost estimates.
- 7.3 Forty-two routine water samples collected from the Columbia River and project wells were analyzed for hexavalent chromium and nitrate ion. No significant change in concentration was apparent since last reporting.
- 7.4 Seven shipments totalling 87 filters were received and tested. Thirteen units (15%) failed to meet specs, 7 of these had high penetration. No filters are on hand and 391 are scheduled to arrive for inspection and testing.

Three orifice plates have been calibrated in the blower facility and curves drawn for them. With this facility in operation velocities between 400 and 2400 fpm can be accurately measured. In order to increase the versatility of this facility a low velocity entry (50-300 fpm) and a stream line entry for high velocity (400-2400) measurements are to be obtained.

- 7.5 4068 used mask cartridges were tested. Of these, 173 (4.2%) failed to meet the penetration criterion. The 15 original NRL comparison filter paper specimens were retested and returned to NRL for reevaluation. Final results have not been received thus the calibration check of the Q-127 is still not completed.
- 7.6 An improvised shock (drop) test was applied to some used Acme and MSA cartridges. Preliminary findings indicate that Acme cartridges are much less resistant to shock than MSA cartridges. More comprehensive tests will be made to substantiate the preliminary findings. Information on the Mil Std method from Edgewood Arsenal, Maryland, for the purpose of developing a more refined test has been requested. Indications are that cartridge purchase specifications should incorporate a shock resistance criterion and that EHS could provide the testing capability.
- 7.7 At the request of ARHCO, assistance was given concerning a problem of condensation at a HEPA filter installation at 200-E tank farm. Temperature and humidity limitations of these filters were clarified.
- 7.8 The scope of the Beryllium Monitoring program was reduced due to curtailed production operations attributable to the strike. Three air samples and 4 smear samples were collected. The 3 air samples were below the TLV for beryllium. Two of the smear samples were twice the Hanford limit for surface contamination; however, these occurred in beryllium "A" Zones. The stack sampling pump is still not repaired. DUN Quality Control has been asked to see if they can speed up the repair.

At the request of Quality Control, DUN, EHS has evaluated operator exposure to beryllium during the wire brushing of tarnished fuel element ends. Two air and two smear samples revealed beryllium concentrations below the governing limits. DUN has been advised to maintain good housekeeping practices whenever the operation is performed.

- 7.9 A 328 Building sheet metal shear used to cut beryllium sheet was sampled at the request of BNW Safety Specialist, before releasing it for non-beryllium use. The first 2 sets of smears indicated the shear to be above the Hanford surface contamination limit. A third intensive cleanup of the shear resulted in a satisfactory reduction in beryllium contamination.

Samples were collected at the 306 Building following the decontamination of an electron beam welding chamber to determine whether beryllium contamination was within the Hanford limits. Based on the results it was concluded that the chamber had been satisfactorily decontaminated.

- 7.10 The analysis of 51 urine samples for mercury has been completed. The analysis requested by the DUN 300 Area Safety Specialist was performed on samples submitted by DUN 300 Area employees who have encountered mercury in the last 5 years. No samples analyzed were above 300 ug mercury/liter, a value considered tolerable by many toxicologists.

- 7.11 Monitoring of the combustible property of gaseous mixtures evolved from the slug recovery operation, 313 Building, was continued through December. DUN, in experimenting with decladding solutions, has produced gaseous mixtures well in excess of the LEL.

A study of the ventilation system for the anodizing operation, 313 Building, found the system to be marginal for the existing anodizing line and inadequate for the proposed modified line. Recommendations for control were submitted.

- 7.12 A study was made for BNW in the 3201 Building to evaluate the noise conditions resulting from the operation of a teletype machine. It was found that the noise levels were not hazardous to hearing, however they did exceed the recommended criteria for satisfactory voice communication.

A mask leakage test was performed on one of the members of EHS wearing an early model Survivair self-contained breathing apparatus. While performing head movements his protection factor was 2000.

- 7.13 A progress report of the EHS phase of the AEC Health Study was submitted to ~~DELETED~~ for inclusion in the overall study progress report. The graphical figures are being submitted separately. Reconstruction of the organization activity and code data into usable form for the Study continued.

- 7.14 The Gasket Study apparatus is working well since the previously reported instrumental problems have been resolved. Air flows as low as 3×10^{-5} ft³/min. can be measured with confidence. Three gaskets from the initial study have been tested with good agreement with the findings from the earlier study. Twelve standard filter gaskets from Flanders Filters have been received. Similar samples from MSA and AAF are expected. This research study will shortly be curtailed due to the necessary termination of the investigator and need for a replacement.

Performance testing on an MSA Monitaire sampler loaned by the Seattle MSA sales office and a Unico Mighty Mite pump purchased by EHS commenced. Neither pump will pull 0.1 cfm when connected to a midget impinger. Further testing will continue.

- 7.15 The utility services for the Atomic Absorption facility are almost completed. A gas cylinder connection and two check valves are backordered and are necessary for final hookup of the instrument.
- 7.16 Developmental work involving the preparation of food supplements for human consumption was investigated for BNW. Management was advised of the discrepancies and required steps to meet acceptable sanitation requirements.
- 7.17 Inquiry was received from BNW to provide information in scoping future in-place filter tests by EHS as associated with the reactor containment study being performed. Operating gas conditions will be 250°F and 50 psi. Future in-place testing is anticipated.

7.18 Reports issued by EHS:

- 12-4-67 Proposed Lead-Casting Operation - 313 Bldg. - R. C. Magor
- 12-11-67 Rodenticides - D. E. Anderson
- 12-15-67 Mercury Urinalysis Results - R. J. Uhle
- 12-21-67 Beryllium Contaminated Shear, 328 Bldg. - R. J. Uhle
- 12-28-67 Beryllium Contamination Electron Beam Welding Chamber - 306 Bldg.
D. E. Anderson
- 12-27-67 Noise Study - 3201 Bldg. - D. E. Anderson

8. RELATIONS AND SERVICES

- 8.1 The HEHF Capsule was published and distributed. The item on the suggestion system was subsequently published in the Hanford Project News.
- 8.2 Fog lights for the nurses' cars were installed as requested.
- 8.3 The closed circuit TV was installed in the Radiosurgery and accepted by the inspection committee.
- 8.4 Items stored in 100-F since the closing of the medical station were listed for excess.
- 8.5 A Value Engineering meeting was attended in ~~DELFTN~~ office to discuss a matter relating to the 1st seminar report. Another meeting of V. E. Representatives for a briefing on the 2nd seminar was also attended. Following this, D. E. Anderson was selected as the HEHF participant for this seminar.
- 8.6 A meeting of Hanford Contractor's EEO representatives was attended on 12-7-67.
- 8.7 F. E. Adley's paper on air-pollution was reviewed and cleared with AEC-RL for publication in a medical journal.
- 8.8 The first draft of a new grievance procedure was prepared for review and comments by management.
- 8.9 Assistance was given to ~~DELETED~~ of BNW on the installation of the whole body counter in the Radiosurgery.
- 8.10 There were no Security violations or infractions. Two meetings were held with 21 employees attending.
- 8.11 In the area of Safety, no injuries were reported, although one of our employees, ~~DELETED~~ was involved in an auto accident at Van Giesen and Jadwin while operating a Government vehicle. The operator of the private vehicle made a left turn into the side of the Government car, striking it near the front. She was cited for failure to yield the right-of-way.

Two Safety Meetings were held with 21 employees attending.

-9. CONTRACT ADMINISTRATION AND FINANCE

9.1	Total on roll November 30, 1967	69
	Additions- DELETED - Nurse	
	DELETED - Nurse	
	DELETED M.D. - Physician	3
	Deactivate DELETED - Nurse	<u>(1)</u>
	Total on roll - December 31, 1967	<u>71</u>

9.2 Absenteeism during December amounted to 205 hours (1.9%) excluding the absences of ~~DELETED~~ and ~~DELETED~~ who were placed on extended illness leaves.

On a fiscal year to date basis, total absenteeism is also 1.0 percent.

9.3 Overtime usage during December was 305 hours, approximately the same level as November. This rate is nearly three times normal usage and has resulted from the extended absences of two nurses. With the addition of two nurses in December and the normal decrease in vacations, January overtime should show a substantial decrease.

9.4 ~~DELETED~~, Manager Group and Pension Divisions, Aetna Life Insurance spent most of one day in reviewing the financial status of the Foundation insurance programs.

9.5 The contract for Laboratory services with Kadlec Methodist Hospital has now been signed by all parties.

The agreement with Drs. Marks and Mahony for pathological services is awaiting signatures by Drs. Marks and Mahony.

9.6 Operational costs for the first half of FY 1968 were approximately \$15 000 less than budgeted due largely to underruns in personnel. Review of the most recent Financial Plan from the AEC indicates funds in this category should be sufficient to adequately finance the operation for the balance of FY 1968.

The AEC Health Study is currently "officially" in deep financial trouble, however, telephone information indicates substantial relief will be provided. It now appears that the ultimate ceiling for FY 1968 will be approximately \$140 000. Although this is not up to the level previously requested, recent reviews indicate this should be sufficient to accomplish most major objectives.

A revised budget for FY 1968 will be issued in time for use on January 1968 report.

Total Cost	<u>November</u>	<u>December</u>	<u>To Date</u>	<u>Budget</u>	<u>R%</u>
Operating Cost	\$83 510	\$ 81 323	\$460 528	\$473 760	102.8
AEC Health					
Study	13 300	11 554	84 421	57 600*	68.2
Filter Station	2 130	2 371	18 951	19 200	101.3
Promethium					
Study	--	2 595	2 595	2 600	100.2
Total	<u>\$98 940</u>	<u>\$ 97 843</u>	<u>\$566 495</u>	<u>\$553 160</u>	97.6

*Budget based on Financial Plan of \$120 000.

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<u>Cost by Type</u>	<u>November</u>	<u>December</u>	<u>To Date</u>	<u>% of Total</u>
Salaries & Emp. Ben.	\$ 60 423	\$ 59 071	\$343 793	60.7
Mtl. & Supplies	3 161	4 500	20 224	3.6
Other Direct Costs	12 854	9 885	74 303	13.1
Charges by other companies	22 995	24 841	134 470	23.7
Less: Revenue	(193)	(454)	(6 295)	(1.1)
Total Cost	<u>\$ 98 940</u>	<u>\$ 97 843</u>	<u>\$566 495</u>	<u>100.0</u>

Cost by Organization

General Administration	\$ 9 492	\$ 9 676	\$ 61 489	10.9
Finance	4 908	5 657	25 244	4.5
Psychology	2 890	2 621	17 884	3.2
Records & Statistics	11 535	12 664	70 160	12.4
Nursing	28 249	29 389	159 626	28.2
Medicine	17 055	14 191	94 287	16.6
Env. Health Sciences Research (Excl. Env. Sc.)	14 219	14 677	73 866	13.0
	<u>10 592</u>	<u>8 968</u>	<u>63 939</u>	<u>11.2</u>
Total Cost	<u>\$ 98 940</u>	<u>\$ 97 843</u>	<u>\$ 566 495</u>	<u>100.0</u>

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